TimePunch

TimePunch API Specification v3.6

User Manual

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TimePunch
TRACKING PROGRESS NOT ONLY HOURS

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Introduction

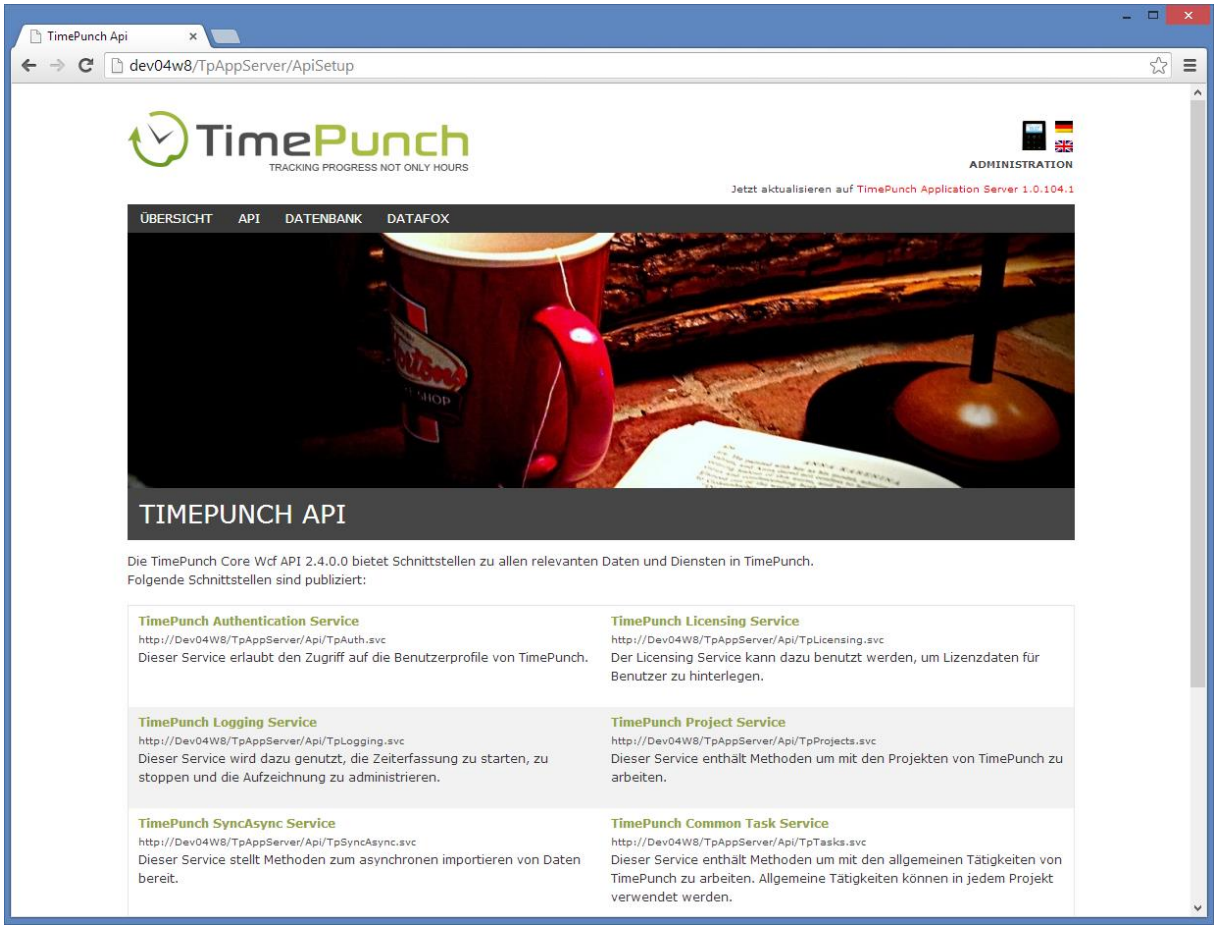
This document describes the usage of the TimePunch API. It's the goal to enable the developer to communicate with the backend of TimePunch, to exchange data and to integrate TimePunch into the IT-Infrastructure.

Installation

The TimePunch API will be installed and delivered with the TimePunch Application Server.

Access

Within the Server the exported services can be accessed with a click to the menu "API". The API page contains the URLs to the exported services.



