



OfficeTrack API Reference

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Document Changes

Date	Change Description
26-March-2007	<ul style="list-style-type: none"> Added support for sending the location of a task
17-April-2007	<ul style="list-style-type: none"> Added support for sending the location of the employee who created an Employee Timesheet Entry
07-November-2007	<ul style="list-style-type: none"> Changes the secured web service documentation to a WSE 3 sample
22-September-2008	<ul style="list-style-type: none"> Changed the find address return values to comply with version 4.00 of the server
29-December-2008	<ul style="list-style-type: none"> Added new fields to the customer notifications
05-March-2009	<ul style="list-style-type: none"> Added an option on the create task to send a notification to the mobile
27-May-2009	<ul style="list-style-type: none"> Added HiddenData1 to the task API
04-August-2009	<ul style="list-style-type: none"> Added GetVehicleHistoricInputsRequest Added EmployeeImport
15-November-2009	<ul style="list-style-type: none"> Added coordinate system conversion to location responses
13-January-2010	<ul style="list-style-type: none"> Added Entry types list to the remote updates table
24-January-2010	<ul style="list-style-type: none"> Added Wgs84 support for web service coordinates
18-February-2010	<ul style="list-style-type: none"> Added Location Accuracy and Task-Entry Distance to Customer Notifications
09-August-2010	<ul style="list-style-type: none"> Added support for sending inputs in a Remote location update Added different handling methods for unlisted employees when importing employees
15-September-2010	<ul style="list-style-type: none"> Added Data8...Data15 to tasks information
03-February-2011	<ul style="list-style-type: none"> Added Email to employee import column mapping
07-February-2011	<ul style="list-style-type: none"> Added Max Discount to employee import column mapping
15-February-2011	<ul style="list-style-type: none"> Added task notes token to customer notifications Added AdditionalInfoXml to the task web service
28-April-2011	<ul style="list-style-type: none"> Added LOC_PN token to the customer notifications
15-May-2011	<ul style="list-style-type: none"> Added SomeRowsSkipped return value to the import employees web method Added Catalog web services Added LimitCatalogCategoriesSelectionToCodes and LimitCatalogItemsSelectionToCatalogNumbers to task import
31-May-2011	<ul style="list-style-type: none"> Added MS_TurnMobileAppOn and MS_TurnMobileAppOff to the entry types table
03-Aug-2011	<ul style="list-style-type: none"> Added MustBeBilled to the catalog import
01-Sep-2011	<ul style="list-style-type: none"> Added UserData16..20 to tasks Added task CoordinationPhone2
26-Sep-2011	<ul style="list-style-type: none"> Added the customer notifications XML option
09-Oct-2011	<ul style="list-style-type: none"> Changes to the customer notifications retry mechanism
16-Nov-2011	<ul style="list-style-type: none"> Added option to specify the manager when importing employees
17-Apr-2012	<ul style="list-style-type: none"> Added dates as ddmmyyyhhmmss to the customer notifications XML
14-Jun-2012	<ul style="list-style-type: none"> Added PreviousRelatedEntries to the customer notifications XML
04-Jul-2012	<ul style="list-style-type: none"> Added serial number import to catalog
24-Jul-2012	<ul style="list-style-type: none"> Added the forms tag to the notifications XML Added a note about the data tag on the notifications XML being changed
09-Aug-2012	<ul style="list-style-type: none"> Added version info to the form XML Added support for static tables in the form XML
30-Aug-2012	<ul style="list-style-type: none"> Added form support for forms linked to entries, catalog items, and previous entries Renamed the PreviousRelatedEntries to RelatedEntries.
13-Sep-2012	<ul style="list-style-type: none"> Added form name to the form XML
24-Oct-2012	<ul style="list-style-type: none"> Renamed TaskCategories to TaskType in the post XML Added Categories to the task tag in the post XML

	<ul style="list-style-type: none"> On the task web service, renamed the TaskName field to Description On the task web service, renamed the Description field to Notes On the task web service, renamed the TaskCategoryCode field to TaskTypeCode Renamed the {TCC} token on the GET notification to {TTC}
06-Nov-2012	<ul style="list-style-type: none"> Added Categories tag to the task web service
27-Nov-2012	<ul style="list-style-type: none"> Added Email address to the tasks & POI web services
13-Dec-2012	<ul style="list-style-type: none"> Added task data 21..30 custom fields
16-Jan-2013	<ul style="list-style-type: none"> Added LimitQuantitiesToMultiplesOf to the catalog import
27-Jan-2013	<ul style="list-style-type: none"> Added a few entry types to the entry types table
21-May-2013	<ul style="list-style-type: none"> Added ReferencedCatalogItems to the post XML
31-May-2013	<ul style="list-style-type: none"> Added MS_TaskFormFilled
03-Jun-2013	<ul style="list-style-type: none"> Added MobileApplication as an entry source
03-Dec-2013	<ul style="list-style-type: none"> Added Suspended and En route statuses to the TaskManagement web service and the notification task statuses Added company alert activated notification information Updated the input types table
15-Dec-2013	<ul style="list-style-type: none"> Added GeocodeAddress to the CreateOrUpdateTask request
16-Jan-2014	<ul style="list-style-type: none"> Added a note in the Task XML tag Added vehicle tokens in the HTTP Get notification Added DoNotChange option to the employee import
5-Feb-2014	<ul style="list-style-type: none"> Added option to add a task to a vehicle Added option to add an unassigned task Renamed CoordinationPhone tags to Phone on task API and task XML
26-Jun-2014	<ul style="list-style-type: none"> Added DistributionAreaNumber to the CreateOrUpdateTask request Added SendNotificationToMobileDontChangeTaskStatus to the CreateOrUpdateTask request
6-Jul-2014	<ul style="list-style-type: none"> Added clarification about XML post
19-Aug-2014	<ul style="list-style-type: none"> Added MaximalRadiusForEntries, ProhibitEntriesOutsideRadius and UseQuantityOnlyCatalogItemEntryForm to the CreateOrUpdateTask request Updated the CreateOrUpdateTask return values
13-Aug-2015	<ul style="list-style-type: none"> Added UpdateTaskStatus method to TaskManagement
11-Oct-2015	<ul style="list-style-type: none"> Added Appendix C: Optimization User Guide
11-Oct-2015	<ul style="list-style-type: none"> Added Appendix D: Form Web Service Control
15-Nov-2015	<ul style="list-style-type: none"> Added Entry type: Attendance – On-Call Start / On Call End. Loading/Unloading
24-Nov-2015	<ul style="list-style-type: none"> Added OrderInRoute to the CreateOrUpdateTask request
18-Feb-2016	<ul style="list-style-type: none"> Added field length to CreateOrUpdateTask
14-Mar-2016	<ul style="list-style-type: none"> Added new return value to CreateOrUpdateTask Updated GeocodeAddress & Location tag explanations on CreateOrUpdateTask
23-May-2016	<ul style="list-style-type: none"> Added CreateCatalogItemNames ,CreateCatalogItemCategory fields and CreateCatalogItemsAssignToTaskResource to the options to the CreateOrUpdateTask request
24-May-2016	<ul style="list-style-type: none"> Added ImportCatalogAndEmployeeCatalog method to Catalog Web Service
29-May-2016	<ul style="list-style-type: none"> Added Appendix E: ImportCatalogAndEmployeeCatalog XML data format
09-Jun-2016	<ul style="list-style-type: none"> Added GetEmployeeList method to Employees Web Added Appendix F: Result Codes Details
29-Jun-2016	<ul style="list-style-type: none"> Added AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations field to the CreateOrUpdateTask request
20-Jul-2016	<ul style="list-style-type: none"> Added Points Of Interest web service Added the following web method to the Points Of Interest web service: ImportPointsOfInterest, ImportEmployeePointsOfInterest, InsertOrUpdatePointOfInterest, DeletePointOfInterest,

	GetPointOfInterestList, GetPointOfInterestListIncludePoint
14-Aug-2016	<ul style="list-style-type: none"> Added TaskTypes web service Added the following web methods to the TaskTypes web service: ImportTaskTypes, GetTaskType, GetTaskTypeList Added the Service Time web service Added the following web methods to the ServiceTime web service: GetServiceTimeList, UpdateTaskServiceTime.
17-Aug-2016	<ul style="list-style-type: none"> Added ImportTasks web method to TaskManagement web service Added EntryDateAge to the Post XML. Added to each web method where it is located.
28-Aug-2016	<ul style="list-style-type: none"> Added Geocode web method to AddressImprovement web service. Updated the name of the result of the following web methods: GetPointOfInterestList, GetPointOfInterestListIncludePoint, GetEmployeeList, GetTaskType, GetTaskTypeList, GetServiceTimeList Added PointOfInterestType to the result of the GetEmployeeList web method.
02-Nov-2016	<ul style="list-style-type: none"> Added Priority, TimeWindows, TimeWindowPriority, ServiceTime, JointServiceTime, Capacity1 - Capacity5, AggregateNumber, OrderInAggregate to the CreateOrUpdateTask request Added fields to the EntryLocation in the Post XML
11-Nov-2016	<ul style="list-style-type: none"> Added ReferencedPointsOfInterest tag to the Post XML Added missing fields to the Task tag in the Post XML Added AddCatalogItemsToEntries, AutoOpenCloseTaskEntry, AutoOpenScanInCloseTaskEntry to the ImportTaskTypes web method. Added QuantityOnlyFormShowOnlyCatalogNumber to the CreateOrUpdateTask and ImportTasks web methods.
4-Jan-2017	<ul style="list-style-type: none"> Added ExternalCreationDateAge to the task tag in the Post XML
30-Jan-2017	<ul style="list-style-type: none"> Added EntrySource to the Post XML. Added ChangedByUser tag to the XML Post. Changed Duration in CreateOrUpdateTask and ImportTasks to be optional. Added CreationDate ,CreationDateAge, CreationDateFromEpoch to the Task tag in the Post XML.
8-Feb-2017	<ul style="list-style-type: none"> Added Entry Types: MS_DeclineTask, MS_ArrivedToTask Added Task Statuses: Draft, Declined, Arrived
20-Mar-2017	<ul style="list-style-type: none"> Added the Work Order web service Added the following web methods to Work Order web service: CreateOrUpdateWorkOrderAndTasks Added new Result Codes to Appendix F. Added WorkOrder tag to the XML Post and Work Order Statuses table.
22-Mar-2017	<ul style="list-style-type: none"> Added serviceTimeFrameTypeCode, rangeCodes to the GetServiceTimeList request. Added ServiceTimeFrameTypeCode, RangeCode to the GetServiceTimeList response. Added the following web methods to ServiceTime web service: ReserveServiceTime, CancelReservedServiceTime.
5-Apr-2017	<ul style="list-style-type: none"> Added ImportTaskItemActions Web Method
23-Apr-2017	<ul style="list-style-type: none"> Added Bid tag to the Post XML. Added Bid entries to the Entry Types table. Added Bid Statuses table. Added CreateAutoCloseBidForFreeBusyResourcesInTaskDistributionArea to the CreateOrUpdateTask options tag.
1-May-2017	<ul style="list-style-type: none"> Added DeletePointOfInterestForEmployee Web Method Added attendance entries to Entry Types table: MS_OfficeWorkStart, MS_OfficeWorkEnd, MS_BreakStart, MS_BreakEnd. Added Priority field to the Task Tag in the Post XML. Added to GetServiceTime Web Method taskLocation tag

	<ul style="list-style-type: none"> Added Status field to the Employee tag and the ReportedByEmployee tag in the Post XML.
10-May-2017	<ul style="list-style-type: none"> Added DeletePointsOfInterest Web Method Added ReportingEmployeeNumber to AddEmployeeTimeSheetEntry request Added Draft status to CreateOrUpdateTask method
26-June-2017	<ul style="list-style-type: none"> Deleted VerifyEmployeeNumbers Web Method
28-June-2017	<ul style="list-style-type: none"> Added tag TimeSlotReservationId to CreateOrUpdateWorkOrderAndTasks Web Method
8-Aug-2017	<ul style="list-style-type: none"> Added Bid entry (MS_BidViewedByAp) to Entry Types table.
21-Aug-2017	<ul style="list-style-type: none"> Changed in Customer Notification System tags {E_FIRST}, {E_LAST} to {E_NAME}
5-Sep-2017	<ul style="list-style-type: none"> Fixed date format for tag ExternalCreationDate in CreateOrUpdateWorkOrderAndTasks Web Method to YYYYMMDDHHMM Added PointOfInterestForEmployeeNotFound to Result Code Details table. Changed Layer to Parent POI in ImportPointsOfInterest Web Method
27-Sep-2017	<ul style="list-style-type: none"> Added tag Name to GetEmployeeList Web Method, ImportEmployees Web Method, and ImportEmployee. Added Remark: FirstName, LastName - Obsolete. Will be deleted in a future version. Deleted GetList Web Method
9-Oct-2017	<ul style="list-style-type: none"> Added to POST XML Structure Employee tag: tag Name. Added Remark: FirstName, LastName - Obsolete. Will be deleted on a future version
22-Nov-2017	<ul style="list-style-type: none"> Added PictureUrl, PictureUrl2 to ImportCatalog and ImportCatalogAndEmployeeCatalog Added UILanguage and SendConnectionCode to ImportEmployee
20-Dec-2017	<ul style="list-style-type: none"> Removed ShowHighImportanceIndicator from ImportTaskTypes Added serviceTime,options to GetServiceTimeList Changed distributionAreaNumber to optional if using taskLocation.X and taskLocation.Y in GetServiceTimeList Added InsertPointOfInterestForEmployee Web Method Added Appendix G: Displaying information in forms Added Appendix H: Forms expressions
24-Dec-2017	<ul style="list-style-type: none"> Added Contractor to the task tag and work order tag in the Post XML.
1-Mar-2018	<ul style="list-style-type: none"> Added CustomerNumber and new Options to GetServiceTime request. Added ArrivalWindowPercentageFull, ArrivalWindowCode (replaced RangeCode) to the GetServiceTime response. Added new ResultCodes. Added taskLocation, customerNumber, employeeNumber, and options to ReserveServiceTime web method. Added new Options in the CreateOrUpdateWorkOrderAndTasks and CreateOrUpdateTask web methods. Added ExternalFiles to CreateOrUpdateWorkOrderAndTasks web method. Added Data1- Data10 fields to the GetTaskType, GetTaskTypeList web methods response and to ImportTaskTypes request. Added Options to InsertPointOfInterestForEmployee and DeletePointOfInterestForEmployee web methods. Added new task entry MS_RescheduleTaskRequest to EntryTypes table. Added new bid status JobCanceled to Bid status table.
5-Mar-2018	<ul style="list-style-type: none"> Added ImportNonWorkingDays web method.
10-Apr-2018	<ul style="list-style-type: none"> Added Code to the form tag in the Post XML
7-May-2018	<ul style="list-style-type: none"> Moved CreateOrUpdateTask method of TaskManagement.asmx to Appendix I. Added new CreateOrUpdateTask method of WebServices.asmx
6-Jun-2018	<ul style="list-style-type: none"> Added events 2048,4096 to Event types of the Post XML. Added Task entry and status ReadyForReview Replaced work order status 128 from Verified to ReadyForReview. Added new bid status PendingWinnerSelection

	<ul style="list-style-type: none"> Added new ResultCodes used in setBidWinner method. Renamed rangeCodes to arrivalWindowCodes in GetServiceTimeList method. Added a new method CreateOrUpdateWorkOrderWithTasks Added new method setBidWinner Added to all Create Task and WorkOrder methods auto-generating task number when set as 0.
7-Jun-2018	<ul style="list-style-type: none"> Updated method ImportTasks with a new option AutoAssignDistributionAreaByTaskLocation Deleted status "Disabled" from method GetEmployeeList Added a new method CreateOrUpdateWorkOrder Added in Task tag in Post XML structure tag LimitCatalogItemsSelectionToCatalogNumbers
18-Jun-2018	<ul style="list-style-type: none"> Added in form tag in Post XML added text tag for Combo Box form field. Added new method ImportTaskItems. Added RelatedEntries task in Post XML also when task record has changed (Event type 8) Added footnote for all methods that create tasks that task num=0 and break task type will create a Break Task. Added bidResources tag to the Bid tag in the Post XML. Added new fields to the Employee tag in the Post XML.
11-Jul-2018	<ul style="list-style-type: none"> Added new method InsertEmployeeRating.
30-Jul-2018	<ul style="list-style-type: none"> Added TypeArray to the response of the GetPointOfInterestList and GetPointOfInterestListIncludePoint methods. Removed support in Templates from HTTP post EntryTemplate and GET tokens {TEMPL_T}, {TEMPL_C} Added new method DeletePointOfInterest Added new fields to Contractor tag in HTTP Post XML. Added Priority to CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks, CreateOrUpdateWorkOrderWithTasks methods.
21-Aug-2018	<ul style="list-style-type: none"> Moved ImportEmployees method of Employees.asmx to Appendix I. Added TargetMobileDeviceOption to the options of the ImportEmployee method. Added option AutoAssignDistributionAreaWithServiceTimeFrameByCustomerNumberParent to the CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks, CreateOrUpdateWorkOrderWithTasks methods. Rename AutoAssignDistributionAreaByCustomerNumberParent to be AutoAssignDistributionAreaWithServiceTimeFrameByCustomerNumberParent in GetServiceTimeList and ReserveServiceTime methods. Added RequiresReschedulingOtherTasks to GetServiceTimeList response. Added new method GetTaskDetails. Added HasValidities to the EmployeePointOfInterest tag in the GetEmployeeList response. Added support in Appendix G for Hint in Signature and displaying information from bids. Changed CustomerNumber in CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks, CreateOrUpdateWorkOrderWithTasks methods to be optional. Added Barcode form field with Multi-Scan to the Form tag in HTTP Post XML.
12-Sep-2018	<ul style="list-style-type: none"> Added missing type and items in the ImportCatalog web method.
28-Nov-2018	<ul style="list-style-type: none"> Added new ResultCodes used in GetServiceTimeList, CreateOrUpdateTask, CreateOrUpdateWorkorderWithTasks and CreateOrUpdateWorkorderAndTasks. Added ContractorCode to ImportTasks method and to the task tag to the

	<p>CreateOrUpdateTask, CreateOrUpdateWorkorderWithTasks and CreateOrUpdateWorkorderAndTasks methods.</p> <ul style="list-style-type: none"> • Added ContractorCodeHasValue to the task tag to the CreateOrUpdateTask, CreateOrUpdateWorkorderWithTasks methods. • Added new method ImportGroups. • Added GroupCode to the ImportEmployee method. • Added Group tag to the GetEmployeeList method. • Added new method ImportFormDataTable. • Added event 8192 to Event types of the Post XML. • Added Appendix K: Tasks with limit items (Assign specific catalog items to the task).
3-Dec-2018	<ul style="list-style-type: none"> • Added new method ImportFormLink. • Changed all descriptions of Epoch fields that are sent in milliseconds instead of seconds.
12-Dec-2018	<ul style="list-style-type: none"> • Added new method ImportSkills.
27-Dec-2018	<ul style="list-style-type: none"> • Added new method AddTaskAuditNote
13-Jan-2019	<ul style="list-style-type: none"> • Added events 16384,23768 to Event types of the Post XML. • Added Audit tag to the Post XML. • Added QuantityOnlyFormShowOnlyCatalogNumber to CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks, CreateOrUpdateWorkOrderWithTasks web methods. • Added QuantityOnlyFormShowOnlyCatalogNumberHasValue to CreateOrUpdateTask, CreateOrUpdateWorkOrderWithTasks web methods. • Added Appendix J: Displaying information in Tasks • Added support to display POI information in tasks from the customer linked to the task in Appendix G.
7-Feb-2019	<ul style="list-style-type: none"> • Added new method AsyncImportTasks
13-Mar-2019	<ul style="list-style-type: none"> • Added IsParent to InsertOrUpdatePointOfInterest method • Changed ParentPoi to be optional in InsertOrUpdatePointOfInterest
8-Apr-2019	<ul style="list-style-type: none"> • Added support for task status token in appendix G. • Removed Appendix C – Optimization • Added data of all items selected in Linked Selection Boxes to HTTP Post XML. • Added new methods AbortAsyncImport, AsyncImportResult • Added new ResultCodes used in UpdateTaskServiceTime, AbortAsyncImport, CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks and CreateOrUpdateWorkOrderWithTasks methods. • Added UpdateTaskItemsDefaultQuantity, to ImportTasks, AsyncImportTasks, CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks and CreateOrUpdateWorkOrderWithTasks methods. • Added UpdateTaskItemsDefaultQuantityHasValue to CreateOrUpdateTask and CreateOrUpdateWorkOrderWithTasks methods. • Added AutoPopulateCustomDataFields to ImportTasks, AsyncImportTasks methods in the column mapping and the options. • Added AutoPopulateCustomDataFields to the Task options of the following methods: CreateOrUpdateTask (deprecated method), CreateOrUpdateTask, CreateOrUpdateWorkOrderWithTasks and CreateOrUpdateWorkOrderAndTasks. • Added QuantityOnlyFormShowOnlyCatalogNumber, UpdateTaskItemsDefaultQuantity to GetTaskDetails method. • Added data1-data30 to UpdateTaskServiceTime method. • Added new response of InvalidTimeWindows to CreateOrUpdateTask (deprecated method). • Added IVRPassword to the ImportEmployee method. • Added ReferencedUsers tag to the Post XML.

	<ul style="list-style-type: none"> Added to Appendix F (Form expressions) information of calculation in label fields. Added [POIAddress] token to Appendix G.
27-May-2019	<ul style="list-style-type: none"> Moved GetMobileDeviceCurrentLocation method, GetMobileDeviceHistoricLocation method, Calling a web service using WSE to Appendix I. Added Address, AdditionalInfo to Task tag Added values to ChangingSource and ChangingObjectType at Audit tag Added to Appendix H (Form expressions) validation expression for the barcode form field
1-Jul-2019	<ul style="list-style-type: none"> Removed GetMobileDeviceCurrentLocation method, GetMobileDeviceHistoricLocation method, Calling a web service using WSE Remove GetHistoricInputs method Remove ImproveAddress method, FindAddressCoords method Added [POIParent] token to Appendix G Move Geocode method to Common Web Services section Remove WAPPush from SendSMSToEmployee web service
10-Sep-2019	<ul style="list-style-type: none"> Added Method GetMobileDeviceCurrentLocation Added new Result Codes to Appendix F. Added new attendance entries MS_AbsenceStart , MS_AbsenceEnd to EntryTypes table Update Bid Type of External Winner Selection to 4
10-Dec-2019	<ul style="list-style-type: none"> Added [AdditionalInfo.Id.Text] & [AdditionalInfo.Id.Value] token to Appendix G Added Task entry and status ReadyForApproval Added Work order status ReadyForApproval Update Method GetMobileDeviceCurrentLocation adding new params employeeNumber and vin Added AggregateNumber to the task tag in the post XML
6-May-2020	<ul style="list-style-type: none"> Added Task entry and status Custom1, Custom2, Custom3, Custom4 Added AddCatalogItemsToEntriesInQuantityOnlyScreen to ImportTaskType web method Added X, Y, Categories to Task tag in Post XML Added Multi Selection ComboBox field to Form tag in Post XML
6-Jun-2020	<ul style="list-style-type: none"> Added Appendix C: Optimization User Guide
30-Jun-2020	<ul style="list-style-type: none"> Added date format to TaskExternalFile.Date field. Added Priority tag to GetTaskType and GetTaskTypeList response. Added TaskCannotBeIncludedInBulkEntry to GetTaskDetails, CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks, CreateOrUpdateWorkOrderWithTasks, ImportTasks, AsyncImportTasks methods. Added TaskCannotBeIncludedInBulkEntry_2 to ImportTasks, AsyncImportTasks methods. Added TaskCannotBeIncludedInBulkEntryHasValue to CreateOrUpdateTask, CreateOrUpdateWorkOrderWithTasks methods. Added DefaultQuantity, MinimumQuantity, MaximumQuantity, Serviceable to ImportCatalog, and ImportCatalogAndEmployeeCatalog methods. Added MaxLateWorkStart, MaxEarlyWorkStart, EarlyWorkStartOnlyForDriving, EarlyWorkStartTimesIncludedInWorkingTime to ImportEmployee method. Added AllowDeletingCatalogItemsInQuantityOnlyListFromWholeList to ImportTaskTypes method. Added new ImportSubStatus to AsyncImportResult. Updated Appendix D with the option to use the form web service call field to update the form field.
03-Aug-2020	<ul style="list-style-type: none"> Added Items collection to Audit tag.

	<ul style="list-style-type: none"> Renamed Appendix D to Form Fields Added External Interface form field to Appendix D Updated Appendix C. Added to all CreateWorkOrder methods auto-generating work order number when set as 0.
12-Oct-2020	<ul style="list-style-type: none"> Changed expiration to double on ReserveServiceTime. Added event type 128 to Customer Notification system event types.
22-Nov-2020	<ul style="list-style-type: none"> Added Audit tag as part of work order tag in the Post XML. Added new method CreateOrUpdateDynamicWorkOrder. Added new EventType to the Post xml. Added CompanyDataImport tag to the Post XML. Added [Task.CatalogItems.TotalPrice] token to Appendix G.
20-Dec-2020	<ul style="list-style-type: none"> Added new method SaveTemporaryFileChunk under Common web service. Added new Result Codes to Appendix F. Added new TaskExternalFile.AccessType to CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks, CreateOrUpdateWorkOrderWithTasks. Added new method AsyncImportFormDataTable under Forms web service.
20-Jul-2021	<ul style="list-style-type: none"> Added new statuses to GetEmployeeList Added Status to ImportEmployee's options. Added StartDateTime to CreateOrUpdateTask, CreateOrUpdateWorkOrderAndTasks, CreateOrUpdateWorkOrderWithTasks. Added StartDateTimeHasValue to CreateOrUpdateTask, CreateOrUpdateWorkOrderWithTasks. Added AdditionalInfo to CreateOrUpdateWorkOrder, CreateOrUpdateDynamicWorkOrder, CreateOrUpdateWorkOrderWithTasks. Added AdditionalInfoHasValue to CreateOrUpdateDynamicWorkOrder, Renamed Appendix B – Additional Info Added Work order status Declined, Custom1- Custom4. Added new method ExcludePeriodFromNonWorkingDays under NonWorkingDays web service. Added AdditionalInfo as part of work order tag in the Post XML. Added new Action of Opening Url to web service call response in Appendix D. Added expressions to be used in expressions and initial values to Appendix H. Added new uses in expressions for Appendix H. Removed ImportCatalogAndEmployeeCatalog from Catalog web service Added new result codes to Appendix F. Moved ImportPointsOfInterest to Appendix I. Added new method AsyncImportPointsOfInterest to PointsOfInterest web service. Added new method CreateOrUpdatePointOfInterest to PointsOfInterest web. Added a few fields to GetPointOfInterestList response and marked a few fields as deprecated. Added Parent to the PointsOfInterest tag in the Post Xml. Removed the option to use workOrderNumber=0 in CreateOrUpdateWorkOrder
29-Nov-2021	<ul style="list-style-type: none"> Added Task options: CheckCompanyRequiredFields to: CreateOrUpdateTask, AsyncTaskImport, CreateOrUpdateWorkOrderWithTasks. Added new AccessType to ExternalFiles in below methods: CreateOrUpdateTask, CreateOrUpdateWorkOrderWithTasks.

	<ul style="list-style-type: none">• Added ValidFromDate, ValidToDate to ImportNonWorkingDays .• Moved CreateOrUpdateWorkOrderAndTasks, TaskImport methods to Appendix I.• Change field name Type to TypeArray and set DataType as Collection in CreateOrUpdatePointOfInterest.• Added displaying information from combo box of type catalog item and task item to Appendix G• Added note in Files tag in post Xml.• Update the power operator in Appendix H.• Added new work order entry types to the Post Xml• Added custom data field 30-40 to the below methods: CreateOrUpdateTask, AsyncTaskImport, GetTaskDetails, CreateOrUpdateWorkOrderWithTasks. And to the Post Xml• Added new section to Appendix I called Deprecated parameters from existing methods.• Added CategoryCode to ImportTaskTypes.• Added TaskTypeCategory to GetTaskTypeList , GetTaskType.• Added TaskType.Category to the Post Xml.• Added new method AsyncImportPointOfInterestCatalogItems under PointsOfInterest web service.
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Purpose of this document

The OfficeTrack system accepts incoming requests to create entries in the OfficeTrack server. This document will list these requests and list some ways the server can accept incoming requests.

Terms used in the document

The following terms are used inside the document:

Term	Description
Customer	A company that has registered for the OfficeTrack service. The company has mobile devices and Employees associated with it.
Mobile Device	A unit that can send its location to the OfficeTrack server. The unit might also send employee information and/or telemetry.
Employee	An employee of the company. The employee usually has a Mobile Device associated with him. The employee uses the Mobile Device to send information to the OfficeTrack server.
Employee Time Sheet (ETS) Entry	An entry is usually made by the employee using the Mobile Device to show a status change for the employee. Typical entries are Sign In, Sign Out. These entries do not include location entries of the employee.
Task	A task that is associated with an employee. The employee can report entries about the task as the status of the task changes.

Web Services

The web server exposes a few Web Services to receive data from external sources, as well as to allow external applications to query the server. Some of these Web Services require the use of Web Service Extensions (WSE) for enhanced security.

Below is a list of all the Web Services exposed by the server and a general description of each Web Service. A more detailed explanation about each Web Service is given below.

Web Service Name	Description
RemoteUpdates.asmx	Allows adding employee timesheet entries to the server
SMS.asmx	Allows sending SMS messages to employees
TaskManagement.asmx	Allows creating or updating tasks on the server
Catalog.asmx	Allows updating the catalog items on the server
WebServices.asmx	Variety of web methods.
Employees.asmx	Allows updating employees on the server.
PointsOfInterest.asmx	Allows updating points of interest on the server.

! To improve usability and compatibility with other development languages, some of the Web Methods in these web services accept only a single parameter "Request" which holds an XML document that represents the request from the web method.

The RemoteUpdates Web Service

This Web Service allows remote applications to create employee timesheet entries on the server. A typical user for this web service would be an IVR machine that will accept incoming entries from employees (for example an employee sign in).

AddEmployeeTimeSheetEntry Web Method

This web method adds a timesheet entry for the employee. The web method supports adding an entry for single or multiple employees on a single call as well as specifying the employee who reported on behalf of all the employees.

Located in /services/remotupdates.asmx

! The method does not validate the EmployeeNumbers if supplied. The server will ignore entries for invalid numbers.

! If you are sending Input values, you must filter them to avoid sending duplicate data to the server. Only send an input value when it's changed.

The web method accepts a single parameter request which needs to be a XML document in this format

```
<AddETSRequest xmlns:xsd = "http://www.w3.org/2001/XMLSchema" xmlns:xsi =
"http://www.w3.org/2001/XMLSchema-instance" >
  <UserName></UserName>
  <Password></Password>
  <ReportingEmployeeMSISDN></ReportingEmployeeMSISDN>
  <ReportingEmployeeNumber></ReportingEmployeeNumber>
  <EntryType></EntryType>
  <TimeStampMinuteDiff></TimeStampMinuteDiff>
  <Description></Description>
  <EntrySource></EntrySource>
  <EmployeeNumbers>
    <string></string>
    <string></string>
  </EmployeeNumbers>
  <LocationSamplingMethod></LocationSamplingMethod>
  <Location>
    <East></East>
    <North></North>
    <Address></Address>
    <CoordinateIsInWgs84></CoordinateIsInWgs84>
    <Speed></Speed>
    <Heading></Heading>
  </Location>
  <Inputs>
    <InputValue>
      <InputType></InputType>
      <ConvertedMessageType></ConvertedMessageType>
      <Value></Value>
      <ValueConverted></ValueConverted>
      <CalculatedValue></CalculatedValue>
    </InputValue>
  </Inputs>
</AddETSRequest>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
ReportingEmployeeMSISDN	String (Required. Can be omitted if ReportingEmployeeNumber is set)	The phone number of the reporting employee (e.g. The employee who makes the entry)
ReportingEmployeeNumber	String (Required. Can be omitted if ReportingEmployeeMSISDN is set)	The employee number of the employee. Used to find the employee phone number(e.g. The employee who makes the entry).
EntryType	Enumerator (Required)	The entry type that should be

		entered the employee timesheet (See Entry Types under the Customer Notification System for potential values)
TimeStampMinuteDiff	Int64 (Required)	The age in minutes of the entry as it should exist in the employee timesheet. (e.g. if the entry was made 10 minutes ago in the IVR system then the value of this parameter should be -10)
Description	String (Optional)	A string representing an additional value the employee may enter the external system (e.g. task number). If the EntryType parameter is a task related type then this parameter must hold the task number.
EntrySource	Enumerator (Required)	The source of the employee timesheet entry. Can be: IVR SMS WAP Web MobileApplication
EmployeeNumbers	String Array (Optional)	If the parameter is supplied, then the entry is made in the employee timesheet for the employee numbers provided in the array. If the parameter is not supplied, then the entry is made to the Reporting Employee only.
LocationSamplingMethod	Enumerator (Required)	Specifies how to sample the location of the reporting employee mobile. valid values are: Auto – Decides automatically how to sample the location of the reporting employee mobile. DoNotSampleLocation – does not sample the location of the reporting employee mobile. if a Location object was supplied with the request, then the entry would be associated with that location. If not, Location object was supplied, then the entries would be logged in the employee timesheet with no location. SampleLocation – Makes the server sample the location of the reporting employee mobile unless the Location object was supplied, in which case it will be used as the location of the mobile.
Location	Object (Optional)	An optional object of the location of the mobile device. If included, it will be registered as the location of the employee reporting.
Location. East	Double (Required)	The east coordinate of the reporting employee mobile
Location. North	Double (Required)	The north coordinate of the

		reporting employee mobile
Location. Address	String (Optional)	The text address of the reporting employee mobile. if omitted the server will calculate the address based on the East and North coordinates
Location. Speed	Double (Optional)	The speed in Km/h
Location. Heading	Int16 (Optional)	The Heading as gotten from the GPS (0 is north, 90 is east, 180 is south, 270 is west)
Location.CoordinatesInWgs84	Boolean (Optional)	Set to "true" if the coordinates supplied in the east and north fields are in Wgs84
Inputs	Collection (Optional)	An optional collection of the object InputValue. The collection holds inputs from the unit (e.g. ignition, temperature)
Inputs InputValue	Object	An object representing one input from the mobile unit
Inputs. InputValue. InputType	Enumerator (Required)	The type of the input (e.g. Ignition, Temperature). See Appendix for the list of supported input types.
Inputs.InputValue. ConvertedMessageType	Enumerator (Required)	The specific type of message for the input type (e.g. turn the ignition on or turn ignition off). See Appendix for the list of supported message types
Inputs. InputValue .Value	Double (Required)	The value of the input. For digital inputs, the value must be 1 or 0. For analog inputs, the value can be any number
Inputs. InputValue. ValueConverted	Boolean (Required)	Set to false if the value needs to be converted by the server. Otherwise set to true.
Inputs. InputValue. CalculatedValue	Double (Optional)	A value holding a calculated value for the input (e.g. if the input is Fueling (the vehicle is fueling), the Calculated value can hold the amount fueled)

The web method will return one of the following values

Parameter	Description
OK	Entry or Entries were accepted by the server
InvalidUserNameOrPasswordOrIPAddress	The supplied username and password are not valid
InvalidEmployeeMSISDN	The reporting employee mobile number is invalid
MSISDNIsNotAssociatedWithEmployee	The reporting employee mobile is not associated with an employee
UnknownErrorHasOccurred	An unknown error has occurred
InvalidRequest	request XML could not be parsed

The SMS Web Service

This Web Service allows sending SMS messages to employees from remote applications. A typical user for this web service would be a back-office application that needs to notify the employee of new tasks.

SendSMSToEmployee Web Method

This web method allows sending an SMS message to a single employee based on his employee number. Located in /services/sms.asmx

The web method accepts a single parameter request which needs to be an XML document in this format

```
<SendSMSToEmployeeRequest xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <UserName></UserName>
  <Password></Password>
  <EmployeeNumber></EmployeeNumber>
  <SMSType> </SMSType>
  <Data></Data>
  <BillingType></BillingType>
</SendSMSToEmployeeRequest>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
EmployeeNumber	String (Required)	The employee number the SMS will be sent to
SMSType	Enumerator (Required)	The Type of the SMS message. Can be: Text – A regular text message Binary – A binary message
Data	String (Required)	The contents of the SMS to send.
BillingType	Enumerator (Required)	The server needs to know the type of message so it can (in some cases) send the message under different billing charges. The value can be one for: TextMessage – The SMS is a regular text message. TaskMessage – The SMS is a task related message. DeviceSpecificControlMessage – The SMS is used to control the behavior of the receiving mobile device. LocationRequest – The SMS is used to sample the location of the device (used where the mobile device needs to get an SMS to send its location back to the server) SystemErrorMessage – The SMS is a server error message SystemGeneratedResponse – The SMS is a SMS that is automatically generated by the server. AlertMessage – The SMS is an alert generated by the server.

The web method will return one of the following values

Parameter	Description
OK	Entry or Entries were accepted by the server
InvalidUserNameOrPasswordOrIPAddress	The supplied username and password are not valid
InvalidEmployeeNumber	The recipient employee number is invalid
EmployeeDoesNotHaveMobile	The recipient employee does not have a mobile device associated with him
UnknownErrorHasOccurred	An unknown error has occurred
InvalidRequest	The request XML could not be parsed
InvalidDataFormat	The Data has an invalid format according to the SMS Type

The TaskManagement Web Service

This Web Service allows creating or updating tasks on the server so employees can report task related entries to the server.

CreateOrUpdateTask Web Method

This web method allows creating or updating a task on the server. Located in /services/webservices.asmx

The web method accepts parameters request which needs to be in the following format:

Parameter	Data Type	Length	Description
username	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
operation	Enumerator (Required)		The operation the server is required to do. Options are: Create – The server is required to create a task Update – The server is required to update a task with the same Task Number AutoSelect – The server will check if the task number provided exists. If the task number exists, the server will update the task if the task number does not exist, the server will create a task with the provided task number.
task	Object		An object of containing the task parameters and information.

Each Task can contain the following parameters:

Parameter	Data Type	Length	Description
TaskNumber	Int64 (Required)		The number of the Task. If set to 0, the server will auto generate the task number. ¹
WorkOrderNumber	Int64 (Optional)		The work order number that the task will be linked to.
CustomerNumber	Int64 (Optional)	50	The number of the customer in the server
DistributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
EmployeeNumber	String (Optional) ²	50	The number of the employee that will be associated with the task.
TimeSlotReservationId	String (Optional)	50	The reservation ID of reserved time slot.
VIN	String (Optional) ²	50	The VIN of the vehicle that will be associated with the task.

¹ If Task number will be set as 0 and the task type is Break task type the task will be created as a break task.

² If both employee number and VIN fields are empty the task will be created as an unassigned task

DueDateTime	String (Optional)		The due date of the task as YYYYMMDDHHmm <ul style="list-style-type: none"> Required if not using TimeSlotReservationId or StartDateTime
StartDateTime	String (Optional)		The start date and time of the task as YYYYMMDDHHmm <ul style="list-style-type: none"> Required if not using TimeSlotReservationId or DueDateTime
Duration	Double (Optional)		The duration in hours of the task. For two-and-a-half hours set the value to 2.5. If not supplied will be taken from the task type duration or be set by default for 30 minutes. <ul style="list-style-type: none"> Can be omitted if using TimeSlotReservationId
TaskTypeCode	String (Optional)	50	The code of the task type as set on the server ³
Notes	String (Optional)	max	Notes about the task
Description	String (Required)	100	The description of the task
Status	Enumerator (Required)		The status of the task. Can be one of the Names described in Task Statuses , or can be sent as DontChange – Instructs the server not to change the status of the task if the task is being updated.
Phone1, Phone2	String (Optional)	50	Task related phones. Used if the Customer Number parameter is not given.
ContractorCode	String (Optional)	50	The code of the contractor that was set on the server
ContactName	String (Optional)	100	The contact name. Used if the Customer Number parameter is not given.
CustomerName	String (Optional)	100	The Customer name. Used if the Customer Number parameter is not given.
Categories	String (Optional)		An optional comma delimited string to specify the task categories (e.g. VIP, North)
Email	String (Optional)	70	An optional email address assigned to the task
Location	Object (Optional)		An optional object of the location of the task. The location can also be set using the optional GeocodeAddress object.
Location.X	Double (Optional)		The X (longitude) coordinate of the task
Location.Y	Double (Optional)		The Y (latitude) coordinate of the task
Location.Address	String (Required)	255	The text address of the task.

³ If Task number will be set as 0 and the task type is Break task type the task will be created as a break task.

GeocodeAddress	Object (Optional) – Requires a separate permission to use this tag		An optional object of the address location of the task. The address will be geocode into a geographical location. The location can also be set using the optional Location object.
GeocodeAddress.State	String (Optional)	100	The state name
GeocodeAddress.City	String (Optional)	100	The city name
GeocodeAddress.Street	String (Optional)	100	The street name
GeocodeAddress.HouseNumber	String (Optional)	100	The house number
GeocodeAddress.Zip	String (Optional)	100	The zip code
GeocodeAddress.UseIfPartiallyResolved	String (Optional)		If set to true, the address will be used even if only a partial match was found. If set to false, the address will be used only if a full match for the address was found.
Data1...Data40	String (Optional)	500	Data fields for custom use
HiddenData1	String (Optional)	200	Data fields for custom use, unlike Data 1...40 this field is only used for the Customer Notification System and is not displayed on any UI (see this document for more information about the Customer Notification System)
ExternalCreationDate	String (Optional)		A creation date for the task that is from an external source as YYYYMMDDHHMM
Options	Enumerator (Optional)		Sets various options: None -Does not set any options SendNotificationToMobile – sends a notification to the mobile device associated with the employee assigned to the task. Also, changes the status of the task to SMSSent SendNotificationToMobileDontChangeTaskStatus -sends a notification to the mobile device associated with the employee assigned to the task. Does not change the status of the task to SMSSent AutoAssignUnassignedTasksByTaskLocation – will an employee to the task based on task location and the employee's association to a distribution area. AutoAssignDistributionAreaByTaskLocation – will auto assigned the distribution area by the taskLocation coordinates. AutoAssignDistributionAreaByCustomerNumberParent – auto assign the distribution area based on the first parent of the CustomerNumber from type distribution area. MaskSendAnyNotificationToMobile – will not show notification to the mobile device AutoAssignDistributionAreaWith

			<p>ServiceTimeFrameByCustomerNumberParent – auto assign the distribution area based on the customer or first parent of the CustomerNumber from type distribution area that has service time frame.</p> <p>AutoPopulateCustomDataFields - Define if the tasks data fields will be auto populate based on the settings in the server.</p> <p>CheckCompanyRequiredFields – Define for validating the task required fields based on the settings in the server.</p>
AdditionalInfoXml	String (Optional)	max	<p>An optional XML representing additional info about the task that will be displayed to the employee. See Appendix B for a sample of the XML.</p> <ul style="list-style-type: none"> Note: The XML in this tag should <u>NOT</u> be Encoded
LimitCatalogCategoriesSelectionToCodes	String (Optional)	max	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the catalog category codes. See the ImportCatalog Web Method for more details.
LimitCatalogItemsSelectionToCatalogNumbers	String (Optional)	max	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog
MaximalRadiusForEntries	Double (Optional)		If set, limits entries on the task to a specific radius from the task location
ProhibitEntriesOutsideRadius	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries. If the value differs from the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry
UseQuantityOnlyCatalogItemEntryForm	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the

			form linked with the add catalog item to entry will not be shown
DoNotShowRefreshMessageInMobile	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task will be sent to the device and will not show the push notification message.
QuantityOnlyFormShowOnlyCatalogNumber	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.
AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations	String (Optional)		If the value is any of the following values: 1, Y, YES, TRUE, T, ON then even if the task is limited to specific items, the user can select other items from the private catalog of the employee.
AggregateNumber	Int64 (Optional)		The aggregate number of the task.
OrderInAggregate	Byte (Optional)		The order in the aggregate number of the task.
Capacity1...Capacity5	Double (Optional)		The capacities of the task.
TimeWindows	String (Optional)	50	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
TimeWindowPriority	Byte (Optional)		The priority of the task in the time window
ServiceTime	Short (Optional)		The service time of the task in minutes
JointServiceTime	Short (Optional)		The joint service time of the task in minutes
OrderInRoute	Short (Optional)		If set shows the task order relative to other tasks for the same resource.
ExternalFiles	Collection (Optional)		Collection of external URLs of files sent to the employee as part of the task
ExternalFiles.TaskExternalFile	Object (Optional)		Object of an external file
TaskExternalFile.Id	String (Required)		Unique id of the file
TaskExternalFile.Name	String (Required)		Name of the file including file prefix e.g. Document.doc
TaskExternalFile.Url	String (Required)		The URL where the file will be downloaded from. Note: If AccessType=File, need to pass the Guid of the file returned by SaveTemporaryFileChunk method.
TaskExternalFile.Date	String (Optional)		A date of the file as yyyyMMddHHmm
TaskExternalFile.AccessType	Enumerator (Required)		Type of access allowed to the file: DirectAccess – the URL of the file can be accessed directly from the site and mobile. ServerProxied – the URL of the file will not be exposed in the site or mobile, secured. File – a file uploaded to the server using SaveTemporaryFileChunk

			method. UrlOpenInBrowser – Will open the URL of the file in the browser and not download it.
TaskExternalFile.Flags	Enumerator (Required)		Can be: None – the file cannot be downloaded by site user. Will display only the file's details. AllowViewBySiteUser – the site user will download the file from the site.
Priority	Enumerator (Optional)		The priority of the task can be: NotSet Lowest Low Normal High Highest Urgent
UpdateTaskItemsDefaultQuantity	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then task item's default quantity will be updated based on employee's entry of quantity of the item.
TaskCannotBeIncludedInBulkEntry	String (Optional)		If the value is any of the following values: 1, Y, YES, TRUE, T, ON, the task cannot be included in bulk entry.
WorkOrderNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CustomerNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DistributionAreaNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
EmployeeNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TimeSlotReservationIdHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
VinHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DueDateTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False

			by default, if a value is sent in the corresponding field, you must map this to be True.
StartDateTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DurationHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TaskTypeCodeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
NotesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DescriptionHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Phone1HasValue, Phone2HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ContractorCodeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ContactNameHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CustomerNameHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CategoriesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
EmailHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
LocationHasValue	Boolean (Optional)		Set to True if you sent value in the

			corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Data1HasValue... Data40HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
HiddenData1HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ExternalCreationDateHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AdditionalInfoXmlHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
LimitCatalogCategoriesSelection ToCodesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
LimitCatalogItemsSelectionToCa talogNumbersHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
MaximalRadiusForEntriesHasVal ue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AggregateNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
OrderInAggregateHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Capacity1HasValue... Capacity5HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TimeWindowsHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

TimeWindowPriorityHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ServiceTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
JointServiceTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
OrderInRouteHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ProhibitEntriesOutsideRadiusHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
UseQuantityOnlyCatalogItemEntryFormHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DoNotShowRefreshMessageInMobileHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
QuantityOnlyFormShowOnlyCatalogNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitationsHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TimeSlotReservationIdHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
PriorityHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
UpdateTaskItemsDefaultQuantityHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

ExternalFilesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TaskCannotBeIncludedInBulkEntryHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

- **There is an old, deprecated method with the same name CreateOrUpdateTask moved to [Appendix I](#).**

The web method will return:

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be: 0,2,1002,1003,1004,1006,1007,1008,1009,1010,1014,1015,1016,1017,1018,1019,1020,1023,1034, 9999. For the full list of values, see Appendix F –Result Codes Details
TaskNumber	The number of the task
ResultMessages	A collection of result messages

UpdateTaskStatus Web Method

This web method allows updating a task status on the server.
 Located in /services/taskmanagement.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
TaskNumber	Int64 (Required)	The number of the Task
Options	Enumerator (Optional)	Sets various options: None -Does not set any options SendNotificationToMobile – sends a notification to the mobile device associated with the employee assigned to the task. Also, changes the status of the task to SMSSent SendNotificationToMobileDontChangeTaskStatus -sends a notification to the mobile device associated with the employee assigned to the task. Does not change the status of the task to SMSSent
taskStatus	Enumerator (Required)	The status of the task. Can be one of the Names described in Task Statuses , or can be sent as: DontChange – Instructs the server not to change the status of the task if the task is being updated

The web method will return one of the following values

Parameter	Description
OK	Task was created or updated successfully
InvalidUserNameOrPasswordOrIPAddress	The supplied username and password are not valid
TaskNumberNotFound	The task number provided does not exist on the server
UnknownErrorHasoccurred	An unknown error has occurred


ImportTaskItemActions Web Method.

This web method allows import of task items by action
 Located in /services/taskmanagement.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

```
<ImportTaskItemActions xmlns="Trackem.Web.Services">
  <Request>
    <UserName>string</UserName>
    <Password>string</Password>
    <DataSource>
      <Data>base64Binary</Data>
      <DataString>string</DataString>
      <DataFormat>Xls </DataFormat>
      <FirstRowHasColumnNames>boolean</FirstRowHasColumnNames>
      <FileName>string</FileName>
    </DataSource>
    <ColumnMapping>
      <TaskNumber>string</TaskNumber>
      <CatalogItemActionCode>string</CatalogItemActionCode>
      <ItemCatalogNumber>string</ItemCatalogNumber>
    </ColumnMapping>
    <Options>
      <ItemsNotInFileOption>Delete or Leave</ItemsNotInFileOption>
    </Options>
  </Request>
</ImportTaskItemActions>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.

DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource .FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none">• If DataFormat=Xml, this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping .TaskNumber	String(Required)	The number of the Task
ColumnMapping .CatalogItemActionCode	String(Required)	The action code for the catalog item
ColumnMapping. ItemCatalogNumber	String (Required)	The item catalog number
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete items from

The web method will return this object

```
<ImportTaskItemActionsResponse xmlns="Trackem.Web.Services">
  <ImportTaskItemActionsResult>
    <ReturnValue>OK </ReturnValue>
    <RowsImported>int</RowsImported>
    <RowsRead>int</RowsRead>
    <Data>base64Binary</Data>
    <DataString>string</DataString>
    <DataFormat>Xls </DataFormat>
  </ImportTaskItemActionsResult>
</ImportTaskItemActionsResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – catalog imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and

	<p>password are not valid</p> <p>UnknownErrorOccurred – An unknown error occurred</p> <p>InvalidRequest – The request XML could not be parsed</p> <p>InvalidDataFile – the data file could not be opened</p> <p>InvalidColumnMapping – the mapping XML is not valid</p> <p>SomeRowsSkipped – some of the imported rows were skipped because of missing required data</p>
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. <ul style="list-style-type: none"> Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.


ImportTaskItems Web Method.

This web method allows import of items for task
Located in /services/taskmanagement.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

```
<ImportTaskItems xmlns="Trackem.Web.Services">
  <Request>
    <UserName></UserName>
    <Password></Password>
    <DataSource>
      <Data></Data>
      <DataString></DataString>
      <DataFormat></DataFormat>
      <FirstRowHasColumnNames></FirstRowHasColumnNames>
      <FileName></FileName>
    </DataSource>
    <ColumnMapping>
      <TaskNumber></TaskNumber>
      <ItemCatalogNumber></ItemCatalogNumber>
      <SerialNumber></SerialNumber>
      <EntryType></EntryType>
      <DefaultQuantity></DefaultQuantity>
      <MinQuantity></MinQuantity>
      <MaxQuantity></MaxQuantity>
      <Data1></Data1>
      <Data2></Data2>
      <Data3></Data3>
      <Data4></Data4>
      <Data5></Data5>
      <Highlight></Highlight>
    </ColumnMapping>
    <Options>
      <ItemsNotInFileOption></ItemsNotInFileOption>
    </Options>
    <EntryTypesMapping>
      <MessageTypeMapping>
        <MessageType></MessageType>
        <Value></Value>
      </MessageTypeMapping>
      <MessageTypeMapping>
        <MessageType></MessageType>
        <Value></Value>
      </MessageTypeMapping>
    </EntryTypesMapping>
  </Request>
</ImportTaskItems>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data	Base64 encoding of the bytes of the data file

	format is Xml)	
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none">• If DataFormat=Xml, this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping.TaskNumber	String (Required)	The number of the Task
ColumnMapping.ItemCatalogNumber	String (Required)	The item catalog number
ColumnMapping.SerialNumber	String (Optional)	The serial number of the catalog item.
ColumnMapping.EntryType	String (Required)	The entry type that the item will be linked to.
ColumnMapping.DefaultQuantity	String (Required)	The default quantity of the item.
ColumnMapping.MinQuantity	String (Required)	The minimum quantity of the item.
ColumnMapping.MaxQuantity	String (Required)	The maximum quantity of the item.
ColumnMapping.Data1 – Data5	String (Optional)	Data fields for custom use
ColumnMapping.Highlight	String (Optional)	Show items highlighted in the mobile app.
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete items from
EntryTypesMapping	String (Required)	The mapping of the entry types that will be written in the file.
MessageTypeMapping.MessageType	String (Required)	The original message type was listed in Entry Types . E.g. MS_StartTask.
MessageTypeMapping.Value	String (Required)	The value that will be written in the file that will represent the MessageType.

The web method will return this object

```
<ImportTaskItemActionsResponse xmlns="Trackem.Web.Services">
  <ImportTaskItemActionsResult>
    <ReturnValue></ReturnValue>
    <RowsImported></RowsImported>
    <RowsRead></RowsRead>
    <Data></Data>
    <DataString></DataString>
  </ImportTaskItemActionsResult>
</ImportTaskItemActionsResponse>
```

```
<DataFormat></DataFormat>
</ImportTaskItemActionsResult>
</ImportTaskItemActionsResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data
RowsImported	Amount of rows imported from the file.
RowsRead	Amount of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. <ul style="list-style-type: none"> Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.

GetTaskDetails Web Method

This web method allows getting a task's details as defined on the server.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
taskNumber	Int64 (Required)	The number of the task

The web method will return:

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be: 0,1001,1004,1014,9999. For the full list of values, see Appendix F –Result Codes Details
task	The task details. See details below.

Task details: The task tag can contain the following fields

Parameter	Description
TaskNumber	The task number
WorkOrderNumber	The work order number
VIN	The vehicle VIN that is associated to the task.
StartDateTime	The task start date in the format ddmmyyyhhmmss
DueDateTime	The task due date in the format ddmmyyyhhmmss
CreationDateTime	The creation date of the in the format ddmmyyyhhmmss
Notes	The task notes
Description	The task description
Status	The status of the task. Can be one of the Names described in Task Statuses .
Phone1, Phone2	The task phones
ContactName	The task contact name
CustomerName	The customer's name
Categories	A comma delimited string to specify the task categories (e.g. VIP, North)
Email	The email address assigned to the task
Location	The task's location
Location.X	The X coordinate of the task
Location.Y	The Y coordinate of the task
Location.Address	The tasks address text
Data1...Data30	Custom task data
HiddenData1	Custom task data which the employee cannot see
ExternalCreationDate	The task external creation date in the format ddmmyyyhhmmss
AdditionalInfoXml	The task's additional info XML
LimitCatalogCategoriesSelectionToCodes	The catalog categories codes the task is limited to.
LimitCatalogItemsSelectionToCatalogNumbers	The catalog item numbers that the task is limited to.
MaximalRadiusForEntries	The limits set for entries of the task to a specific radius from the task's location.
ProhibitEntriesOutsideRadius	Will state if the task's entries are prohibited outside radius
UseQuantityOnlyCatalogItemEntryForm	Will state if the task is defined to use the quantity only Catalog item entry form.
DoNotShowRefreshMessageInMobile	Will state if not to show refresh message in the mobile.
AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations	Will state if selection of private catalog items is allowed regardless of task limitations.


AggregateNumber	The aggregate number of the task
OrderInAggregate	The task order inside the aggregate relative to other tasks for the same aggregate number.
Capacity1 – Capacity5	The capacities of the task.
TimeWindows	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
TimeWindowPriority	The priority of the task in the time window
ServiceTime	The service time of the task in minutes
JointServiceTime	The joint service time of the task in minutes
OrderInRoute	The task order relative to other tasks for the same resource.
Priority	The priority of the task can be: Not Set Lowest Low Normal High Highest Urgent
RowVersion	The row version of the task changed with any update to the task.
EmployeeNumber	The employee number that is associated to the task.
TaskType	The code of the task type. If no code exist will show the name of the task type.
DistributionAreaNumber	The distribution area number of the POI that is associated to the task.
CustomerNumber	The customer number of the POI that is associated to the task
QuantityOnlyFormShowOnly CatalogNumber	Will state if the task defined showing quantity only form with catalog number
UpdateTaskItemsDefaultQuantity	Will state if the task defined to update task items default quantity.
TaskCannotBeIncludedInBulk Entry	Will state if the task cannot be included in bulk entry.

ImportSkills Web Method.

This web method allows import of skills.
 Located in /services/taskmanagement.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

```
<ImportSkills xmlns="Trackem.Web.Services">
  <Request>
    <UserName></UserName>
    <Password></Password>
    <DataSource>
      <Data></Data>
      <DataString></DataString>
      <DataFormat></DataFormat>
      <FirstRowHasColumnNames></FirstRowHasColumnNames>
      <FileName></FileName>
    </DataSource>
    <ColumnMapping>
      <Name></Name>
      <Code></Code>
    </ColumnMapping>
    <Options>
      <ItemsNotInFileOption></ItemsNotInFileOption>
    </Options>
  </Request>
</ImportSkills>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to

		properties.
ColumnMapping.Name	String (Required)	The name of the skill
ColumnMapping.Code	String (Required)	The code of the skill
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete items from

The web method will return this object


```
<ImportSkillsResponse xmlns="Trackem.Web.Services">
  <ImportSkillsResult>
    <ReturnValue></ReturnValue>
    <RowsImported></RowsImported>
    <RowsRead></RowsRead>
    <Data></Data>
    <DataString></DataString>
    <DataFormat></DataFormat>
  </ImportSkillsResult>
</ImportSkillsResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data MappingAttributeMissing – the column mapping is missing.
RowsImported	Amount of rows imported from the file.
RowsRead	Amount of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. • Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.

AsyncImportTasks Web Method

This web method allows import tasks async from an attached file. Tasks on the server will be created, updated or disabled according to the attached file.
 Located in /services/taskmanagement.asmx

The web method accepts parameters request which needs to be with the following parameters:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required) Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping.TaskNumber	Int64 (Required)	The number of the Task
ColumnMapping.CustomerNumber	String (Optional)	The number of the customer in the server
ColumnMapping.DistributionAreaNumber	String (Optional)	The number of the distribution area in the server
ColumnMapping.EmployeeNumber	String (Optional)	The number of the employee that will be associated with the task.
ColumnMapping.VIN	String (Optional)	The VIN of the vehicle that will be

		associated with the task.
ColumnMapping.StartDate	DateTime (Required. Can be omitted if StartDateTime is set).	The start date of the task. The format is set in Options.DateFormat
ColumnMapping.StartTime	DateTime (Required. Can be omitted if StartDateTime is set).	The start time of the task. The format is set in Options.TimeFormat
ColumnMapping.StartDateTime	DateTime (Required. Can be omitted if StartDate and StartTime is set).	The start date and time of the task. The format is set in Options.DateFormat and Options.TimeFormat
ColumnMapping.Duration	Double (Optional)	The duration in hours of the task. For two-and-a-half hours set the value to 2.5. If not supplied will be taken from the task type duration or be set as default for 30 minutes.
ColumnMapping.Description	String (Required)	The description of the task
ColumnMapping.Notes	String (Optional)	Notes about the task
ColumnMapping.CoordinationPhone, CoordinationPhone2	String (Optional)	Task related phones. Used if the Customer Number parameter is not given.
ColumnMapping.ContactName	String (Optional)	The contact name. Used if the Customer Number parameter is not given.
ColumnMapping.ContractorCode	String (Optional)	The contractor code was set on the server.
ColumnMapping.CustomerName	String (Optional)	The Customer name. Used if the Customer Number parameter is not given.
ColumnMapping.TaskTypeCode	String (Optional)	The code of the task type as set on the server
ColumnMapping.X	Double (Optional)	The X (longitude) coordinate of the task
ColumnMapping.Y	Double (Optional)	The Y (latitude) coordinate of the task
ColumnMapping.Address	String (Required)	The text address of the task.
ColumnMapping.Data1..40	String (Optional)	Data fields for custom use
ColumnMapping.ExternalCreationDate	String (Optional)	A creation date for the task that is from an external source
ColumnMapping.Categories	String (Optional)	An optional comma delimited string to specify the task categories (e.g. VIP, North)
ColumnMapping.Email	String (Optional)	An optional email address assigned to the task
ColumnMapping.MaximalRadiusForEntries	Double (Optional)	If set, limits entries on the task to a specific radius from the task location
ColumnMapping.OrderInRoute	Int16 (Optional)	If set shows the task order relative to other tasks for the same resource.
ColumnMapping.TimeWindows	String (Optional)	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
ColumnMapping.TimeWindowPriority	Byte (Optional)	The priority of the task in the time window
ColumnMapping.ServiceTime	Short (Optional)	The service time of the task in minutes
ColumnMapping.JointServiceTime	Short (Optional)	The joint service time of the task in minutes
ColumnMapping.State	String (Optional)	The state the task
ColumnMapping.City	String (Optional)	The city of the task
ColumnMapping.Street	String (Optional)	The street of the task
ColumnMapping.HouseNum	String (Optional)	The house number of the task
ColumnMapping.Zip	String (Optional)	The zip of the task
ColumnMapping.	String (Optional)	Will not show notification to the mobile

DoNotShowRefreshMessageInMobile		device
ColumnMapping.Capacity1 - Capacity5	Double (Optional)	The capacities of the task.
ColumnMapping.AggregateNumber	Int64 (Optional)	The aggregate number of the task
ColumnMapping.OrderInAggregate	Byte (Optional)	The order of the task in the aggregate
ColumnMapping.ProhibitEntriesOutsideRadius	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries. If the value differs from the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry.
ColumnMapping.UseQuantityOnlyCatalogItemEntryForm	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the form linked with the add catalog item to entry will not be shown.
ColumnMapping.AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then in this task the resource may add items from his private catalog to the task besides the task's items limitation.
ColumnMapping.LimitCatalogCategoriesSelectionToCodes	String (Optional)	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the catalog category codes. See the ImportCatalog Web Method for more details.
ColumnMapping.LimitCatalogItemsSelectionToCatalogNumbers	String (Optional)	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog.
ColumnMapping.Priority	Byte (Optional)	The priority of the task can be: 0 - priority is not set 1 - Lowest priority 2 - Low priority 3 - Normal priority 4 - High priority 5 - Highest priority 6 - Urgent priority
ColumnMapping.QuantityOnlyFormShowOnlyCatalogNumber	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.
ColumnMapping.SendNotificationToMobile	Boolean (Optional)	If set to true, send a notification to the mobile device associated with the employee assigned to the task. Also, changes the status of the task to

		SMSSent.
ColumnMapping. UpdateTaskItemsDefaultQuantity	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then task item's default quantity will be updated based on employee's entry of quantity of the item.
ColumnMapping. AutoPopulateCustomDataFields	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the tasks data fields will be auto populate based on the settings in the server.
ColumnMapping. TaskCannotBeIncludedInBulkEntry	String (Optional)	If the value is any of the following values: 1, Y, YES, TRUE, T, ON, the task cannot be included in bulk entry.
ColumnMapping.TaskNumber_2	Int64 (Required)	The number of the Task
ColumnMapping.CustomerNumber_2	String (Optional)	The number of the customer in the server
ColumnMapping. DistributionAreaNumber_2	String (Optional)	The number of the distribution area in the server
ColumnMapping.EmployeeNumber_2	String (Optional) ¹	The number of the employee that will be associated with the task.
ColumnMapping.VIN_2	String (Optional) ¹	The VIN of the vehicle that will be associated with the task.
ColumnMapping.StartDate_2	DateTime (Required. Can be omitted if StartDateTime is set).	The start date of the task. The format is set in Options.DateFormat
ColumnMapping.StartTime_2	DateTime (Required. Can be omitted if StartDateTime is set).	The start time of the task. The format is set in Options.TimeFormat
ColumnMapping.StartDateTime_2	DateTime (Required. Can be omitted if StartDate and StartTime is set).	The start date and time of the task. The format is set in Options.DateFormat and Options.TimeFormat
ColumnMapping.Duration_2	Double (Required)	The duration in hours of the task. For two-and-a-half hours set the value to 2.5
ColumnMapping.Description_2	String (Required)	The description of the task
ColumnMapping.Notes_2	String (Optional)	Notes about the task
ColumnMapping. CoordinationPhone_2, CoordinationPhone2_2	String (Optional)	Task related phones. Used if the Customer Number parameter is not given.
ColumnMapping.ContactName_2	String (Optional)	The contact name. Used if the Customer Number parameter is not given.
ColumnMapping.ContractorCode_2	String (Optional)	The contractor code was set on the server.
ColumnMapping.CustomerName_2	String (Optional)	The Customer name. Used if the Customer Number parameter is not given.
ColumnMapping.TaskTypeCode_2	String (Optional)	The code of the task type as set on the server
ColumnMapping.X_2	Double (Optional)	The X (longitude) coordinate of the task
ColumnMapping.Y_2	Double (Optional)	The Y (latitude) coordinate of the task
ColumnMapping.Address_2	String (Required)	The text address of the task.
ColumnMapping.Data1_2..Data40_2	String (Optional)	Data fields for custom use
ColumnMapping.ExternalCreationDate_2	String (Optional)	A creation date for the task that is from an external source
ColumnMapping.Categories_2	String (Optional)	An optional comma delimited string to specify the task categories (e.g. VIP, North)
ColumnMapping.Email_2	String (Optional)	An optional email address assigned to the task

ColumnMapping.MaximalRadiusForEntries_2	Double (Optional)	If set, limits entries on the task to a specific radius from the task location
ColumnMapping.OrderInRoute_2	Int16 (Optional)	If set shows the task order relative to other tasks for the same resource.
ColumnMapping.TimeWindows_2	String (Optional)	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
ColumnMapping.TimeWindowPriority_2	Byte (Optional)	The priority of the task in the time window
ColumnMapping.ServiceTime_2	Short (Optional)	The service time of the task in minutes
ColumnMapping.JointServiceTime_2	Short (Optional)	The joint service time of the task in minutes
ColumnMapping.State_2	String (Optional)	The state the task
ColumnMapping.City_2	String (Optional)	The city of the task
ColumnMapping.Street_2	String (Optional)	The street of the task
ColumnMapping.HouseNum_2	String (Optional)	The house number of the task
ColumnMapping.Zip_2	String (Optional)	The zip of the task
ColumnMapping.DoNotShowRefreshMessageInMobile_2	String (Optional)	Will not show notification to the mobile device
ColumnMapping.Capacity1_2 - Capacity5_2	Double (Optional)	The capacities of the task.
ColumnMapping.ProhibitEntriesOutsideRadius_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries. If the value differs from the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry
ColumnMapping.UseQuantityOnlyCatalogItemEntryForm_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the form linked with the add catalog item to entry will not be shown
ColumnMapping.AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then in this task the resource may add items from his private catalog to the task besides the task's items limitation.
ColumnMapping.LimitCatalogCategoriesSelectionToCodes_2	String (Optional)	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the catalog category codes. See the ImportCatalog Web Method for more details.
ColumnMapping.LimitCatalogItemsSelectionToCatalogNumbers_2	String (Optional)	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog
ColumnMapping.Priority_2	Byte (Optional)	The priority of the task can be: 0 - priority is not set

		<p>1 - Lowest priority 2 - Low priority 3 - Normal priority 4 - High priority 5 - Highest priority 6 - Urgent priority</p>
ColumnMapping. SendNotificationToMobile_2	Boolean (Optional)	If set to true, send a notification to the mobile device associated with the employee assigned to the task. Also, changes the status of the task to SMSSent.
ColumnMapping. QuantityOnlyFormShowOnlyCatalogNumber_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.
ColumnMapping. UpdateTaskItemsDefaultQuantity_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then task item's default quantity will be updated based on employee's entry of quantity of the item.
ColumnMapping. AutoPopulateCustomDataFields_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the tasks data fields will be auto populate based on the settings in the server.
ColumnMapping. TaskCannotBeIncludedInBulkEntry_2	String (Optional)	If the value is any of the following values: 1, Y, YES, TRUE, T, ON, the task cannot be included in bulk entry.
Options	Object (Required)	Sets various options
Options.TaskExistsOption	Enumerator (Required)	What to do if the task number already exists: Update – update the task data. UpdateNewStatus - update the task data and set the task's status to New. DontTouch – don't change the task.
Options.SendNotificationToMobile	Enumerator (Required)	Define if to send a notification on all the tasks in the file: Yes - sends a notification to the mobile device associated with the employee assigned to each task in the file. Also, changes the status of the tasks to SMSSent. No – will not send a notification to the mobile device associated with the employee assigned to each task. ByColumn – will be defined per task by a column in the imported file.
Options.AutoAddPickupOrDeliveryPrefixToTaskDescription	Boolean (Optional)	If set to true, will add a prefix for one task of Pickup and to task_2 will add a prefix of Delivery.
Options.DateFormat	String (Required)	Set the format of the date for the StartDate field. More information on formats you can find here .
Options.TimeFormat	String (Required)	Set the format of the time for the StartTime field. More information on formats you can find here .
Options.UsePartialResolvedAddresses	Boolean (Optional)	If set to true, will use the address if it is

		partially resolved for the task.
Options.UsePartialResolvedAddresses_2	Boolean (Optional)	If set to true, will use the address if it is partially resolved for the task_2.
Options. AutoAssignUnassignedTasksByTaskLocation	Boolean (Optional)	If set to true, Will automatically assign an employee to a task based on the task's XY, will find the first polygon from type distribution area that contains the task's XY and will find the first employee associated to the distribution area and assign him to the task. If no employee is found, the task will remain unassigned.
Options. AutoAssignDistributionAreaByTaskLocation	Boolean (Optional)	If set to true, will automatically assign Distribution Area to a task based on the task's XY.
Options. AutoPopulateCustomDataFields	Enumerator (Required)	Define if the tasks data fields will be auto populate based on the settings in the server for tasks in the file: Yes - the tasks data fields will be auto populate based on the settings in the server for tasks in the file. No – will not auto populate task's data fields for all tasks in the file. ByColumn – will be defined per task by a column in the imported file.
Options. AutoPopulateCustomDataFields_2	Enumerator (Required)	Define if the tasks data fields will be auto populate based on the settings in the server for tasks in the file: Yes - the tasks data fields will be auto populate based on the settings in the server for tasks in the file. No – will not auto populate task's data fields for all tasks in the file. ByColumn – will be defined per task by a column in the imported file.
Options.CheckCompanyRequiredFields	Boolean (Optional)	Define for validating the task required fields based on the settings in the server.

- All the fields that end with _2 are for importing 2 tasks in one row (for pickup and delivery option). The required field _2 is only required if using importing 2 tasks.

The web method will return this object

```
<AsyncImportTasksResponse xmlns="Trackem.Web.Services">
  <AsyncImportTasksResult>
    <ReturnValue></ReturnValue>
    <ImportGuid></ImportGuid>
  </AsyncImportTasksResult>
</AsyncImportTasksResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – catalog imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred
ImportGuid	The GUID of the import to be performed. The GUID can find the results of the specific import.

The Employees Web Service

This Web Service allows remote administration of the employees on the server.

GetEmployeeList Web Method

This web method returns the list of employees with their information.
 Located in /services/webservices.asmx

```
<GetEmployeeList xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <employeeStatus>All</employeeStatus>
</GetEmployeeList>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
employeeStatus	Enumerator (Required)	The statuses of employees to include on the result. Can be: None Enabled New Pending Active Suspended Disabled Deleted All

The web method will return

```
<EmployeeListResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="Trackem.Web.Services">
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
  <Result>
    <Employee>
      <FirstName>My Name</FirstName>
      <LastName>My Last Name</LastName>
      <Name>My Name</Name>
      <EmployeeNum>1234</EmployeeNum>
      <UniqueID>101010</UniqueID>
      <DriverID xsi:nil="true"/>
      <Status>Enabled</Status>
      <MobileMsisdn>052010101</MobileMsisdn>
      <GroupName>My Group</GroupName>
      <Address>string</Address>
      <TelephoneWork>03010100</TelephoneWork>
      <TelephoneHome>03010101</TelephoneHome>
      <TelephoneMobile>052010101</TelephoneMobile>
      <Remarks>My remarks</Remarks>
      <Email>aa@aa.com</Email>
      <MaxCapacity1>0</MaxCapacity1>
      <MaxCapacity2>0</MaxCapacity2>
      <MaxCapacity3>0</MaxCapacity3>
      <MaxCapacity4>0</MaxCapacity4>
      <MaxCapacity5>0</MaxCapacity5>
      <FixedCost>0</FixedCost>
      <PerHourCost>0</PerHourCost>
      <PerDistanceUnitCost >0</ PerDistanceUnitCost>
      <MonthlyWorkingMinutes xsi:nil="true"/>
      <DailyWorkingMinutes xsi:nil="true"/>
      <RouteOptimizationMaxDistance xsi:nil="true"/>
      <RouteOptimizationMaxWorkingHours xsi:nil="true"/>
      <UILanguage>1037</UILanguage>
      <Profile>
        <Name>Profile</Name>
        <Code>89</Code>
        <Type>Manager</Type>
      </Profile>
    </Employee>
  </Result>
</EmployeeListResult>
```

```

<Skills>
  <EmployeeSkill>
    <Name>Plumber</Name>
    <Code>2</Code>
  </EmployeeSkill>
</Skills>
<Manager>Tody R</Manager>
<ShowTasksForVehicle>Task1</ShowTasksForVehicle>
<PointsOfInterest/>
<Group>
  <Name>My Group</Name>
  <Code>2</Code>
</Group>
</Employee>
<Employee>
  ...
</Employee>
</Result>
</EmployeeListResult>

```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be: 0,1001,1002,1003,1004,9999 For the full list of values, see Appendix F –Result Codes Details
Result	A collection of Employees matching the status criteria on the request: FirstName – Employee's first name. ⚠️ Deprecated. Will be removed on future release. LastName – Employee's last name. ⚠️ Deprecated. Will be removed on future release. Name – Employee's full name EmployeeNum – Employee number of the employee UniqueID – Employee's Unique ID DriverID – Employee's driver ID Status –The status of the employee: Enabled, Disabled, Deleted. MobileMsisdn – Employee's mobile number GroupName – Employee's group name Address – Employee's address TelephoneWork – Employee's work phone number TelephoneHome – Employee's home phone number TelephoneMobile – Employee's mobile phone number Remarks – remarks written in the employee's properties screen Email – Employee's email address MaxCapacity1 – Employee's max capacity 1 MaxCapacity2 – Employee's max capacity 2 MaxCapacity3 – Employee's max capacity 3 MaxCapacity4 – Employee's max capacity 4 MaxCapacity5 – Employee's max capacity 5 FixedCost – Employee's fixed cost PerHourCost – Employee's cost per hour PerDistanceUnitCost – Employee's cost per KM/Mile MonthlyWorkingMinutes – Employee's monthly working time in minutes DailyWorkingMinutes – Employee's daily working time in minutes RouteOptimizationWorkingHours – Employees working hours range for the optimization RouteOptimizationMaxDistance – Employee's max distance allowed for optimization RouteOptimizationMaxWorkingHours – Employee's max working hours for optimization UILanguage – Employee's language as set in the server LastEtsEntryType – Employee's last entry type LastEtsEntryTimeStamp – Employee's last entry time stamp Profile – Employee's profile details: name, code and employee type (Employee or

	<p>Manager)</p> <p>Skills – Employee's list of skills, each EmployeeSkill will contain the skill's name and code</p> <p>PointsOfInterest – Employee's list of point of interest assigned to him, each EmployeePointOfInterest will contain the POI's name, code, POItype and if the employee has validities.</p> <p>Manager – Employee's manager number</p> <p>ShowTasksForVehicle – if the employee can see a vehicle's tasks will contain the Vehicle's VIN</p> <p>Group – the name and code of the employee's group.</p>
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ImportEmployee Web Method

This web method imports employees and mobile devices from an attached file. Employees on the server will be created, updated or disabled according to the attached file.
 Located in /services/employees.asmx

The web method accepts a parameter request which needs to be at the following format:

```
<ImportEmployee xmlns="Trackem.Web.Services">
  <Request>
    <UserName></UserName>
    <Password></Password>
    <DataSource>
      <Data></Data>
      <DataString></DataString>
      <DataFormat></DataFormat>
      <FirstRowHasColumnNames></FirstRowHasColumnNames>
      <FileName></FileName>
    </DataSource>
    <ColumnMapping>
      <GroupCode></GroupCode>
      <GroupName></GroupName>
      <MobileNumber></MobileNumber>
      <EmployeeNumber></EmployeeNumber>
      <FirstName></FirstName>
      <LastName></LastName>
      <Name></Name>
      <IVRPassword></IVRPassword>
      <WorkPhone></WorkPhone>
      <HomePhone></HomePhone>
      <Mobile></Mobile>
      <Address></Address>
      <Remarks></Remarks>
      <UniqueID></UniqueID>
      <Email></Email>
      <ProfileCode></ProfileCode>
      <ManagingEmployeeNumber></ManagingEmployeeNumber>
      <DriverID></DriverID>
      <FixedCost></FixedCost>
      <PerHourCost></PerHourCost>
      <PerKilometerCost></PerKilometerCost>
      <WorkHoursDaily></WorkHoursDaily>
      <WorkHoursMonthly></WorkHoursMonthly>
      <Skills></Skills>
      <Departure></Departure>
      <Arrival></Arrival>
      <WorkingHours></WorkingHours>
      <MaxDistance></MaxDistance>
      <MaxHours></MaxHours>
      <Capacity1></Capacity1>
      <Capacity2></Capacity2>
      <Capacity3></Capacity3>
      <Capacity4></Capacity4>
      <Capacity5></Capacity5>
    </ColumnMapping>
    <Options>
      <ItemsNotInFileOption>
        <Method></Method>
        <MoveToGroupGuid></MoveToGroupGuid>
        <GroupName></GroupName>
        <MobileDevicesNotInFileOption></MobileDevicesNotInFileOption>
      </ItemsNotInFileOption>
      <TargetGroup></TargetGroup>
      <TargetGroupName></TargetGroupName>
      <TargetProfile></TargetProfile>
      <TargetProfileCode></TargetProfileCode>
      <TargetMobileDeviceOption></TargetMobileDeviceOption>
      <TargetEmployeeOption></TargetEmployeeOption>
      <ServiceTypeGuid></ServiceTypeGuid>
      <DeviceTypeId></DeviceTypeId>
      <IvrScriptId></IvrScriptId>
      <AllowUpdateMobileDevice></AllowUpdateMobileDevice>
      <SendConnectionCode></SendConnectionCode>
      <UILanguage></UILanguage>
    </Options>
  </Request>
</ImportEmployee>
```

</ImportEmployee>

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0)
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping.GroupCode	String (Optional)	The employee's group code
ColumnMapping.GroupName	String (Optional)	The employee's group name
ColumnMapping.MobileNumber	String (Optional)	
ColumnMapping.EmployeeNumber	String (Optional)	The employee's number
ColumnMapping.FirstName	String (Optional)	The employee's first name. ⚠️ Deprecated. Will be removed on future release.
ColumnMapping.LastName	String (Optional)	The employee's last name ⚠️ Deprecated. Will be removed on future release.
ColumnMapping.Name	String (Optional)	The employee's full name
ColumnMapping.IVRPassword	String (Optional)	The IVR password for the employee, the password should contain 4-6 digits.
ColumnMapping.WorkPhone	String (Optional)	The employee's work phone number
ColumnMapping.HomePhone	String (Optional)	The employee's home phone number
ColumnMapping.Mobile	String (Optional)	The employee's mobile phone number
ColumnMapping.Address	String (Optional)	The employee's address
ColumnMapping.Remarks	String (Optional)	The employee's remarks
ColumnMapping.UniqueID	String (Optional)	The employee's unique ID (e.g. SSN)
ColumnMapping.Email	String (Optional)	The employee's email address
ColumnMapping.ProfileCode	String (Optional)	The code of the employee profile as defined in the system
ColumnMapping.ManagingEmployeeNumber	String (Optional)	If set, make sure the manager of the employee record appears before any

		records of employees he manages.
ColumnMapping.DriverID	String (Optional)	The employee's driver ID
ColumnMapping.FixedCost	String (Optional)	The employee's fixed cost
ColumnMapping.PerHourCost	String (Optional)	The employee's cost per hour
ColumnMapping.PerDistanceUnitCost	String (Optional)	The employee's cost per KM/Mile
ColumnMapping.WorkHoursDaily	String (Optional)	The employee's daily working time in minutes
ColumnMapping.WorkHoursMonthly	String (Optional)	The employee's monthly working time in minutes
ColumnMapping.Skills	String (Optional)	A list of skill codes separated by commas as defined in the system.
ColumnMapping.Categories	String (Optional)	A list of categories separated by commas as defined in the system.
ColumnMapping.Departure	String (Optional)	The code of the POI to be defined a departure point for the optimization
ColumnMapping.Arrival	String (Optional)	The code of the POI to be defined an arrival point for the optimization
ColumnMapping.WorkingHours	String (Optional)	The employee's working hours range for the optimization
ColumnMapping.MaxDistance	String (Optional)	The employee's max distance allowed for optimization
ColumnMapping.MaxHours	String (Optional)	The employee's max working hours for optimization
ColumnMapping.Capacity1 – Capacity5	String (Optional)	The employee's max capacity 1 -5
ColumnMapping.MaxLateWorkStart	Int16 (Optional)	The employee's max late work start for optimization
ColumnMapping.MaxEarlyWorkStart	Int16 (Optional)	The employee's max early work start optimization
ColumnMapping.EarlyWorkStartOnlyForDriving	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the employee is checked as early work starts only for driving for optimization.
ColumnMapping.EarlyWorkStartTimelsIncludedInWorkingTime	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the employee is checked as early work start time should be included in total working time for optimization.
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption.Method	Enumerator (Required)	Defines what to do with employees already on the server that have not been listed in the import file. The value can be: DoNotChange – Do nothing with existing employees Delete – Employees will be deleted MoveToGroup – Employees will be moved to another group
ItemsNotInFileOption.GroupName	String (Required)	The name of the group to move the employees to in the Method selected was MoveToGroup . <ul style="list-style-type: none"> Can be omitted if Method is not MoveToGroup
ItemsNotInFileOption.MobileDevicesNotInFileOption	Enumerator (Required)	What to do with existing mobiles not in the file: Leave – Do nothing with existing mobiles Delete – Mobiles will be deleted

Options.TargetGroup	Enumerator (Required)	How to set group to employees in the file: ByColumn – will have a column inside the file to state to which group the employees will be assigned to. ⚠ if set requires setting ColumnMapping.GroupName ByName – Will assign all employees to the same group name ⚠ is set requires setting Options.TargetGroupName Without – Will keep all employees not assigned to group.
Options.TargetGroupName	String (Required)	The name of the group the employees will be created in. <ul style="list-style-type: none"> Can be omitted if TargetGroup is not ByName
Options.TargetProfile	Enumerator (Required)	How to set profile to employees in the file: ByColumn - will have a column inside the file to state which profile the employee will have. ⚠ if set requires setting ColumnMapping.ProfileCode ByCode - Will create all employees with the same profile code ⚠ is set requires setting Options.TargetProfileCode
Options.TargetProfileCode	String (Required)	The code of the profile the employees will be created with. <ul style="list-style-type: none"> Can be omitted if TargetProfile is not ByCode
Options.TargetEmployeeOption	Enumerator (Required)	What to do with the mobile devices: None DoNotCreateEmployeeWithoutMobile – will not create the employee if the mobile device was not created.
Options.TargetMobileDeviceOption	Enumerator (Required)	What to do with the mobile devices: None – will not create a mobile device if the mobile supplied doesn't exist in the system, will create the employee without a mobile. Create – will create the mobile device in the system and assign it to the employee if the mobile doesn't exist in the system.
Options.ServiceTypeGuid	Guid (Required)	The GUID of the service type of the mobile device. Can be supplied by support. <ul style="list-style-type: none"> Can be omitted if TargetMobileDeviceOption is None
Options.DeviceTypeId	String (Required)	The ID of the device type of the mobile device. Can be supplied by support. <ul style="list-style-type: none"> Can be omitted if TargetMobileDeviceOption is None
Options.IvrScriptId	Int16 (Required)	The ID of the IVR script of the mobile device. Can be supplied by support. <ul style="list-style-type: none"> Can be omitted if TargetMobileDeviceOption is None
Options.AllowUpdateMobileDevice	Boolean (optional)	Set true to update the mobile device if it is existing, if set to false will not update the mobile device and return an error that device already exist.
Options.SendConnectionCode	Boolean (optional)	Set to true to send a connection code to any new employee with mobile device.
Options.UILanguage	Enumerator (Required)	The language that will be defined to the employee from: English

		Hebrew Spanish_Cr Spanish_Co Portuguese_Br
Options.Status	Short (Optional)	The status of the employee that will be set to the employees, if not sent, will be defaulted as set to the company. Can be: 1 - New 2 - Pending 4 - Active 8 - Suspended 16 - Disabled, 32 - Deleted

The web method will return this object

```
<ImportEmployeeResponse xmlns="Trackem.Web.Services">
  <ImportEmployeeResult>
    <ReturnValue>OK</ReturnValue>
    <RowsImported>10</RowsImported>
    <RowsRead>10</RowsRead>
    <Data>base64Binary</Data>
    <DataFormat>Xls</DataFormat>
  </ImportEmployeeResult>
</ImportEmployeeResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – Employees imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped and were not imported, details of the problem are specified in the file in the result columns
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataRowString	String URL Encoded of the return file. <ul style="list-style-type: none"> Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.

InsertEmployeeRating Web Method

This web method allows insert rating for an employee on the server.
 Located in /services/webservices.asmx

```
<InsertEmployeeRating xmlns="Trackem.Web.Services">
  <userName></userName>
  <password></password>
  <employeeNumber></employeeNumber>
  <timestamp></timestamp>
  <rating></rating>
  <comment></comment>
  <taskNumber></taskNumber>
  <workOrderNumber></workOrderNumber>
  <surveyNumber></surveyNumber>
  <reviewerName></reviewerName>
  <reviewerType></reviewerType>
</InsertEmployeeRating>
```

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
employeeNumber	String (Required)	The employee number that the rating will be added to
timestamp	String (Required)	The timestamp of the rating in the format of yyyyMMddHHmm.
rating	UnsignedByte (Required)	The rating value between 1- 5.
comment	String (Optional)	A comment of the reviewer.
taskNumber	Int64 (Optional)	The task number the rating is given on.
workOrderNumber	Int64 (Optional)	The work order number the rating is given on.
surveyNumber	String (Optional)	The number of the survey the rating was given in.
reviewerName	String (Optional)	The name of the reviewer.
reviewerType	Enumerator (Required)	The type of the reviewer can be: Customer Manager

The web method will return:

```
<InsertEmployeeRatingResponse xmlns="Trackem.Web.Services">
  <InsertEmployeeRatingResult>
    <ResultCode></ResultCode>
    <ResultCodeAsInt></ResultCodeAsInt>
    <ResultMessages>
      <string></string>
      <string></string>
    </ResultMessages>
  </InsertEmployeeRatingResult>
</InsertEmployeeRatingResponse>
```


Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be: 0,1,1001,1002,1003,1004, 1008, 1020,9999 For the full list of values, see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

ImportGroups Web Method

This web method allows import of groups to the server.
 Located in /services/webservices.asmx

```
<ImportGroups xmlns="Trackem.Web.Services">
  <request>
    <UserName></UserName>
    <Password></Password>
    <DataSource>
      <Data></Data>
      <DataString></DataString>
      <DataFormat></DataFormat>
      <FirstRowHasColumnNames></FirstRowHasColumnNames>
      <FileName></FileName>
    </DataSource>
    <ColumnMapping>
      <Code></Code>
      <Name></Name>
    </ColumnMapping>
    <Options>
      <UnlistedGroupHandling></UnlistedGroupHandling>
    </Options>
  </request>
</ImportGroups>
```

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to

		properties.
ColumnMapping.Code	String (Required)	The code of the group
ColumnMapping.Name	String (Required)	The name of the group
Options	Object (Required)	Sets various options
Options.UnlistedGroupHandling	Enumerator (Required)	What to do with existing item not in the file: DoNotChange – leave all existing items in the system. Delete – Delete items from

The web method will return:

```
<ImportGroupsResponse xmlns="Trackem.Web.Services">
  <ImportGroupsResult>
    <ReturnValue></ReturnValue>
    <RowsImported></RowsImported>
    <RowsRead></RowsRead>
    <Data></Data>
    <DataString></DataString>
    <DataFormat></DataFormat>
  </ImportGroupsResult>
</ImportGroupsResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data MappingAttributeMissing – mapping attribute is missing.
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. • Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.