Service-Formats

The TimePunch API has been implemented with the Windows Communication Foundation (WCF). The Services can be accessed via the WS and SOAP Binding.

A Web API is planned, but yet not available.

WS-http Binding:

The WS-http Binding URL equals the address that is listed in the TimePunch Server. E.g. z.B. http://tpServer/TimePunch/API/TpAuth.svc

Basic-http Binding (SOAP Binding):

The address for the Basic-http Binding, or SOAP Binding, equals the address of the WS-http binding with a SOAP postfix. e.g. http://tpServer/TimePunch/API/TpAuth.svc/soap

Services

The following pages describe the different services of the TimePunch API.

TimePunch Authentication Service

This service enables the access to the user profiles of TimePunch.

IsDatabaseValid

This method checks the database structure of the transferred modules. If the database structure of a module does not fit, an error message is returned in the fault object.

```
void IsDatabaseValid(
        TpAuthentication authentication,
        string[] moduleKeys,
        out TpFault fault);
```

Needed Permission		---
Name	Modifier	Description

fault	Out	Contains the error if an exception occurs.
		
		`AuthenticationFailure.TimePunchOutdated`
		`AuthenticationFailure.OldDatabaseVersion`
		`AuthenticationFailure.NoDatabaseConnection`
		`AuthenticationFailure.UnexpectedException`

authentication		User authentication
moduleKeys		List of module identifier to check the database structure

The Fault object returned is of type `TpAuthenticationFault`

The following module keys are currently known:

Schlüssel	Modul
Datafox	Datafox – Time recording devices
Attendance	TimePunch Attendance – Attendance Sheet
Cutter	TimePunch Cutter – Working Hour Window
Calendar	TimePunch Calendar – Leave Requests
SelfService	TimePunch SelfService – Personal data
Online	TimePunch Online - Mobile time recording
Studio	TimePunch Studio - Time recording at the central service PC
Watcher	TimePunch Watcher - Time recording at the own PC
Management	TimePunch Management - Manage employees and working time

ValidateAuthentication

This method validates the authentication data and returns the user permissions after the successful validation of the user. Additionally the user license gets validated against the given application keys. If the application keys are null, it gets validated if the user owns at least one application license, independent of which.

```
List<string> ValidateAuthentication (
      out TpFault fault,
      TpAuthentication authentication
      string[] applicationKeys);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Keys of the application for which the license informations shall be validated.
return value		Collection of the user permissions

The application keys are defined in the class `TimePunch.Enums.Core.ApplicationKeys` as constant values.

ValidateAuthenticationWithProductLine

This method checks the specified credentials and returns user privileges after successful validation. If no application key is specified, the system only checks whether the user has a license at all - regardless of which one it is.

In addition, this method returns the licensed product line.

```
List<string> ValidateAuthenticationWithProductLine(
      out TpFault fault,
      TpAuthentication authentication,
      string[] applicationKeys,
      out ProductLine licensedProductLine);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Keys of the application for which the license informations shall be validated.

LicensedProductLine	Out	Productline that is used by the user.
		`Undefined ➔ Currently no product line is set`
		`TimePunchPro ➔ Licensed for TimePunch PRO`
		`TimePunchOne ➔ Licensed for TimePunch ONE`
		`TimePunchTen ➔ Licensed for TimePunch TEN`

return value		Collection of the user permissions

The application keys are defined as constants in the class `TimePunch.Enums.Core.ApplicationKeys`.

GetCoveredUserProfiles

This method identifies all TimePunch profiles which the user can administrate. All TimePunch profiles that are returned with this method can be used as the identity Parameter for the authentication object.

```
List<UserProfileDto> GetCoveredUserProfiles(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
return value		Collection of the user profiles that the given authentication can administrate.

GetEntitledUserProfiles

This method returns all TimePunch profiles. This result is independent of the user authentication.

```
List<UserProfileDto> GetEntitledUserProfiles(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		---
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
return value		Collection of the user profiles that are authorized to use TimePunch.