The MobileLocations Web Service

This Web Service allows remote applications to pull the current location of a mobile device.

GetMobileDeviceCurrentLocation Web Method

This web method allows retrieval of the current location of a mobile device. The web method can also queue the mobile device for location sampling.

Located in /services/webservices.asmx

The web method accepts parameters request which needs to be in the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
mobileNumber	String (Optional*)	The mobile device number that the web method caller wants to retrieve its location
employeeNumber	String (Optional*)	The employee number that the web method caller wants to retrieve its location
vin	String (Optional*)	The vehicle number that the web method caller wants to retrieve its location
autoSampleThreshold	short (Required)	The maximally acceptable age in minutes of the result. If the returned location is older that this value then the device is queued for location sampling. Use the value 0 to prevent the server from sampling the location of the mobile device.

*mobileNumber or employeeNumber or vin is required

The web method will return the following:

```
<GetMobileDeviceCurrentLocationResponse xmlns="Trackem.Web.Services">
  <GetMobileDeviceCurrentLocationResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>0</ResultCodeAsInt>
    <X>double</X>
    <Y>double</Y>
    <TimeStamp>dateTime</TimeStamp>
    <Address>string</Address>
    <TimeStampAge>long</TimeStampAge>
  </GetMobileDeviceCurrentLocationResult>
</GetMobileDeviceCurrentLocationResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be: 0, 1001, 1037, 1038, 1039, 1040, 9999 For the full list of values, see Appendix F –Result Codes Details
X	X coordinate of the location of the mobile device
Y	Y coordinate of the location of the mobile device
TimeStamp	Timestamp of the location of the mobile device
Address	Address of the location of the mobile device
TimeStampAge	The age in seconds of the TimeStamp

The Catalog Web Service

This Web Service allows remote administration of the item catalog on the server.

ImportCatalog Web Method

This web method imports the item catalog from an attached file. Catalog items on the server will be created, updated or deleted according to the attached file.

In /services/catalog.asmx

The web method accepts a single parameter request which needs to be an XML document in this format

```
<ImportCatalog xmlns="Trackem.Web.Services">
  <Request>
    <UserName></UserName>
    <Password></Password>
    <DataSource>
      <Data></Data>
      <DataString></DataString>
      <DataFormat></DataFormat>
      <FirstRowHasColumnNames></FirstRowHasColumnNames>
      <FileName></FileName>
    </DataSource>
    <ColumnMapping>
      <CategoryName></CategoryName>
      <CategoryCode></CategoryCode>
      <ItemName></ItemName>
      <ItemCatalogNumber></ItemCatalogNumber>
      <Description></Description>
      <Notes></Notes>
      <Price></Price>
      <LimitQuantitiesToMultiplesOf></LimitQuantitiesToMultiplesOf>
      <UnitsInStock></UnitsInStock>
      <MaxDiscount></MaxDiscount>
      <MustBeBilled></MustBeBilled>
      <RequiresSN></RequiresSN>
      <AllowAnySN></AllowAnySN>
      <PictureUrl></PictureUrl>
      <PictureUrl2></PictureUrl2>
    </ColumnMapping>
    <Options>
      <ItemsNotInFileOption></ItemsNotInFileOption>
      <DeleteCatalogCategoriesWithoutItems></DeleteCatalogCategoriesWithoutItems>
    </Options>
  </Request>
</ImportCatalog>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi

		<p>CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml</p> <p>When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.</p> <ul style="list-style-type: none"> See Appendix E for a sample of the XML format.
DataSource. FirstRowHasColumnNames	Boolean (Required)	<p>If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0)</p> <ul style="list-style-type: none"> If DataFormat=Xml , this field should be set to true.
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping.CategoryName	String (Required)	The name of the category that the item will be created in.
ColumnMapping.CategoryCode	String (Optional)	The code of the category that the item will be created in.
ColumnMapping.ItemName	String (Required)	The name of the catalog item.
ColumnMapping.ItemCatalogNumber	String (Required)	The number of the catalog item.
ColumnMapping.Description	String (Optional)	The description of the catalog item.
ColumnMapping.Notes	String (Optional)	The notes of the catalog item.
ColumnMapping.Price	Decimal (Optional)	The price of the catalog item.
ColumnMapping.UnitsInStock	Single (Optional)	The amount of the units in stock of the catalog item.
ColumnMapping.MaxDiscount	Int16 (Optional)	The max discount allowed on the catalog item. Note: 2.5% should be expressed as 2.5
ColumnMapping.MustBeBilled	String (Optional)	Shows for items if they must be billed (Value 1 on the column*) or the employee can select whether they are billed (any other value).
ColumnMapping.RequiresSN	String (Optional)	Shows for items if they require a serial number (see values on the MustBeBilled field above)
ColumnMapping.AllowAnySN	String (Optional)	Shows if the catalog item requires a serial number, setting this value will allow the employee to write any custom text into the serial number field. (See values on the MustBeBilled field above)
ColumnMapping. LimitQuantitiesToMultiplesOf	Decimal (Optional)	Shows for items if they can only be used with a quantity that is a multiply of this number (e.g. to allow an item quantity to be only integer values use the value 1, to allow an item quantity to be only with one digit after the decimal point and the digit should be even use 0.2). value is required to be >=0.0001
ColumnMapping.PictureUrl	String (Optional)	. A URL of a picture to be displayed on the mobile and server.

ColumnMapping.PictureUrl2	String (Optional)	A second URL of a second picture to be displayed in the mobile and server.
ColumnMapping.DefaultQuantity	Int32 (Optional)	The default quantity of the item when using quantity only catalog item entry form in task entries.
ColumnMapping.MinimumQuantity	Int32 (Optional)	The minimum quantity of the item when using quantity only catalog item entry form in task entries.
ColumnMapping.MaximumQuantity	Int32 (Optional)	The maximum quantity of the item when using quantity only catalog item entry form in task entries.
ColumnMapping.Serviceable	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the item is marked as serviceable.
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete items from
DeleteCatalogCategoriesWithoutItems	Boolean (Required)	If set to true, will delete all catalog categories that are without items.

The web method will return this object

```
<ImportCatalogResponse xmlns="Trackem.Web.Services">
  <ImportCatalogResult>
    <ReturnValue></ReturnValue>
    <RowsImported></RowsImported>
    <RowsRead></RowsRead>
    <Data></Data>
    <DataString></DataString>
    <DataFormat></DataFormat>
  </ImportCatalogResult>
</ImportCatalogResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – catalog imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. • Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.

ImportEmployeeCatalog Web Method

This web method imports the employee item catalog from an attached file. Catalog items for each employee on the server will be created, updated or deleted according to the attached file.
Located in /services/catalog.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

```
<ImportEmployeeCatalogRequest xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <UserName>x</UserName>
  <Password>y</Password>
  <Data></Data>
  <DataFormat>Xls</DataFormat>
  <FirstRowHasColumnNames>true</FirstRowHasColumnNames>
  <ColumnMapping>&lt;Mapping EmployeeNumber="EmployeeNumberColumn" /&gt;</ColumnMapping>
</ImportEmployeeCatalogRequest>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
Data	Byte array (Required)	Base64 encoding of the bytes of the data file
DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 When using Csv, if the file is not in Utf8 use Ansi. Here the file should be in the server's default ANSI code page.
FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0)
ColumnMapping	XML String (Required)	Maps the columns of the file to properties of the catalog. The mapping is an XML string with a single tag "Mapping". Each mapping is expressed as an attribute. EmployeeNumber - required ItemCatalogNumber - required UnitsInStock – optional. Will be set to 0 if missing. SN – optional. If set, show a column that holds the serial number the employee has for the specific catalog item. The value of the field should contain one SN per line.
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete all items not in file. DeleteOnlyForEmployeesInFile – delete items not in file only for the employees that exist in the file.

The web method will return this object

```
<ImportEmployeeCatalogResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <ReturnValue>OK</ReturnValue>
</ImportEmployeeCatalogResult>
```

Parameter	Description
Result	The result of the import process. The code can be: OK – employee catalog imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data

The PointsOfInterest Web Service

This Web Service allows remote administration of the item points of interest on the server.

ImportEmployeePointsOfInterest Web Method

This web method imports the employee's points of interest from an attached file. The employee's points of interest on the server will be created, updated or deleted according to the attached file.

Located in /services/pointsofinterest.asmx

The web method accepts a single parameter request which needs to be an XML document in this format

```
<ImportEmployeePointsOfInterest xmlns="Trackem.Web.Services">
  <Request>
    <UserName>UserName</UserName>
    <Password>Password</Password>
    <DataSource>
      <Data>Xls base64Binary</Data>
      <DataFormat>Xls</DataFormat>
      <FirstRowHasColumnNames>>false</FirstRowHasColumnNames>
      <FileName>FileName.Xls</FileName>
    </DataSource>
    <ColumnMapping>
      <EmployeeNumber>A</EmployeeNumber>
      <CustomerNumber>B</CustomerNumber>
    </ColumnMapping>
    <Options>
      <ItemsNotInFileOption>Delete or Leave</ItemsNotInFileOption>
    </Options>
  </Request>
</ImportEmployeePointsOfInterest>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are:

		<p>Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml</p> <p>When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.</p> <p>⚠ See Appendix E for a sample of the XML format.</p>
DataSource .FirstRowHasColumnNames	Boolean (Required)	<p>If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0).</p> <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
EmployeeNumber	String (Required)	The employee number for that will be assigned to the point of interest.
CustomerNumber	String (Required)	The customer number of the point of interest to be assigned to the employee.
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	<p>What to do with existing item not in the file:</p> <p>Leave – leave all existing employee's points of interest in the system.</p> <p>Delete – Delete employee's points of interest in the system that are not in the file.</p>

The web method will return this object

```
<ImportEmployeePointsOfInterestResponse xmlns="Trackem.Web.Services">
  <ImportEmployeePointsOfInterestResult>
    <ReturnValue>OK</ReturnValue>
    <RowsImported>10</RowsImported>
    <RowsRead>10</RowsRead>
    <Data>Xls base64Binary</Data>
    <DataFormat>Xls</DataFormat>
  </ImportEmployeePointsOfInterestResult>
</ImportEmployeePointsOfInterestResponse>
```

Parameter	Description
ReturnValue	<p>The result value of the import process. The code can be:</p> <p>OK – Points of interest were imported successfully.</p> <p>InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid</p> <p>UnknownErrorOccurred – An unknown error occurred</p> <p>InvalidRequest – The request XML could not be parsed</p> <p>InvalidDataFile – the data file could not be opened</p> <p>InvalidColumnMapping – the mapping XML is not valid</p> <p>SomeRowsSkipped – some of the imported rows were skipped because of missing required data.</p>

RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. <ul style="list-style-type: none"> Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml

InsertOrUpdatePointOfInterest Web Method

This web method allows adding or updating a single point of interest to the server.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
operation	Enumerator (Required)	The operation the server is required to do. Available options are: Create – The server is required to create a point of interest. Update – The server is required to update a point of interest with the same customer number AutoSelect – The server will check if the customer number provided exists. If the point of interest customer number exists then the server will update the point of interest, if the point of interest customer number does not exist the server will create a point of interest with the provided customer number.
Name	String (Required)	The name of the point of interest
CustomerNumber	String (Required)	The customer number of the point of interest.
Type	Enumerator (Required)	Sets the POI type: POI – the point of interest from type POI. Customer – the point of interest from type customer. Used for tasks etc. DistributionCenter - the point of interest from type distribution center. Used for tasks etc. Polygon – a polygon. DistributionArea – a polygon from type distribution area.
State	String (Required) Can be omitted if X and Y is set)	The state of the point of interest.
City	String (Optional)	The city of the point of interest.
Street	String (Optional)	The street of the point of interest.
HouseNum	String (Optional)	The house number of the point of interest.
Zip	String (Optional)	The zip of the point of interest.
X	String (Required) Can be omitted if State is set)	The X (longitude) coordinate of the point of interest.
Y	String (Required) Can be omitted if	The Y (latitude) coordinate of the point of interest.

	State is set)		
Phone1, Phone2	String (Optional)		Phone numbers of the point of interest.
Fax	String (Optional)		The fax number of the point of interest.
Email	String (Optional)		The email address of the point of interest.
ParentPoi	String (Optional)		The name of the Parent POI the point of interest will be in.
Categories	String (Optional)		An optional comma delimited string to specify the POIs categories (e.g. VIP, North)
PointData	String (Required Can be omitted if type is not Polygon or DistributionArea)		A comma delimited string to specify the XY coordinates of the corners of the polygon. Need to contain at least 3 XY coordinates. E.g.: -97.4724,25.86835,-98.82264,25.88333,-100.2793,25.71015.
Data1-Data30	String (Optional)		Data fields for custom use.
IsParent	Boolean (Optional)		Set to true if the point of interest can have child POI.

The web method will return the following

```
<InsertOrUpdatePointOfInterestResponse xmlns="Trackem.Web.Services">
  <InsertOrUpdatePointOfInterestResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>0</ResultCodeAsInt>
    <ResultMessages>
      <string>string</string>
      <string>string</string>
    </ResultMessages>
  </InsertOrUpdatePointOfInterestResult>
</InsertOrUpdatePointOfInterestResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,1001,1002,1003,1004,1005,1009,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

DeletePointOfInterest Web Method

This web method allows deleting a single point of interest from the server.

Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
customerNumber	String (Required)	The customer number of the point of interest that will be deleted.

The web method will return the following

```
<DeletePointOfInterestResponse xmlns="Trackem.Web.Services">
  <DeletePointOfInterestResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>0</ResultCodeAsInt>
    <ResultMessages>
      <string>string</string>
      <string>string</string>
    </ResultMessages>
  </DeletePointOfInterestResult>
</DeletePointOfInterestResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,1001,1002,1003,1004,1009,9999

	For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

GetPointOfInterestList Web Method

This web method returns a list of point of interest with their information.

Located in /services/webservices.asmx

```
<GetPointOfInterestList xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <statusMask>Enabled</statusMask>
  <typeMask>AllExceptPolygon</typeMask>
</GetPointOfInterestList>
```

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
statusMask	String (Required)	The statuses of points of interest to include on the result. Can be one or more of the following: Enabled Deleted All
typeMask	Enumerator (Required)	The type of POIs that will be returned. Can be one of the following: POI – the point of interest from type POI. Customer – the point of interest from type customer. Used for tasks etc. DistributionCenter - the point of interest from type distribution center. Used for tasks etc. Polygon – a polygon. DistributionArea – a polygon from type distribution area. All – All points of interest including polygons from all types. AllExceptPolygon - All points of interest except polygons from all types. AllPolygons – Only polygons from all types (with no POIs).

The web method will return the following

```
<GetPointOfInterestListResponse xmlns="Trackem.Web.Services">
  <GetPointOfInterestListResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="Trackem.Web.Services">
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>0</ResultCodeAsInt>
    <Result>
      <PointOfInterest>
        <Name>p2-1</Name>
        <Y xsi:nil="true"/>
        <X xsi:nil="true"/>
        <Type>Polygon</Type>
        <TypeArray>
          <PointOfInterestTypes>Polygon</PointOfInterestTypes>
        </TypeArray>
        <CustomerNumber>003</CustomerNumber>
        <Status>Enabled</Status>
        <LayerName>Clientes CDM</LayerName>
        <Categories>AGRICULTURA</Categories>
        <PointData>
          -74.0919091247028,4.70623665797121,-74.0794207840103,4.72077849958277,-
          74.0646150192718,4.71851170312444,-74.0634992225089,4.70602280508997,-
          74.0746142748778,4.69969273006035,-74.0919091247028,4.70623665797121
        </PointData>
        <CreationDateUtc>2016-06-21T17:02:35</CreationDateUtc>
        <ModificationDateUtc>2016-06-23T13:35:54</ModificationDateUtc>
        <Data1/>
      </PointOfInterest>
    </Result>
  </GetPointOfInterestListResult>
</GetPointOfInterestListResponse>
```

```
<Data2/>
<Data3/>
<Data4/>
<Data5/>
<Data6/>
<Data7/>
<Data8/>
<Data9/>
<Data10/>
<Data11/>
<Data12/>
<Data13/>
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<Data21/>
<Data22/>
<Data23/>
<Data24/>
<Data25/>
<Data26/>
<Data27/>
<Data28/>
<Data29/>
<Data30/>
</PointOfInterest>
<PointOfInterest>
  <Name>Test distrabution center</Name>
  <Street/>
  <HouseNum/>
  <City/>
  <State>Israel</State>
  <Zip/>
  <Y>31.046051</Y>
  <X>34.8516121</X>
  <Telephone1/>
  <Telephone2/>
  <Fax/>
  <Type>DistributionCenter</Type>
  <TypeArray>
    <PointOfInterestTypes>POI</PointOfInterestTypes>
    <PointOfInterestTypes>Customer</PointOfInterestTypes>
    <PointOfInterestTypes>DistributionCenter</PointOfInterestTypes>
  </TypeArray>
  <CustomerNumber>1122333554485</CustomerNumber>
  <Status>Enabled</Status>
  <LayerName>1</LayerName>
  <Email/>
  <CreationDateUtc>2016-07-20T09:44:03</CreationDateUtc>
  <ModificationDateUtc>2016-07-20T09:44:03</ModificationDateUtc>
  <Data1/>
  <Data2/>
  <Data3/>
  <Data4/>
  <Data5/>
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  <Data8/>
  <Data9/>
  <Data10/>
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  <Data13/>
  <Data14/>
  <Data15/>
  <Data16/>
  <Data17/>
  <Data18/>
  <Data19/>
  <Data20/>
  <Data21/>
  <Data22/>
```

```

<Data23/>
<Data24/>
<Data25/>
<Data26/>
<Data27/>
<Data28/>
<Data29/>
<Data30/>
</PointOfInterest>
</Result>
</GetPointOfInterestListResult>
</GetPointOfInterestListResponse>

```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,9999 For the full list of available values see Appendix F –Result Codes Details
Result	A collection of Points of interest matching the status and the type criteria on the request: Code - The code of the point of interest. Name - The name of the point of interest Street - The street of the point of interest. HouseNum - The house number of the point of interest. City - The city of the point of interest. State - The state of the point of interest. Zip - The zip of the point of interest. Y - The Y (latitude) coordinate of the point of interest. X - The X (longitude) coordinate of the point of interest. Phone1, Phone2 - Phone numbers of the point of interest. Fax - The fax number of the point of interest. Type - The type of the point: POI or Customer or Polygon or DistributionCenter or DistributionArea TypeArray – an array of PointOfInterestTypes to state all the types of the Point. CustomerNumber - The customer number/Code of the point of interest. This is <u>deprecated</u> and will be removed in future version. Status - The statuses of the point: Enabled or Deleted LayerName - The name of the layer the point of interest will be in. This is <u>deprecated</u> and will be removed in future version. ParentCode – the code of the point of interest that is set as a parent to the current POI. Email - The email address of the point of interest. CreationDateUtc - The creation date of the POI ModificationDateUtc - The modification date of the POI Data1 - Data30 - Data fields for custom use. PointData - A comma delimited string to specify the XY coordinates of the corners of the polygon. For POI from type polygon or Distribution area. Categories - An optional comma delimited string to specify the POIs categories (e.g. VIP, North)

GetPointOfInterestListIncludePoint Web Method

This web method returns a list of point of interest containing the supplied coordinates with their information. Located in /services/webservices.asmx

```

<GetPointOfInterestListIncludePoint xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <typeMask>POI</typeMask>
  <x>32.2191</x>
  <y>34.21357</y>
</GetPointOfInterestListIncludePoint>

```

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
typeMask	Enumerator (Required)	The type of POIs that will be returned. Can be one of the following: POI – the point of interest from type POI. Customer – the point of interest from type customer. Used for tasks etc. DistributionCenter - the point of interest from type distribution center. Used for tasks etc. Polygon – a polygon. DistributionArea – a polygon from type distribution area. All – All points of interest including polygons from all types. AllExceptPolygon - All points of interest except polygons from all types. AllPolygons – Only polygons from all types (with no POIs).
x	Double (Required)	The X coordinate of the POIs
y	Double (Required)	The Y coordinate of the POIs

The web method will return the following

```
<PointOfInterestListIncludePointResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="Trackem.Web.Services">
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
  <Result>
    <PointOfInterest>
      <Name>p2-1</Name>
      <Y xsi:nil="true"/>
      <X xsi:nil="true"/>
      <Type>Polygon</Type>
      <TypeArray>
        <PointOfInterestTypes>Polygon</PointOfInterestTypes>
      </TypeArray>
      <CustomerNumber>003</CustomerNumber>
      <Status>Enabled</Status>
      <LayerName>Clientes CDM</LayerName>
      <Categories>AGRICULTURA</Categories>
      <PointData>
        -74.0919091247028,4.70623665797121,-74.0794207840103,4.72077849958277,-
        74.0646150192718,4.71851170312444,-74.0634992225089,4.70602280508997,-
        74.0746142748778,4.69969273006035,-74.0919091247028,4.70623665797121
      </PointData>
      <CreationDateUtc>2016-06-21T17:02:35</CreationDateUtc>
      <ModificationDateUtc>2016-06-23T13:35:54</ModificationDateUtc>
      <Data1/>
      <Data2/>
      <Data3/>
      <Data4/>
      <Data5/>
      <Data6/>
      <Data7/>
      <Data8/>
      <Data9/>
      <Data10/>
      <Data11/>
      <Data12/>
      <Data13/>
      <Data14/>
      <Data15/>
      <Data16/>
      <Data17/>
      <Data18/>
      <Data19/>
      <Data20/>
      <Data21/>
      <Data22/>
      <Data23/>
      <Data24/>
      <Data25/>
      <Data26/>
    </PointOfInterest>
  </Result>
</PointOfInterestListIncludePointResult>
```

```

    <Data27/>
    <Data28/>
    <Data29/>
    <Data30/>
  </PointOfInterest>
  <PointOfInterest>
    <Name>Test distrabution center</Name>
    <Street/>
    <HouseNum/>
    <City/>
    <State>Israel</State>
    <Zip/>
    <Y>31.046051</Y>
    <X>34.8516121</X>
    <Telephone1/>
    <Telephone2/>
    <Fax/>
    <Type>DistributionCenter</Type>
    <TypeArray>
      <PointOfInterestTypes>POI</PointOfInterestTypes>
      <PointOfInterestTypes>Customer</PointOfInterestTypes>
      <PointOfInterestTypes>DistributionCenter</PointOfInterestTypes>
    </TypeArray>
    <CustomerNumber>1122333554485</CustomerNumber>
    <Status>Enabled</Status>
    <LayerName>1</LayerName>
    <Email/>
    <CreationDateUtc>2016-07-20T09:44:03</CreationDateUtc>
    <ModificationDateUtc>2016-07-20T09:44:03</ModificationDateUtc>
    <Data1/>
    ...
    <Data30/>
  </PointOfInterest>
</Result>
</PointOfInterestListIncludePointResult>

```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,9999 For the full list of available values see Appendix F –Result Codes Details
Result	A collection of Points of interest matching the status and the type criteria on the request: Name - The name of the point of interest Street - The street of the point of interest. HouseNum - The house number of the point of interest. City - The city of the point of interest. State - The state of the point of interest. Zip - The zip of the point of interest. Y - The Y (latitude) coordinate of the point of interest. X - The X (longitude) coordinate of the point of interest. Phone1, Phone2 - Phone numbers of the point of interest. Fax - The fax number of the point of interest. Type - The type of the point: POI or Customer or Polygon or DistributionCenter or DistributionArea TypeArray – an array of PointOfInterestTypes to state all the types of the Point. CustomerNumber - The customer number of the point of interest. Status - The statues of the point: Enabled or Deleted LayerName - The name of the layer the point of interest will be in. Email - The email address of the point of interest. CreationDateUtc - The creation date of the POI ModificationDateUtc - The modification date of the POI Data1 - Data30 - Data fields for custom use. PointData - A comma delimited string to specify the XY coordinates of the corners of the polygon. For POI from type polygon or Distribution area. Categories - An optional comma delimited string to specify the POIs categories (e.g. VIP, North)

DeletePointOfInterestForEmployee Web Method

This web method allows deleting assignment of the employee from the point of interest on the server. Located in /services/webservices.asmx

```
<DeletePointOfInterestForEmployee xmlns="Trackem.Web.Services">
  <userName>string</userName>
  <password>string</password>
  <customerNumber>string</customerNumber>
  <employeeNumber>string</employeeNumber>
  <options>string</options>
</DeletePointOfInterestForEmployee>
```

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
customerNumber	String (Required)	The customer number of the point of interest.
employeeNumber	String (Required)	The employee number that needs to be unassigned from the point of interest.
options	Enumerator (Required)	None Recursive – if the POI assigned to the employee is a parent all of its children's will be assigned to the employee as well.

The web method will return the following

```
<DeletePointOfInterestForEmployeeResponse xmlns="Trackem.Web.Services">
  <DeletePointOfInterestForEmployeeResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>int</ResultCodeAsInt>
    <ResultMessages>
      <string>string</string>
      <string>string</string>
    </ResultMessages>
  </DeletePointOfInterestForEmployeeResult>
</DeletePointOfInterestForEmployeeResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,1001,1002,1003,1004,1008,1009,1025,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

DeletePointOfInterest Web Method

This web method allows deleting a single point of interest from the server.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<DeletePointOfInterest xmlns="Trackem.Web.Services">
  <userName></userName>
  <password></password>
  <customerNumber></customerNumber>
</DeletePointOfInterest>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
customerNumber	String (Required)	The customer number of the point of interest.

The web method will return the following

```
<DeletePointOfInterestResponse xmlns="Trackem.Web.Services">
  <DeletePointOfInterestResult>
    <ResultCode></ResultCode>
    <ResultCodeAsInt></ResultCodeAsInt>
    <ResultMessages>
      <string></string>
      <string></string>
    </ResultMessages>
  </DeletePointOfInterestResult>
</DeletePointOfInterestResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,1009,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

InsertPointOfInterestForEmployee Web Method

This web method allows insert assignment of the employee to a point of interest on the server. Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<InsertPointOfInterestForEmployee xmlns="Trackem.Web.Services">
  <userName></userName>
  <password></password>
  <customerNumber></customerNumber>
  <employeeNumber></employeeNumber>
  <options></options>
</InsertPointOfInterestForEmployee>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
customerNumber	String (Required)	The customer number of the point of interest.
employeeNumber	String (Required)	The employee number that needs to be assigned to the point of interest.
options	Enumerator (Required)	None Recursive – if the POI assigned to the employee is a parent all of it's children's will be assigned to the employee as well.

The web method will return the following

```
<InsertPointOfInterestForEmployeeResponse xmlns="Trackem.Web.Services">
  <InsertPointOfInterestForEmployeeResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>int</ResultCodeAsInt>
    <ResultMessages>
      <string>string</string>
      <string>string</string>
    </ResultMessages>
  </InsertPointOfInterestForEmployeeResult>
</InsertPointOfInterestForEmployeeResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,1001,1002,1003,1004,1008,1009,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

AsyncImportPointsOfInterest Web Method

This web method imports the points of interest from an attached file. Points of interest on the server will be created, updated or deleted according to the attached file.
 Located in /services/webservices.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

```
<ImportPointsOfInterest xmlns="Trackem.Web.Services">
  <request>
    <UserName>string</UserName>
    <Password>string</Password>
    <DataSource>
      <Data>base64Binary</Data>
      <DataString>string</DataString>
      <DataFormat>Xls</DataFormat>
      <FirstRowHasColumnNames>boolean</FirstRowHasColumnNames>
      <FileName>string</FileName>
    </DataSource>
    <ColumnMapping>
      <Categories>string</Categories>
      <City>string</City>
      <CustomerNumber>string</CustomerNumber>
      <Data1>string</Data1>
      <Data30>string</Data30>
      <Fax>string</Fax>
      <HouseNum>string</HouseNum>
      <Name>string</Name>
      <Phone1>string</Phone1>
      <Phone2>string</Phone2>
      <State>string</State>
      <Street>string</Street>
      <X>string</X>
      <Y>string</Y>
      <Zip>string</Zip>
      <ParentPoi>string</ParentPoi>
      <Email>string</Email>
      <IsParent>string</IsParent>
    </ColumnMapping>
    <UnlistedPoiHandling>
      <Method>MoveToParent</Method>
      <MoveToParentId>1234</MoveToParentId>
      <ParentPoi>POI123</ParentPoi>
    </UnlistedPoiHandling>
    <Options>
      <UsePartialResolvedAddresses>boolean</UsePartialResolvedAddresses>
      <AllowPoiUpdate>boolean</AllowPoiUpdate>
      <PoiType>POI or Customer or Polygon or DistributionCenter or DistributionArea</PoiType>
      <TargetParentOption>ByColumn or ByName</TargetParentOption>
      <TargetParent>string</TargetParent>
    </Options>
  </request>
</ImportPointsOfInterest>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods

		<p>CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml</p> <p>When using Csv, if the file is not in Utf8 use ANSI. In this case the file should be in the server's default ANSI code page.</p> <p>⚠ See Appendix E for a sample of the XML format.</p>
DataSource.FirstRowHasColumnNames	Boolean (Required)	<p>If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0).</p> <ul style="list-style-type: none"> • If DataFormat=Xml, this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
Name	String (Required)	The name of the point of interest
CustomerNumber	String (Required)	The customer number of the point of interest.
Phone1, Phone2	String (Optional)	Phone numbers of the point of interest.
Fax	String (Optional)	The fax number of the point of interest.
Categories	String (Optional)	An optional comma delimited string to specify the POIs categories (e.g. VIP, North)
Email	String (Optional)	The email address of the point of interest.
State	String (Required Can be omitted if the CoordinateSource is X Y Columns)	The state of the point of interest.
City	String (Optional)	The city of the point of interest.
Street	String (Optional)	The street of the point of interest.
HouseNum	String (Optional)	The house number of the point of interest.
Zip	String (Optional)	The zip of the point of interest.
X	String (Required Can be omitted if the CoordinateSource is ResolveAddress)	The X (longitude) coordinate of the point of interest.
Y	String (Required Can be omitted if the CoordinateSource is ResolveAddress)	The Y (latitude) coordinate of the point of interest.
ParentPoi	String (Required Can be omitted if the TargetParentOption Is ByName)	The name of the Parent POI, the point of interest will be in.
Data1 - Data30	String (Optional)	Data fields for custom use.
IsParent	String (Optional)	If the point of interest can have child POI.
UnlistedPOIHandling	Object (Required)	An object that maps what to do with points of interest and Parent POI that exist in the server and not listed in the

		file.
Method	Enumerator (Required)	What to do with existing POIs not in the file: DoNotChange – leave all existing POIs in the system. Delete – Delete POIs from the server MoveToParent – move the POIs to
ParentPoi	String (Required Can be omitted if the Method is not MoveToParent)	The name of the Parent POI the existing POIs that are not in the import file will be moved to in the server.
Options	Object (Required)	Sets various options
Options.UsePartialResolved Addresses	Boolean (Required)	If set to true, the address will be used even if only a partial match was found. If set to false, the address will be used only if a full match for the address was found.
Options.AllowPOIUpdate	Boolean (Required)	If set to true, existing POIs will be updated with the data in the file. If set to false, existing POI's found in the file will not be updated.
Options.POIType	Enumerator (Required)	Sets the POI type for all POIs in the file: POI – the point of interest from type POI. Customer – the point of interest from type customer. Used for tasks etc. Polygon – Not in use. DistributionCenter - the point of interest from type distribution center. Used for tasks etc. DistributionArea – Not in use.
Options.TargetParentOption	Enumerator (Required)	Sets where is the target Parent POI of the POI: ByColumn – sets the Parent POI by the column mapping field ParentPoi. ByName – sets the same Parent POI to all POIs in the file by the Options.TargetParent.
Options.TargetParent	String (Required Can be omitted if the TargetParentOption Is ByColumn)	The name of the Parent POI all the points of interest in the file will be in.

The web method will return this object

```
<AsyncImportPointsOfInterestResponse xmlns="Trackem.Web.Services">
  <AsyncImportPointsOfInterestResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>int</ResultCodeAsInt>
    <ResultMessages>
      <string>string</string>
      <string>string</string>
    </ResultMessages>
    <ImportGuid></ImportGuid>
  </AsyncImportPointsOfInterestResult>
</AsyncImportPointsOfInterestResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,2,1001,1002,1003, 1033,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .
ImportGuid	The GUID of the import to be performed. The GUID can be used to find the results of the specific import.

CreateOrUpdatePointOfInterest Web Method

This web method allows adding or updating a single point of interest to the server.
Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
operation	Enumerator (Required)	The operation the server is required to do. Available options are: Create – The server is required to create a point of interest. Update – The server is required to update a point of interest with the same customer number AutoSelect – The server will check if the customer number provided exists. If the point of interest customer number exists then the server will update the point of interest, if the point of interest customer number does not exist the server will create a point of interest with the provided customer number.
poi	Object	An object of containing the point of interest parameters and information.

Each poi can contain the following parameters:

Parameter	Data Type	Length	Description
Code	String (Required)	50	The code of the point of interest.
ParentCode	String (Optional)	50	The code of the Parent POI the point of interest will be in.
Name	String (Required)	100	The name of the point of interest
Street	String (Optional)	240	The street of the point of interest.
HouseNum	String (Optional)	10	The house number of the point of interest.
City	String (Optional)	50	The city of the point of interest.
State	String (Optional)	25	The state of the point of interest.
Zip	String (Optional)	10	The zip of the point of interest.
Y	Double (Optional)		The Y (latitude) coordinate of the point of interest.
X	Double (Optional)		The X (longitude) coordinate of the point of interest.
Phone1, Phone2	String (Optional)	50	Phone numbers of the point of interest.
Fax	String (Optional)	50	The fax number of the point of interest.
TypeArray	Collection (Required)		Sets the POI type: POI – the point of interest from type POI. Customer – the point of interest from type customer. Used for tasks etc. DistributionCenter - the point of interest from type distribution center. Used for tasks etc. Polygon – a polygon. DistributionArea – a polygon from type distribution area. Note: can set more than one value (Poi/Customer/DC OR Polygon/DA).
Categories	String (Optional)		An optional comma delimited string to specify the POIs categories (e.g. VIP, North)
Email	String (Optional)	50	The email address of the point of interest.
Data1-Data30	String (Optional)	250	Data fields for custom use.
IsParent	Boolean (Optional)		Set to true if the point of interest can have child POI.
NameHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the

			corresponding field, you must map this to be True.
StreetHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
HouseNumHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CityHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
StateHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ZipHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
YHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
XHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Phone1HasValue, Phone2HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
FaxHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TypeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ParentCodeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CategoriesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
EmailHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Data1HasValue-Data30HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
IsParentHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

Note: additional fields exist in the request that are deprecated and not is use and therefore not documented.

The web method will return the following

```
<InsertOrUpdatePointOfInterestResponse xmlns="Trackem.Web.Services">
  <InsertOrUpdatePointOfInterestResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>0</ResultCodeAsInt>
    <ResultMessages>
      <string>string</string>
      <string>string</string>
    </ResultMessages>
  </InsertOrUpdatePointOfInterestResult>
</InsertOrUpdatePointOfInterestResponse>
```


Parameter	Description
-----------	-------------

ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,1001,1002,1003,1004,1005,1009,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

AsyncImportPointOfInterestCatalogItems Web Method

This web method imports the catalog items for the points of interest from an attached file. Catalog items related to the points of interest on the server will be created, updated or deleted according to the attached file. Located in /services/webservices.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. In this case the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping.CatalogNumber	String (Required)	The number of the catalog item.
ColumnMapping.Code	String (Required)	The code of the of the point of interest the catalog item will be linked to.
ColumnMapping.Description	String (Optional)	The description for the catalog item related to the point of interest.
ColumnMapping.Quantity	String (Required)	The quantity of the item related to the point of interest.

ColumnMapping.SerialNumber	String (Optional)	The serial number the employee has for the specific catalog item. The value of the field should contain one SN per line.
ColumnMapping.StatusCode	String (Optional)	The code of the status as set on the server.
ColumnMapping.WarrantyDate	String (Optional)	The date of the warranty.
ColumnMapping.WarrantyType	String (Optional)	The type of the warranty.
ColumnMapping.InstallDate	String (Optional)	The date of the install.
ColumnMapping.Notes	String (Optional)	The notes catalog item.
Options	Object (Required)	Sets various options
Options.UnlistedItemHandling	Boolean (Required)	An object that maps what to do with points of interest and Parent POI that exist in the server and not listed in the file.

The web method will return this object

```
<AsyncImportPointOfInterestCatalogItemsResponse xmlns="Trackem.Web.Services">
  <AsyncImportPointOfInterestCatalogItemsResult>
    <ResultCode>OK</ResultCode>
    <ResultCodeAsInt>int</ResultCodeAsInt>
    <ResultMessages>
      <string>string</string>
      <string>string</string>
    </ResultMessages>
    <ImportGuid></ImportGuid>
  </AsyncImportPointOfInterestCatalogItemsResult>
</AsyncImportPointOfInterestCatalogItemsResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,2,1001,1002,1003, 1033,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .
ImportGuid	The GUID of the import to be performed. The GUID can be used to find the results of the specific import.

The TaskTypes Web Service

This Web Service allows remote administration of the task types on the server.

ImportTaskTypes Web Method

This web method imports the task types from an attached file. Task types on the server will be created, updated or deleted according to the attached file.

Located in /services/taskmanagement.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

```
<ImportTaskTypes xmlns="Trackem.Web.Services">
  <Request>
    <UserName>UserName</UserName>
    <Password>Password</Password>
    <DataSource>
      <Data>base64 Data</Data>
      <DataFormat>Xls</DataFormat>
      <FirstRowHasColumnNames> </FirstRowHasColumnNames>
      <FileName>TaskTypes.xls</FileName>
    </DataSource>
    <ColumnMapping>
      <Name>A</Name>
      <Code>B</Code>
      <PlannedTime>C</PlannedTime>
      <Priority>D</Priority>
      <Skills>F</Skills>
      <Data11>H</Data11>
      ....
      <Data10>G</Data10>
    </ColumnMapping>
    <Options>
      <ItemsNotInFileOption>Leave</ItemsNotInFileOption>
    </Options>
  </Request>
</ImportTaskTypes>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8

		<p>CsvTabDelimited_Utf8 Xml</p> <p>When using Csv, if the file is not in Utf8 use ANSI. In this case the file should be in the server's default ANSI code page.</p> <p>! See Appendix E for a sample of the XML format.</p>
DataSource.FirstRowHasColumnNames	Boolean (Required)	<p>If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0).</p> <ul style="list-style-type: none"> If DataFormat=Xml, this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
Name	String (Required)	The name of the task type.
Code	String (Required)	The code of the task type.
CategoryCode	String (Optional)	The code of the category of the task type.
PlannedTime	String (Optional)	The planned time to perform the task type in the following format <i>d.hh:mm</i> (day.Hours:minutes).
Priority	String (Optional)	<p>The priority of the task type, can be one of the following:</p> <p>NotSet = 0 Lowest = 1 Low = 2 Normal = 3 High = 4 Highest = 5 Urgent = 6</p> <ul style="list-style-type: none"> Can send number or name
AddCatalogItemsToEntries	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the permission to Add Catalog items to entries will be set in the task type level.
AddCatalogItemsToEntriesInQuantityOnlyScreen	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the permission to Add Catalog items to entries in quantity only

		screen will be set in the task type level. Note: this option may be checked only when AddCatalogItemsToEntries is checked.
AutoOpenCloseTaskEntry	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON the permission to automatically open the close task entry will be set in the task type level.
AutoOpenScanInCloseTaskEntry	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON the permission to automatically open the scanner in the close task entry will be set in the task type level.
Skills	String (Optional)	A list of skills that are required to perform the task. The list is expressed as a comma separated value list and should include the skill name or code.
Data1 – Data10	String (Optional)	Custom data fields
AllowDeletingCatalogItemsInQuantityOnlyListFromWholeList	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then will allow deleting the items in the quantity only list.
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete items from

The web method will return this object

```
<ImportTaskTypesResponse xmlns="Trackem.Web.Services">
  <ImportTaskTypesResult>
    <ReturnValue>OK</ReturnValue>
    <RowsImported>10</RowsImported>
    <RowsRead>10</RowsRead>
    <Data>Xls base64Binary</Data>
    <DataFormat>Xls</DataFormat>
  </ImportTaskTypesResult>
</ImportTaskTypesResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be one of the following: OK – catalog imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data
RowsImported	Number of rows imported from the file.

RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. <ul style="list-style-type: none"> Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml

GetTaskType Web Method

This web method returns the task type with its name and planned time.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<GetTaskType xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <code>10</code>
</GetTaskType>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
code	String (Required)	The code of the task type.

The web method will return the following

```
<TaskTypeResult>
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
  <Result>
    <Name>Name</Name>
    <Code>1</Code>
    <PlannedTimeInMinutes>180</PlannedTimeInMinutes>
    <Data1>string</Data1>
    <Data2>string</Data2>
    <Data3>string</Data3>
    <Data4>string</Data4>
    <Data5>string</Data5>
    <Data6>string</Data6>
    <Data7>string</Data7>
    <Data8>string</Data8>
    <Data9>string</Data9>
    <Data10>string</Data10>
    <TaskTypeCategory>
      <Name>string</Name>
      <Code>string</Code>
    </TaskTypeCategory>
  </Result>
</TaskTypeResult>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,1006,9999 For the full list of available values see Appendix F –Result Codes Details
Result	The task type matching the code on the request: Name - The name of the task type Code – The code of the task type PlannedTimeInMinutes – The planned time of the task type in minutes.

	<p>Data1 – Data10 – The custom data fields from the task type.</p> <p>Priority - The priority of the task type, can be one of the following: NotSet Lowest Low Normal High Highest Urgent</p> <p>TaskTypeCategory – the name and code the category of the task type.</p>
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

GetTaskTypeList Web Method

This web method returns a list of task types with their information.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<GetTaskTypeList xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
</GetTaskTypeList>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method

The web method will return the following

```
<TaskTypeListResult xmlns="Trackem.Web.Services">
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
  <Result>
    <TaskType>
      <Name>TaskType Name 1</Name>
      <Code>1</Code>
      <PlannedTimeInMinutes>180</PlannedTimeInMinutes>
      <Data1>string</Data1>
      <Data2>string</Data2>
      <Data3>string</Data3>
      <Data4>string</Data4>
      <Data5>string</Data5>
      <Data6>string</Data6>
      <Data7>string</Data7>
      <Data8>string</Data8>
      <Data9>string</Data9>
      <Data10>string</Data10>
    </TaskType>
    <TaskType>
      <Name> TaskType Name 2</Name>
      <Code>2</Code>
      <PlannedTimeInMinutes>120</PlannedTimeInMinutes>
      <Data1>string</Data1>
      <Data2>string</Data2>
      <Data3>string</Data3>
      <Data4>string</Data4>
      <Data5>string</Data5>
      <Data6>string</Data6>
      <Data7>string</Data7>
      <Data8>string</Data8>
      <Data9>string</Data9>
      <Data10>string</Data10>
    </TaskType>
    <TaskType>
      <Name> TaskType Name 4</Name>
      <Code>4</Code>
      <PlannedTimeInMinutes xsi:nil="true"/>
    </TaskType>
  </Result>
</TaskTypeListResult>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,1006,9999 For the full list of available values see Appendix F –Result Codes Details
Result	A collection of task types: Name - The name of the task type Code – The code of the task type PlannedTimeInMinutes – The planned time of the task type in minutes. Data1 – Data10 – The custom data fields from the task type. Priority - The priority of the task type, can be one of the following: NotSet Lowest Low Normal High Highest Urgent TaskTypeCategory – the name and code the category of the task type.

The ServiceTime Web Service

This Web Service allows remote administration of the service times on the server.

GetServiceTimeList Web Method

This web method returns a list of service times with their information.

Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<GetServiceTimeList xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <fromDateTime>string</fromDateTime>
  <taskTypeCode>string</taskTypeCode>
  <distributionAreaNumber>string</distributionAreaNumber>
  <serviceTimeFrameTypeCode>string</serviceTimeFrameTypeCode>
  <taskLocation>
    <X>double</X>
    <Y>double</Y>
    <Address>string</Address>
  </taskLocation>
  <maxDaysToReturn>int</maxDaysToReturn>
  <maxDaysToScan>int</maxDaysToScan>
  <arrivalWindowCodes>string</arrivalWindowCodes>
  <serviceTime>short</serviceTime>
  <customerNumber>string</customerNumber>
  <options> </options>
</GetServiceTimeList>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
fromDateTime	String (Required)	The date from which the server will return the service time windows in YYYYMMDDHHmm.
taskTypeCode	String (Required)	The code of the task type.
distributionAreaNumber	String (Required)	The number of the distribution area in the server. <ul style="list-style-type: none"> Can be omitted if using taskLocation.X, taskLocation.Y
serviceTimeFrameTypeCode	String (Optional)	The code of the service time frame type code in the server. If not sent or sent empty will return all types.
taskLocation	Object (Optional)	
X	Double (Required)	The X coordinate the location of the task. <ul style="list-style-type: none"> If distributionAreaNumber not supplied will used XY to find the distribution area.
Y	Double (Required)	The Y coordinate the location of the task. <ul style="list-style-type: none"> If distributionAreaNumber not supplied will used XY to find the distribution area.
Address	String (Optional)	The address of the location of the task. <ul style="list-style-type: none"> Currently not implemented
maxDaysToReturn	Int16 (Required)	The maximum amount of days to be returned by the server.
maxDaysToScan	Int16 (Required)	The maximum amount of days to search on for the suitable service time windows.
arrivalWindowCodes	String (Optional)	A comma separated value of the arrival codes as defined in the server. If not sent or sent empty will return all ranges.
serviceTime	Short (Optional)	A value that indicates the required service time in minutes. <ul style="list-style-type: none"> Not relevant when working with Service Time Windows by task types.
customerNumber	String (Optional)	The number of the customer (POI) in the server.
options	Enumerator (Required)	<p>None – will return all service time list that are not fully booked.</p> <p>ShowFullTimeWindows – will return all service time list including service time windows that are fully booked.</p> <p>AutoAssignDistributionAreaByTaskLocation – will auto assigned the distribution area by the taskLocation coordinates.</p> <p>AutoAssignDistributionAreaWithServiceTimeFrameByCustomerNumberParent – auto assign the distribution area based on</p>

		<p>the customer or first parent of the CustomerNumber from type distribution area that has service time frame.</p> <p>ShowAllAvailableResourcesOnEachTimeWindow – will return in the response the available resource for each time window.</p>
--	--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

The web method will return the following

```
<ServiceTimeListResponse xmlns="Trackem.Web.Services">
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
  <Result>
    <AvailableServiceTime>
      <FromDate>201608091500</FromDate>
      <ToDate>201608091700</ToDate>
      <PercentageFull>0</PercentageFull>
      <ArrivalWindowPercentageFull>0</ArrivalWindowPercentageFull>
      <ServiceTimeFrameTypeCode>1</ServiceTimeFrameTypeCode>
      <ArrivalWindowCode>VIP</ArrivalWindowCode>
      <RangeCode>VIP</RangeCode>
      <ClosestTaskTier>0</ClosestTaskTier>
      <ClosestTaskDistance>1.1</ClosestTaskDistance>
      <EmployeeNumber>15</EmployeeNumber>
      <RequiresReschedulingOtherTasks>true</RequiresReschedulingOtherTasks>
    </AvailableServiceTime>
    <AvailableServiceTime>
      <FromDate>201608090800</FromDate>
      <ToDate>201608091000</ToDate>
      <PercentageFull>20</PercentageFull>
      <ArrivalWindowPercentageFull>25</ArrivalWindowPercentageFull>
      <ServiceTimeFrameTypeCode>1</ServiceTimeFrameTypeCode>
      <ArrivalWindowCode>VIP</ArrivalWindowCode>
      <RangeCode>VIP</RangeCode>
      <ClosestTaskTier>1</ClosestTaskTier>
      <ClosestTaskDistance>3</ClosestTaskDistance>
      <EmployeeNumber>17</EmployeeNumber>
      <RequiresReschedulingOtherTasks>true</RequiresReschedulingOtherTasks>
    </AvailableServiceTime>
    <AvailableServiceTime>
      <FromDate>201608091000</FromDate>
      <ToDate>201608091200</ToDate>
      <PercentageFull>0</PercentageFull>
      <ArrivalWindowPercentageFull>0</ArrivalWindowPercentageFull>
      <ServiceTimeFrameTypeCode>2</ServiceTimeFrameTypeCode>
      <ArrivalWindowCode>VIP1</ArrivalWindowCode>
      <RangeCode>VIP1</RangeCode>
      <ClosestTaskTier>1</ClosestTaskTier>
      <ClosestTaskDistance>3.4</ClosestTaskDistance>
      <EmployeeNumber>15</EmployeeNumber>
      <RequiresReschedulingOtherTasks>false</RequiresReschedulingOtherTasks>
    </AvailableServiceTime>
  </Result>
</ServiceTimeListResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,1006, 1007,1020,1021,1024,1033,9999 For the full list of available values see Appendix F –Result Codes Details
Result	A collection of available service time windows: FromDate – The date from which the time windows starts. ToDate – The date from which the time windows ends. PercentageFull – The capacity in percentage of the use of the time window. ArrivalWindowPercentageFull - The capacity in percentage of the use of the arrival window. ServiceTimeFrameTypeCode – The code of the service time frame type of the returned service time frame. ArrivalWindowCode – The code of the range of the returned service time frame. ClosestTaskTier – The tier of the closest task, can be one of the following: 0 - When a task exists in time frame and its distance from the booked task is less and allow overbooking (blue). 1 - When a task exists in time frame and its distance from the booked task is less

	<p>than what defined in the service time window (green).</p> <p>2 – When distance is less than what defined in the service time window (yellow).</p> <p>3 - When distance is beyond what defined in the service time window (red).</p> <p>ClosestTaskDistance – The distance from the closest task.</p> <p>EmployeeNumber - The employee number of the available resource for this time window.</p> <p>RequiresReschedulingOtherTasks – Boolean value that states if it is required to reschedule other existing tasks to allow current task to be scheduled to the selected window. Existing tasks need to be moved within their time window and are not being moved between time windows</p>
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UpdateTaskServiceTime Web Method

This web method updates the task's start date, due date and service time windows.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<UpdateTaskServiceTime xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <taskNumber>1234</taskNumber>
  <startTimeWindow>201605120820</startTimeWindow>
  <endTimeWindow>201605121012</endTimeWindow>
  <data1>201605121012</data1>
  ...
  <data30>201605121012</data30>
</UpdateTaskServiceTime>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
taskNumber	String (Required)	The number of the Task
startTimeWindow	String (Optional)	The date to be updated to the start date of the task and the start of the time window.
endTimeWindow	String (Optional)	The date to be updated to the end of the time window.
data1-data30	String (Optional)	The data to be updated in custom data fields 1-30.

! The task is required to have a task type, the task's due date will be updated based on the planned time of the task type.

The web method will return the following

```
<UpdateTaskServiceTimeResponse xmlns="Trackem.Web.Services">
  <UpdateTaskServiceTimeResult>
    <ResultCode>ValidationError</ResultCode>
    <ResultCodeAsInt>1003</ResultCodeAsInt>
    <ResultMessages>
      <string>The field 'Due Date' must be greater than 8/15/2016 8:00:00 AM.</string>
    </ResultMessages>
  </UpdateTaskServiceTimeResult>
</UpdateTaskServiceTimeResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,2,1001,1002,1003,1004,1006, 1014,1020, 9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages.string	If the ResultCode is ValidationError (1003) each string tag will contain the validation errors in .

ReserveServiceTime Web Method

This web method reserved a selected service time frame.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<ReserveServiceTime xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <fromDateTime>string</fromDateTime>
  <toDateTime>string</toDateTime>
  <expiration>Int16</expiration>
  <taskTypeCode>string</taskTypeCode>
  <distributionAreaCode>string</distributionAreaCode>
  <taskLocation>
    <X>double</X>
    <Y>double</Y>
    <Address>string</Address>
  </taskLocation>
  <customerNumber>string</customerNumber>
  <employeeNumber>string</employeeNumber>
  <options> </options>
</ReserveServiceTime>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
fromDateTime	String (Required)	The date time of the beginning of the selected time slot in YYYYMMDDHHMM.
toDateTime	String (Required)	The date time of the end of the selected time slot in YYYYMMDDHHMM.
taskTypeCode	String (Required)	The code of the task type.
distributionAreaCode	String (Required)	The number /code of the distribution area in the server.
expiration	Double (Required)	The number of hours for the reservation to be saved until it will expire.
taskLocation	String (Optional)	
X	Double (Required)	The X coordinate the location of the task.
Y	Double (Required)	The Y coordinate the location of the task.
customerNumber	String (Optional)	The number of the customer (POI) in the server.
employeeNumber	String (Optional)	The employee number to be reserved for the time window.
options	Enumerator (Required)	<p>None.</p> <p>DoNotValidateTimeWindowAvailability– Will not validate the service time window availability and allow to book a fully booked service time window.</p> <p>AutoAssignDistributionAreaByTaskLocation – will auto assigned the distribution area by the taskLocation coordinates.</p> <p>AutoAssignDistributionAreaWithServiceTimeFrameByCustomerNumberParent – auto assign the distribution area based on the customer or first parent of the CustomerNumber from type distribution area that has service time frame.</p>

The web method will return the following

```
<ReserveServiceTimeResult xmlns="Trackem.Web.Services">
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
  <ReservationId>1234</ReservationId>
</ReserveServiceTimeResult>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,1006, 1007,1020,1021, 1028,1033, 9999 For the full list of available values see Appendix F –Result Codes Details
ReservationId	The reservation ID of the time slot to be used when creating a task for a specific time slot.

CancelReservedServiceTime Web Method

This web method canceled reservation for a service time frame.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<CancelReservedServiceTime xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <reservationId>1234</reservationId>
</CancelReservedServiceTime>
```

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
reservationId	String (Required)	The reservation ID of the time slot that needs to be canceled.

The web method will return the following

```
<CancelReservedServiceTimeResponse xmlns="Trackem.Web.Services">
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
</CancelReservedServiceTimeResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,1023,9999 For the full list of available values see Appendix F –Result Codes Details

The WorkOrder Web Service

This Web Service allows creating or updating work orders on the server so employees can report work order task related entries to the server.

CreateOrUpdateWorkOrder Web Method

This web method allows creating or updating a work order on the server. Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

```
<CreateOrUpdateWorkOrder xmlns="Trackem.Web.Services">
  <userName> </userName>
  <password> </password>
  <operation> </operation>
  <workOrderNumber>long</workOrderNumber>
  <status> </status>
  <description> </description>
  <customerName> </customerName>
  <address> </address>
  <customerNumber> </customerNumber>
  <defaultEmployeeNumber> </defaultEmployeeNumber>
  <startDate> </startDate>
  <dueDate> </dueDate>
  <workOrderTypeCode> </workOrderTypeCode>
  <distributionAreaNumber> </distributionAreaNumber>
  <notes> </notes>
  <data1> </data1>
  ...
  <data20> </data20>
  <createWorkOrderTasks> </createWorkOrderTasks>
</CreateOrUpdateWorkOrder>
```

Parameter	Data Type	Length	Description
userName	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
operation	Enumerator (Required)		The operation the server is required to do. Available options are: Create – The server is required to create work order Update – The server is required to update work order AutoSelect – The server will check if the work order number provided exists. If the work order number exists then the server will update the work order if the work order number does not exist the server will create a work order with the provided work order number.
workOrderNumber	Int64 (Required)		The number of the work order.
status	Enumerator (Required)		The status of the work order. can be one of the Names described in Work Order status , or can be sent as DontChange – Instructs the server not to change the status of the work order if the work order is being updated
description	String (Required)	100	The description of the work order
customerName	String (Optional)	100	The customer name. Used if the Customer Number parameter is not given
address	String (Optional)	255	The text address of the work order
customerNumber	String (Optional)	50	The number of the customer in the

			server
defaultEmployeeNumber	String (Optional)	50	The number of the default employee that will be associated with the work order and will be the default employee for the tasks.
startDate	String (Required)		start date of the work order as YYYYMMDD
dueDate	String (Required)		due date of the work order as YYYYMMDD
workOrderTypeCode	String (Optional)	50	The code of the work order type as set on the server
distributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
notes	String (Optional)	Max	Notes about the work order
data1...data20	String (Optional)	500	Data fields for custom use
createWorkOrderTasks	Boolean (Optional)		If set to true, will create default tasks to the work order as defined in the work order type in the server.
additionalInfo	String (Optional)	max	An optional XML representing additional info about the work order that will be displayed in the site. See Appendix B for a sample of the XML.

The web method will return the following

```
<CreateOrUpdateWorkOrderResponse xmlns="Trackem.Web.Services">
  <CreateOrUpdateWorkOrderResult>
    <ResultCode> </ResultCode>
    <ResultCodeAsInt> </ResultCodeAsInt>
    <ResultMessages>
      <string> </string>
      <string> </string>
    </ResultMessages>
  </CreateOrUpdateWorkOrderResult>
</CreateOrUpdateWorkOrderResponse>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the followings: 0,1,1001,1002,1003,1004,1007,1008,1009,1010,1011,1012,1019,1020,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages	A collection of result messages

CreateOrUpdateWorkOrderWithTasks Web Method

This web method allows creating or updating a work order and it's tasks on the server.

Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Length	Description
userName	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
operation	Enumerator (Required)		The operation the server is required to do. Available options are: Create – The server is required to create work order and tasks Update – The server is required to update work order and tasks with the same Task Number AutoSelect – The server will check if the work order number provided exists. If the work order number exists, then the server will update the work order if the work order number does not exist the server will create a work order with the provided work order number.
workOrderNumber	Int64 (Required)		The number of the work order. If set to 0 the server will auto generate the work order number
status	Enumerator (Required)		The status of the work order. can be one of the Names described in Work Order status , or can be sent as DontChange – Instructs the server not to change the status of the work order if the work order is being updated
description	String (Required)	100	The description of the work order
customerName	String (Optional)	100	The contact name. Used if the Customer Number parameter is not given
address	String (Optional)	255	The text address of the work order
customerNumber	String (Optional)	50	The number of the customer in the server
defaultEmployeeNumber	String (Optional)	50	The number of the default employee that will be associated with the work order and will be the default employee for the tasks.
startDate	String (Required)		start date of the work order as YYYYMMDD
dueDate	String (Required)		due date of the work order as YYYYMMDD
workOrderTypeCode	String (Optional)	50	The code of the work order type as set on the server
distributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
notes	String (Optional)	Max	Notes about the work order
data1...data20	String (Optional)	500	Data fields for custom use
tasks	Collection (Required)		An optional collection of the object Task. The collection holds the task

			details (e.g. task number, description, etc.) If not used need to send an empty collection/array.
Tasks.DynamicTask			Details for each Task in the tasks collection are details in the table below.
options	Object (Optional)		Sets various options
options. TasksNotInRequestOption	Enumerator (Optional)		Define what to do with tasks linked to the work order that are not in the request: Leave - Will keeps the tasks that are not in the request as part the work order. Delete – Will delete the tasks not in the request if no entry was made on them. <ul style="list-style-type: none"> Leave is the default value, if this property will not be sent, by default the tasks will remain as part the work order.
additionalInfo	String (Optional)	max	An optional XML representing additional info about the work order that will be displayed in the site. See Appendix B for a sample of the XML.

Each DynamicTask in the tasks collection can contain the following parameters:

Parameter	Data Type	Length	Description
TaskNumber	Int64 (Required)		The number of the Task. If set to 0 the server will auto generate the task number. ⁴
WorkOrderNumber	Int64 (Optional)		The work order number that the task will be linked to.
CustomerNumber	Int64 (Optional)	50	The number of the customer in the server
DistributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
EmployeeNumber	String (Optional) ⁵	50	The number of the employee that will be associated with the task.
TimeSlotReservationId	String (Optional)	50	The reservation ID of reserved time slot.
VIN	String (Optional) ⁹	50	The VIN of the vehicle that will be associated with the task.
DueDateTime	String (Optional)		The due date of the task as YYYYMMDDHHmm <ul style="list-style-type: none"> Required if not using TimeSlotReservationId or StartDateTime
StartDateTime	String (Optional)		The start date and time of the task as YYYYMMDDHHmm

⁴ If Task number will be set as 0 and the task type is Break task type the task will be created as a break task.

⁵ If both employee number and VIN fields are empty the task will be created as an unassigned task

			<ul style="list-style-type: none"> Required if not using TimeSlotReservationId or DueDateTime
Duration	Double (Optional)		<p>The duration in hours of the task. for two-and-a-half hours set the value to 2.5. If not supplied will be taken from the task type duration or be set by default for 30 minutes.</p> <ul style="list-style-type: none"> Can be omitted if using TimeSlotReservationId
TaskTypeCode	String (Optional)	50	The code of the task type as set on the server ⁸
Notes	String (Optional)	max	Notes about the task
Description	String (Required)	100	The description of the task
Status	Enumerator (Required)		The status of the task. can be one of the Names described in Task Statuses , or can be sent as DontChange – Instructs the server not to change the status of the task if the task is being updated
Phone1, Phone2	String (Optional)	50	Task related phones. Used if the Customer Number parameter is not given.
ContractorCode	String (Optional)	50	The code of the contractor as set on the server
ContactName	String (Optional)	100	The contact name. Used if the Customer Number parameter is not given.
CustomerName	String (Optional)	100	The Customer name. Used if the Customer Number parameter is not given.
Categories	String (Optional)		An optional comma delimited string to specify the task categories (e.g. VIP, North)
Email	String (Optional)	70	An optional email address assigned to the task
Location	Object (Optional)		An optional object of the location of the task. The location can also be set using the optional GeocodeAddress object.
Location.X	Double (Optional)		The X (longitude) coordinate of the task
Location.Y	Double (Optional)		The Y (latitude) coordinate of the task
Location.Address	String (Required)	255	The text address of the task.
GeocodeAddress	Object (Optional) – Requires a separate permission to use this tag		An optional object of the address location of the task. The address will be geocoded into a geographical location. The location can also be set using the optional Location object.
GeocodeAddress.State	String (Optional)	100	The state name
GeocodeAddress.City	String (Optional)	100	The city name
GeocodeAddress.Street	String (Optional)	100	The street name
GeocodeAddress.HouseNumber	String (Optional)	100	The house number
GeocodeAddress.Zip	String (Optional)	100	The zip code
GeocodeAddress.UseSelfPartiallyR	String (Optional)		If set to true, the address will be

esolved			used even if only a partial match was found. If set to false, the address will be used only if a full match for the address was found.
Data1...Data30	String (Optional)	500	Data fields for custom use
HiddenData1	String (Optional)	200	Data fields for custom use. Unlike Data 1...30 this field is only used for the Customer Notification System and is not displayed on any UI (see this document for more information about the Customer Notification System)
ExternalCreationDate	String (Optional)		A creation date for the task that is from an external source as YYYYMMDDHHMM
Options	Enumerator (Optional)		<p>Sets various options:</p> <p>None-Does not set any options</p> <p>SendNotificationToMobile– sends a notification to the mobile device associated with the employee assigned to the task. also changes the status of the task to SMSSent</p> <p>SendNotificationToMobileDontChangeTaskStatus-sends a notification to the mobile device associated with the employee assigned to the task. does not changes the status of the task to SMSSent</p> <p>AutoAssignUnassignedTasksByTaskLocation – will an employee to the task based on task location and the employee's association to a distribution area.</p> <p>AutoAssignDistributionAreaByTaskLocation – will auto assigned the distribution area by the taskLocation coordinates.</p> <p>AutoAssignDistributionAreaByCustomerNumberParent – auto assign the distribution area based on the first parent of the CustomerNumber from type distribution area.</p> <p>MaskSendAnyNotificationToMobile</p> <p>AutoAssignDistributionAreaWithServiceTimeFrameByCustomerNumberParent – auto assign the distribution area based on the first parent of the CustomerNumber from type distribution area that has service time frame.</p> <p>AutoPopulateCustomDataFields - Define if the tasks data fields will be auto populate based on the settings in the server.</p> <p>CheckCompanyRequiredFields – Define for validating the task required fields based on the settings</p>

			in the server.
AdditionalInfoXml	String (Optional)	max	An optional XML representing additional info about the task that will be displayed to the employee. See Appendix B for a sample of the XML. <ul style="list-style-type: none"> Note: The XML in this tag should <u>NOT</u> be Encoded
LimitCatalogCategoriesSelectionToCodes	String (Optional)	max	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the catalog category codes. See the ImportCatalog Web Method for more details.
LimitCatalogItemsSelectionToCatalogNumbers	String (Optional)	max	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog
MaximalRadiusForEntries	Double (Optional)		If set limits entries on the task to a specific radius from the task location
ProhibitEntriesOutsideRadius	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries. If the value is different than the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry
UseQuantityOnlyCatalogItemEntryForm	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the form linked with the add catalog item to entry will not be shown
DoNotShowRefreshMessageInMobile	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task will be sent to the device and will not show the push notification message.
QuantityOnlyFormShowOnlyCatalogNumber	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.

AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then even if task is limited to specific Items will have the ability to select other items from the private catalog of the employee.
AggregateNumber	Int64 (Optional)		The aggregate number of the task.
OrderInAggregate	Byte (Optional)		The order in the aggregate number of the task.
Capacity1...Capacity5	Double (Optional)		The capacities of the task.
TimeWindows	String (Optional)	50	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
TimeWindowPriority	Byte (Optional)		The priority of the task in the time window
ServiceTime	Short (Optional)		The service time of the task in minutes
JointServiceTime	Short (Optional)		The joint service time of the task in minutes
OrderInRoute	Short (Optional)		If set indicates the task order relative to other tasks for the same resource.
ExternalFiles	Collection (Optional)		Collection of external URLs of files sent to the employee as part of the task
ExternalFiles.TaskExternalFile	Object (Optional)		Object of an external file
TaskExternalFile.Id	String (Required)		Unique id of the file
TaskExternalFile.Name	String (Required)		Name of the file including file prefix e.g. Document.doc
TaskExternalFile.Url	String (Required)		The URL where the file will be downloaded from. Note: If AccessType=File, need to pass the Guid of the file returned by SaveTemporaryFileChunk method.
TaskExternalFile.Date	String (Optional)		A date of the file as yyyyMMddHHmm
TaskExternalFile.AccessType	Enumerator (Required)		Type of access allowed to the file: DirectAccess – the URL of the file can be accessed directly from the site and mobile. ServerProxied – the URL of the file will not be exposed in the site or mobile, secured. File – a file uploaded to the server using SaveTemporaryFileChunk method. UrlOpenInBrowser – Will open the URL of the file in the browser and not download it.
TaskExternalFile.Flags	Enumerator (Required)		Can be: None – the file cannot be downloaded by site user. Will display only the file's details. AllowViewBySiteUser – the site user will download the file from the site.
Priority	Enumerator (Optional)		The priority of the task can be: NotSet Lowest

			Low Normal High Highest Urgent
UpdateTaskItemsDefaultQuantity	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then task item's default quantity will be updated based on employee's entry of quantity of the item.
TaskCannotBeIncludedInBulkEntry	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON, the task cannot be included in bulk entry.
WorkOrderNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CustomerNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DistributionAreaNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
EmployeeNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TimeSlotReservationIdHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
VinHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DueDateTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
StartDateTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DurationHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

TaskTypeCodeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
NotesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DescriptionHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Phone1HasValue, Phone2HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ContractorCodeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ContactNameHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CustomerNameHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CategoriesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
EmailHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
LocationHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Data1HasValue... Data30HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
HiddenData1HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

ExternalCreationDateHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AdditionalInfoXmlHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
LimitCatalogCategoriesSelectionToCodesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
LimitCatalogItemsSelectionToCatalogNumbersHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
MaximalRadiusForEntriesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AggregateNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
OrderInAggregateHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Capacity1HasValue... Capacity5HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TimeWindowsHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TimeWindowPriorityHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ServiceTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
JointServiceTimeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

OrderInRouteHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ProhibitEntriesOutsideRadiusHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
UseQuantityOnlyCatalogItemEntryFormHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DoNotShowRefreshMessageInMobileHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
QuantityOnlyFormShowOnlyCatalogNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitationsHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TimeSlotReservationIdHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
PriorityHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
UpdateTaskItemsDefaultQuantityHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ExternalFilesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
TaskCannotBeIncludedInBulkEntryHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

The web method will return the following:

```
<CreateOrUpdateWorkOrderWithTasksResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="Trackem.Web.Services">
```

```

<CreateOrUpdateWorkOrderWithTasksResult>
  <ResultCode></ResultCode>
  <ResultCodeAsInt></ResultCodeAsInt>
  <ResultMessages>
    <string></string>
    <string></string>
  </ResultMessages>
  <WorkOrderNumber></WorkOrderNumber>
  <Tasks>
    <TaskResult>
      <ResultCode></ResultCode>
      <ResultCodeAsInt></ResultCodeAsInt>
      <TaskNumber></TaskNumber>
    </TaskResult>
    <TaskResult></TaskResult>
  </Tasks>
</CreateOrUpdateWorkOrderWithTasksResult>
</CreateOrUpdateWorkOrderWithTasksResponse>

```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be: 0,1,1001,1002,1003,1004,1007,1008,1009,1010,1011,1012,1013,1019,1020,9999 For the full list of values, see Appendix F –Result Codes Details
ResultMessages	A collection of result messages
WorkOrderNumber	The number of the work order
Tasks	A collection of Tasks: ResultCode, ResultCodeAsInt – The result of the verification process. The codes can be: 0,2,1002,1003,1004,1006,1007,1008,1009,1014,1015,1016,1017,1018,1020,1023,1034, 9999 TaskNumber – The number of the task.

CreateOrUpdateDynamicWorkOrder Web Method

This web method allows creating or updating work orders on the server.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Length	Description
userName	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
operation	Enumerator (Required)		The operation the server is required to do. Available options are: Create – The server is required to create a work order Update – The server is required to update the work order AutoSelect – The server will check if the work order number provided exists. If the work order number exists, then the server will update the work order if the work order number does not exist, the server will create a work order with the provided work order number.
workOrder	Object (Required)		An object containing the work order parameters and information.

Each workOrder can contain the following parameters:

Parameter	Data Type	Length	Description
WorkOrderNumber	Int64 (Required)		The number of the work order. If set to 0, the server will auto generate the work order number.
Status	Enumerator (Required)		The status of the work order. Can be one of the Names described in Work Order status , or can be sent as DontChange – Instructs the server not to change the status of the work order if the work order is being updated.
Description	String (Required)	100	The description of the work order
CustomerName	String (Optional)	100	The customer's name. Used if the Customer Number parameter is not given.
CustomerNumber	String (Optional)	50	The number of the customer in the server
DefaultEmployeeNumber	String (Optional)	50	The number of the default employee that will be associated with the work order and will be the default employee for the tasks.
Address	String (Optional)	255	The text address of the work order
StartDate	String (Required)		start date of the work order as YYYYMMDD
DueDate	String (Required)		due date of the work order as YYYYMMDD
DistributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
WorkOrderTypeCode	String (Optional)	50	The code of the work order type as set on the server

ContractorCode	String (Optional)	50	The code of the contractor as set on the server
Notes	String (Optional)	Max	Notes about the work order
Data1...Data20	String (Optional)	500	Data fields for custom use
AdditionalInfo	String (Optional)	max	An optional XML representing additional info about the work order that will be displayed in the site. See Appendix B for a sample of the XML.
CreateWorkOrderTasks	Boolean (Optional)		If set to true, will create default tasks to the work order as defined in the work order type in the server.
DescriptionHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CustomerNameHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
CustomerNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DefaultEmployeeNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AHasValueaddress	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
StartDateHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DueDateHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
DistributionAreaNumberHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
WorkOrderTypeCodeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
ContractorCodeHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False

			by default, if a value is sent in the corresponding field, you must map this to be True.
NotesHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
Data1HasValue...Data20HasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.
AdditionalInfoHasValue	Boolean (Optional)		Set to True if you sent value in the corresponding field. Is set to False by default, if a value is sent in the corresponding field, you must map this to be True.

The web method will return the following:

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,1001,1002,1003,1004,1007,1008,1009,1010,1011,1012,1019,1020,1034, 9999 For the full list of values, see Appendix F –Result Codes Details
ResultMessages	A collection of result messages


The NonWorkingDays Web Service

This Web Service allows creating or updating non-working days for resources on the server, so tasks won't be assigned to resources when they are not working.

ImportNonWorkingDays Web Method

This web method allows creating or updating non-working days on the server.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be in the following format:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. In this case the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
Code	String (Optional)	The code of the non-working days. <ul style="list-style-type: none"> • If sent will allow to update the non-working days record by the code.
Description	String (Required)	The description of the non-working day.
WholeCompany	String (Required)	Set to YES if the non-working day is meant

		for the whole company. If not leave blank. <ul style="list-style-type: none"> Must be omitted if Group, Employee or Vehicle are passed.
Group	String (Required)	Set the group name if the non-working day is meant for an entire group. If not, leave blank. <ul style="list-style-type: none"> Must be omitted if WholeCompany, Employee or Vehicle are passed.
Employee	String (Required)	Set the employee number if the non-working day is meant for a specific employee. If not, leave blank. <ul style="list-style-type: none"> Must be omitted if WholeCompany , Group or Vehicle are passed.
Vehicle	String (Optional)	Set the VIN number if the non-working day is meant for a specific employee. If not leave blank. <ul style="list-style-type: none"> Must be omitted if WholeCompany, Group or Employee are passed.
ScheduleType	String (Required)	Sets the schedule type by the values sent in ScheduleTypesMapping <ul style="list-style-type: none"> Must be omitted if ImportScheduleType is not CreateByColumn
FromDateTime	String (Required)	Sets the from date and time of the non-working day. <ul style="list-style-type: none"> Must be omitted is ScheduleType is Recurring
ToDateTime	String (Required)	Sets the end date and time of the non-working day. <ul style="list-style-type: none"> Must be omitted is ScheduleType is Recurring
FromDate	String (Required)	Sets the from date of the non-working day. <ul style="list-style-type: none"> Must be omitted is ScheduleType is Range
ToDate	String (Required)	Sets the end date of the non-working day. <ul style="list-style-type: none"> Must be omitted is ScheduleType is Range
FromTime	String (Optional)	Sets the from time of the non-working day.
ToTime	String (Optional)	Sets the end time of the non-working day.
Sunday - Saturday	String (Optional)	Set as YES if the non-working days are recurring on specific week days.
Notes	String (Optional)	The notes of the non-working days.
ValidFromDate	String (Optional)	When ScheduleType is set as Recurring , allows to set when the recurring non-working days will begin.
ValidToDate	String (Optional)	When ScheduleType set as Recurring , allows to set when the recurring non-working days will ends.
Options	Object (Required)	Sets various options
Options. UnlistedNonWorkingDaysHandling	Enumerator (Required)	What to do with existing item not in the file: DoNotChange – leave all existing items in the system. Delete – Delete all items that don't exist in the file and exist in the server. DeleteForEmployeesInFile – delete items not in the file only for the employees that exist in the file.
Options.AllowNonWorkingDayUpdate	Boolean (Required)	Set true to update the non-working days if existing, if set to false will not update the non-working days and return an error that non-

		working day already exists.
Options.DateTimeFormat	String (Required)	Set the format of the date and time for the FromDateTime, ToDateTime fields. More information on formats you can find here . <ul style="list-style-type: none"> Can be omitted if using separated fields for Dates and Times.
Options.DateFormat	String (Required)	Set the format of the date for the FromDate, ToDate fields. More information on formats you can find here . <ul style="list-style-type: none"> Can be omitted if using one field for Date and Time.
Options.TimeFormat	String (Required)	Set the format of the time for the FromTime, ToTime fields. More information on formats you can find here . <ul style="list-style-type: none"> Can be omitted if using one field for Date and Time.
Options.ImportScheduleType	Enumerator (Required)	How to set the type of the schedule in the file: CreateByColumn ByRange – all file is by range ByRecurring – all file is by recurring
ScheduleTypesMapping	Collection (Required)	Array of schedule types mapping.
ScheduleTypesMapping.NonWorkingDayScheduleTypeMapping	Collection (Required)	Set the mapping in the file of the schedule type mapping instead of Range and Recurring.
NonWorkingDayScheduleTypeMapping.ScheduleType	Enumerator (Required)	Schedule types to be renamed: Range Recurring
NonWorkingDayScheduleTypeMapping.Value	String (Required)	The value send in the file for the ScheduleType parameter.

The web method will return this object

```
<ImportNonWorkingDaysResponse xmlns="Trackem.Web.Services">
  <ImportNonWorkingDaysResult>
    <ReturnValue>OK</ReturnValue>
    <RowsImported>10</RowsImported>
    <RowsRead>10</RowsRead>
    <Data>base64Binary</Data>
    <DataString></DataString>
    <DataFormat>Xls</DataFormat>
  </ImportNonWorkingDaysResult>
</ImportNonWorkingDaysResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – File imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data MappingAttributeMissing – ScheduleTypesMapping is missing. UnknownErrorOccurred – An unknown error occurred
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. <ul style="list-style-type: none"> Only if DataFormat=Xml, this field will be in use.
DataFormat	Specifies the type of file the data bytes are. Values are:

	<p>Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml</p>
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ExcludePeriodFromNonWorkingDays Web Method

This web method allows to exclude a period from non-working day from type range of a specific employee. Located in /services/webservices.asmx

The web method accepts parameters request which needs to be in the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
employeeNumber	String (Required)	The number of the employee.
fromDateTime	String (Required)	From date time to exclude in YYYYMMDDHHMM.
toDateTime	String (Required)	To date time to exclude in YYYYMMDDHHMM.

The web method will return the following:

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be: 0,1001,1003,1004,1008,9999 For the full list of values see Appendix F –Result Codes Details
ResultMessages	A collection of result messages

The Bids Web Service

This Web Service allows updating bid winner for bids from type External Bid Winner.

SetBidWinner Web Method

This web method allows updating bid winner for bids from type External Bid Winner.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
userName	String (Required)	A valid username for using this web method
password	String (Required)	A valid password for using this web method
bidResourceGUID	Guid (Required)	The GUID of the resource to be set as winner in the bid. The GUID is sent as part of the Post XML notification.

The web method will return the following

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1003,1004,1029,1030,1031,1032 ,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages	A collection of result messages

The Forms Web Service

This Web Service allows perform changes to forms by web service.

ImportFormDataTable Web Method

This web method allows creating or updating a form data tables on the server.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be in the following format:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
Code	String (Required)	The code of the data table.
Name	String (Required)	The name of the data table.
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi

		<p>CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml</p> <p>When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.</p> <p>⚠ See Appendix E for a sample of the XML format.</p>
DataSource .FirstRowHasColumnNames	Boolean (Required)	<p>If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0).</p> <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	<p>What to do with existing item not in the file:</p> <p>Leave – leave all existing items in the system. Delete – Delete items from</p>

The web method will return this object

```
<ImportFormDataTableResponse xmlns="Trackem.Web.Services">
  <ImportFormDataTableResult>
    <ReturnValue></ReturnValue>
    <RowsImported></RowsImported>
    <RowsRead></RowsRead>
    <Data></Data>
    <DataFormat></DataFormat>
    <ResultMessages>
      <string></string>
      <string></string>
    </ResultMessages>
  </ImportFormDataTableResult>
</ImportFormDataTableResponse>
```


Parameter	Description
ReturnValue	<p>The result value of the import process. The code can be one of the following:</p> <p>OK –file imported successfully.</p> <p>InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid</p> <p>InvalidRequest – The request XML could not be parsed</p> <p>InvalidDataFile – the data file could not be opened</p> <p>InvalidColumnMapping – the mapping XML is not valid</p> <p>SomeRowsSkipped – some of the imported rows were skipped because of missing required data</p> <p>ValidationError – Name already exist or contains more than 50 characters.</p> <p>RequiredDatalsMissing– one of the required fields are missing: Username, Password, name or DataSource.</p> <p>UnknownErrorOccurred – An unknown error occurred</p>
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	<p>String URL Encoded of the return file.</p> <ul style="list-style-type: none"> • Only if DataFormat=Xml , this field will be in use.
DataFormat	<p>Specifies the type of file the data bytes are. Values are:</p> <p>Xls Xlsx Ods</p>

	CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml
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ImportFormLink Web Method

This web method allows creating or updating a form links on the server.
 Located in /services/forms.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. In this case the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping. FormName	String (Required)	The name of the form as exist in the server.
ColumnMapping. Type	String (Required)	The type of the form link as written in the Value of FormTypeMapping .
ColumnMapping. EntryType	String (Optional)	The entry type of the form link as written in the Value of EntryTypesMapping .
ColumnMapping. Filter	String (Optional)	The filter of the form link. If the link type is Task, then the filter can contain specific task type code. If the link type is catalog item (task or order) , then the filter can contain specific catalog

		category code.
ColumnMapping. GroupName	String (Optional)	The name of the group the form will be linked to.
ColumnMapping. EmployeeCode	String (Optional)	The employee code the form will be linked to.
EntryTypesMapping	String (Required)	The mapping of the entry types that will be written in the file.
MessageTypeMapping.MessageType	String (Required)	The original message type as listed in Entry Types . E.g. MS_StartTask.
MessageTypeMapping.Value	String (Required)	The value that will be written in the file that will represent the MessageType.
FormTypesMapping	String (Required)	The mapping of the form types that will be written in the file.
FormTypeMapping. FormType	String (Required)	The type of link of the form, can be one of the following: Task – task entry, in EntryType you can specify which task entries the form will be linked to. TaskItem – catalog item on task entry Order – order entry. OrderItem – catalog item on order. Attendance – Attendance entry, in EntryType you can specify which task entries the form will be linked to. Form – form entry.
FormTypeMapping. Value	String (Required)	The mapping of the form types that will be written in the file.
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete items from
Options.ObjectType	Enumerator (Required)	The object that will be linked to the form, can be one of the following: WholeCompany – the form link will be set for the whole company. Group – the form link will be set for a specific group by the group name written in the file in the column GroupName . Employee - the form link will be set for a specific employee by the employee code written in the file in the column EmployeeCode .

The web method will return this object

```
<ImportFormLinkResponse xmlns="Trackem.Web.Services">
  <ImportFormLinkResult>
    <ReturnValue></ReturnValue>
    <RowsImported></RowsImported>
    <RowsRead></RowsRead>
    <Data></Data>
    <DataString></DataString>
    <DataFormat></DataFormat>
  </ImportFormLinkResult>
</ImportFormLinkResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be one of the following: OK –file imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid


	<p>SomeRowsSkipped - some of the imported rows were skipped because of missing required data</p> <p>MappingAttributeMissing - Mapping is missing.</p> <p>UnknownErrorOccurred - An unknown error occurred</p>
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataStream	String URL Encoded of the return file. <ul style="list-style-type: none"> • Only if DataFormat=Xml , this field will be in use.
DataFormat	<p>Specifies the type of file the data bytes are. Values are:</p> <p>Xls</p> <p>Xlsx</p> <p>Ods</p> <p>CsvCommaDelimited_Ansi</p> <p>CsvSemicolonDelimited_Ansi</p> <p>CsvTabDelimited_Ansi</p> <p>CsvCommaDelimited_Utf8</p> <p>CsvSemicolonDelimited_Utf8</p> <p>CsvTabDelimited_Utf8</p> <p>Xml</p>

AsyncImportFormDataTable Web Method

This web method allows import async form data tables on the server.

Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
Code	String (Required)	The code of the data table.
Name	String (Required)	The name of the data table.
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml When using Csv, if the file is not in Utf8 use ANSI. In this case the file should be in the server's default ANSI code page.  See Appendix E for a sample of the XML format.
DataSource.FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0). <ul style="list-style-type: none"> • If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
Options	Object (Required)	Sets various options
Options.ItemsNotInFileOption	Enumerator (Required)	What to do with existing item not in the file: Leave – leave all existing items in the system. Delete – Delete items from

The web method will return the following

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1002,1003,1004,1020,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages	A collection of result messages
ImportGuid	The GUID of the import to be performed. The GUID can be used to find the results of the specific import.

The Audit Web Service

This Web Service allows perform changes to audit like add audit note by web service.

AddTaskAuditNote Web Method

This web method allows creating an audit note to a task on the server.

Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Length	Description
userName	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
taskNumber	Int64 (Required)		The number of the Task
note	String (Required)	4000	The note that will be added to the task's audit.

The web method will return the following

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1003,1004,1014,9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages	A collection of result messages

Common Web Services

Common web services used for various purposes.

AsyncImportResult Web Method

This web method allows checking Async import process results.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Length	Description
userName	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
importGuid	Guid (Required)		The GUID of the import as return by the AsyncImport web method.

The web method will return the following

Parameter	Description
ReturnValue	The result value of the import process, can be one of the following: OK – the request is valid. See ImportStatus and ImportSubStatus for further details. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid. RequiredDatalsMissing – ImportGuid is missing. ImportGuidNotFound – The ImportGuid supplied was not found UnknownErrorOccurred – An unknown error occurred
ImportStatus	The status of the import, can be one of the following: Queued – waiting in queue. Starting – Import is starting. InProgress – Import in progress. Done – Import completed. Aborted – Import aborted. StoppedUnexpectedly – Import was stopped unexpectedly.
ImportSubStatus	The sub status of the import once import was done, can be one of the following: Done_NoErrors – The import was completed successfully with no errors. Done_UnableToLoadFile – The import was unsuccessful, unable to load file. Done_RequiredColumnMappingsMissing - The import was unsuccessful, required column mapping is missing. Done_WithErrorsInRows - The import was completed successfully with some errors specified in the file. Done_RequiredDatalsMissing - The import was unsuccessful, required data is missing.
RowsImportedCount	Number of rows imported from the file.
ErrorsCount	Number of rows with errors in the file.
MinorEtaSeconds	The number of seconds left to complete current import step while import is InProgress. Check import status again after the return seconds.
WarningsCount	Number of rows with warnings in the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8

	Xml
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AbortAsyncImport Web Method

This web method allows checking Async import process results.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Length	Description
userName	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
importGuid	Guid (Required)		The GUID of the import as return by the AsyncImport web method.

The web method will return the following

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1001,1003,1035,1036, 9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages	A collection of result messages

Geocode Web Method

This web method allows the coordinates on a single line address.
 Located in /services/webservices.asmx

The web method accepts parameters request in this format

```
<Geocode xmlns="Trackem.Web.Services">
  <userName>UserName</userName>
  <password>Password</password>
  <address>Israel, Rosh Ha'ayin, 11 Ha'avoda st.</address>
</Geocode>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
Address	String (Required)	The full address in a single line

The web method will return

```
<GeocodeResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="Trackem.Web.Services">
  <ResultCode>OK</ResultCode>
  <ResultCodeAsInt>0</ResultCodeAsInt>
  <Locations>
    <Location>
      <Point>
        <X>34.940567</X>
        <Y>32.10687</Y>
      </Point>
      <LocationType>Rooftop</LocationType>
    </Location>
  </Locations>
</GeocodeResult>
```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: OK (0), ZeroResults (1), InvalidUserNameOrPasswordOrIPAddress (1001), UnknownErrorHasOccurred (9999)
Locations	A collection of locations coordinates, each Location will contain the following: Point.X – the X coordinate of the address. The value of this parameter can change according to the Result Code. See the LocationType for more details. Point.Y - LocationType – the type of the location returned, can be one of the following:

	<p>Rooftop - indicates that the returned result is a precise geocode for which we have location information accurate down to street address precision.</p> <p>RangelInterpolated - indicates that the returned result reflects an approximation (usually on a road) interpolated between two precise points (such as intersections). Interpolated results are generally returned when rooftop geocodes are unavailable for a street address.</p> <p>GeometricCenter - indicates that the returned result is the geometric center of a result such as a polyline (for example, a street) or polygon (region).</p> <p>Approximate - indicates that the returned result is approximate.</p> <p>Unknown - indicates the location type is not known.</p>
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SaveTemporaryFileChunk Web Method

This web method allows to upload temporary files to the server to be used by other modules in the systems. Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
fileName	String (Required)	Name of the file including file name extension e.g. Document.doc
fileGuid	Guid (Optional)	The Guid of the file received from the server in the response. Used for uploading files in chunks.
checksumMethod	Enumerator (Required)	The method of the checksum: None sha256 sha1
checksum	String (Optional)	The checksum used for the data. If file sent in chunked the checksum be for all previous chunks including the one sent in the request.
base64Data	String (Required)	The file chunk encoded to Base64.

The web method will return

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,2,1001,1002,1003,1004,1041, 9999 For the full list of available values see Appendix F –Result Codes Details
ResultMessages	A collection of result messages

Customer Notification System

The server can send notifications to a customer's server about employee entries that have been added to the server (timesheet, task related etc.) Or about other events that occurred on the server. The server will deliver the notifications via HTTP (or HTTPS) to a URL given by the customer.

The server supports two methods of sending the notification to the customer: GET and POST. The differences between the methods are:

GET	POST
The customer can specify the names of the parameters sent and which parameters to send	The server always sends the same XML to the client. The XML cannot be customized.
The notification will not contain files and/or catalog items	The notification will contain files and/or catalog items as part of the XML

Server Response

Regardless of the method of sending (GET or POST), the customer's web page that receives the notification must respond with a text that contains the string "_OK_" (without the quotes). If the response of the server does not contain this string, the server will consider the delivery a failure and will queue it up for retry.

Errors while sending a notification

If the server encounters an error while accessing the URL or the server did not respond according to the specification, then the delivery report will be held for up to 3 days and will be retired at the following intervals: Every 5 minutes on the first hour; after that, every hour

GET Tokens

The tokens are:

Token	Description	Default	Entry Made by Employee	Task Record Change
{EVT}	The reason this notification was sent. See event types table for potential values		✓	✓
{ET}	The employee time sheet entry type. See entry types table for potential values		✓	
{DESC}	The description of the entry		✓	✓
{ADDR}	The address the employee was at when creating the entry. The address is available only if the employee created the entry using his mobile device		✓	
{LOC_X}	The X coordinate the employee was at when creating the entry.		✓	
{LOC_Y}	The Y coordinate the employee was at when creating the entry.		✓	
{LOC_ACC}	The Accuracy of the location. Can be: NotSet GPS CellDerived SameCell CellAntenna		✓	
{LOC_PN}	The phone number of the mobile device with which the location information was got. (Can identify the mobile that reported on other employees)		✓	
{EN}	The employee number the notification is about or that was assigned to the task		✓	✓
{E_NAME}	The first and last name of the employee the notification is about or that was assigned to		✓	✓

	the task			
{REN}	The number of the employee creating the entry		✓	
{TN}	The task number (if applicable on ETS entries)		✓	✓
{T_DESC}	The task description (if applicable on ETS entries)		✓	✓
{T_NOTES}	The task notes (if applicable on ETS entries)		✓	✓
{T_UD1}...{T_UD30}	The task User Data 1...30 (if applicable on ETS entries)		✓	✓
{T_UHD1}	The task User Hidden Data 1 (if applicable on ETS entries)		✓	
{T_ECD_DDMMYYYY}	The task External Creation Date (if applicable on ETS entries) in the format DDMMYYYY in the servers Time Zone		✓	✓
{T_ECD_HHMM}	The task External Creation Date (if applicable on ETS entries) in the format HHMM in the servers Time Zone		✓	✓
{T_LOCDIST}	The distance in Km between the Task location and the Entry location		✓	
{ED_DDMMYYYY}	The entry date in the format DDMMYYYY in the servers Time Zone		✓	
{ED_HHMM}	The entry time in the format HHMM in the servers Time Zone		✓	
{EPN}	The mobile number of the Mobile device associated with the employee the notification is about.		✓	
{EDS}	The age of the entry in the employee time sheet. Measured in seconds		✓	
{CN}	Customer Number in case of a task related entry		✓	✓
{TTC}	Task Type Code		✓ ⁶	✓
{DUR}	Duration of a task in hours			✓
{DD_DDMMYYYY}	The due date of a task in the format DDMMYYYY (in UTC Time Zone)	01/01/1970		✓
{DD_HHMM}	The due date in the format HHMM (in UTC Time Zone)	00:00		✓
{SD_DDMMYYYY}	The start date of a task in the format DDMMYYYY (in UTC Time Zone)	01/01/1970		✓
{SD_HHMM}	The start date in the format HHMM (in UTC Time Zone)	00:00		✓
{LTS_DDMMYYYY}	The last Task Start Entry in the format DDMMYYYY in the servers Time Zone. Only sent if the ETS entry is End Task or Close Task		✓	
{LTS_HHMM}	The last Task Start Entry in the format HHMM in the servers Time Zone. Only sent if the ETS entry is End Task or Close Task		✓	
{LTS_DESC}	The last task start entry description. Only sent if the ETS entry is End Task or Close Task		✓	
{EGN}	The group name the employee the notification is about belongs to.		✓	
{VIN}	The vehicle number that is assigned to a task		✓ ⁷	

⁶ Only relevant on Task related entries

⁷ Only relevant on Task related entries

{VGN}	The group name the vehicle the notification is about belongs to			
-------	-----------------------------------------------------------------	--	--	--

A typical URL will be like:

<http://server/page.asp?Phone={EPN}&Age={EDS}&Event={EVT}&Type={ET}&Address={ADDR}&Employee={EN}>

POST XML Structure

When posting XML to a remote server, the OfficeTrack server is posting the XML as a string. The string value can be assigned to a variable (RequestString in the sample below) or not.

A typical post page will accept POST command like this (sample includes HTTP headers):

```
POST /services/test.asmx/FeedData HTTP/1.1
Host: test.com
Content-Type: application/x-www-form-urlencoded
Content-Length: length
```

RequestString=xml-string

The basic structure of the XML posted is:

```
<Entry>
  <EventType></EventType>
  <EntryType></EntryType>
  <EntrySource></EntrySource>
  <EntryDate></EntryDate>
  <EntryDateAge></EntryDateAge>
  <EntryDateFromEpoch></EntryDateFromEpoch>
  <Data Type=""></Data>
  <Form></Form>
  <EntryLocation></EntryLocation>
  <Employee></Employee>
  <Vehicle></Vehicle>
  <Sensor></Sensor>
  <ReportedByEmployee></ReportedByEmployee>
  <Task></Task>
  <WorkOrder></WorkOrder>
  <Bid></Bid>
  <Files>
    <File></File>
    <File></File>
  </Files>
  <CatalogItems>
    <Item></Item>
    <Item></Item>
  </CatalogItems>
  <RelatedEntries>
    <Entry></Entry>
    <Entry></Entry>
  </RelatedEntries>
  <ReferencedCatalogItems>
    <Item></Item>
    <Item></Item>
  </ReferencedCatalogItems>
  <ReferencedPointsOfInterest>
    <PointOfInterest></PointOfInterest>
    <PointOfInterest></PointOfInterest>
  </ReferencedPointsOfInterest>
  <Audit></Audit>
  <ReferencedUsers></ReferencedUsers>
</Entry>
```


XML Tag	Description	Optional 8	Entry Made by Employee	Task Record Change	Alert Activation	Work Order Record Change	Bid status change	Audit Change	Import result completed
EventType	The reason this notification was sent. See event types table for potential values		✓	✓	✓	✓	✓	✓	✓
EventDate	The date the event was created on the server in the format ddmmyyyhhmmss		✓	✓	✓	✓	✓	✓	✓
EventDateAge	The age of the event in seconds		✓	✓	✓	✓	✓	✓	✓
EventDateFromEpoch	The event date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC (UTC+0)		✓	✓	✓	✓	✓	✓	✓
EntryType	The employee time sheet entry type. See entry types table for values.		✓						
EntryGuid	The globally unique identifier (GUID) of the entry.		✓						
EntrySource	The source of the entry. See entry source table for values.		✓						
EntryDate	The entry date in the format ddmmyyyhhmmss		✓						
EntryDateAge	The age of the entry in seconds		✓						
EntryDateFromEpoch	The entry date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC (UTC+0)		✓						
ChangedByUser	The user details who changed the entry.	✓	✓						
Data	The entry data.	✓	✓						
Form	Form data	✓	✓						
EntryLocation	Information about the location at which the entry was	✓	✓		✓ ⁹				

⁸ Optional XML tags will only be included if they have data. Non-Optional XML tags will only be included where the tag is relevant (e.g. EntryType will not be included in a tasks notification)

	made								
Employee	Contains Information about the employee that made the ETS entry, that was assigned to the task or that triggered the alert		✓	✓	✓ ⁹				
Vehicle	Contains Information about the vehicle that triggered the alert				✓ ⁹				
Sensor	Contains Information about the sensor that triggered the alert				✓ ⁹				
ReportedByEmployee	Information about the employee who reported the entry (if the employee differs from the employee the entry is about)	✓	✓						
Task	Information about the task	✓	✓ ⁹	✓			✓ ¹¹	✓ ⁹	
WorkOrder	Information about the work order	✓	✓ ⁹			✓	✓ ¹¹	✓ ⁹	
Bid	Information about the bid	✓	✓ ⁹				✓		
Files	Files attached to the entry	✓	✓						
CatalogItems	Catalog items attached to the entry	✓	✓						
RelatedEntries (formerly PreviousRelatedEntries – See note)	Contains entries related to this entry (e.g. if this entry is about a task, this XML node will hold other entries made about the same task)	✓	✓	✓					
ReferencedCatalogItems	Contains information about catalog items mentioned in other parts of the XML	✓	✓						
ReferencedPointsOfInterest	Contains information about points of interest mentioned in other parts of the XML	✓	✓						
Audit	Contains information about the audit of the	✓		✓				✓	

⁹ Tag will be included only if relevant

	item.								
ReferencedUsers	Contains information on users referenced in other tags by UserGuid	✓		✓				✓	
CompanyDataImport	Contains information on the import results.								✓

! The "RelatedEntries" tag was previously named "PreviousRelatedEntries". The old tag name is deprecated and should not be used. The old tag will be removed in future versions of the server.

The ChangedByUser tag

The ChangedByUser tag contains information about the site user that changed the entry

```
<ChangedByUser>
  <Name></Name>
  <UserName></UserName>
</ChangedByUser>
```

XML Tag	Description
Name	The name of the site user.
UserName	The login name of the site user.

The Data tag

The data tag has a Type attribute denoting the type of the data. The type can be "String" or "XML". If the type is "String" the data will contain a simple string. If the type is "XML" the data will be a container of XML Items.

```
<Data Type = "String">Additional Information Data</Data>
```

Or

```
<Data Type = "Xml">
  <Item>
    <Id>Question 1</Id>
    <Data>Answer 1</Data>
  </Item>
  <Item>
    <Id>Question 2</Id>
    <Data>Answer 2</Data>
  </Item>
</Data>
```

! The data type="XML" is deprecated and will be phased out gradually. The server renders XML data in a dedicated Form tag (see below).

! Users of the XML data should support both the Data and Form tags and should support decoding the data when the Type attribute is missing (if the Type attribute is missing data should be decoded as a string)

The Form tag

the form tag holds information the employee filled in on the form.

```
<Form>
  <Code>Form1</Code>
  <Name>Form 1</Name>
  <Version>1</Version>
  <CustomerNumber>1234</CustomerNumber>
  <Fields>
    <Field>
      <Id>Question 1</Id>
      <Value>Answer1</Value>
      <Text>Answer 1</Text>
```

```

</Field>
<Field>
  <Id>Question 2</Id>
  <Value>Answer 2</Value>
</Field>
<Field>
<Id>Table</Id>
<Rows>
  <Row>
    <Id></Id>
    <Field>
      <Id>Question 1</Id>
      <Value>Answer 1</Value>
    </Field>
    <Field>
      <Id>Question 2</Id>
      <Value>Answer 2</Value>
    </Field>
  </Row>
</Rows>
<Field>
  <Id>FieldID</Id>
  <Value>123</Value>
  <Columns>
    <Column Index="1" Header="Header1">Select value 1</Column>
    <Column Index="2" Header="Header2">Select value 2</Column>
    <Column Index="3" Header="Header3">Select value 33</Column>
    <Column Index="4" Header="Header 4">Select value 1456</Column>
  </Columns>
</Field>
</Fields>
</Form>

```

Notes:

- The version tag holds the version number of the form
- Date fields will have a value in the format DDMMYYYY
- Time fields will have a value in the format HHMM
- Date & Time fields will have a value in the format DDMMYYYYHHMM
- Checkbox fields will have a value 1 if the checkbox was checked and 0 if the checkbox was not checked
- The RowId tag in a table will only appear in static tables
- For ComboBox controls with values, the field rendered will also contain an additional Text tag that will show the text of the item selected while the value will contain the value of the selected item defined in the form.
- For Barcode with Multi-Scan set to Yes, all the barcodes will be written in the value field with a comma separator.
- Linked selection boxed will have a collection of Column for each column will have the index of the item the header of the item and the item itself.
- For Multi Selection ComboBox the Field rendered will contain all Text/Value selected:

```

<Field>
  <Id></Id>
  <SelectedItems>
    <SelectedItem>
      <Text></Text>
      <Value></Value>
    </SelectedItem>
    ...
  </SelectedItems>
</Field>

```

The EntryLocation tag

the entry location tag contains Information about the location the employee was at when making the entry

```

<EntryLocation>
  <Address></Address>
  <X></X>
  <Y></Y>
  <MSISDN></MSISDN>
  <Date></Date>
  <DateAge></DateAge>
  <DateFromEpoch></DateFromEpoch>

```

</EntryLocation>

XML Tag	Description
Address	The address the employee was at
X	The X coordinate the employee was at when creating the entry.
Y	The Y coordinate the employee was at when creating the entry.
MSISDN	The phone number of the mobile device with which the location information was obtained. (can be used to identify the mobile that reported on other employees)
Date	The location date in the format ddmmyyyhhmmss
DateAge	The age of the location in seconds
DateFromEpoch	The location date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC (UTC+0)

The Employee tag and the ReportedByEmployee tag

- The employee tag contains Information about the employee that made the ETS entry, that was assigned to the task, or that triggered an alert
- The reported by employee tag contains information about the employee who reported the entry (if the employee differs from the employee tag information).

Both tags contain the same data.

```
<Employee>
  <FirstName></FirstName>
  <LastName></LastName>
  <Name></Name>
  <Email></Email>
  <EmployeeNumber></EmployeeNumber>
  <UniqueID></UniqueID>
  <BusyStatus></BusyStatus>
  <TelephoneHome></TelephoneHome>
  <TelephoneMobile></TelephoneMobile>
  <TelephoneWork></TelephoneWork>
  <TelephoneWork></TelephoneWork>
  <DriverID></DriverID>
  <Group>
    <Name></Name>
  </Group>
  <CurrentAssociatedMobile>
    <MSISDN></MSISDN>
  </CurrentAssociatedMobile>
</Employee>
```

XML Tag	Description
FirstName	The employee's first name. ⚠️ Deprecated. Will be removed on a future release
LastName	The employee's last name ⚠️ Deprecated. Will be removed on a future release
Name	The employee's full name
Email	The employee's email address
EmployeeNumber	The employee's number
UniqueID	The employee's unique ID (e.g. SSN)
BusyStatus	Employee status can be: 1 - Free 2 - Busy 3 - Out of office
TelephoneHome	The employee's home phone number
TelephoneMobile	The employee's mobile phone number
TelephoneWork	The employee's work phone number
DriverID	The employee's driver ID
Group	The employee's group information
CurrentAssociatedMobile	The mobile number that is currently associated with the employee.

The Vehicle tag

the vehicle tag contains information about the vehicle that triggered an alert

```
<Vehicle>
  <VIN></VIN>
  <Group>
    <Name></Name>
  </Group>
</Vehicle>
```

XML Tag	Description
VIN	The vehicle VIN
Group	The vehicle's group information

The Sensor tag

the sensor tag contains information about the sensor that triggered an alert

```
<Sensor>
  <Name></Name>
  <Group>
    <Name></Name>
  </Group>
</Vehicle>
```

XML Tag	Description
Name	The sensor's name
Group	The sensor's group information

The Files tag

The files tag contains information about files attached to the entry (e.g. pictures). Each file is denoted by a "File" tag

Note: Require setup to be removed from Post XML, please contact support for further details.

```
<Files>
  <File>
    <Guid></Guid>
    <Filename></Filename>
    <Data></Data>
  </File>
</Files>
```

XML Tag	Description
Guid	The unique id of the file
Filename	The filename
Data	The binary contents of the file encoded as Base64

The CatalogItems tag

The catalog items tag contains information about catalog items attached to the entry. Each item is denoted by an "Item" tag

```
<CatalogItems>
  <Item>
    <Guid></Guid>
    <CatalogNumber></CatalogNumber>
    <Quantity></Quantity>
    <Discount></Discount>
    <Billable></Billable>
    <SN></SN>
    <Data Type = ""></Data>
    <Form></Form>
  </Item>
</CatalogItems>
```

XML Tag	Description
Guid	The unique id of the Item entry

CatalogNumber	The item catalog number
Quantity	The quantity of items
Discount	The discount percentage
Billable	"1" if the item should be billed, otherwise "0"
SN	The item serial number
Data	The item data (See the Data tag)
Form	The item form data (See the Form tag)

The ReferencedCatalogItems tag

The tag contains information about catalog items referenced in other parts of the XML. When a catalog item is referenced on another part in the XML, it is referenced by the catalog number. You can use this tag to find the catalog item information without querying the back-office database. Each item is denoted by an "Item" tag

```
<ReferencedCatalogItems>
  <Item>
    <CatalogNumber></CatalogNumber>
    <Name></Name>
    <Price></Price>
  </Item>
</ReferencedCatalogItems>
```

XML Tag	Description
CatalogNumber	The item catalog number
Name	The name of the catalog item
Price	The price of the catalog item

The ReferencedPointsOfInterest tag

The tag contains information about points of interest referenced in other parts of the XML. When a point of interest is referenced on another part in the XML, it is referenced by the points of interest number. You can use this tag to find the points of interest information without querying the back-office database. Each item is marked by a "PointOfInterest" tag

```
<ReferencedPointsOfInterest>
  <PointOfInterest>
    <Categories></Categories>
    <City></City>
    <CustomerNumber></CustomerNumber>
    <Data1></Data1>
    ...
    <Data30></Data30>
    <Email></Email>
    <Fax></Fax>
    <HouseNum></HouseNum>
    <Name></Name>
    <State></State>
    <Street></Street>
    <Telephone1></Telephone1>
    <Telephone2></Telephone2>
    <Zip></Zip>
    <Layer>
      <Name></Name>
    </Layer>
    <Parent>
      <Name>Ariel</Name>
      <Code>582</Code>
    </Parent>
  </PointOfInterest>
  <PointOfInterest>
    ...
  </PointOfInterest>
</ReferencedPointsOfInterest>
```

XML Tag	Description
Categories	A comma delimited string to specify the POIs categories (e.g. VIP, North)
City	The city of the point of interest.
CustomerNumber	The customer number of the point of interest.
Data1 - Data30	Data fields for custom use.
Email	The email address of the point of interest.

Fax	The fax number of the point of interest.
HouseNum	The house number of the point of interest.
Name	The name of the point of interest
State	The state of the point of interest.
Street	The street of the point of interest.
Telephone1, Telephone2	Phone numbers of the point of interest.
Zip	The zip of the point of interest.
Layer	The name of the Layer/Parent POI the current POI is part of. Deprecated and will be removed in future versions.
Parent	The name and code of the Parent POI the current POI is part of.

The RelatedEntries tag

The related entries tag contains information about entries that are related to this entry or task. Each entry is marked by an "Entry" tag

```
<PreviousRelatedEntries>
  <Entry>
    <EntryType></EntryType>
    <EntrySource></EntrySource>
    <EntryDate></EntryDate>
    <EntryDateAge></EntryDateAge>
    <EntryDateFromEpoch></EntryDateFromEpoch>
    <Data></Data>
    <Form></Form>
  </Entry>
</PreviousRelatedEntries>
```

XML Tag	Description
EntryType	The employee time sheet entry type. See entry types table for possible values
EntrySource	The source of the entry. See entry source table for possible values.
EntryDate	The entry date in the format ddmmyyyhhmmss.
EntryDateAge	The age of the entry in seconds.
EntryDateFromEpoch	The entry date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC (UTC+0).
Data	The entry data.
Form	The entry form data (See the Form tag)

The Task tag

The task tag contains information about the task

⚠ The Task tag information contains the current information about the task and not the information when the entry was made.

```
<Task>
  <TaskNumber></TaskNumber>
  <Status></Status>
  <Description></Description>
  <LimitCatalogItemsSelectionToCatalogNumbers></LimitCatalogItemsSelectionToCatalogNumbers>
  <Notes></Notes>
  <ContactName></ContactName>
  <CoordinationPhone></CoordinationPhone>
  <Phone1></Phone1>
  <CoordinationPhone2></CoordinationPhone2>
  <Phone2></Phone2>
  <CustomerName></CustomerName>
  <Priority></Priority>
  <Email></Email>
  <Data1></Data1>
  <Data2></Data2>
  <Data3></Data3>
  ...
  <Data40></Data40>
  <HiddenData1></HiddenData1>
  <AdditionalInfo></AdditionalInfo>
  <ExternalCreationDate></ExternalCreationDate>
  <ExternalCreationDateFromEpoch></ExternalCreationDateFromEpoch>
  <ExternalCreationDateAge></ExternalCreationDateAge>
  <StartDate></StartDate>
  <StartDateAge></StartDateAge>
  <StartDateFromEpoch></StartDateFromEpoch>
  <DueDate></DueDate>
  <DueDateAge></DueDateAge>
  <DueDateFromEpoch></DueDateFromEpoch>
  <CreationDate></CreationDate>
  <CreationDateAge></CreationDateAge>
  <CreationDateFromEpoch></CreationDateFromEpoch>
  <TimeWindows></TimeWindows>
  <TimeWindowPriority></TimeWindowPriority>
  <ServiceTime></ServiceTime>
  <Capacity1></Capacity1>
  <Capacity2></Capacity2>
  <Capacity3></Capacity3>
```

```

<Capacity4></Capacity4>
<Capacity5></Capacity5>
<AggregateNumber></AggregateNumber>
<Address></Address>
<TaskType>
  <Code></Code>
  <Name></Name>
</TaskType>
<TaskCategory>
  <Code></Code>
  <Name></Name>
</TaskCategory>
<Employee>
</Employee>
<Categories> </Categories>
<X></X>
<Y></Y>
<Vehicle>
</Vehicle>
<Customer>
</Customer>
<DistributionArea>
</DistributionArea>
<MaximalRadiusForEntries></MaximalRadiusForEntries>
<Contractor>
  <Name></Name>
  <Code></Code>
  <Email></Email>
  <Phone></Phone>
  <Address></Address>
  <Description></Description>
  <Notes></Notes>
  <Currency></Currency>
  <Insurance></Insurance>
  <PaymentTerms></PaymentTerms>
  <TaxId></TaxId>
  <PerHourCost></PerHourCost>
  <PerDistanceUnitCost></PerDistanceUnitCost>
  <ContractStart></ContractStart>
  <ContractStartAge></ContractStartAge>
  <ContractStartFromEpoch></ContractStartFromEpoch>
  <ContractEnd></ContractEnd>
  <ContractEndAge></ContractEndAge>
  <ContractEndFromEpoch></ContractEndFromEpoch>
</Contractor></Task>

```

XML Tag	Description
TaskNumber	The task number
Status	The task status (See task statuses table for values)
Description	The task description
LimitCatalogItemsSelectionToCatalogNumbers	The catalog items numbers the task is limited to.
Notes	The task notes
ContactName	The task contact name
Phone1, Phone2	The task phones
CustomerName	The customer's name
Priority	The priority of the task can be: 0 – Not Set 1 - Lowest 2 - Low 3 - Normal 4 - High 5 - Highest 6 – Urgent Or any other number defined.
Email	The email address assigned to the task
Data1...Data40	Custom task data
HiddenData1	Custom task data which the employee cannot see
AdditionalInfo	The task's additional info XML
ExternalCreationDate	The task external creation date in the format

	ddmmyyyyhhmmss
ExternalCreationDateAge	The age of the external creation date in seconds
ExternalCreationDateFromEpoch	The task external creation date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
StartDate	The task start date in the format ddmmyyyyhhmmss
StartDateAge	The age of the start date in seconds
StartDateFromEpoch	The task start date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
DueDate	The task due date in the format ddmmyyyyhhmmss
DueDateAge	The age of the due date in seconds
DueDateFromEpoch	The task due date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
CreationDate	The creation date of the in the format ddmmyyyyhhmmss
CreationDateAge	The age of the creation date of the task in seconds
CreationDateFromEpoch	The creation date of the task expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
TimeWindows	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
TimeWindowPriority	The priority of the task in the time window
ServiceTime	The service time of the task in minutes
Capacity1 – Capacity5	The capacities of the task.
AggregateNumber	The aggregate number of the task
Address	The address of the task
TaskType	Information about the type of the task
TaskType.Category	Information about the category of the task type
Employee	The employee information that is associated with the task. All employee details as described in the Employee Tag .
Categories	Task categories separated by comma
X	Task X
Y	Task Y
Vehicle	The vehicle information that is associated with the task. All vehicle details as described in the Vehicle Tag .
Customer	The customer information that is associated with the task. All customer details as described in the ReferencedPointOfInterests Tag .
DistributionArea	The distribution area information that is associated with the task. All distribution area details as described in the ReferencedPointOfInterests Tag .
MaximalRadiusForEntries	The limits set for entries of the task to a specific radius from the task's location.
Contractor	The Contractor details that is assigned to the task, Name, Code, Email, Phone, Address, Description and all other details as defined in the site.

- The TaskCategory tag has been deprecated and renamed TaskType. Although the server still renders the TaskCategory tag to the XML, it will be removed in a future version. Users should read the new TaskType tag instead.
- The CoordinationPhone and CoordinationPhone2 tags have been deprecated and renamed Phone1 and Phone2, respectively. Although the server still renders the old tags to the XML, they will be removed in a future version. Users should read the new tags instead.

The WorkOrder tag

The WorkOrder tag contains information about the work order

! The WorkOrder tag information contains the current information about the work order and not the information when an entry was made on the task.

```
<WorkOrder>
  <Number></Number>
  <Description></Description>
```

```

<Status></Status>
<WorkOrderType>
  <Code></Code>
  <Name></Name>
</WorkOrderType>
<CustomerName></CustomerName>
<DefaultEmployee></DefaultEmployee>
<DefaultVehicle></DefaultVehicle>
  <Customer></Customer>
<DistributionArea></DistributionArea>
<StartDate></StartDate>
<StartDateAge></StartDateAge>
<StartDateFromEpoch></StartDateFromEpoch>
<DueDate></DueDate>
<DueDateAge></DueDateAge>
<DueDateFromEpoch></DueDateFromEpoch>
<Address></Address>
<Notes></Notes>
<Data1></Data1>
  ...
<Data20></Data20>
<Contractor>
  <Name></Name>
  <Code></Code>
  <Email></Email>
  <Phone></Phone>
  <Address></Address>
  <Description></Description>
  <Notes></Notes>
  <Currency></Currency>
  <Insurance></Insurance>
  <PaymentTerms></PaymentTerms>
  <TaxId></TaxId>
  <PerHourCost></PerHourCost>
  <PerDistanceUnitCost></PerDistanceUnitCost>
  <ContractStart></ContractStart>
  <ContractStartAge></ContractStartAge>
  <ContractStartFromEpoch></ContractStartFromEpoch>
  <ContractEnd></ContractEnd>
  <ContractEndAge></ContractEndAge>
  <ContractEndFromEpoch></ContractEndFromEpoch>
</Contractor>
<Tasks>
  <Task></Task>
  <Task></Task>
  <Task></Task>
</Tasks>
<AdditionalInfo></AdditionalInfo>
</WorkOrder>

```

XML Tag	Description
Number	The work order number
Description	The work order description
Status	The work order status (See work order statuses table for potential values)
WorkOrderType	Information about the type of the work order
CustomerName	The customer's name
DefaultEmployee	The employee information that is associated with the work order. All employee details as described in the Employee Tag .
DefaultVehicle	The vehicle information that is associated with the work order. All vehicle details as described in the Vehicle Tag .
Customer	The customer information that is associated to the work order. All customer details as described in the ReferencedPointOfInterests Tag .
DistributionArea	The distribution area information that is associated with the work order.
StartDate	The work order start date in the format ddmmyyyyhhmmss
StartDateAge	The age of the start date in seconds
StartDateFromEpoch	The work order start date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
DueDate	The work order due date in the format ddmmyyyyhhmmss
DueDateAge	The age of the due date in seconds

DueDateFromEpoch	The work order due date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
Address	The work order address
Notes	The work order notes
Data1...Data20	Custom work order data
Contractor	The contractor's details that is assigned to the task, Name, Code, Email, Phone, Address, Description and all other details as defined in the site.
Tasks ¹⁰	A collection of Task elements, each Task tag contains the information of a task linked to the work order as described in the Task Tag .
AdditionalInfo	The additional info of the work order.

The Bid tag

The Bid tag contains information about the bid

! The Bid tag information contains the current information about the bid and not the information when an entry was made the bid.

```

<Bid>
  <TaskNumber></TaskNumber>
  <WorkOrderNumber></WorkOrderNumber>
  <Status></Status>
  <Type></Type>
  <ExpirationDate></ExpirationDate>
  <ExpirationDateAge></ExpirationDateAge>
  <ExpirationDateFromEpoch></ExpirationDateFromEpoch>
  <Description></Description>
  <Notes></Notes>
  <Data1></Data1>
  <Data2></Data2>
  <Data3></Data3>
  <Data4></Data4>
  <Data5></Data5>
  <Data6></Data6>
  <Data7></Data7>
  <Data8></Data8>
  <Data9></Data9>
  <Data10></Data10>
  <BidResources>
    <bidResource>
      <Guid></Guid>
      <IsWinner></IsWinner>
      <LastEtsEntryTimeStamp></LastEtsEntryTimeStamp>
      <LastEtsEntryTimeStampAge></LastEtsEntryTimeStampAge>
      <LastEtsEntryTimeStampFromEpoch></LastEtsEntryTimeStampFromEpoch>
      <EntryType></EntryType>
      <Employee>
        <FirstName></FirstName>
        <LastName/>
        <Name></Name>
        <EmployeeNumber></EmployeeNumber>
        <Group>
          <Name></Name>
        </Group>
        <BusyStatus></BusyStatus>
        <CurrentAssociatedMobile>
          <MSISDN></MSISDN>
        </CurrentAssociatedMobile>
      </Employee>
      <LastEntry>
        <EntryType></EntryType>
        <EntryGuid></EntryGuid>
        <EntryDate></EntryDate>
        <EntryDateAge></EntryDateAge>
        <EntryDateFromEpoch></EntryDateFromEpoch>
        <EntrySource></EntrySource>
        <Form>
          <Code></Code>
          <Name></Name>
        </Form>
      </LastEntry>
    </bidResource>
  </BidResources>
</Bid>

```

¹⁰ Tag will be included only if the work order record has changed

```

<Version></Version>
<Fields>
  <Field></Field>
  <Field></Field>
</Fields>
</Form>
<EntryLocation>
  <Address> </Address>
  <X></X>
  <Y></Y>
  <MSISDN></MSISDN>
  <Date></Date>
  <DateAge></DateAge>
  <DateFromEpoch></DateFromEpoch>
</EntryLocation>
</LastEntry>
</bidResource>
</BidResources>
</Bid>

```

XML Tag	Description
TaskNumber ¹¹	The task number on which the bid is created on.
WorkOrderNumber ¹⁵	The work order number on which the bid is created on.
Status	The bid status (See Bid Statuses table for values).
Type	The type of the bid, can be one of the values described in Bid Types .
ExpirationDate	The expiration date in the format ddmmyyyyhhmmss
ExpirationDateAge	The age of the expiration date in seconds
ExpirationDateFromEpoch	The expiration date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
Description	The bid description
Notes	The bid notes
Data1-Data10	Custom bid data
BidResources	Collection of bidResource containing all resources the bid was issued to.

bidResource tag

The bidResource tag contain information on resources related to the bid.

XML Tag	Description
Guid	The GUID of the bidResource. Can set the bid winner using SetBidWinner Web Method .
IsWinner	Will be set as 1 If the resource won the bid.
LastEtsEntryTimeStamp	The last entry date in the format ddmmyyyyhhmmss
LastEtsEntryTimeStampAge	The age of the last entry date in seconds
LastEtsEntryTimeStampFromEpoch	The last entry date expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
EntryType	The type of entry done by the employee can be one of the entries in Entry Types .
Employee	The employee information that is associated with the bid. All employee details as described in the Employee Tag .
LastEntry	The details of the last entry made by the employee including EntryType, EntryGuid, EntryDate, EntrySource, Form (is reported as part of the entry) and EntryLocation.

¹¹ Tag will be included only based on the object the bid was created on.

The Audit tag

The files tag contains information about the audit changes that were done.

```
<Audit>
  <ChangedObjectType></ChangedObjectType>
  <ChangingSource></ChangingSource>
  <ChangingObjectType></ChangingObjectType>
  <ChangingObjectGuid></ChangingObjectGuid>
  <ChangingObjectName> </ChangingObjectName>
  <ObjectName></ObjectName>
  <CreationDate></CreationDate>
  <CreationDateAge></CreationDateAge>
  <CreationDateFromEpoch></CreationDateFromEpoch>
  <Items>
    <Item>
      <PropertyName></PropertyName>
      <OriginalValue></OriginalValue>
      <NewValue></NewValue>
    </Item>
    <Item>
      <PropertyName></PropertyName>
      <OriginalValue></OriginalValue>
      <NewValue></NewValue>
    </Item>
  </Items>
</Audit>
```

XML Tag	Description
ChangedObjectType	The type of object that was changed can be one of the following: 1 – Task
ChangingSource	The source from where the audit was created can be one of the following: 1 – System 2 – Properties screen 3 – Copy Task 4 – Optimization 5 – Employee entry 6 – Batch Operation 7 – Move Appointment 8 – Batch Reassign 9 – Reassign Tasks 10 – Add Comment 11 – Bid Entry 12 – Set Bid Winner 13 – Delete Employee 14 – Break Generator 15 – Client 16 – Web Service 17 – Optimization Results UI 18 – Business Rule 19 – Import Tasks 20 – Reject Work Order 21 – Set Time Window from calendar 22 – Change Task Status based On Proximity 23 – Set Time Window from work order list 24 – Assign Resource from work order property 25 – Delete Employee from System Automatic Change 26 – Delete Work Order 27 – Delete Task from System Automatic Change 28 – Create Default Tasks from Work Order Property 29 – External Application 30 – External Web 31 – External Report
ChangingObjectType	The type of object that created the audit can be: 0 – None

	<ul style="list-style-type: none"> 1 – User 2 – Employee 3 – Web Service 4 – Task Automatic Rescheduling 5 – Send Notification To Mobile 6 – Task Status Change 7 – Bid Expiration Date 8 – Business Rule 9 – Online SOC 10 – Email Validation 11 – Optimization Job 12 – Employee Time Sheet 13 – External Application 14 – External Web 15 – External Report
ChangingObjectName	The name of the object that created the audit.
Note	The note that was added to the audit.
CreationDate	The creation date of the audit in the format ddmmyyyhhmmss
CreationDateAge	The age of the creation date of the audit in seconds
CreationDateFromEpoch	The creation date of the audit expressed as the number of milliseconds elapsed since 1 January 1970 00:00:00 UTC
Items	Collection of audit items containing the property that was changed, with original and new values. <u>Note:</u> Require setup to be added to Post XML, please contact support for further details.
Item.PropertyName	The name of the property that was changed.
Item.OriginalValue	The original value that was on the changed property.
Item.NewValue	The new value that was on the changed property.

The ReferencedUsers tag

Contains information on users referenced in other tags by UserGuid

XML Tag	Description
User	Details of the site user
User.Guid	The GUID of the site user
User.Name	The name of the site user
User.UserName	The user name of the site user
User.Email	The email of the site user

The CompanyDataImport tag

Contains information on data async import result

XML Tag	Description
Guid	The guid of the async data import result
RowsImportedCount	The number of rows in the import file
ErrorsCount	The number of errors found in the file
WarningsCount	The number of warnings found in the file
FileResultBase64	The result file containing the original import file with additional result per line data in Base64 structure.

Event Types

Value	Description
1	The notification is sent because a new entry was created
2	The notification is sent because an entry was updated
4	The notification is sent because a new task was created on the server
8	The notification is sent because a task was updated on the server
64	The notification is sent because an alert has been activated
128	The notification is sent because route optimization was completed with results
512	The notification is sent because a new work order was created on the server
1024	The notification is sent because a work order was updated on the server
2048	The notification is sent because a work order status was changed on the server
4096	The notification is sent because a bid status was changed on the server
8192	The notification is sent because a task status was changed on the server
16384	The notification is sent because an audit was created
32768	The notification is sent because an audit note was added
65536	The notification is sent because a data import has been completed.

Entry Types

Value	Entry Type For The Remote Updates Web Service	Description
3	MS_LocationResponse	Location entry ¹²
8		Application on the mobile device is off ¹⁰
21	MS_PunchIn	Sign In
22	MS_PunchOut	Sign Out
23	MS_StartTask	Start Task
24	MS_EndTask	Suspend Task
25	MS_ConfirmTask	Confirm Task
26	MS_CloseTask	Close Task
29	MS_TaskNotDone	Task Not Done
30	MS_DeclineTask	Declined Task
31	MS_ArrivedToTask	Arrived to Task
33	MS_TaskFormFilled	Form filled for a task
34	MS_EnrouteToTask	The employee is Enroute to the task
35	MS_TaskLoading	Loading
36	MS_TaskUnloading	Unloading
37	MS_RescheduleTaskRequest	Reschedule Task Request
38	MS_ReadyForReview	Ready for review
39	MS_ReadyForApproval	Ready for approval
42	MS_TaskEntryCustom1	Task Entry Custom 1
43	MS_TaskEntryCustom2	Task Entry Custom 2
44	MS_TaskEntryCustom3	Task Entry Custom 3
45	MS_TaskEntryCustom4	Task Entry Custom 4
60	MS_FormFilled	Form Filled
70	MS_AcceptBid	Accept Bid
71	MS_RejectBid	Reject Bid
72	MS_BidReceivedByApp	Bid Received
73	MS_BidViewedByApp	Bid Viewed
93	MS_TurnMobileAppOn	Turn mobile device application on
94	MS_TurnMobileAppOff	Turn mobile device application off
97		Turn mobile device application privacy off
98		Turn mobile device application privacy on
99	MS_EmergencyResponse	Emergency
100	MS_Vacation	Vacation
101	MS_MilitaryReserveDuty	Military Reserve Duty

¹² Only relevant for AddEmployeeTimeSheetEntry Web Method

102	MS_Sickness	Sickness
103	MS_Free	Free
104	MS_Busy	Busy
105	MS_OnCall	On Call
106	MS_AmountSold	Amount Sold
107	MS_Training	Training
108	MS_ChildSickness	Child sickness
109	MS_FloatingHoliday	Floating holiday
110	MS_UnusualEvent	Unusual event
111	MS_OnCallStart	On Call Start
112	MS_OnCallEnd	On Call End
113	MS_TripStart	Trip start
114	MS_TripEnd	Trip end
115	MS_WorkStart	Office Work Start
116	MS_WorkEnd	Office Work End
117	MS_BreakStart	Break Start
118	MS_BreakEnd	Break End
119	MS_AbsenceStart	Absence Start
120	MS_AbsenceEnd	Absence End
225	MS_CloseWorkOrder	Close Work Order
226	MS_DeclineWorkOrder	Decline Work Order
227	MS_WorkOrderNotDone	Work Order Not Done

Task Statuses

Value	Name	Description
2048	Draft	Task is draft
1	NewTask	Task is a new task
2	SMSSent	An SMS was sent to the employee who is assigned to the task
4	Acknowledged	The task was acknowledged
8	InProgress	The task is in progress
16	Suspended	The task is suspended (work has been done, but the task is not complete)
32	Closed	The task is closed
64	Canceled	The task is Canceled
128	NotDone	The task was not done and will not be displayed in the device
256	EnRoute	The employee is Enroute to the task
512	Loading	The task is in status Loading
1024	Unloading	The task is in status Unloading
4096	Declined	The task was declined
8192	Arrived	The employee arrived at the task
16384	ReadyForReview	The task is ready for review
32768	ReadyForApproval	The task is ready for approval
65536	Custom1	The task is in status Custom 1
131072	Custom2	The task is in status Custom 2
262144	Custom3	The task is in status Custom 3
524288	Custom4	The task is in status Custom 4

Work Order Statuses

Value	Description
1	Draft
2	New
4	InProgress
8	Suspended
16	Closed
32	Canceled
64	NotDone
128	ReadyForReview
256	ReadyForApproval

512	Declined
1024	Custom1
2048	Custom2
4096	Custom3
8192	Custom4

Bid Statuses

Value	Description
1	New
2	InProgress
128	PendingWinnerSelection
4	Closed
8	Expired
16	Canceled
32	Rejected
64	JobCanceled

Entry Sources

Value	Description
-1	Unknown
0	Web
1	SMS
2	WAP
3	IVR
4	Mobile Application
5	Task Automatic Entry
6	Work Order Automatic Entry

Bid Types

Value	Description
1	Auto Close on First Response
2	Manual Winner Selection
4	External Winner Selection

Appendix A – Input types and their related message types

The following is a list of supported input types and their related message types.

- **The list contains all supported inputs. Not all input types apply to all unit types. Contact support to check which inputs apply to a specific unit.**

Input Type	Type	Message Types
Ignition	Digital	MS_TurnIgnitionOn MS_TurnIgnitionOff
Lifting	Digital	MS_LiftingAlertOn MS_LiftingAlertOff
Speed	Analog	MS_SpeedGaugeValue
HatchOpen	Digital	MS_HatchOpenAlertOn MS_HatchOpenAlertOff
CraneActivity	Digital	MS_CraneOn MS_CraneOff
FuelLevel	Analog	MS_FuelGaugeValue
EngineTemperature	Analog	MS_EngineTemperature
TrunkTemperature	Analog	MS_TrunkTemperature
Odometer	Analog	MS_OdometerValue
Emergency	Digital	MS_EmergencyResponse
Fueling	Digital	MS_FuelingAlertOn MS_FuelingAlertOff
FuelStealing	Digital	MS_FuelStealingAlertOn MS_FuelStealingAlertOff
FreeBusy	Digital	MS_Free MS_Busy
UnitStandingTime	Analog	MS_UnitStandingTime
GpsReception	Digital	MS_GpsReceptionOn MS_GpsReceptionOff
CarBatteryConnection	Digital	MS_CarBatteryConnected MS_CarBatteryDisconnected
AlarmCounter	Analog	MS_AlarmCounterValue
UnitStandingTimeWithIgnitionOn	Analog	MS_UnitStandingTimeWithIgnitionOn
ServicePerformed	Digital	MS_ServicePerformed
SirenActivated	Digital	MS_SirenActivated MS_SirenDeactivated
AlarmArmed	Digital	MS_AlarmArmed MS_AlarmDisarmed
IgnitionAttemptWithoutCode	Digital	MS_IgnitionAttemptWithoutCode
BatteryVoltage	Analog	MS_BatteryVoltage
ConnectionToExternalUnit	Digital	MS_ConnectionToExternalUnitUp MS_ConnectionToExternalUnitDown
Accident	Digital	MS_Accident
PumpActivity	Digital	MS_PumpOn MS_PumpOff
InternalTemperature	Analog	MS_InternalTemperature
ExternalTemperature	Analog	MS_ExternalTemperature
FuelTankIsFull	Digital	MS_FuelTankIsFullOn MS_FuelTankIsFullOff
FuelTankIsEmpty	Digital	MS_FuelTankIsEmptyOn MS_FuelTankIsEmptyOff
CanbusIdleTime	Analog	MS_CanbusIdleTime
CanbusAverageRPM	Analog	MS_CanbusAverageRPM
CanbusTotalAccelerations	Analog	MS_CanbusTotalAccelerations
CanbusTotalDecelerations	Analog	MS_CanbusTotalDecelerations
CanbusTotalFuelUsed	Analog	MS_CanbusTotalFuelUsed

CanbusTotalEngineHours	Analog	MS_CanbusTotalEngineHours
CanbusNumOfClutch	Analog	MS_CanbusNumOfClutch
CanbusNumOfBreak	Analog	MS_CanbusNumOfBreak
CanbusConnection	Digital	MS_CanbusConnectionOn MS_CanbusConnectionOff
InvalidDriverIdEntered	Digital	MS_InvalidDriverIdEntered
JammerDetector	Digital	MS_JammerDetected MS_JammerUndetected
DriverID	Analog	MS_DriverIdSet
TripType	Analog	MS_TripType_Private MS_TripType_Business MS_TripType_Transfer
UnitStandingTimeWithIgnitionSwitchOn	Analog	MS_UnitStandingTimeWithIgnitionSwitchOn
MainBatteryConnection	Digital	MS_MainBatteryConnected MS_MainBatteryDisconnected
Alarm	Digital	MS_AlarmOn MS_AlarmOff
BatteryLowAlert	Digital	MS_BatteryLowAlertOn MS_BatteryLowAlertOff
BackupBatteryLowAlert	Digital	MS_BackupBatteryLowAlertOn MS_BackupBatteryLowAlertOff
InvalidAlarmCodeEntered	Digital	MS_InvalidAlarmCodeEntered
CallEmergencyPhone	Digital	MS_StartCallEmergencyPhone MS_EndCallEmergencyPhone
CallCallCenterPhone	Digital	MS_StartCallToCallCenter MS_EndCallToCallCenter
CallUserPhone1	Digital	MS_StartCallToUserPhone1 MS_EndCallToUserPhone1
CallUserPhone2	Digital	MS_StartCallToUserPhone2 MS_EndCallToUserPhone2
LiquidLevelInTank	Analog	MS_LiquidLevelInTank
Headlights	Digital	MS_TurnHeadLightsOn MS_TurnHeadLightsOff
DoorsLocked	Digital	MS_DoorsLocked MS_DoorsUnlocked
FrontRightDoorOpen	Digital	MS_FrontRightDoorOpen MS_FrontRightDoorClosed
FrontLeftDoorOpen	Digital	MS_FrontLeftDoorOpen MS_FrontLeftDoorClosed
RearRightDoorOpen	Digital	MS_RearRightDoorOpen MS_RearRightDoorClosed
RearLeftDoorOpen	Digital	MS_RearLeftDoorOpen MS_RearLeftDoorClosed
TrunkDoorOpen	Digital	MS_TrunkDoorOpen MS_TrunkDoorClosed
LeftSlideDoorOpen	Digital	MS_LeftSlideDoorOpen MS_LeftSlideDoorClosed
RightSlideDoorOpen	Digital	MS_RightSlideDoorOpen MS_RightSlideDoorClosed
BackDoorOpen	Digital	MS_BackDoorOpen MS_BackDoorClosed

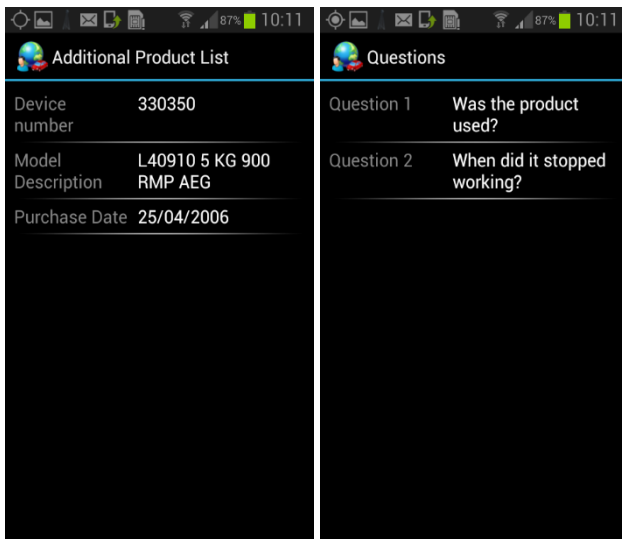
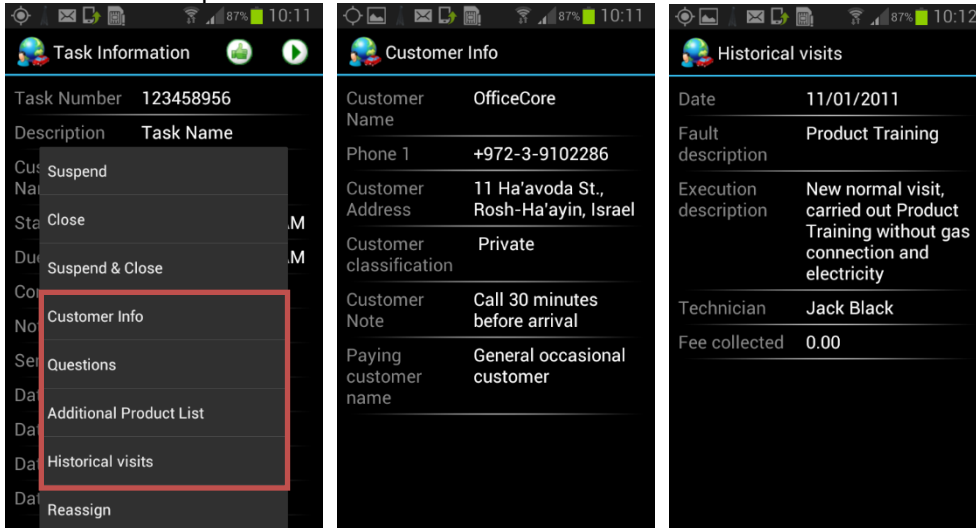
Appendix B –Additional information

The following sample XML will display to the employee four buttons with the customer info, Questions, Additional products the customer owns and a list of previous visits to the customer. The XML can be changed as needed to include additional information items and text value pairs as needed

- Note: The XML should be Html Encoded for CreateOrUpdateTask only.

```
<?xml version="1.0" encoding="utf-16"?>
<ArrayOfObjectAdditionalInfo xmlns:xsi = "http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd = "http://www.w3.org/2001/XMLSchema">
  <ObjectAdditionalInfo>
    <Name>Customer Info</Name>
    <Items>
      <TextValuePair>
        <Id>CustomerName</Id>
        <Text>Customer Name</Text>
        <Value>OfficeCore</Value>
      </TextValuePair>
      <TextValuePair>
        <Id>Phone1</Id>
        <Text>Phone 1</Text>
        <Value>+972-3-9102286</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Customer Address</Text>
        <Value>11 Ha'avoda St., Rosh-Ha'ayin, Israel</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Customer classification</Text>
        <Value>Private</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Customer Note</Text>
        <Value>Call 30 minutes before arrival</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Paying customer name</Text>
        <Value>General occasional customer</Value>
      </TextValuePair>
    </Items>
  </ObjectAdditionalInfo>
  <ObjectAdditionalInfo>
    <Name>Questions</Name>
    <Items>
      <TextValuePair>
        <Text>Question 1</Text>
        <Value>Was the product used?</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Question 2</Text>
        <Value>When did it stopped working?</Value>
      </TextValuePair>
    </Items>
  </ObjectAdditionalInfo>
  <ObjectAdditionalInfo>
    <Name>Additional Product List</Name>
    <Items>
      <TextValuePair>
        <Text>Device number</Text>
        <Value>330350</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Model Description</Text>
        <Value>L40910 5 KG 900 RMP AEG</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Purchase Date</Text>
        <Value>25/04/2006</Value>
      </TextValuePair>
    </Items>
  </ObjectAdditionalInfo>
  <ObjectAdditionalInfo>
    <Name>Historical visits</Name>
    <Items>
      <TextValuePair>
        <Text>Date</Text>
        <Value>11/01/2011</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Fault description</Text>
        <Value>Product Training</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Execution description</Text>
        <Value>New normal visit, carried out Product Training without gas connection and electricity</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Technician</Text>
        <Value>Jack Black</Value>
      </TextValuePair>
      <TextValuePair>
        <Text>Fee collected</Text>
        <Value>0.00</Value>
      </TextValuePair>
    </Items>
  </ObjectAdditionalInfo>
</ArrayOfObjectAdditionalInfo>
```

The XML will be presented on the mobile like this



Appendix C – OfficeTrack Optimization

Introduction to OT Optimization

This appendix describes main OT optimization parameters.

This document is not intended to fully describe optimization module from business or technical aspects as it could change and customized per customer needs.

Parameters setting recommendation should accord to customer use case / needs.

OT Optimization main inputs are: Resources, Tasks, Optimization parameters

OT Optimization output are : Suggested task's assignment and routing, per resource

User can review and change optimization results before 'Save' or start optimization again with updated parameters.

Permitted OT WEB User can define optimization main parameter's profile with the option to set specific profile as default. For manual optimization, the user can use pre-defined parameter's profile or define needed parameters on the fly and prior to another run of optimization.

Permitted OT WEB User can schedule automatic optimization with 'auto save' and apply results into tasks OR without save suggestions results (will be only for user review and save manually by user as needed).

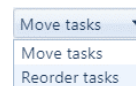
OT Optimization can consider pre-defined resources Non-Working days, Resources assigned to areas (Preferred), resources assigned tasks (already) and so on.

OT Optimization results can keep tasks unassigned if tasks violating restrictions. If needed optimization can try to suggest assignment with violation (violation such as Time Window, Skill, Capacity, etc. will be marked in red).

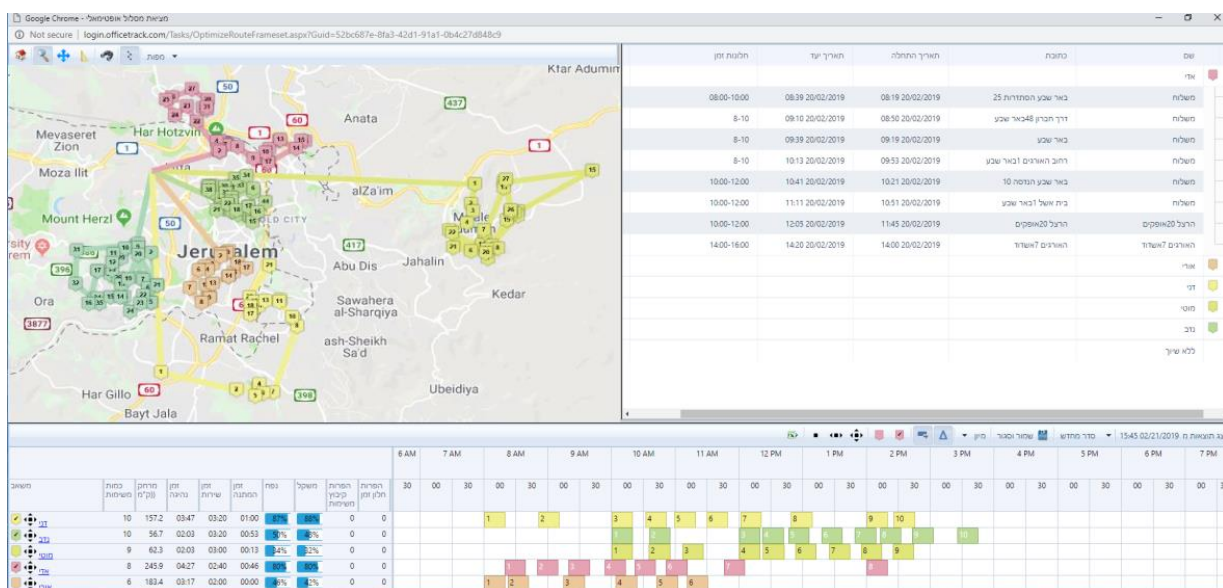
There are few options to select the tasks for the optimization, such as tasks of specific date, specific tasks, assigned tasks to resources or Un-assigned tasks, tasks by area.

OT Optimization supports two types of planning :

- Move - Tasks can be routed in between all resources
- Reorder – Tasks will keep with current resource (route the task's order only)



Permitted OT WEB User can view results of his historic optimizations done as well control current optimization run and stop it in case of a change needed or any reason to cancel the current run.



Optimization main resources parameters

Save and Close Add Group New profile

Basic details Contact info Costs and Work hours Mobile and Vehicle settings Route optimization Skills

Departure --None--

Arrival --None--

Working hours 8:00 AM-5:00 PM

Break between hours Duration Minutes

Maximal distance Mi

Maximal hours

Maximal late work start Minutes

Maximal early work start Minutes

Early work start is only for driving

Early work start time should be included in total working time

Maximal capacities

Capacity 1 0.00

Capacity 2 0.00

Capacity 3 0.00

Capacity 4 0.00

Capacity 5 0.00

Category	Parameter	Parameter value	Description	Values / Remarks / Examples
Route Optimization Tab	Departure / Arrival	POIs	Define & select POIs related to resource starting / end points	
	Working Hours	Hours range	Resource working hours	7:30 – 17:00
	Break hours	Hours range	Time slot for break duration	45 minutes launch (break) possible to start in between 11:30 PM to 14:30 PM
	Maximal Distance	Km / Mi	Max Km / Mi resource drive	
	Maximal Hours	No. of hours	Max hours resource works	9 Hours
	Maximal Late Work Start	Minutes	Sets the maximum for resource may be late on start working (The idea is to reduce potential idle time). For example, a driver is delivering perishable goods, and idle time before the first task after start working hour should be avoided.	
	Maximal Early Work Start	Minutes	Sets the maximum a resource may start earlier than resource first task and working hours start	
Early work start is only for driving	Yes/No	Sets a value showing whether resource can start early to account for his driving time to 1st task, so work on the task		

	Early work start time included in working time	Yes/No	can start as early as possible Sets a value showing whether early work start time is included in total working time of the resource. For example, the resource starts his working day on the 1st task and drives there on his own time vs driving there is part of his work time	
	Capacities (1 – 5)	Units		10 tasks, 500 Kg, 50 units
Cost Tab	Fix Cost	Units	One time cost if resource will be assigned to tasks	Like 'Setup' cost to get the resource out to job
	Hour Cost	Units	Resource cost per hour	
	Km / Mi Cost	Units	Resource cost per distance	

Optimization profile main parameters

Save

Name

Default for route optimization

Default for employee route optimization

Options

Route type ⓘ

Auto-select preferred resources by distribution area/center

Auto-ban resources by distribution area

Auto-select preferred resources by task resource

Auto-ban resources by skills

Time window includes service time

Auto-ban resources when working hours do not overlap time window

Travel

Average traffic speed (Very slow | Slower | Slow | Normal | Fast | Faster | Very fast)

Minimal driving time between tasks Minutes

Initial solution

Strategy

Number of improvement attempts

Stop condition

Stop after

Number of solutions

Convergence after Of calculation without an improvement of

Auto-filter tasks

Unassign violating tasks (The filter will unassign tasks that are violating the optimization to often. In addition to this property you have to choose the violations to be considered for filtering)

Late arrival Maximal acceptable late arrival Minutes

Early arrival Maximal acceptable early arrival Minutes

Working hours exceeded Maximal acceptable working hours exceed Minutes

Maximal route distance exceeded Maximal acceptable route distance exceed Mi

Capacity overload

Preferred or mandatory resource mismatch

Skill mismatch

Task aggregate violation

Weights

Early or late Max distance violation

Time window early Max hours violation

Time window late Capacity violation

Early at first task Task aggregate violation

Route distance Required skills mismatch

Preferred resources Resource active

Resource compacting Task compacting

Advanced options

Order tasks based on priority

Group tasks

Maximal percentage between total service time and work hours ⓘ

Category	Parameter	Parameter value	Description	Values Example
General	Profile Name	Text	Name of profile	
	Default for optimization	Yes / No	Set this profile as the default optimization profile	
	Default for employee optimization	Yes / No	Set this profile as the default for employee optimization using OfficeTrack mobile App	
Options	Route Type*	Closed Open	<p>Closed The resource will return to the departure point after the last task has been visited. The depot is defined by the resource latitude and longitude and is supposed to be the starting and the end point of each route.</p> <p>Open The resource will not return to the depot after the task node has been visited but will stay at the last node</p>	<p>Closed- -Ideal situation where the route back is unknown. -In most cases shortens the return time. -Splitting the tasks more effective way all over the route, from starting point to destination. - Ideal situation where the employee needs to get back to the starting point to continue the work and get more tasks that require loading of shipments. - When the employee need to return the car back to the starting point.</p> <p>Open- Sometimes the employee knows better about traffic changes and can navigate itself back, in a faster way.</p>
	Auto-Bans	Yes / No	Restrict resource to be assigned to task in case doesn't fulfill skills or area or working time	
	Preferred resources	Yes / No	Try to assign tasks to resources assigned to this area	
	Time window including service time	Yes / No	Task Service time end and fulfills within time window total duration	
Travel	Minimal driving time between tasks	1-60	Set the minimum driving time between 2 sequences Tasks	
Initial Solution	Solution strategy*	<p>None</p> <p>Single depot – mixed resources</p> <p>Single depot – mixed resources – pickup and delivery , default</p> <p>Multi depot – mixed resources</p> <p>Single depot –</p>	<p>Automatic : Optimization will try to find proper strategy</p> <p>None : Run with maximum freedom</p> <p>Single depot – mixed resources This is the default setting and is best suited for single depot problems where whole fleet start at one depot</p> <p>Single depot – mixed</p>	Any of the strategy helps to find a starting solution for its optimization, hence speeds up the time and quality of optimization process

		mixed resources – strict pickup and delivery	<p><u>resources – pickup and delivery</u> Tries to allocate each given node to an appropriate resource and create as many routes as required to fulfill the optimization task. Using this strategy you shall set plenty of resources in order to avoid violations. The engine will always use the minimum resources needed.</p> <p><u>Multi depot – mixed resources</u> This strategy is best suited for fleets with different vehicles in regard to capacity, working time, skills etc. starting at different depots. Do not use this strategy in case you could use single dept as it is less efficient.</p> <p><u>Single depot – mixed resources – strict pickup and delivery</u> Problems where the entire fleet will start at one depot and fleets with different vehicles regarding capacity, working time, skills ..</p>	
	Solution attempts	# of iterations	# of iterations optimization will improve upon initial solution	Usually 100,000 – 500,000
Stop condition	Stop after	Number of solutions Solution(1) convergence	<p><u>Number of solutions</u> Stop the optimization process after X number of solutions</p> <p><u>Solution convergence</u> Stop the optimization after X optimization convergence count</p>	
	Number of solutions (1)	# of iterations	The number of solution for stop criteria	Related to optimization size
	Convergence count (1)	# of iterations	The number of convergence for stop criteria	Related to optimization size
Auto-filter tasks	Unassigned violating tasks	Yes/No	Unassigned tasks that violate the optimization route criteria – Need to select violating type	Late / Early arrival, Working hours, Distance
	Maximally acceptable late / early arrival	Minutes	The maximum acceptable late / early arrival to start the task vs task time slot	Effective when working with time windows.
	Maximally acceptable working hours exceed	Minutes	The maximum acceptable working hours exceed vs resource's working hours settings	Example : In case resources don't get paid for overtime.
	Maximally acceptable distance	Km / Mi	Max distance exceeded (over) the max distance defined per resource	50 km, 25 Mi

	exceeds			
	Capacity Overload	Yes/No	Unassigned tasks that overload resource max capacity	
	Skills Mismatch	Yes/No	Unassigned tasks that inappropriate / mismatch with resource's skills	
	Preferred resource	Yes/No	Unassigned tasks without preferred resource	Task in area A won't assign to resource which is not preferred for area A
	Task Aggregation	Yes/No	Unassigned tasks that not use the same resource for all aggregate tasks	Example : Pickup & Delivery could be aggregated together be done by same resource
Weights	Early or late	Value from list	Factor for early or late	
	Time window early	Value from list	Start tasks before then Time windows	
	Time window late	Value from list	Start task after Time window end	
	Early at first task	Value from list	Time windows factor for early at first node.	
	Route distance	Value from list	Route distance priority	
	Max distance violation	Value from list	Total distance priority	
	Max hours violation	Value from list	Total time priority	
	Task aggregate violation	Value from list	Try to assign tasks with same aggregate # to the same resource	
	Resource active	Value from list	Try to assign tasks to all resources and balance the load/tasks between resources	
	Preferred resources	Value from list	Try to assign tasks to preferred resources for the task	Example : Area
	Capacity violation	Value from list	Capacity priority	
	Resource Compacting	Value from list	Try to assign tasks to resource at the beginning of the day	
	Skills mismatch	Value from list	Required skills as a priority	
	Task Compacting	Value from list	Try to assign tasks at the beginning of the time window	
Advanced options	Order tasks based Task Priority	Yes / No	Try to schedule tasks with higher priority before within the time window	Within the time window, tasks with higher priority should route earlier
	Group Tasks	Yes / No	Group tasks by location, opening hours, skills, so on, to the same resource	Force tasks in the same X,Y will be assigned to the same resource
	Maximal % capacity gap	%	Maximal ratio between total all tasks service time vs total all resources available work hours	Block optimization in case ratio (%) is too or less than needed

Optimization Results screen options

Show results from 09/21/2015 07:52

- Allows to view previous runs.

Reorder

- Allows reordering according to a pre-selected resources.

Save and Close

- Save results and close the optimization window.



-Show the impact of changes in the route when compared to the original suggested route.



-Move tasks automatically by driving time between tasks.



-Allow tasks to be moved between resources.



-Allow changes only in the order of the resource task.



-lock resource.



-Set route manually.



-Export the route results to excel

Count	Distance	Driving time	Service time	Idle time	Boxes	גודל	Aggrega violation	Time window violation	Driving time violation	Skill violation
+3	+5.6	+00:35	+00:03	+00:25	+0.0 %		+0	+0	+0	+0
+3	+5.9	+00:35	+00:03	+00:28	+0.0 %		+0	+0	+0	+0
+0	+0.0	+00:00	+00:00	+00:00	+0.0 %		+0	+0	+0	+0

There is an option to uncheck the resource and remove it from the presentation on the map :



Resources Working Hours & Non-Working Days in the Optimization

There are few parameters affect the working time / availability of resource to be assigned to tasks for the optimization to consider :

- **Working Hours (WH)** i.e. 8 – 18
- **Total Working Time in hours (WT)** i.e. 10
- **Blocking Hour : Non-Working Days (NWD) / Break Task.** i.e. Each Wednesday 16 – 18 resource is not working (**BH**)

Optimization will assign tasks to resource from WH start until the end of WT

Examples:

WH 8-16, WT 8, resource should be assigned for tasks between 8-16*

WH 8-16, WT 6, resource should be assigned for tasks between 8-14*

WH 8-16, WT 10, resource should be assigned for tasks between 8-18*

Scenarios with multiple resource working hours and one blocking spanning over both will reduce the availability of the resource in both sides (WH: 8-11, 14-18, BH: 10-15, resource should be assigned for tasks between 8-10, 15-18)

Scenarios that blocking hours are inside the resource working hours will consider part of the total working time (BH during WH - usually by NWD or by a task that block working - consider as part of the WT)

Example :

WH 8-16, WT 8, BH 2, resource will be effectively available for the optimization for 6 hours (probably his BH is for some other type of work)

Such scenarios are supported also by route optimization scheduler

route optimization scheduler will not schedule resources that their blocking hours cover their entire workday

Route optimization for specific resource triggered by OT App is used also NWD for the resource but consider the from/to time shows in App, as WH of the resource

Route optimization wizard displays and enable user to select resources for the optimization, from all resources with partial NWD. Resources with full NWD spanning the entire day will be shown/hidden based on the checkbox (for special case user will select them also if needed).

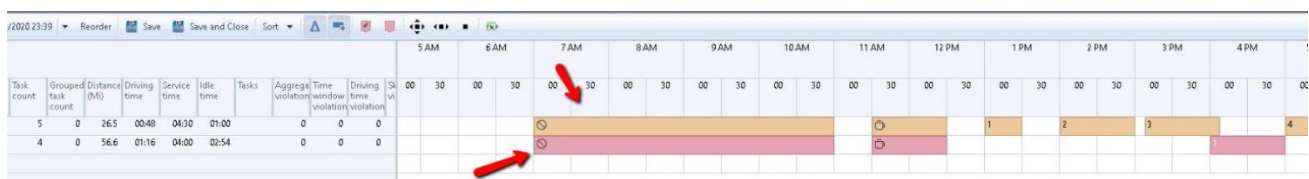
Other examples:

WH 8-18, WT 2H, will schedule work of 2H somewhere along with the workday (During the WH)

WH 8-18, WT 10H will schedule 10H starting at 8

WH 8-10 & 15-18, WT 10H: will create a block (resource can't be assign to tasks during the block) from 10 to 15, enable resource only 5H of actual work

(*) Optimization might assign task to resource that will start during working hours and end after working hours i.e. Last task can start during last time window and go beyond end of time window / working hours.



Appendix D – Form Fields

This appendix describes form fields uses.

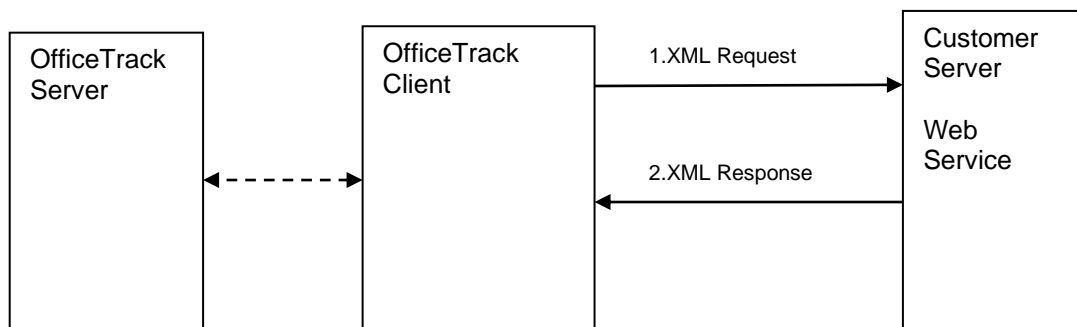
Web Service Call form field

This feature is used for a customer to enable employees on the field to resolve or validate data on line with customer back office / IT systems, when sending a form entry.

The OfficeTrack Forms system sends outgoing requests to a pre-defined customer web service for data validation or to retrieve various data from ERP / CRM (value selection).

The Form in the client gets the response from customer system and presents it on the mobile device.

This procedure is only in between OfficeTrack client and the customer back office infrastructure



Client Form

To create a Form with a Web Service call, user may add a "Web Service Call" field to the Form. This action will add the Web Service Call control to the Form. The control appears on the mobile device as a button. When the user presses the button, a HTTP POST to a web service is made from the mobile device. The POST will contain all form fields. The server can then decide if the user should see a message if the form is valid and what action the mobile device should take when receiving the response from the server.

The screenshot displays the configuration interface for a Client Form. At the top, there are two buttons: "Save and Close" and "Save and Link". Below these are several input fields and dropdown menus:

- Name:** An empty text input field.
- Code:** An empty text input field.
- Category:** A dropdown menu with "--None--" selected.
- Requires customer selection:** A button labeled "No".
- Description:** An empty text input field.
- Auto-activate control with id:** An empty text input field.
- Form cannot be sent to server:** A button labeled "No".

The main area of the interface is a large canvas. On the left side of this canvas, there are several toolbars for configuration:

- Data capture:** Includes icons for text, date, time, checkbox, list, and other data types.
- Layout:** Includes icons for text alignment and list styles.
- Tables:** Includes icons for grid and table structures.
- Capture:** Includes icons for image, audio, video, barcode, and other capture methods.
- External:** Includes icons for external links and services.

In the center of the canvas, a "New web service" control is being added, represented by a blue-bordered box with a red close button in the top right corner. The control itself is currently empty.

On the right side of the canvas, there is a "Properties" panel with a red header that reads "Properties - The address cannot be empty". This panel contains the following fields:

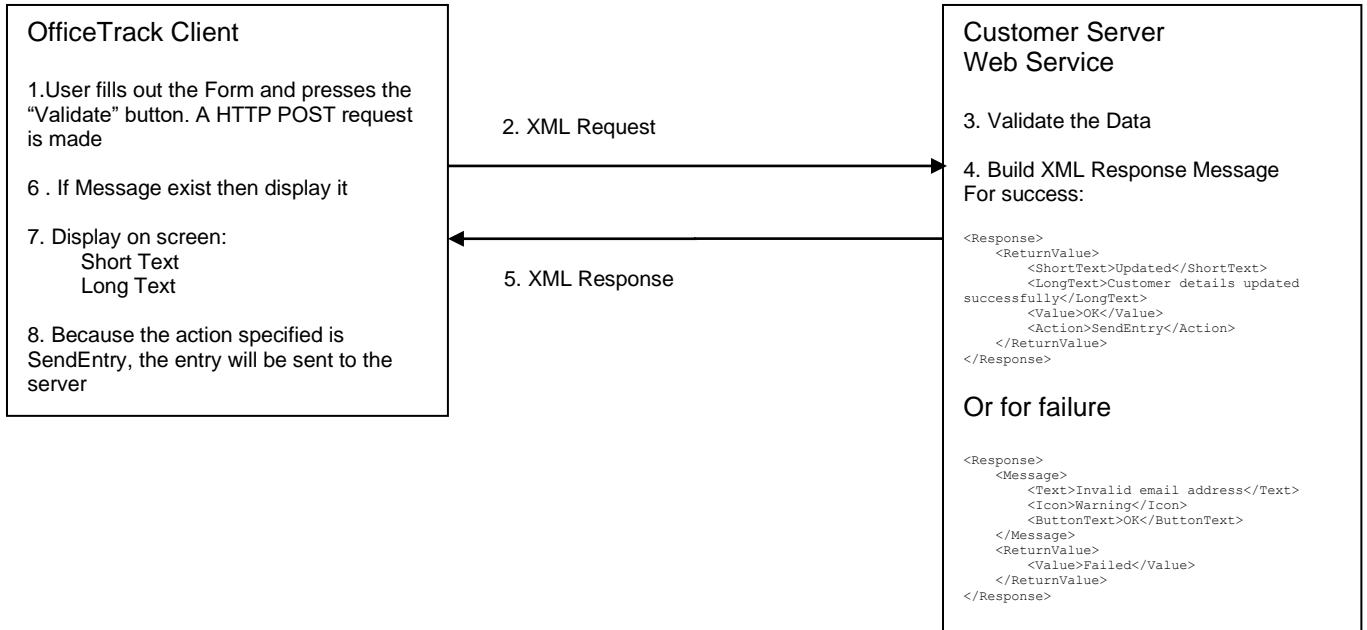
- ID:** An empty text input field.
- Label:** A text input field containing "New web service".
- Required:** A dropdown menu with "No" selected.
- Type:** A dropdown menu with "Data validation" selected.
- Address:** An empty text input field with a red warning icon.
- Parameter name:** An empty text input field.
- Hint:** An empty text input field.
- Validation expression:** An empty text input field.
- Visible:** A dropdown menu with "Yes" selected.
- Validate required fields:** A dropdown menu with "No" selected.

Properties of the Web Service Call control

Parameter	Data Type	Description
ID	String (Required)	ID of the control
Label	String (Required)	Label of the control
Required	String (Required)	Field is required to be filled by the user Yes/No
Type	Data Validation / Value Selection	Data Validation: For validating form data Value Selection: For displaying a value selection list to the user (the list contents come from the server the control is calling to)
Address	String (Required)	Address of customer web service
Parameter name	String (Optional)	Post parameter name (To add more parameters to be included in the POST request add them before the parameter name e.g. Type=1&Data)
Hint	String (Optional)	A hint displayed to the user about what the control does
Validation expression	String (Optional)	A validation expression used to validate the response of the server (e.g. if the call is to validate a discount for a customer, make sure the server response was that the discount is OK)
Visible	String (Required)	Field will visible the user in the mobile app Yes/No
Validate required fields	String (Required)	Validate required field in the form before sending to the WS, Yes/No.

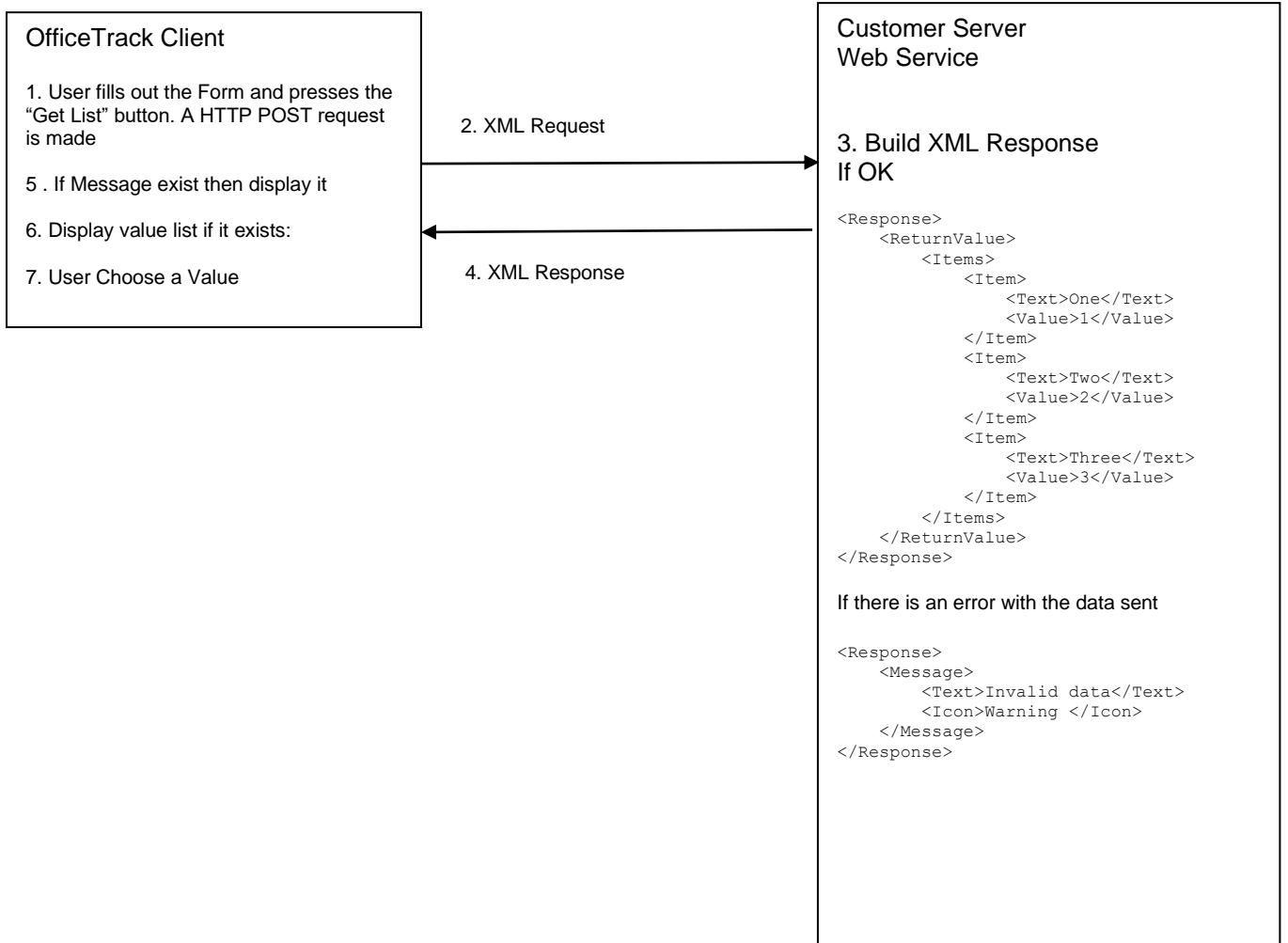
Data Validation

This section describes the relationship between the value in the form to the return value of the WS Response, and How the FormClose/SendEntry response will affect the client.



Value Selection

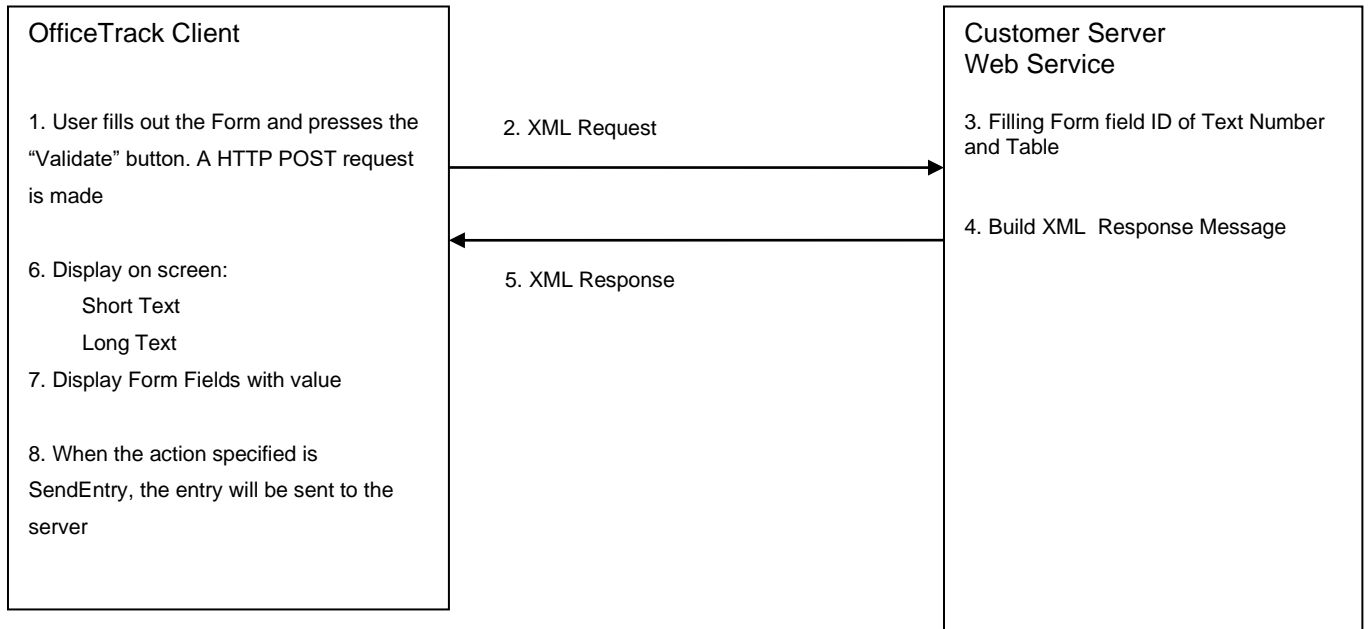
This section describes value selection using the Web Service Call



Data Validation and Filling Form Field

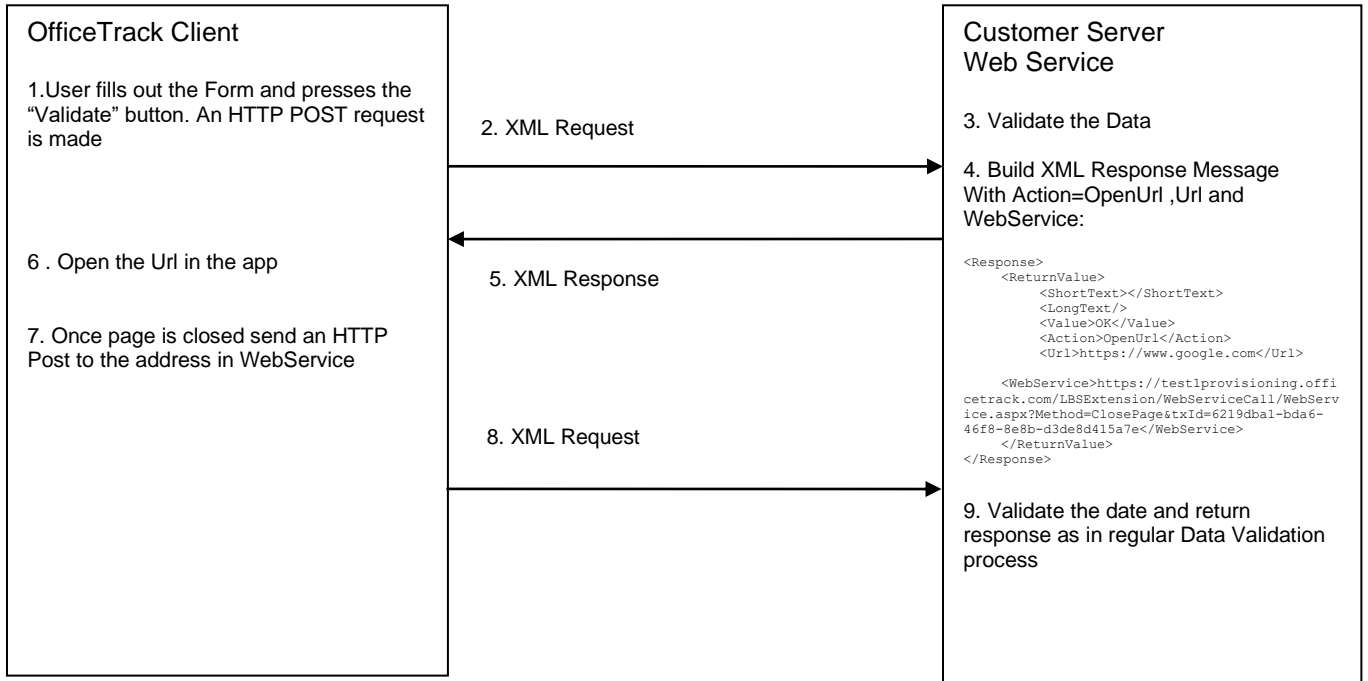
This section describes the relationship between the ID for form field in the form to the return value of the WS Response and How the FormClose/SendEntry response will affect the client.

The WS response can populate form fields from type Number, Text and in a table Number and Text fields.



Data Validation and opening a URL

This section describes the relationship between the ID for form field in the form to the return value of the WS Response and How the FormClose/SendEntry response will affect the client.
The WS response can open an external URL and once closed will execute a second WebService call.



Customer Web Service

A customer may write and expose a Web service that enables the App, from the Form to address and approach customer WEB Service and get a response from customer WEB Service.

The purpose of customer Web Service is to receive the info from the App. and according to the relevant mode there are main two options of the response :

A. Validate the data entered by the user and response to it (e.g. "Go" or "No GO" / "OK" or "Not OK") and add a text message to notify the employee.

B. Retrieve and respond to the client with selection list values. Also, here there is an option to send back to the App. a message for the employee to notify him.

WEB Service - Request

```
<?xml version='1.0' encoding='UTF-8' standalone='yes' ?>
<Form>
  <Guid>[Form Guid]</Guid>
  <Employee>
    <EmployeeNumber></EmployeeNumber>
  </Employee>
  <Task>
    <TaskNum></TaskNum>
  </Task>
  <Fields>
    <Field>
      <Id></Id>
      <Value></Value>
    </Field>
    <Field>
      <Id></Id>
      <Value></Value>
    </Field>
  </Fields>
</Form>
```


WEB Service - Response

For Data Validation

```
<Response>
  <Message>
    <Text>Invalid data</Text>
    <Icon>Warning/Critical/Info</Icon>
    <ButtonText>OK</ButtonText>
  </Message>
  <ReturnValue>
    <ShortText>Updated</ShortText>
    <LongText>Customer data updated </LongText>
    <Value>OK</Value>
    <Action>SendEntry</Action>
  </ReturnValue>
</Response>
```

For Value Selection

```
<Response>
  <Message>
    <Text>Invalid data</Text>
    <Icon>Warning/Critical/Info</Icon>
  </Message>
  <ReturnValue>
    <Items>
      <Item>
        <Text>One</Text>
        <Value>1</Value>
      </Item>
      <Item>
        <Text>Two</Text>
        <Value>2</Value>
      </Item>
      <Item>
        <Text>Three</Text>
        <Value>3</Value>
      </Item>
    </Items>
  </ReturnValue>
</Response>
```

For Data Validation and Filling Form Field

```
<?xml version="1.0" encoding="utf-16"?>
<ResponseV2 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <MessageV2>
    <Text>Message...</Text>
  </MessageV2>
  <ReturnValueV2>
    <Fields>
      <Field>
        <ID>Test1</ID>
        <Value>ZZZ</Value>
      </Field>
      <Field>
        <ID>Num1</ID>
        <Value>777</Value>
      </Field>
      <TableField>
        <ID>Table1</ID>
        <Rows>
          <Row>
            <Fields>
              <Field>
                <ID>TextTable</ID>
                <Value>Y</Value>
              </Field>
              <Field>
                <ID>NumTable</ID>
                <Value>9</Value>
              </Field>
            </Fields>
          </Row>
          <Row>
            <Fields>
              <Field>
                <ID>TextTable</ID>
                <Value>X</Value>
              </Field>
              <Field>
                <ID>NumTable</ID>
                <Value>8</Value>
              </Field>
            </Fields>
          </Row>
        </Rows>
      </TableField>
    </Fields>
    <ShortText>SHORT TEXT</ShortText>
    <LongText/>
    <Value>58</Value>
  </ReturnValueV2>
</ResponseV2>
```

For Data Validation and opening a URL

```
<Response>
  <ReturnValue>
    <ShortText></ShortText>
    <LongText/>
    <Value>OK</Value>
    <Action>OpenUrl</Action>
    <Url>https://www.google.com</Url>

    <WebService>https://test1provisioning.officetrack.com/LBSExtension/WebServiceCall/WebSe
    rvice.aspx?Method=ClosePage&txId=6219dba1-bda6-46f8-8e8b-d3de8d415a7e</WebService>
  </ReturnValue>
</Response>
```

Customer Web Service Sample

The web server receives an XML request and sends an XML response to the client.
Below is a sample of a customer Web service:

```
Dim postData As String = Request.Form("Data")
Dim xdoc As XDocument = XDocument.Parse(postData)
Dim employeeNumber = xdoc...<Employee>.<EmployeeNumber>.Value
'from all fields, take the field with Id="email"
Dim emailField = xdoc...<Fields>.<Field>.Where(Function(n) n.<Id>.Value =
"email").Select(Function(n) n.<Value>.Value).FirstOrDefault
'validate email (this is a simple validation. In real code use a better
validation code)
Dim ok = emailField Like "*@*.*"
Dim response As XDocument
'Return response
If ok Then
'Add your code to update the customer details here
response = New XDocument(New XElement("Response",
New XElement("ReturnValue",
New XElement("ShortText", "Updated"),
New XElement("LongText", "Customer details updated successfully"),
New XElement("Value", "OK"),
New XElement("Action", "SendEntry"))))
Else
response = New XDocument(New XElement("Response",
New XElement("Message",
New XElement("Text", "Invalid email address"),
New XElement("Icon", "Warning"),
New XElement("ButtonText", "OK")),
New XElement("ReturnValue",
New XElement("Value", "Failed"))))
End If
Response.WriteTo(response.ToString())
```

External Interface form field

This feature is used for external interfaces that can be used from the OfficeTrack application.

This section details the use of the form field sub type: **Run external application**

The OfficeTrack Forms system allows running external application from inside the form.

User can use the app and once done and closes the app can return to the OfficeTrack app and continue filling out the form.

Supported applications:

- Draw Express - AndroidURI: com.drawexpress.lite
Note: Currently iOS is not supporting this application.

Client Form

To create a Form with an External Interface, user may add an "External Interface" field to the Form. This action will add the External Interface control to the Form. The control appears on the mobile device as a button. When the user presses the button, the external application will be opened.

Properties of the Web Service Call control

Parameter	Data Type	Description
ID	String (Required)	ID of the control
Label	String (Required)	Label of the control
Required	String (Required)	Field is required to be filled by the user Yes/No
Type	Data from extension application / Run external application	Data from extension application: Not in use. Run external application: Uses to run an external application.
Address	String (Required)	Address of customer web service
Android URI	String (Conditional)*	The Android external application URI.
iOS URI	String (Conditional)*	The iOS external application URI.
Visible	String (Required)	Field will visible the user in the mobile app Yes/No

*One of the fields must contain data. Both fields cannot be empty.

Appendix E – XML data format

Below is a sample how to use XML data format in a web method.

The following sample is an XML of ImportCatalogAndEmployeeCatalog that contains 2 catalog items, catalog item number 1 is for employee 123 and for employee 321, and catalog item 2 is only for employee 123. Both items are in the same category called 'CategoryName'.

- Note: The XML in the DataString tag should be HTML Encoded

```
<Items>
  <Item>
    <CategoryName>CategoryName</CategoryName>
    <ItemName>Item 1</ItemName>
    <ItemCatalogNumber>1</ItemCatalogNumber>
    <EmployeeNumber>123</EmployeeNumber>
  </Item>
  <Item>
    <CategoryName>CategoryName</CategoryName>
    <ItemName>Item 2</ItemName>
    <ItemCatalogNumber>2</ItemCatalogNumber>
    <EmployeeNumber>123</EmployeeNumber>
  </Item>
  <Item>
    <CategoryName>CategoryName</CategoryName>
    <ItemName>Item 1</ItemName>
    <ItemCatalogNumber>1</ItemCatalogNumber>
    <EmployeeNumber>321</EmployeeNumber>
  </Item>
</Items>
```

Complete example:

```
<ImportCatalogAndEmployeeCatalog xmlns="Trackem.Web.Services">
  <Request>
    <UserName>x</UserName>
    <Password>y</Password>
    <DataSource>

      <DataString>&lt;Items&gt;&lt;Item&gt;&lt;CategoryName&gt;CategoryName&lt;/CategoryName&gt;&lt;ItemName&gt;Item 1&lt;/ItemName&gt;&lt;ItemCatalogNumber&gt;1&lt;/ItemCatalogNumber&gt;&lt;EmployeeNumber&gt;123&lt;/EmployeeNumber&gt;&lt;/Item&gt;&lt;Item&gt;&lt;CategoryName&gt;CategoryName&lt;/CategoryName&gt;&lt;ItemName&gt;Item 2&lt;/ItemName&gt;&lt;ItemCatalogNumber&gt;2&lt;/ItemCatalogNumber&gt;&lt;EmployeeNumber&gt;123&lt;/EmployeeNumber&gt;&lt;/Item&gt;&lt;Item&gt;&lt;CategoryName&gt;CategoryName&lt;/CategoryName&gt;&lt;ItemName&gt;Item 1&lt;/ItemName&gt;&lt;ItemCatalogNumber&gt;1&lt;/ItemCatalogNumber&gt;&lt;EmployeeNumber&gt;321&lt;/EmployeeNumber&gt;&lt;/Item&gt;&lt;/Items&gt;
    </DataString>
    <DataFormat>Xml</DataFormat>
    <FirstRowHasColumnNames>true</FirstRowHasColumnNames>
  </DataSource>
  <ColumnMapping>
    <CategoryName>CategoryName</CategoryName>
    <ItemName>ItemName</ItemName>
    <ItemCatalogNumber>ItemCatalogNumber</ItemCatalogNumber>
    <EmployeeNumber>EmployeeNumber</EmployeeNumber>
  </ColumnMapping>
  <Options>
    <ItemsNotInFileOption>Leave</ItemsNotInFileOption>
  </Options>
</Request>
</ImportCatalogAndEmployeeCatalog>
```

Appendix F – Result Codes Details

All possible results code and their description

ResultCode	ResultCodeAsInt	Description
OK	0	Created successfully
OKSomeErrorsEncountered	1	Created and encountered some errors, see details in the Results collection.
OKWithWarnings	2	Created with warnings, see details in the Results collection.
InvalidUserNameOrPasswordOrIPAddress	1001	The supplied username and password are not valid
ItemNotFound	1002	
ValidationError	1003	A validation error has occurred
RequiredDataMissing	1004	required information is missing
CouldNotResolveAddress	1005	Could not resolve the address
TaskTypeNotFound	1006	The task type code provided does not exist on the server
DistributionAreaNotFound	1007	The distribution area number provided does not exist on the server
EmployeeNumberNotFound	1008	The employee number was not found on the server.
CustomerNumberNotFound	1009	The customer number provided does not exist on the server
WorkOrderNumberNotFound	1010	The work order number was not found to exist on the server.
WorkOrderNumberAlreadyExists	1011	The work order number provided already exists on the server
WorkOrderTypeNotFound	1012	The work order type code provided does not exist on the server
CannotDeleteTask	1013	
TaskNumberNotFound	1014	The task number provided does not exist on the server
TaskNumberAlreadyExists	1015	The task number already exists on the server
TaskCreatedWithoutLocationAddressNotFound	1016	The task address was not found. Task was created without a location.
TaskCreatedWithoutLocationNoPermissionToGeocode	1017	The task was created, but the company does not have the permission needed to use the GeocodeAddress tag
VinNotFound	1018	The VIN provided does not exist on the server
InvalidStartOrDueDate	1019	The supplied start date or due date are invalid.
InvalidDateFormat	1020	The date format is invalid.
DateTimeOver	1021	The date requested has passed.
PoiCreatedWithoutParentPoiParentNotFound	1022	The POI was created successfully with no parent since parent POI doesn't exist.
ReservationIdNotFound	1023	The reservation id provided does not exist on the server
ServiceTimeFrameTypeNotFound	1024	The service time frame type code provided does not exist on the server.
PointOfInterestForEmployeeNotFound	1025	POI assignment was not found for this employee and cannot be deleted.
TimeZoneNotFound	1026	
TooMuchDataToProcess	1027	
ServiceTimeWindowNotFound	1028	The time windows are not available or were not found.
BidWinnerCannotBeSetBidIsClosed	1029	Bid winner cannot be set, bid status is closed.
BidWinnerCannotBeSetBidIsCanceled	1030	Bid winner cannot be set, bid status is canceled.
BidWinnerCannotBeSetBidIsExpired	1031	Bid winner cannot be set, bid status is expired.
BidWinnerCannotBeSet	1032	Bid winner cannot be set, please check further details with support.
ModuleNotSet	1033	The module is not set for the company.
ContractorCodeNotFound	1034	The contractor code provided does not exist on the server.
ImportGuidNotFound	1035	The importGuid provided does not exist on the server.
OperationNotAllowed	1036	The operation is not allowed

OKMobileDeviceQueuedForSampling	1037	Result is returned but the result timestamp is greater than the maximal age, so the device is queued for location sampling
InvalidMobileNumber	1038	Invalid Mobile Number
MobileDevicePositionIsUnknownQueuedForSampling	1039	The server does not have a valid location for the mobile device. The mobile device is queued for sampling.
MobileDevicePositionIsUnknown	1040	The server does not have a valid location for the mobile device
InvalidFileChecksum	1041	The checksum is not valid.
ParentPoiNotFound	1042	The parent POI was not found on the server
PoiCodeAlreadyExists	1043	The POI code already exists in the server
InvalidPoiType	1044	The supplied POI type are not valid
InvalidApiTokenOrIPAddress	1045	The supplied API token or IP address are not valid
UnknownErrorHasOccurred	9999	An unknown error occurred

Appendix G – Displaying information in forms

In forms, we can display information in the following fields from tasks and POIs.

The supported fields are:

- In initial value field for all form fields that has this option.
- In label field for the following form field:
 - Textbox
 - Number
 - Checkbox
 - DateTime
 - Table
 - Static Table
 - Combo box - Employee, Catalog Item, Billable, Regular, Auto Complete, Task, Customer, Distribution Center, Current task items.
 - Signature
 - Linked Selection box
 - Header
 - Label
 - Barcode
 - Current Location
 - Sequential Number
 - Web Service Call
 - Credit Card
- In default value field for the following form fields:
 - Combo box – Regular
- In the Hint fields for the following form fields:
 - Signature
- In the Visible Expression for all form fields that has this option.
 - Only supported when displaying information from Points of interest in tasks with customer.

Displaying information from tasks:

[Description]
[CustomerName]
[EmployeeName]
[Category]
[CoordinationPhone]
[CoordinationPhone2]
[ContactName]
[Data1]
[Data2]
[Data3]
[Data4]
[Data5]
[Data6]
[Data7]
[Data8]
[Data9]
[Data10]
[Data11]
[Data12]
[Data13]
[Data14]
[Data15]
[Data16]
[Data17]
[Data18]
[Data19]
[Data20]
[Data21]

[Data22]
[Data23]
[Data24]
[Data25]
[Data26]
[Data27]
[Data28]
[Data29]
[Data30]
[Address]
[DueDate]
[StartDate]
[Notes]
[TaskNum]
[Email]
[WorkOrderDescription]
[Status]
[Task.CatalogItems.TotalPrice]

- Only on forms linked to task entries.

Displaying information from the Task's additional info XML by its ID:

[AdditionalInfo.id]

[AdditionalInfo.Id.Text] & [AdditionalInfo.Id.Value] in combo box of a drop down

Where **id** needs to be replaced based on the id defined for each TextValuePair in the additionalInfoXML.

- Only on forms linked to task entries.

Displaying information from POIs:

[POIName]
[POICustomerNum]
[POICityName]¹⁵
[POIStreet]¹⁵
[POIHouseNum]¹³
[POICoordinationPhone1]
[POICoordinationPhone2]
[POIFax]
[POIEmail]
[POIData1]
[POIData2]
[POIData3]
[POIData4]
[POIData5]
[POIData6]
[POIData7]
[POIData8]
[POIData9]
[POIData10]
[POIData11]
[POIData12]
[POIData13]
[POIData14]
[POIData15]
[POIData16]
[POIData17]
[POIData18]
[POIData19]
[POIData20]

¹³ Supported on OfficeTrack mobile application for Android devices.

[POIData21]
[POIData22]
[POIData23]
[POIData24]
[POIData25]
[POIData26]
[POIData27]
[POIData28]
[POIData29]
[POIData30]
[POIAddress]¹⁴
[POIParent]¹⁶

- On forms without links, from the customer selected at "Require Customer Selection".
- On forms linked to tasks from the task's customer.

Displaying information from Bids:

[Description]
[ExpirationDate]
[Status]
[Notes]
[Data1]
[Data2]
[Data3]
[Data4]
[Data5]
[Data6]
[Data7]
[Data8]
[Data9]
[Data10]
[RelatedData1]
[RelatedData2]
[RelatedData3]
[RelatedData4]
[RelatedData5]
[RelatedData6]
[RelatedData7]
[RelatedData8]
[RelatedData9]
[RelatedData10]
[RelatedData11]
[RelatedData12]
[RelatedData13]
[RelatedData14]
[RelatedData15]
[RelatedData16]
[RelatedData17]
[RelatedData18]
[RelatedData19]
[RelatedData20]
[RelatedData21]
[RelatedData22]
[RelatedData23]
[RelatedData24]
[RelatedData25]
[RelatedData26]
[RelatedData27]

¹⁴ Supported on OfficeTrack NG mobile application for Android and iOS devices.

[RelatedData28]
[RelatedData29]
[RelatedData30]
[RelatedNumber]
[RelatedDescription]

- Only on forms linked to bid entries.
- Related fields represent the object the bid is on Task or work order.

Displaying information from the value selected in a combo box from sub type **Task Item** :

[ID.SelectedItem.DefaultQuantity]
[ID.SelectedItem.MinimalQuantity]
[ID.SelectedItem.MaximalQuantity]
[ID.SelectedItem.EntryType]
[ID.SelectedItem.SerialNumber]
[ID.SelectedItem.CustomData1] - [ID.SelectedItem.CustomData5]
[ID.SelectedItem.CatalogItem.CatalogNumber]
[ID.SelectedItem.CatalogItem.CatalogItem.Name]
[ID.SelectedItem.CatalogItem.Category.Name]
[ID.SelectedItem.CatalogItem.Category.Code]
[ID.SelectedItem.CatalogItem.Description]
[ID.SelectedItem.CatalogItem.Notes]
[ID.SelectedItem.CatalogItem.Price]
[ID.SelectedItem.CatalogItem.UnitsInStock]
[ID.SelectedItem.CatalogItem.UnitsInPrivateStock]
[ID.SelectedItem.CatalogItem.MustBeBilled]
[ID.Value] – will be replaced with the name of the item
[ID.ValueBehind] – will be replaced with the value/code of the item

Displaying information from the value selected in a combo box from sub type **Catalog Item** :

[ID.SelectedItem.CatalogNumber]
[ID.SelectedItem.Name]
[ID.SelectedItem.Category.Name]
[ID.SelectedItem.Category.Code]
[ID.SelectedItem.Description]
[ID.SelectedItem.Notes]
[ID.SelectedItem.Price]
[ID.SelectedItem.UnitsInStock]
[ID.SelectedItem.UnitsInPrivateStock]
[ID.SelectedItem.MustBeBilled]
[ID.Value] – will be replaced with the name of the item
[ID.ValueBehind] – will be replaced with the value/code of the item

Appendix H – Forms expressions

In form fields we have an option to put in expressions in a few places:

- When setting Visible = By expression in the expression field.

Visible

Expression

- When setting Required = By expression in the expression field.

Required

Expression

- When setting Read Only = By expression in the expression field.

Read Only

Read only expression

- In number, barcode form field in Validation Expression

Validation expression

- In a Label fields to show algebraic calculation of other form elements/fields. An element may be Numbers, Row of table, and Column of table. A user may create a form, add fields of type "Number" and "Table" then add a field of type "Label" which will include an algebraic formula of the numbers or tables elements/fields.

Following are guidelines on how to create a Math Operation on form fields:

- Build a form with required fields.
- Set an ID for all fields.
- Add a field to a form for to use the expression (visible expression, validation expression or Label for calculations).

In the field write the formula using the below rolls:

- { } – Set Formula is in bracket {}. Used for algebraic calculation in Labels.
- [id] - Refers to the value of the field with ID = id
- [id] +/-/* [id] – Refers to an algebraic calculation of values, either of number elements in the form or a row inside a Table. See operations and operators below.

These are the operators that can be used:

Boolean Operators	
Operator	Description
=	Equals for numbers
==	Equals for numbers
!=	Not equals
<>	Not equals
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to
&&	Boolean and
	Boolean or

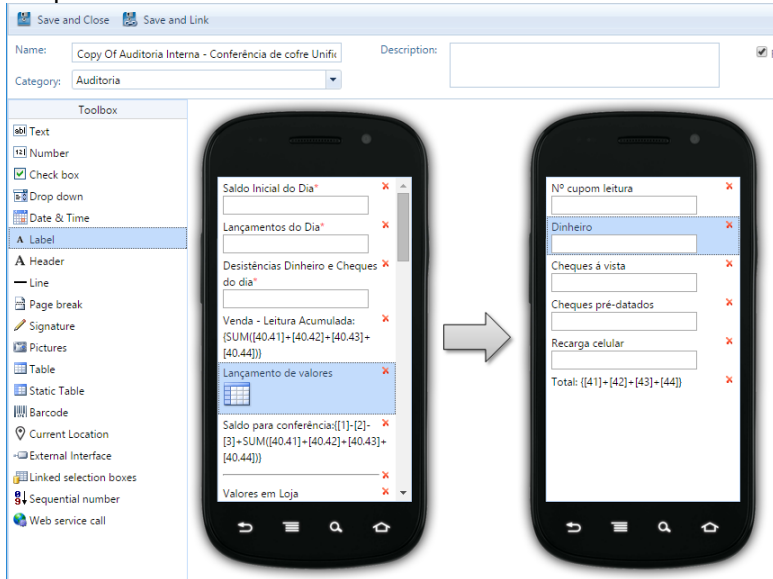
EQUALS(<string1>,<string2>)	Compare strings, You can replace "<string1>" or "<string2>" with "[ID]" of a field
-----------------------------	------------------------------------------------------------------------------------

Mathematical Operators	
Operator	Description
+	Additive operator
-	Subtraction operator
*	Multiplication operator
/	Division operator
%	Remainder operator (Modulo)
{Pow([ID],X)}	Power operator
SUM([X.Y])	show sum of the column of table, where X refers to the table ID and Y refers to the column in the table

Examples:

- To check if a text in a field equals another field
EQUALS([FID],Yes)
The expression will be true if in the field with id FID is Yes.
EQUALS([FID],[AID])
The expression will be true if the field with id FID equals to the field with id AID.
- To check if a number in a field equals another field
[FID]=[AID]
The expression will be true the number in field with id FID equals to number in the field with id AID.
 - [AID] can be the id of the field itself in cases of validation expressions.
[FID]=4
[FID]=[AID]+4
The expression will be true the number in field with id FID equals to number in the field with id AID plus 4.
 - [FID] can be the id of the field itself in cases of validation expressions.
- To check if a barcode is equal to Task custom data , Poi custom data
EQUALS([ID],[Data1])
EQUALS([ID],[POIData1])
- Boolean or operator
EQUALS([FID],Sure) || EQUALS([FID],Yes)
The expression will be true if the field with id FID equals to Sure or equals to Yes.
[FID]=[AID]+4 || [AID]>4
The expression will be true if the FID equals AID+4 or AID is larger than 4.
- Boolean and operator
EQUALS([FID],Sure) && EQUALS([AID],Yes)
The expression will be true if the field with id FID equals to Sure and field with id AID equals to Yes.
EQUALS([FID],Sure) && [AID]>4
The expression will be true if the field with id FID equals to Sure and field with id AID in larger than 4.
- {SUM([40.41]+[40.42]+[40.43]+[40.44])}
Will calculate the sum of a table with ID [40] from columns 41 -44.
- {[41]+[42]+[43]+[44]}
Will calculate the total of rows in a table, above formula will sum a row at a table of field with ID 41+42+43+44.
- {[1]-[2]-[3]+SUM([40.41]+[40.42]+[40.43]+[40.44])}
Will subtract number fields and columns in a table.
- {[1]*[2]*[3]+SUM([40.41]+[40.42]+[40.43]+[40.44])}-{[6]+[7]+[8]+[9]+[10]}
Will multiply numbers fields and columns in a table.

Sample of calculate e a row in a table:



Following are expressions that can be used in expressions or initial values:

- [Fielded.ColumnName] – to use a value selected in a specific column from a linked selection box. Use the field ID of the linked selection box and the name of the column from the data table to be used. Can be used for visible expression in the following way: EQUALS([FieldId.ColumnName], A)
- {Values([TableID.NumID])} - Get a list of all values of a number (NumID) field in a column of a table TableID into a label field. The list of values return is comma separated.
- {SUM([TableID.NumID])} - Calculate the SUM values of a number (NumID) field in a column of a table TableID into a label field.
- {Exists(Strand)} - Return TRUE if String exists in field ID, else return FALSE.
e.g. {Exists(1|2,[ID])} will return TRUE if 1 or 2 exist in field ID, else return FALSE
- {IF(Boolean Expression, True part, False part)} - Return the True part and False part in a label field.
e.g. {IF(1<=[ID]&&[ID]<51,1403,(IF(51<=[ID]&&[ID]<=119,1402,(IF([ID]>119,1401,0))))}
If 1<=[ID]<51 return 1403, else if 51<=[ID]<=119 return 1402 else if [ID]>119 return 1401 else return 0

Appendix I – Deprecated methods

CreateOrUpdateTask Web Method

This web method allows creating or updating a task on the server.
 Located in /services/taskmanagement.asmx

The web method accepts a single parameter request which needs to be an XML document in this format

```
<CreateOrUpdateTaskRequest xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <UserName></UserName>
  <Password></Password>
  <Operation></Operation>
  <TaskNumber></TaskNumber>
  <CustomerNumber></CustomerNumber>
  <DistributionAreaNumber></DistributionAreaNumber>
  <EmployeeNumber></EmployeeNumber>
  <VIN></VIN>
  <Priority></Priority>
  <DueDateAsSecondsFromEpoch></DueDateAsSecondsFromEpoch>
  <DueDateAsYYYYMMDDHHMMSS></DueDateAsYYYYMMDDHHMMSS>
  <Duration></Duration>
  <Notes></Notes>
  <Description></Description>
  <Status></Status>
  <Phone1></Phone1>
  <Phone2></Phone2>
  <ContactName></ContactName>
  <TaskTypeCode></TaskTypeCode>
  <CustomerName></CustomerName>
  <Location>
    <East></East>
    <North></North>
    <Address></Address>
    <CoordinateIsInWgs84></CoordinateIsInWgs84>
  </Location>
  <GeocodeAddress>
    <State></State>
    <City></City>
    <Street></Street>
    <HouseNumber></HouseNumber>
    <Zip></Zip>
    <UseIfPartiallyResolved></UseIfPartiallyResolved>
  </GeocodeAddress>
  <Data1></Data1>
  ...
  <Data30></Data30>
  <HiddenData1></HiddenData1>
  <ExternalCreationDateAsSecondsFromEpoch></ExternalCreationDateAsSecondsFromEpoch>
  <ExternalCreationDateAsYYYYMMDDHHMMSS></ExternalCreationDateAsYYYYMMDDHHMMSS>
  <Options></Options>
  <AdditionalInfoXml></AdditionalInfoXml>
  <LimitCatalogCategoriesSelectionToCodes></LimitCatalogCategoriesSelectionToCodes>
  <LimitCatalogItemsSelectionToCatalogNumbers></LimitCatalogItemsSelectionToCatalogNumbers>
  <Categories></Categories>
  <Email></Email>
  <MaximalRadiusForEntries></MaximalRadiusForEntries>
  <ProhibitEntriesOutsideRadius></ProhibitEntriesOutsideRadius>
  <UseQuantityOnlyCatalogItemEntryForm></UseQuantityOnlyCatalogItemEntryForm>
  <OrderInRoute></OrderInRoute>
  <CreateCatalogItemNames></CreateCatalogItemNames>
  <CreateCatalogItemCategory></CreateCatalogItemCategory>
  <TimeWindows></TimeWindows>
  <TimeWindowPriority></TimeWindowPriority>
  <ServiceTime></ServiceTime>
  <JointServiceTime></JointServiceTime>
  <Capacity1></Capacity1>
  <AggregateNumber></AggregateNumber>
  <OrderInAggregate></OrderInAggregate>
  <QuantityOnlyFormShowOnlyCatalogNumber></QuantityOnlyFormShowOnlyCatalogNumber>
</CreateOrUpdateTaskRequest>
```

Parameter	Data Type	Length	Description
UserName	String (Required)		A valid username for using this web method
Password	String (Required)		A valid password for using this web method
Operation	Enumerator (Required)		The operation of the server is required to do. Options are: Create – The server is required to create a task Update – The server is required to update a task with the same Task Number AutoSelect – The server will check if the task number provided exists. If the task number exists, then the server will update the task if the task number does not exist, the server will create a task with the provided task number.
TaskNumber	Int64 (Required)		The number of the Task
CustomerNumber	String (Optional)	50	The number of the customer in the server
DistributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
EmployeeNumber	String (Optional) ¹⁵	50	The number of the employee that will be associated with the task.
VIN	String (Optional) ¹⁵	50	The VIN of the vehicle that will be associated with the task.
Priority	Byte (Optional)		The priority of the task can be: NotSet = 0 Lowest = 1 Low = 2 Normal = 3 High = 4 Highest = 5 Urgent = 6 <ul style="list-style-type: none"> • Can send a number or name
DueDateAsSecondsFromEpoch	Double (Required. Can be omitted if DueDateAsYYYYMMDDHHMMSS is set)		The due date of the task as seconds from epoch. The epoch is defined as 1/1/1970 12:00:00 AM UTC.
DueDateAsYYYYMMDDHHMMSS	String (Required. Can be omitted if DueDateAsSecondsFromEpoch is		The due date of the task as YYYYMMDDHHMMSS

¹⁵ If both employee number and VIN fields are empty the task will be created as an unassigned task

	set)		
Duration	Double (Optional)		The duration in hours of the task. For two-and-a-half hours set the value to 2.5. If not supplied will be taken from the task type duration or be set by default for 30 minutes.
Description	String (Required)	100	The description of the task
Notes	String (Optional)	max	Notes about the task
Status	Enumerator (Required)		The status of the task. Can be one of the Names described in Task Statuses , or can be sent as DontChange – Instructs the server not to change the status of the task if the task is being updated
Phone1, Phone2	String (Optional)	50	Task related phones. Used if the Customer Number parameter is not given.
ContactName	String (Optional)	100	The contact name. Used if the Customer Number parameter is not given.
ContractorCode	String (Optional)	50	The contractor code as set on the server.
CustomerName	String (Optional)	100	The Customer name. Used if the Customer Number parameter is not given.
TaskTypeCode	String (Optional)	50	The code of the task type as set on the server
Location	Object (Optional)		An optional object of the location of the task. The location can also be set using the optional GeocodeAddress object.
Location.East	Double (Optional)		The X (longitude) coordinate of the task
Location.North	Double (Optional)		The Y (latitude) coordinate of the task
Location.Address	String (Required)	255	The text address of the task.
Location.CoordinatesInWgs84	Boolean (Optional)		Set to "true" if the coordinates supplied in the east and north fields are in Wgs84
GeocodeAddress	Object (Optional) – Requires a separate permission to use this tag		An optional object of the address location of the task. The address will be geocodes into a geographical location. The location can also be set using the optional Location object.

Data1..30	String (Optional)	500	Data fields for custom use
HiddenData1	String (Optional)	200	Data fields for custom use. Unlike Data 1...30 this field is only used for the Customer Notification System and is not displayed on any UI (see this document for more information about the Customer Notification System)
ExternalCreationDateAsSecondsFromEpoch	Double (Optional)		A creation date for the task that is from an external source (e.g. The client's back office) expressed as seconds from epoch. The epoch is defined as 1/1/1970 12:00:00 AM UTC.
ExternalCreationDateAsYYYYMMDDHHMMSS	String (Optional)		A creation date for the task that is from an external source
Options	Enumerator (Optional)		Sets various options: None -Does not set any options SendNotificationToMobile – sends a notification to the mobile device associated with the employee assigned to the task. Also changes the status of the task to SMSSent SendNotificationToMobileDontChangeTaskStatus -sends a notification to the mobile device associated with the employee assigned to the task. Does not change the status of the task to SMSSent MaskSendAnyNotificationToMobile – will not show notification to the mobile device CreateCatalogItemsAssignToTaskResource –will create the catalog items in the LimitCatalogItemsSelectionToCatalogNumbers field with the names in the CreateCatalogItemNames field and will create them all to the category in the CreateCatalogItemCategory field. AutoAssignUnassignedTasksByTaskLocation –

			<p>will an employee to the task based on task location and the employee's association to a distribution area.</p> <p>CreateAutoCloseBidForFreeBusyResourcesInTaskDistributionArea – will create a bid from type AutoClose automatically to all employees in status free or busy that are assigned to the task distribution area.</p> <ul style="list-style-type: none"> Only if the task or the task's WO doesn't have an open bid. <p>AutoAssignDistributionAreaByTaskLocation – will auto assigned the distribution area by the taskLocation coordinates.</p> <p>AutoAssignDistributionAreaByCustomerNumberParent – auto assign the distribution area based on the first parent of the CustomerNumber from type distribution area.</p> <p>AutoPopulateCustomDataFields - Define if the tasks data fields will be auto populate based on the settings in the server.</p>
Categories	String (Optional)		An optional comma delimited string to specify the task categories (e.g. VIP, North)
Email	String (Optional)	70	An optional email address assigned to the task
AdditionalInfoXml	String (Optional)	max	An optional XML representing additional info about the task that will be displayed to the employee. See Appendix B for a sample of the XML. <ul style="list-style-type: none"> Note: The XML in this tag should be URL Encoded
LimitCatalogCategoriesSelectionToCodes	String (Optional)	max	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the

			catalog category codes. See the ImportCatalog Web Method for more details.
LimitCatalogItemsSelectionToCatalogNumbers	String (Optional)	max	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog
MaximalRadiusForEntries	Double (Optional)		If set, limits entries on the task to a specific radius from the task location
ProhibitEntriesOutsideRadius	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries . If the value is unique from the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry
UseQuantityOnlyCatalogItemEntryForm	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the form linked with the add catalog item to entry will not be shown
OrderInRoute	Int16 (Optional)		If set shows the task order relative to other tasks for the same resource.
CreateCatalogItemNames	String (Required. Can be omitted if CreateCatalogItemsAssignToTaskResource is not set in the options)	max	Will create the items in the LimitCatalogItemsSelectionToCatalogNumbers with the names specified in this field. The list is expressed as a comma separated value list and should include the names of the catalog items.
CreateCatalogItemCategory	String (Required. Can be omitted if		Will create the items in the

	CreateCatalogItemsAssignToTask Resource is not set in the options)		LimitCatalogItemsSelectionToCatalogNumbers to the category name specified in this field.
AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then in this task the resource may add items from his private catalog to the task besides the task's items limitation.
TimeWindows	String (Optional)	50	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
TimeWindowPriority	Byte (Optional)		The priority of the task in the time window
ServiceTime	Short (Optional)		The service time of the task in minutes
JointServiceTime	Short (Optional)		The joint service time of the task in minutes
Capacity1 - Capacity5	Double (Optional)		The capacities of the task.
AggregateNumber	Int64 (Optional)		The aggregate number of the task
QuantityOnlyFormShowOnlyCatalogNumber	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.

- The **TaskName** & **Description** tags have been deprecated. The user should use the new fields **Description** (formerly **TaskName**) and **Notes** (formerly **Description**). Although the server supports both options, support for the deprecated tags will be removed in a future version.
- The **TaskCategoryCode** tag has been renamed **TaskTypeCode**. Although the server supports both tags, support for the deprecated tags will be removed in a future version.
- The **CoordinationPhone** and **CoordinationPhone2** tags have been deprecated and renamed **Phone1** and **Phone2**, respectively. Although the server supports both tags, support for the deprecated tags will be removed in a future version.

The web method will return one of the following values

Parameter	Description
OK	Task was created or updated successfully
InvalidUserNameOrPasswordOrIPAddress	The supplied username and password are not valid
InvalidEmployeeNumber	The employee number provided does not exist on the server
InvalidCustomerNumber	The customer number provided does not exist on the server
TaskNumberNotFound	The task number provided does not exist on the server
TaskTypeCodeNotFound	The task type code provided does not exist on the server
TaskNumberAlreadyExists	The task number already exists on the server
InvalidRequest	The request XML could not be parsed
TaskCreatedWithoutLocationAddressNotFound	The task address was not found. Task was created without a location
TaskCreatedWithoutLocationNoPermissionToGeocode	The task was created, but the company does not have the permission needed to use the GeocodeAddress tag
InvalidVin	The VIN provided does not exist on the server
InvalidDistributionAreaNumber	The distribution area number provided does not exist on the server
TaskCategoryCodeNotFound	The task category in CreateCatalogItemCategory was not found
TaskCreatedSomeErrorsEncounteredOnCreateCatalogItem	Task created, and some errors occurred on the creation of catalog items.
InvalidWorkOrderNumber	The work order number provided does not exist on the server
TaskCreatedWithoutBid	The task was created without Bid. Only relevant if options has CreateAutoCloseBidForFreeBusyResourcesInTaskDistributionArea
ContractorNotFound	The contractor provided does not exist on the server
InvalidTimeWindows	The time windows supplied is invalid.
UnknownErrorHasoccurred	An unknown error has occurred

ImportEmployees Web Method

This web method imports employees from an attached file. Employees on the server will be created, updated or disabled according to the attached file.
 Located in /services/employees.asmx

The web method accepts a single parameter request which needs to be an XML document in this format

```
<ImportEmployeesRequest xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <UserName>x</UserName>
  <Password>y</Password>
  <Data></Data>
  <DataFormat>Xls</DataFormat>
  <FirstRowHasColumnNames>true</FirstRowHasColumnNames>
  <ColumnMapping>&lt;Mapping MobileNumber="MobileNumberColumn" /&gt;</ColumnMapping>
  <UnlistedEmployeeHandling>&lt;Handling Method="Disable" Group="" /&gt;</UnlistedEmployeeHandling>
</ImportEmployeesRequest>
```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
Data	Byte array (Required)	Base64 encoding of the bytes of the data file
DataFormat	Enumerator (Required)	Specifies the type of file the data bytes are. Values are: Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 When using Csv, if the file is not in Utf8 use ANSI. In this case the file should be in the server's default ANSI code page.
FirstRowHasColumnNames	Boolean (Required)	If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0)
ColumnMapping	XML String (Required)	Maps the columns of the file to properties of the employee. The mapping is an XML string with a single tag "Mapping". Each mapping is expressed as an attribute. MobileNumber - optional EmployeeNumber - required FirstName – required. ⚠️ Obsolete. Will be removed on future release. LastName – optional. ⚠️ Obsolete. Will be removed on future release. Name - required WorkPhone - optional HomePhone - optional Address - optional Mobile - optional Remarks - optional GroupName – optional UniqueID – optional Email – optional MaxDiscount – optional. Note: 2.5% should be expressed as 2.5 ManagingEmployeeNumber – optional. If set, make sure the manager of the employee record appears before any

		records of employees he manages.
UnlistedEmployeeHandling	XML String (Optional)	<p>Defines what to do with employees already on the server that have not been listed in the import file.</p> <p>The value can be:</p> <p>Disable – Employees will be disabled (default)</p> <p>KeepEnabledMoveToGroup – Employees will be moved to another group</p> <p>Group – the name of the group to move the employees to in the Method selected was KeepEnabledMoveToGroup</p> <p>DoNotChange – do nothing with existing employees</p>

The web method will return this object

```
<ImportEmployeesResult xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <ReturnValue>OK</ReturnValue>
</ImportEmployeesResult>
```

Parameter	Description
Result	<p>The result of the import process. The code can be:</p> <p>OK – Employees imported successfully.</p> <p>InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid</p> <p>UnknownErrorOccurred – An unknown error occurred</p> <p>InvalidRequest – The request XML could not be parsed</p> <p>InvalidDataFile – the data file could not be opened</p> <p>InvalidColumnMapping – the mapping XML is not valid</p> <p>SomeRowsSkipped – some of the imported rows were skipped because of missing required data</p>

ImportPointsOfInterest Web Method

This web method imports the points of interest from an attached file. Points of interest on the server will be created, updated or deleted according to the attached file.

Located in /services/pointsofinterest.asmx

The web method accepts a single parameter request which needs to be a XML document in this format

```
<ImportPointsOfInterest xmlns="Trackem.Web.Services">
  <request>
    <UserName>string</UserName>
    <Password>string</Password>
    <DataSource>
      <Data>base64Binary</Data>
      <DataString>string</DataString>
      <DataFormat>Xls</DataFormat>
      <FirstRowHasColumnNames>boolean</FirstRowHasColumnNames>
      <FileName>string</FileName>
    </DataSource>
    <ColumnMapping>
      <Categories>string</Categories>
      <City>string</City>
      <CustomerNumber>string</CustomerNumber>
      <Data1>string</Data1>
      ...
      <Data30>string</Data30>
      <Fax>string</Fax>
      <HouseNum>string</HouseNum>
      <Name>string</Name>
      <Phone1>string</Phone1>
      <Phone2>string</Phone2>
      <State>string</State>
      <Street>string</Street>
      <X>string</X>
      <Y>string</Y>
      <Zip>string</Zip>
      <ParentPoi>string</ParentPoi>
      <Email>string</Email>
      <IsParent>string</IsParent>
    </ColumnMapping>
  </request>
</ImportPointsOfInterest>
```



```

</ColumnMapping>
<UnlistedPoiHandling>
  <Method>MoveToParent</Method>
  <MoveToParentId>1234</MoveToParentId>
  <ParentPoi>POI123</ParentPoi>
</UnlistedPoiHandling>
<Options>
  <UsePartialResolvedAddresses>boolean</UsePartialResolvedAddresses>
  <AllowPoiUpdate>boolean</AllowPoiUpdate>
  <PoiType>POI or Customer or Polygon or DistributionCenter or DistributionArea</PoiType>
  <TargetParentOption>ByColumn or ByName</TargetParentOption>
  <TargetParent>string</TargetParent>
</Options>
</request>
</ImportPointsOfInterest>

```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	<p>Specifies the type of file the data bytes are. Values are:</p> <p>Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml</p> <p>When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.</p> <p>⚠ See Appendix E for a sample of the XML format.</p>
DataSource.FirstRowHasColumnNames	Boolean (Required)	<p>If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0).</p> <ul style="list-style-type: none"> If DataFormat=Xml , this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
Name	String (Required)	The name of the point of interest
CustomerNumber	String (Required)	The customer number of the point of interest.
Phone1, Phone2	String (Optional)	Phone numbers of the point of interest.

Fax	String (Optional)	The fax number of the point of interest.
Categories	String (Optional)	An optional comma delimited string to specify the POIs categories (e.g. VIP, North)
Email	String (Optional)	The email address of the point of interest.
State	String (Required Can be omitted if the CoordinateSource is X Y Columns)	The state of the point of interest.
City	String (Optional)	The city of the point of interest.
Street	String (Optional)	The street of the point of interest.
HouseNum	String (Optional)	The house number of the point of interest.
Zip	String (Optional)	The zip of the point of interest.
X	String (Required Can be omitted if the CoordinateSource is ResolveAddress)	The X (longitude) coordinate of the point of interest.
Y	String (Required Can be omitted if the CoordinateSource is ResolveAddress)	The Y (latitude) coordinate of the point of interest.
ParentPoi	String (Required Can be omitted if the TargetParentOption Is ByName)	The name of the Parent POI, the point of interest will be in.
Data1 - Data30	String (Optional)	Data fields for custom use.
IsParent	String (Optional)	If the point of interest can have child POI.
UnlistedPOIHandling	Object (Required)	An object that maps what to do with points of interest and Parent POI that exist in the server and not listed in the file.
Method	Enumerator (Required)	What to do with existing POIs not in the file: DoNotChange – leave all existing POIs in the system. Delete – Delete POIs from the server MoveToParent – move the POIs to
ParentPoi	String (Required Can be omitted if the Method is not MoveToParent)	The name of the Parent POI the existing POIs that are not in the import file will be moved to in the server.
Options	Object (Required)	Sets various options
Options.UsePartialResolved Addresses	Boolean (Required)	If set to true, the address will be used even if only a partial match was found. If set to false, the address will be used only if a full match for the address was found.
Options.AllowPOIUpdate	Boolean (Required)	If set to true, existing POIs will be updated with the data in the file. If set to false, existing POI's found in the file will not be updated.
Options.POIType	Enumerator (Required)	Sets the POI type for all POIs in the file: POI – the point of interest from type POI. Customer – the point of interest from type customer. Used for tasks, etc. Polygon – Not in use. DistributionCenter - the point of interest from type distribution center. Used for tasks, etc. DistributionArea – Not in use.

Options.TargetParentOption	Enumerator (Required)	Sets where is the target Parent POI of the POI: ByColumn – sets the Parent POI by the column mapping field ParentPoi. ByName – sets the same Parent POI to all POIs in the file by the Options.TargetParent.
Options.TargetParent	String (Required Can be omitted if the TargetParentOption Is ByColumn)	The name of the Parent POI all the points of interest in the file will be in.

The web method will return this object

```
<ImportPointsOfInterestResponse xmlns="Trackem.Web.Services">
  <ImportPointsOfInterestResult>
    <ReturnValue>OK</ReturnValue>
    <RowsImported>10</RowsImported>
    <RowsRead>10</RowsRead>
    <Data>Xls base64Binary</Data>
    <DataFormat>Xls</DataFormat>
  </ImportPointsOfInterestResult>
</ImportPointsOfInterestResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – Points of interest were imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data.
RowsImported	Number of rows imported from the file.
RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataString	String URL Encoded of the return file. • Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.

CreateOrUpdateWorkOrderAndTasks Web Method

This web method allows creating or updating a work orders and their tasks on the server.
 Located in /services/webservices.asmx

The web method accepts parameters request which needs to be at the following format:

Parameter	Data Type	Length	Description
userName	String (Required)		A valid username for using this web method
password	String (Required)		A valid password for using this web method
operation	Enumerator (Required)		The operation the server is required to do. Available options are: Create – The server is required to create work order and tasks Update – The server is required to update work order and tasks with the same Task Number AutoSelect – The server will check if the work order number provided exists. If the work order number exists, then the server will update the work order if the work order number does not exist the server will create a work order with the provided work order number.
workOrderNumber	Int64 (Required)		The number of the work order. If set to 0 the server will auto generate the work order number
status	Enumerator (Required)		The status of the work order. can be one of the Names described in Work Order status , or can be sent as DontChange – Instructs the server not to change the status of the work order if the work order is being updated
description	String (Required)	100	The description of the work order
customerName	String (Optional)	100	The contact name. Used if the Customer Number parameter is not given
address	String (Optional)	255	The text address of the work order
customerNumber	String (Optional)	50	The number of the customer in the server
defaultEmployeeNumber	String (Optional)	50	The number of the default employee that will be associated with the work order and will be the default employee for the tasks.
startDate	String (Required)		start date of the work order as YYYYMMDD
dueDate	String (Required)		due date of the work order as YYYYMMDD
workOrderTypeCode	String (Optional)	50	The code of the work order type as set on the server
distributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
notes	String (Optional)	Max	Notes about the work order
data1...data20	String (Optional)	500	Data fields for custom use
tasks	Collection (Required)		An optional collection of the object

			Task. The collection holds the task details (e.g. task number, description, etc.) If not used need to send an empty collection/array.
Tasks.Task			Details for each Task in the tasks collection are details in the table below.
options	Object (Optional)		Sets various options
	Enumerator (Optional)		Define what to do with tasks linked to the work order that are not in the request: Leave - Will keeps the tasks that are not in the request as part the work order. Delete – Will delete the tasks not in the request if no entry was made on them. <ul style="list-style-type: none"> • Leave is the default value, if this property will not be sent, by default the tasks will remain as part the work order.
options. TasksNotInRequestOption			

Each Task in the tasks collection can contain the following parameters:

Parameter	Data Type	Length	Description
TaskNumber	Int64 (Required)		The number of the Task. If set to 0 the server will auto generate the task number. ¹⁶
WorkOrderNumber	String (Optional)		The work order number that the task will be linked to. If not sent will be saved as the parent work order number.
CustomerNumber	Int64 (Optional)	50	The number of the customer in the server
DistributionAreaNumber	String (Optional)	50	The number of the distribution area in the server
EmployeeNumber	String (Optional) ¹⁷	50	The number of the employee that will be associated with the task.
TimeSlotReservationId	String (Optional)	50	The reservation ID of reserved time slot.
VIN	String (Optional) ⁷	50	The VIN of the vehicle that will be associated with the task.
DueDateTime	String (Optional)		The due date of the task as YYYYMMDDHHmm <ul style="list-style-type: none"> • Required if not using TimeSlotReservationId or StartDateTime
StartDateTime	String (Optional)		The start date and time of the task as YYYYMMDDHHmm <ul style="list-style-type: none"> • Required if not using TimeSlotReservationId or DueDateTime

¹⁶ If Task number will be set as 0 and the task type is Break task type the task will be created as a break task.

¹⁷ If both employee number and VIN fields are empty the task will be created as an unassigned task

Duration	Double (Optional)		The duration in hours of the task. for two-and-a-half hours set the value to 2.5. If not supplied will be taken from the task type duration or be set by default for 30 minutes. <ul style="list-style-type: none"> Can be omitted if using TimeSlotReservationId
TaskTypeCode	String (Optional)	50	The code of the task type as set on the server ⁶
Notes	String (Optional)	max	Notes about the task
Description	String (Required)	100	The description of the task
Status	Enumerator (Required)		The status of the task. can be one of the following: NewTask – Task is a new task SMSSent – An SMS was sent to the employee who is assigned to the task Acknowledged – The task was acknowledged InProgress – The task is in progress Suspended – The task is suspended (work has been done but the task is not complete) Closed – The task is closed Canceled – The task is Canceled EnRoute – The employee is Enroute to the task DontChange – Instructs the server not to change the status of the task if the task is being updated
Phone1, Phone2	String (Optional)	50	Task related phones. Used if the Customer Number parameter is not given.
ContractorCode	String (Optional)	50	The code of the contractor as set on the server
ContactName	String (Optional)	100	The contact name. Used if the Customer Number parameter is not given.
CustomerName	String (Optional)	100	The Customer name. Used if the Customer Number parameter is not given.
Categories	String (Optional)		An optional comma delimited string to specify the task categories (e.g. VIP, North)
Email	String (Optional)	70	An optional email address assigned to the task
Location	Object (Optional)		An optional object of the location of the task. The location can also be set using the optional GeocodeAddress object.
Location.X	Double (Optional)		The X (longitude) coordinate of the task
Location.Y	Double (Optional)		The Y (latitude) coordinate of the task
Location.Address	String (Required)	255	The text address of the task.
GeocodeAddress	Object (Optional) – Requires a separate		An optional object of the address location of the task. The address

	permission to use this tag		will be geocoded into a geographical location. The location can also be set using the optional Location object.
GeocodeAddress.State	String (Optional)	100	The state name
GeocodeAddress.City	String (Optional)	100	The city name
GeocodeAddress.Street	String (Optional)	100	The street name
GeocodeAddress.HouseNumber	String (Optional)	100	The house number
GeocodeAddress.Zip	String (Optional)	100	The zip code
GeocodeAddress.UseIfPartiallyResolved	String (Optional)		If set to true, the address will be used even if only a partial match was found. If set to false, the address will be used only if a full match for the address was found.
Data1...Data30	String (Optional)	500	Data fields for custom use
HiddenData1	String (Optional)	200	Data fields for custom use. Unlike Data 1...30 this field is only used for the Customer Notification System and is not displayed on any UI (see this document for more information about the Customer Notification System)
ExternalCreationDate	String (Optional)		A creation date for the task that is from an external source as YYYYMMDDHHMM
Options	Enumerator (Optional)		<p>Sets various options:</p> <p>None-Does not set any options</p> <p>SendNotificationToMobile– sends a notification to the mobile device associated with the employee assigned to the task. also changes the status of the task to SMSSent</p> <p>SendNotificationToMobileDontChangeTaskStatus-sends a notification to the mobile device associated with the employee assigned to the task. does not changes the status of the task to SMSSent</p> <p>MaskSendAnyNotificationToMobile – will not show notification to the mobile device</p> <p>CreateCatalogItemsAssignToTaskResource –will create the catalog items in the LimitCatalogItemsSelectionToCatalogNumbers field with the names in the CreateCatalogItemNames field and will create them all to the category in the CreateCatalogItemCategory field.</p> <p>AutoAssignUnassignedTasksByTaskLocation – will an employee to the task based on task location and the employee's association to a distribution area.</p> <p>AutoAssignDistributionAreaByTaskLocation – will auto assigned the distribution area by the taskLocation coordinates.</p>

			<p>AutoAssignDistributionAreaByCustomerNumberParent – auto assign the distribution area based on the first parent of the CustomerNumber from type distribution area.</p> <p>AutoAssignDistributionAreaWithServiceTimeFrameByCustomerNumberParent – auto assign the distribution area based on the first parent of the CustomerNumber from type distribution area that has service time frame.</p> <p>AutoPopulateCustomDataFields - Define if the tasks data fields will be auto populate based on the settings in the server.</p> <p>CheckCompanyRequiredFields – Define for validating the task required fields based on the settings in the server.</p>
AdditionalInfoXml	String (Optional)	max	<p>An optional XML representing additional info about the task that will be displayed to the employee. See Appendix B for a sample of the XML.</p> <ul style="list-style-type: none"> Note: The XML in this tag should NOT be Encoded
LimitCatalogCategoriesSelectionToCodes	String (Optional)	max	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the catalog category codes. See the ImportCatalog Web Method for more details.
LimitCatalogItemsSelectionToCatalogNumbers	String (Optional)	max	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog
MaximalRadiusForEntries	Double (Optional)		If set limits entries on the task to a specific radius from the task location

ProhibitEntriesOutsideRadius	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries. If the value is different than the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry
UseQuantityOnlyCatalogItemEntryForm	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the form linked with the add catalog item to entry will not be shown
DoNotShowRefreshMessageInMobile	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task will be sent to the device and will not show the push notification message.
QuantityOnlyFormShowOnlyCatalogNumber	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.
AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then even if task is limited to specific items will have the ability to select other items from the private catalog of the employee.
AggregateNumber	Int64 (Optional)		The aggregate number of the task.
OrderInAggregate	Byte (Optional)		The order in the aggregate number of the task.
Capacity1...Capacity5	Double (Optional)		The capacities of the task.
TimeWindows	String (Optional)	50	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
TimeWindowPriority	Byte (Optional)		The priority of the task in the time window
ServiceTime	Short (Optional)		The service time of the task in minutes
JointServiceTime	Short (Optional)		The joint service time of the task in minutes
OrderInRoute	Short (Optional)		If set indicates the task order relative to other tasks for the same resource.
ExternalFiles	Collection (Optional)		Collection of external URLs of files sent to the employee as part of the task
ExternalFiles.TaskExternalFile	Object (Optional)		Object of an external file
TaskExternalFile.Id	String (Required)		Unique id of the file
TaskExternalFile.Name	String (Required)		Name of the file including file prefix e.g. Document.doc
TaskExternalFile.Url	String (Required)		The URL where the file will be

			downloaded from. Note: If AccessType=File, need to pass the Guid of the file returned by SaveTemporaryFileChunk method.
TaskExternalFile.Date	String (Optional)		A date of the file as yyyyMMddHHmm
TaskExternalFile.AccessType	Enumerator (Required)		Type of access allowed to the file: DirectAccess – the URL of the file can be accessed directly from the site and mobile. ServerProxied – the URL of the file will not be exposed in the site or mobile, secured. File – a file uploaded to the server using SaveTemporaryFileChunk method. UriOpenInBrowser – Will open the URL of the file in the browser and not download it.
TaskExternalFile.Flags	Enumerator (Required)		Can be one of the following: None – the file cannot be downloaded by site user. Will display only the file's details. AllowViewBySiteUser – the site user will be able to download the file from the site.
Priority	Enumerator (Optional)		The priority of the task, can be one of the following: NotSet Lowest Low Normal High Highest Urgent
UpdateTaskItemsDefaultQuantity	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON then task item's default quantity will be updated based on employee's entry of quantity of the item.
TaskCannotBeIncludedInBulkEntry	String (Optional)		If the value is any of the following values 1, Y, YES, TRUE, T, ON, the task cannot be included in bulk entry.

The web method will return the following

```
<CreateOrUpdateWorkOrderAndTasksResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="Trackem.Web.Services">
  <CreateOrUpdateWorkOrderAndTasksResult>
    <ResultCode>OKSomeErrorsEncountered</ResultCode>
    <ResultCodeAsInt>1</ResultCodeAsInt>
    <WorkOrderNumber>123</WorkOrderNumber>
    <Tasks>
      <TaskResult>
        <ResultCode>OK</ResultCode>
        <ResultCodeAsInt>0</ResultCodeAsInt>
        <TaskNumber>444</TaskNumber>
      </TaskResult>
      <TaskResult>
        <ResultCode>TaskTypeNotFound</ResultCode>
        <ResultCodeAsInt>1006</ResultCodeAsInt>
      </TaskResult>
    </Tasks>
  </CreateOrUpdateWorkOrderAndTasksResult>
</CreateOrUpdateWorkOrderAndTasksResponse>
```

```

        <TaskNumber>333</TaskNumber>
    </TaskResult>
</Tasks>
</CreateOrUpdateWorkOrderAndTasksResult>
</CreateOrUpdateWorkOrderAndTasksResponse>

```

Parameter	Description
ResultCode, ResultCodeAsInt	The result of the verification process. The codes can be one of the following: 0,1,1001,1002,1003,1004,1007,1008,1009,1010,1011,1012,1019,1020,9999 For the full list of available values see Appendix F –Result Codes Details
WorkOrderNumber	The number of the work order
Tasks	A collection of Tasks: ResultCode, ResultCodeAsInt – The result of the verification process. The codes can be one of the following: 0,2,1002,1003,1004,1006,1007,1008,1009,1014,1015,1016,1017,1018,1020,1023,1034,9999 TaskNumber – The number of the task.

ImportTasks Web Method

This web method allows import tasks from an attached file. Tasks on the server will be created, updated or disabled according to the attached file.

Located in /services/taskmanagement.asmx

The web method accepts parameters request which needs to be at the following format:

```

<ImportTasks xmlns="Trackem.Web.Services">
  <Request>
    <UserName>UserName</UserName>
    <Password>Password</Password>
    <DataSource>
      <Data>base64Binary data</Data>
      <DataFormat>Xls</DataFormat>
      <FirstRowHasColumnNames>true</FirstRowHasColumnNames>
      <FileName>TasksFileName.xls</FileName>
    </DataSource>
    <ColumnMapping>
      <TaskNumber>A</TaskNumber>
      <OrderInRoute>L</OrderInRoute>
      <CustomerNumber>C</CustomerNumber>
      <DistributionAreaNumber>D</DistributionAreaNumber>
      <EmployeeNumber>E</EmployeeNumber>
      <StartDate>F</StartDate>
      <StartTime>G</StartTime>
      <StartDateTime>H</StartDateTime>
      <Duration>I</Duration>
      <TaskTypeCode>G</TaskTypeCode>
      <Notes>K</Notes>
      <Description>B</Description>
      <CoordinationPhone>M</CoordinationPhone>
      <CoordinationPhone2>N</CoordinationPhone2>
      <ContactName>O</ContactName>
      <ContractorCode>O</ContractorCode>
      <CustomerName>P</CustomerName>
      <Categories>Q</Categories>
      <Email>R</Email>
      <X>S</X>
      <Y>T</Y>
      <Data1>S</Data1>
      <Data30>T</Data30>
      <Capacity1>U</Capacity1>
      <OrderInAggregate>V</OrderInAggregate>
      <SendNotificationToMobile>W</SendNotificationToMobile>
      <MaximalRadiusForEntries>X</MaximalRadiusForEntries>
      <ProhibitEntriesOutsideRadius>Y</ProhibitEntriesOutsideRadius>
      <TimeWindows>AA</TimeWindows>
      <TimeWindowPriority>AB</TimeWindowPriority>
      <ServiceTime>AC</ServiceTime>
      <JointServiceTime>AD</JointServiceTime>
      <Priority>Z</Priority>
    </ColumnMapping>
    <Options>
      <TaskExistsOption>Update</TaskExistsOption>
    </Options>
  </Request>
</ImportTasks>

```

```

<SendNotificationToMobile>ByColumn</SendNotificationToMobile>
<DateFormat>YYYYMMDD</DateFormat>
<TimeFormat>HHMM</TimeFormat>
<UsePartialResolvedAddresses>Y</UsePartialResolvedAddresses>
<AutoAssignDistributionAreaByTaskLocation>boolean</AutoAssignDistributionAreaByTaskLocation>
</Options>
</Request>
</ImportTasks>

```

Parameter	Data Type	Description
UserName	String (Required)	A valid username for using this web method
Password	String (Required)	A valid password for using this web method
DataSource	Object (Required)	An object of the data source of the imported file.
DataSource.Data	Byte array (Required) Can be omitted if data format is Xml)	Base64 encoding of the bytes of the data file
DataSource.DataString	String (Required Can be omitted if data format is not Xml)	String URL Encoded of the Xml
DataSource.DataFormat	Enumerator (Required)	<p>Specifies the type of file the data bytes are. Values are:</p> <p>Xls Xlsx Ods CsvCommaDelimited_Ansi CsvSemicolonDelimited_Ansi CsvTabDelimited_Ansi CsvCommaDelimited_Utf8 CsvSemicolonDelimited_Utf8 CsvTabDelimited_Utf8 Xml</p> <p>When using Csv, if the file is not in Utf8 use ANSI. Here the file should be in the server's default ANSI code page.</p> <p>⚠ See Appendix E for a sample of the XML format.</p>
DataSource.FirstRowHasColumnNames	Boolean (Required)	<p>If set to true, the ColumnMapping tag should hold mapping to names appearing on the first row. If set to false, the ColumnMapping tag should hold mapping to column numbers (the first column is 0).</p> <ul style="list-style-type: none"> • If DataFormat=Xml, this field should be set to true.
DataSource.FileName	String (Optional)	The file name
ColumnMapping	Object (Required)	An object that maps the columns of the file to properties.
ColumnMapping.TaskNumber	Int64 (Required)	The number of the Task
ColumnMapping.CustomerNumber	String (Optional)	The number of the customer in the server
ColumnMapping.DistributionAreaNumber	String (Optional)	The number of the distribution area in the server
ColumnMapping.EmployeeNumber	String (Optional) ¹	The number of the employee that will be associated with the task.
ColumnMapping.VIN	String (Optional) ¹	The VIN of the vehicle that will be

		associated with the task.
ColumnMapping.StartDate	DateTime (Required. Can be omitted if StartDateTime is set).	The start date of the task. The format is set in Options.DateFormat
ColumnMapping.StartTime	DateTime (Required. Can be omitted if StartDateTime is set).	The start time of the task. The format is set in Options.TimeFormat
ColumnMapping.StartDateTime	DateTime (Required. Can be omitted if StartDate and StartTime is set).	The start date and time of the task. The format is set in Options.DateFormat and Options.TimeFormat
ColumnMapping.Duration	Double (Optional)	The duration in hours of the task. For two-and-a-half hours set the value to 2.5. If not supplied will be taken from the task type duration or be set as default for 30 minutes.
ColumnMapping.Description	String (Required)	The description of the task
ColumnMapping.Notes	String (Optional)	Notes about the task
ColumnMapping.CoordinationPhone, CoordinationPhone2	String (Optional)	Task related phones. Used if the Customer Number parameter is not given.
ColumnMapping.ContactName	String (Optional)	The contact name. Used if the Customer Number parameter is not given.
ColumnMapping.ContractorCode	String (Optional)	The contractor code was set on the server.
ColumnMapping.CustomerName	String (Optional)	The Customer name. Used if the Customer Number parameter is not given.
ColumnMapping.TaskTypeCode	String (Optional)	The code of the task type as set on the server
ColumnMapping.X	Double (Optional)	The X (longitude) coordinate of the task
ColumnMapping.Y	Double (Optional)	The Y (latitude) coordinate of the task
ColumnMapping.Address	String (Required)	The text address of the task.
ColumnMapping.Data1..30	String (Optional)	Data fields for custom use
ColumnMapping.ExternalCreationDate	String (Optional)	A creation date for the task that is from an external source
ColumnMapping.Categories	String (Optional)	An optional comma delimited string to specify the task categories (e.g. VIP, North)
ColumnMapping.Email	String (Optional)	An optional email address assigned to the task
ColumnMapping.MaximalRadiusForEntries	Double (Optional)	If set, limits entries on the task to a specific radius from the task location
ColumnMapping.OrderInRoute	Int16 (Optional)	If set shows the task order relative to other tasks for the same resource.
ColumnMapping.TimeWindows	String (Optional)	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
ColumnMapping.TimeWindowPriority	Byte (Optional)	The priority of the task in the time window
ColumnMapping.ServiceTime	Short (Optional)	The service time of the task in minutes
ColumnMapping.JointServiceTime	Short (Optional)	The joint service time of the task in minutes
ColumnMapping.State	String (Optional)	The state the task
ColumnMapping.City	String (Optional)	The city of the task
ColumnMapping.Street	String (Optional)	The street of the task
ColumnMapping.HouseNum	String (Optional)	The house number of the task
ColumnMapping.Zip	String (Optional)	The zip of the task
ColumnMapping.DoNotShowRefreshMess	String (Optional)	Will not show notification to the mobile

ageInMobile		device
ColumnMapping.Capacity1 - Capacity5	Double (Optional)	The capacities of the task.
ColumnMapping.AggregateNumber	Int64 (Optional)	The aggregate number of the task
ColumnMapping.OrderInAggregate	Byte (Optional)	The order of the task in the aggregate
ColumnMapping.ProhibitEntriesOutsideRadius	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries. If the value differs from the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry
ColumnMapping.UseQuantityOnlyCatalogItemEntryForm	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the form linked with the add catalog item to entry will not be shown
ColumnMapping.AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then in this task the resource may add items from his private catalog to the task besides the task's items limitation.
ColumnMapping.LimitCatalogCategoriesSelectionToCodes	String (Optional)	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the catalog category codes. See the ImportCatalog Web Method for more details.
ColumnMapping.LimitCatalogItemsSelectionToCatalogNumbers	String (Optional)	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog
ColumnMapping.Priority	Byte (Optional)	The priority of the task can be: 0 - priority is not set 1 - Lowest priority 2 - Low priority 3 - Normal priority 4 - High priority 5 - Highest priority 6 - Urgent priority
ColumnMapping.QuantityOnlyFormShowOnlyCatalogNumber	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.
ColumnMapping.UpdateTaskItemsDefaultQuantity	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then task item's default quantity will be updated based on employee's entry of quantity of the

		item.
ColumnMapping.AutoPopulateCustomDataFields	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the tasks data fields will be auto populate based on the settings in the server.
ColumnMapping.TaskCannotBeIncludedInBulkEntry	String (Optional)	If the value is any of the following values: 1, Y, YES, TRUE, T, ON, the task cannot be included in bulk entry.
ColumnMapping.SendNotificationToMobile	Boolean (Optional)	If set to true, send a notification to the mobile device associated with the employee assigned to the task. Also, changes the status of the task to SMSSent
ColumnMapping.TaskNumber_2	Int64 (Required)	The number of the Task
ColumnMapping.CustomerNumber_2	String (Optional)	The number of the customer in the server
ColumnMapping.DistributionAreaNumber_2	String (Optional)	The number of the distribution area in the server
ColumnMapping.EmployeeNumber_2	String (Optional) ¹	The number of the employee that will be associated with the task.
ColumnMapping.VIN_2	String (Optional) ¹	The VIN of the vehicle that will be associated with the task.
ColumnMapping.StartDate_2	DateTime (Required. Can be omitted if StartDateTime is set).	The start date of the task. The format is set in Options.DateFormat
ColumnMapping.StartTime_2	DateTime (Required. Can be omitted if StartDateTime is set).	The start time of the task. The format is set in Options.TimeFormat
ColumnMapping.StartDateTime_2	DateTime (Required. Can be omitted if StartDate and StartTime are set).	The start date and time of the task. The format is set in Options.DateFormat and Options.TimeFormat
ColumnMapping.Duration_2	Double (Required)	The duration in hours of the task. For two-and-a-half hours set the value to 2.5
ColumnMapping.Description_2	String (Required)	The description of the task
ColumnMapping.Notes_2	String (Optional)	Notes about the task
ColumnMapping.CoordinationPhone_2, CoordinationPhone2_2	String (Optional)	Task related phones. Used if the Customer Number parameter is not given.
ColumnMapping.ContactName_2	String (Optional)	The contact name. Used if the Customer Number parameter is not given.
ColumnMapping.ContractorCode_2	String (Optional)	The contractor code as set on the server.
ColumnMapping.CustomerName_2	String (Optional)	The Customer name. Used if the Customer Number parameter is not given.
ColumnMapping.TaskTypeCode_2	String (Optional)	The code of the task type as set on the server
ColumnMapping.X_2	Double (Optional)	The X (longitude) coordinate of the task
ColumnMapping.Y_2	Double (Optional)	The Y (latitude) coordinate of the task
ColumnMapping.Address_2	String (Required)	The text address of the task.
ColumnMapping.Data1_2..Data30_2	String (Optional)	Data fields for custom use
ColumnMapping.ExternalCreationDate_2	String (Optional)	A creation date for the task that is from an external source
ColumnMapping.Categories_2	String (Optional)	An optional comma delimited string to specify the task categories (e.g. VIP, North)
ColumnMapping.Email_2	String (Optional)	An optional email address assigned to the task

ColumnMapping.MaximalRadiusForEntries_2	Double (Optional)	If set, limits entries on the task to a specific radius from the task location
ColumnMapping.OrderInRoute_2	Int16 (Optional)	If set shows the task order relative to other tasks for the same resource.
ColumnMapping.TimeWindows_2	String (Optional)	The time windows of the task. E.g. 8-12,12:20-14,14:30-17:30
ColumnMapping.TimeWindowPriority_2	Byte (Optional)	The priority of the task in the time window
ColumnMapping.ServiceTime_2	Short (Optional)	The service time of the task in minutes
ColumnMapping.JointServiceTime_2	Short (Optional)	The joint service time of the task in minutes
ColumnMapping.State_2	String (Optional)	The state the task
ColumnMapping.City_2	String (Optional)	The city of the task
ColumnMapping.Street_2	String (Optional)	The street of the task
ColumnMapping.HouseNum_2	String (Optional)	The house number of the task
ColumnMapping.Zip_2	String (Optional)	The zip of the task
ColumnMapping.DoNotShowRefreshMessageInMobile_2	String (Optional)	Will not show notification to the mobile device
ColumnMapping.Capacity1_2 - Capacity5_2	Double (Optional)	The capacities of the task.
ColumnMapping.ProhibitEntriesOutsideRadius_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then entries to the task will be prohibited unless the employee is in the MaximalRadiusForEntries. If the value differs from the specified values and a maximal radius has been set, a warning will be displayed to the employee asking him if he wants to send the entry
ColumnMapping.UseQuantityOnlyCatalogItemEntryForm_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a list of catalog items with quantity only. Item price, discount and the form linked with the add catalog item to entry will not be shown
ColumnMapping.AllowSelectionOfPrivateCatalogItemsRegardlessOfTaskLimitations_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then in this task the resource may add items from his private catalog to the task besides the task's items limitation.
ColumnMapping.LimitCatalogCategoriesSelectionToCodes_2	String (Optional)	Limits the catalog that will be displayed to the employee when making entries for this task to catalog categories specified in this list. The list is expressed as a comma separated value list and should include the catalog category codes. See the ImportCatalog Web Method for more details.
ColumnMapping.LimitCatalogItemsSelectionToCatalogNumbers_2	String (Optional)	Limits the items that will be displayed to the employee when making entries for this task to catalog items specified in this list. The list is expressed as a comma separated value list and should include the catalog number of the items. See the ImportCatalog Web Method for details on creating the item catalog
ColumnMapping.Priority_2	Byte (Optional)	The priority of the task can be: 0 - priority is not set

		<p>1 - Lowest priority 2 - Low priority 3 - Normal priority 4 - High priority 5 - Highest priority 6 - Urgent priority</p>
ColumnMapping.SendNotificationToMobile_2	Boolean (Optional)	If set to true, send a notification to the mobile device associated with the employee assigned to the task. Also, changes the status of the task to SMSSent
ColumnMapping.QuantityOnlyFormShowOnlyCatalogNumber_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the task entry form will display a quantity only list with catalog items numbers only. Only relevant if UseQuantityOnlyCatalogItemEntryForm is in use.
ColumnMapping.UpdateTaskItemsDefaultQuantity_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then task item's default quantity will be updated based on employee's entry of quantity of the item.
ColumnMapping.AutoPopulateCustomDataFields_2	String (Optional)	If the value is any of the following values 1, Y, YES, TRUE, T, ON then the tasks data fields will be auto populate based on the settings in the server.
ColumnMapping.TaskCannotBeIncludedInBulkEntry_2	String (Optional)	If the value is any of the following values: 1, Y, YES, TRUE, T, ON, the task cannot be included in bulk entry.
Options	Object (Required)	Sets various options
Options.TaskExistsOption	Enumerator (Required)	What to do if the task number already exists: Update – update the task data. UpdateNewStatus - update the task data and set the task's status to New. DontTouch – don't change the task.
Options.SendNotificationToMobile	Enumerator (Required)	Define if to send a notification on all the tasks in the file: Yes - sends a notification to the mobile device associated with the employee assigned to each task in the file. Also changes the status of the tasks to SMSSent. No – will not send a notification to the mobile device associated with the employee assigned to each task. ByColumn – will be defined per task by a column in the imported file.
Options.AutoAddPickupOrDeliveryPrefixToTaskDescription	Boolean (Optional)	If set to true, will add a prefix for one task of Pickup and to task_2 will add a prefix of Delivery.
Options.DateFormat	String (Required)	Set the format of the date for the StartDate field. More information on formats you can find here .
Options.TimeFormat	String (Required)	Set the format of the time for the StartTime field. More information on formats you can find here .
Options.UsePartialResolvedAddresses	Boolean (Optional)	If set to true, will use the address if it is

		partially resolved for the task.
Options.UsePartialResolvedAddresses_2	Boolean (Optional)	If set to true, will use the address if it is partially resolved for the task_2.
Options.AutoAssignUnassignedTasksByTaskLocation	Boolean (Optional)	If set to true, Will automatically assign an employee to a task based on the task's XY, will find the first polygon from type distribution area that contains the task's XY and will find the first employee associated to the distribution area and assign him to the task. If no employee is found, the task will remain unassigned.
Options.AutoAssignDistributionAreaByTaskLocation	Boolean (Optional)	If set to true, will automatically assign Distribution Area to a task based on the task's XY.
Options. AutoPopulateCustomDataFields	Enumerator (Required)	Define if the tasks data fields will be auto populate based on the settings in the server for tasks in the file: Yes - the tasks data fields will be auto populate based on the settings in the server for tasks in the file. No – will not auto populate task's data fields for all tasks in the file. ByColumn – will be defined per task by a column in the imported file.
Options. AutoPopulateCustomDataFields_2	Enumerator (Required)	Define if the tasks data fields will be auto populate based on the settings in the server for tasks in the file: Yes - the tasks data fields will be auto populate based on the settings in the server for tasks in the file. No – will not auto populate task's data fields for all tasks in the file. ByColumn – will be defined per task by a column in the imported file.

- All the fields that end with _2 are for importing 2 tasks in one row (for pickup and delivery option). The required field _2 is only required if using importing 2 tasks.

The web method will return this object

```
<ImportTasksResponse xmlns="Trackem.Web.Services">
  <ImportTasksResult>
    <ReturnValue>OK</ReturnValue>
    <RowsImported>10</RowsImported>
    <RowsRead>10</RowsRead>
    <Data>base64Binary</Data>
    <DataString>string</DataString>
    <DataFormat>Xls</DataFormat>
  </ImportTasksResult>
</ImportTasksResponse>
```

Parameter	Description
ReturnValue	The result value of the import process. The code can be: OK – catalog imported successfully. InvalidUserNameOrPasswordOrIPAddress – The supplied username and password are not valid UnknownErrorOccurred – An unknown error occurred InvalidRequest – The request XML could not be parsed InvalidDataFile – the data file could not be opened InvalidColumnMapping – the mapping XML is not valid SomeRowsSkipped – some of the imported rows were skipped because of missing required data
RowsImported	Number of rows imported from the file.

RowsRead	Number of rows read from the file.
Data	Base64 encoding of the bytes of the return file.
DataStream	String URL Encoded of the return file. <ul style="list-style-type: none">• Only if DataFormat=Xml , this field will be in use.
DataFormat	Specifies the type of file the data bytes are.

Deprecated parameters from existing methods

This section details parameters in existing active methods that are deprecated and the date they will be removed and no longer be supported.

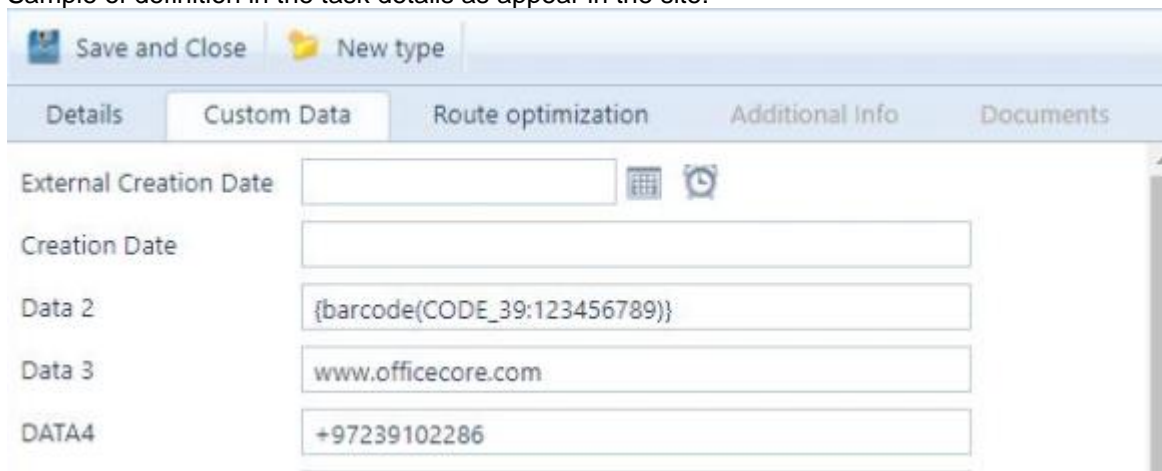
Method	Parameter	Notes
GetPointOfInterestList	CustomerNumber	Part of the result
GetPointOfInterestList	LayerName	Part of the result
ImportEmployee	FirstName, LastName	Will be represented in the FullName
GetEmployeeList	FirstName, LastName	Part of the result. Will be represented in the FullName.
Post Xml- Data tag	Xml	Data type XML in the return post XML
Post Xml- Tasks tag	Layer	Renamed to ParentPoi
Post Xml- Tasks tag	CoordinationPhone, CoordinationPhone2	Renamed to Phone1, Phone2
Post Xml	PreviousRelatedEntries tag	Renamed to RelatedEntries
Post Xml- Employee tag	FirstName, LastName	Will be represented in the FullName

Appendix J – Displaying information in Tasks

In task's custom data fields, we can display information as hyperlinks in the mobile app in the following cases:

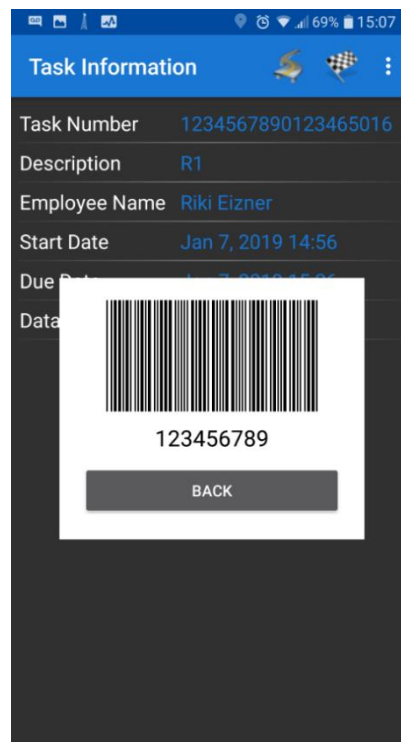
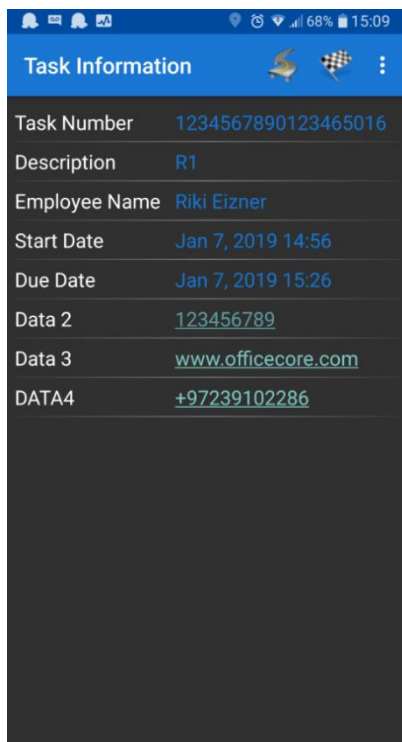
- Phone Number – define in the task's data field a phone number, when clicking on the phone number will open phone with the number to allow dialing to this number.
- URL – define in the task's data field URL address, when clicking on the website's URL will open the device's browser with the site open.
- Barcode – defining `{barcode(<code>:<value>)}` in the task's data fields.
 - `<Code>` needs to be replaced with one of the following values: AZTEC, CODE_39, CODABAR, CODE_93, CODE_128, DATA_MATRIX, EAN_8, EAN_13.
 - `<value>` needs to be replaced with the value of the barcode.
 When clicking on the barcode will open an image of the barcode by the selected code.

Sample of definition in the task details as appear in the site:



Field	Value
External Creation Date	[Empty field]
Creation Date	[Empty field]
Data 2	<code>{barcode(CODE_39:123456789)}</code>
Data 3	www.officecore.com
DATA4	+97239102286

How it will look in the OfficeTrack mobile app:



Appendix K – Tasks with limit items (Assign specific catalog items to task)

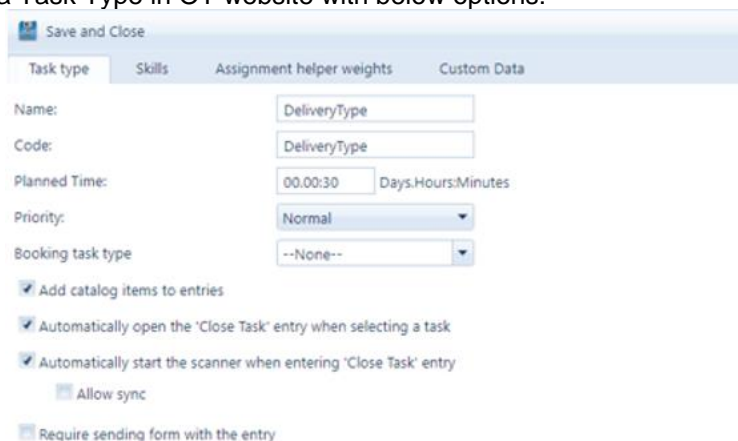
When creating tasks, there is an option to limit the employee to use pre-defined catalog items when reporting on a task.

Use Case: Create specific catalog items during task creation – Mainly for pickup or delivery of pre-defined items during task execution

You may create a task and 'link' catalog items to it. Employee will get the task with catalog items and will validate each item. This is doesn't affect the from creation. List of task's catalog items will be added at the end of form automatically.

1. Setup

Create a Task Type in OT website with below options:



- These options will effect on the task appearance and functionality on employee's OT App. Specifically, these options support:
 - Display in the form a list of catalog items linked to the task.
 - Automatically open the close task entry when selecting a task in the list.
 - Automatically start the scanner when entering close task entry.

Note: Above settings can be defined either at task type or at Employee Profile.

2. Creating Tasks

Create a task with limit to catalog items by using a WS [CreateOrUpdateTask](#). The items will be created as part of task creation.

Sample request:

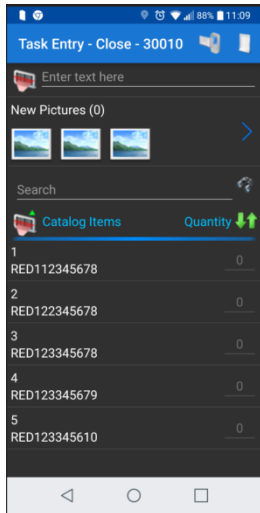
```
<?xml version="1.0"?>
<CreateOrUpdateTaskRequest xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <UserName>UserName</UserName>
  <Password>Password</Password>
  <Operation>AutoSelect</Operation>
  <TaskNumber>30010</TaskNumber>
  <CustomerNumber>Office core</CustomerNumber>
  <EmployeeNumber>10000015</EmployeeNumber>
  <DueDateAsYYYYMMDDHHMMSS>20181021150000</DueDateAsYYYYMMDDHHMMSS>
  <Duration>0.5</Duration>
  <Description>Delivery</Description>
  <Status>NewTask</Status>
  <TaskTypeCode>DeliveryType</TaskTypeCode>
  <Options>CreateCatalogItemsAssignToTaskResource</Options>

  <LimitCatalogItemsSelectionToCatalogNumbers>RED112345678, RED122345678, RED123345678, RED123345679, RE
D123345610</LimitCatalogItemsSelectionToCatalogNumbers>
  <CreateCatalogItemNames>1, 2, 3, 4, 5</CreateCatalogItemNames>
  <CreateCatalogItemCategory>1</CreateCatalogItemCategory>
  <UseQuantityOnlyCatalogItemEntryForm>1</UseQuantityOnlyCatalogItemEntryForm>
</CreateOrUpdateTaskRequest>
```

</CreateOrUpdateTaskRequest>

3. Adding and validating items when closing a task

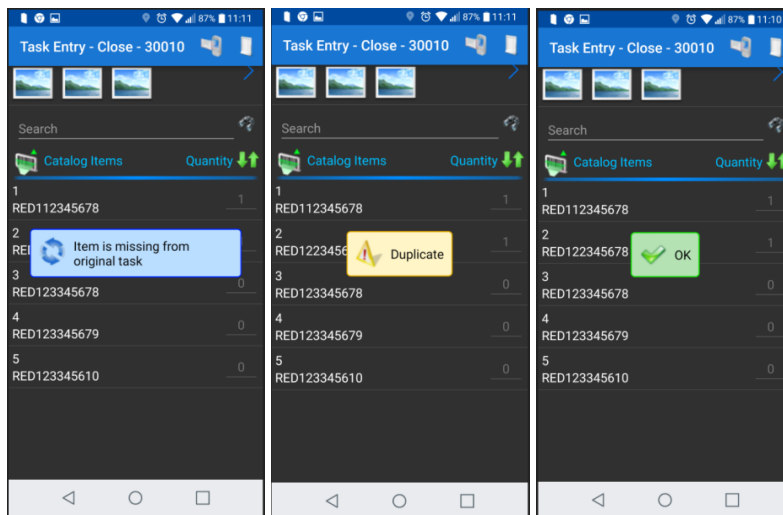
In the OT app when selecting a task, the close task entry form will be opened automatically displaying the limited catalog item list for delivery or withdrawn (based on the settings defined in Setup).




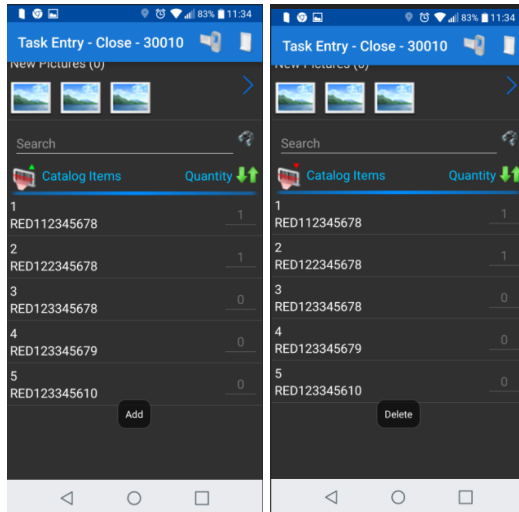
If defined, the scanner will also open automatically to allow to scan and validating the items.

The employee will start validating the catalog items by scanning each item. The validation process can show one of the below messages:

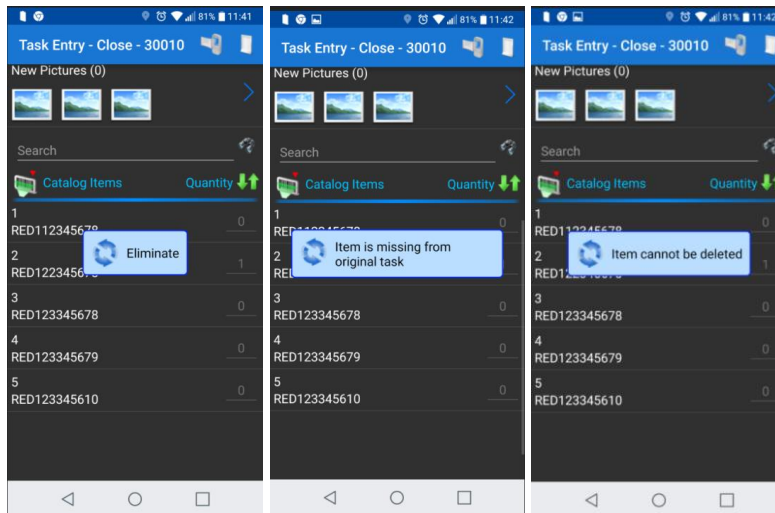
- "OK" message - Item added, the item exists in the task, the quantity will be increased to 1.
- "Duplicate" message - Item was already scanned, quantity will remain 1.
- "Item is missing from original task" message - The item does not exist in the task limitation.



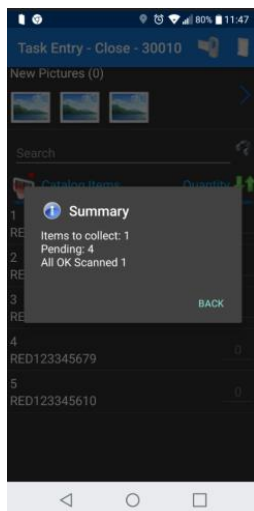
A long press on the barcode reader icon  will change the functionality from "Add" an item by scan to "Delete" an item by scan. "Add" will increase the quantity to 1 and "Delete" will decrease the quantity to 0.



In the Delete option several messages can appear when scanning an item:

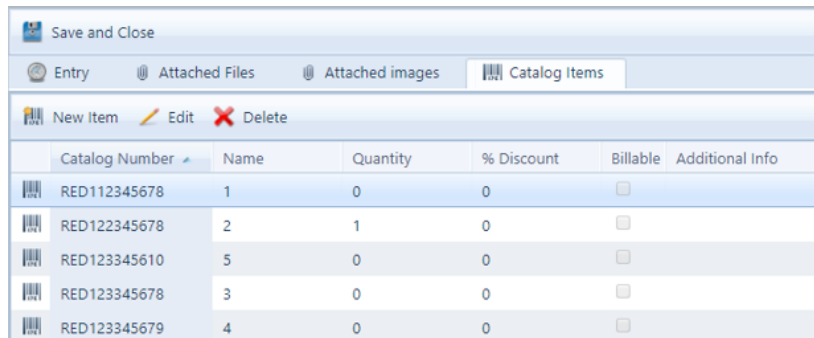


While validating the items, employee can see the summary of actions by pressing on upper right icon in the close task entry. The summary will show the number of items collected, missed, etc.



4. Viewing selected items in the OT site

On the OT website, when the entry arrives to the system you can see at "Task Entry" screen which items were scanned, and which were not scanned by their quantity.



The screenshot shows a software interface for 'Task Entry'. At the top, there is a 'Save and Close' button and a navigation bar with 'Entry', 'Attached Files', 'Attached images', and 'Catalog Items'. Below the navigation bar are buttons for 'New Item', 'Edit', and 'Delete'. The main area contains a table with the following data:

Catalog Number	Name	Quantity	% Discount	Billable	Additional Info
RED112345678	1	0	0	<input type="checkbox"/>	
RED122345678	2	1	0	<input type="checkbox"/>	
RED123345610	5	0	0	<input type="checkbox"/>	
RED123345678	3	0	0	<input type="checkbox"/>	
RED123345679	4	0	0	<input type="checkbox"/>	