GetLicensedUserProfiles

This method returns all TimePunch profiles, which owns an active and valid license. Additionally the user license gets validated against the given application keys. If the application keys are null, it gets validated if the user owns at least one application license, independent of which.

```
List<UserProfileDto> GetLicensedUserProfiles (
      out TpFault fault,
      TpAuthentication authentication,
      string[] applicationKeys);
```

Needed Permission		---
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Keys of the application for which the license informations shall be validated.
return value		Collection of the user profiles that own a valid TimePunch license.

The application keys are defined in the class `TimePunch.Enums.Core.ApplicationKeys` as constant values.

SearchAuthorizedUsers

This method can be used to search for staff members which can logon to the system. That are most users that have access to TimePunch.

```
List<UserProfileDto> SearchAuthorizedUsers(
      out TpFault fault,
      TpAuthentication authentication,
      UserSearchDto userSearchDto);
```

Needed Permission		---
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userSearchDto		Search object that specifies what to search for.
return value		Collection of the user profiles that are authorized to use TimePunch.

SearchUserLogons

This method can return extended information to the user profiles. Additionally to the basic data, the permissions and the first / last entry date of the user profile will be returned.

```
List<UserLogonDto> SearchUserLogons(
       out TpFault fault,
       TpAuthentication authentication,
       UserSearchDto userSearchDto)
```

Needed Permission		userProfiles@access
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userSearchDto		Search object that specifies what to search for.
return value		Collection of the user profiles that are authorized to use TimePunch.

SetPassword

This method is used to set the logon password for a member. The password will only be set for the member that is authenticated through the authentication object.

```
void SetPassword(
       out TpFault fault,
       TpAuthentication authentication,
       string newHashedPwd);
```

Needed Permission		password@manage
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
newHashedPwd		New Password. The password must already been hashed with the MD5 algorithm.

GetAutoRegistration

This method returns internal information about the Auto-Registration feature of TimePunch. This feature allows new employees to log in directly to TimePunch without having an administrator create the profile in TimePunch.

```
AutoregistrationDto GetAutoRegistration(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		---
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
return value		Information about the auto-registration feature of TimePunch.

SaveAutoRegistration

Use this method to set or change the Auto-Registration feature of TimePunch.

```
void SaveAutoRegistration(
        out TpFault fault,
        TpAuthentication authentication,
        AutoregistrationDto autoregistration);
```

Needed Permission		core@administrate
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
autoregistration		Information about the auto-registration feature of TimePunch

TimePunch Configuration Service

TimePunch's configuration service provides methods for reading and/or saving settings in TimePunch.

LoadCostCenterSettings

This method returns the cost centers defined in TimePunch for the different posting types.

```
CostCenterDto LoadCostCenterSettings(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		Information about the cost centers

SaveCostCenterSettings

This method allows you to save the cost centers for the different booking types in TimePunch.

```
void SaveCostCenterSettings(
        out TpFault fault,
        TpAuthentication authentication,
        CostCenterDto costCenter);
```

Needed Permission		datev@export
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
costCenter		Information about the cost centers

LoadDatevExportSettings

This method loads the settings for exporting to DATEV.

```
DatevExportDto LoadDatevExportSettings(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		Information about the datev settings

SaveDatevExportSettings

This method saves the settings for the DATEV export.

```
void SaveDatevExportSettings(
        out TpFault fault,
        TpAuthentication authentication,
        DatevExportSaveDto datevExport);
```

Needed Permission		datev@export
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
datevExport		Information about the datev settings

LoadLexwareExportSettings

This method loads the settings for exporting to LEXWARE..

```
LexwareExportDto LoadLexwareExportSettings(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		Information about the Lexware settings

SaveLexwareExportSettings

This method saves the settings for the LEXWARE export.

```
void SaveLexwareExportSettings(
        out TpFault fault,
        TpAuthentication authentication,
        LexwareExportDto LexwareExport);
```

Needed Permission		lexware@export
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
LexwareExport		Information about the Lexware settings

LoadUserSettings

This method loads settings that affect all users equally and cause a special behavior in TimePunch.

```
UserSettingsDto LoadUserSettings(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		User settings object

SaveUserSettings

This method saves the settings for the special behavior in TimePunch.

```
void SaveUserSettings(
       out TpFault fault,
       TpAuthentication authentication,
       UserSettingsDto userSettings);
```

Needed Permission		core@administrate
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userSettings		Information about the datev settings

TimePunch Common Task Service

This service contains methods in order to work with common tasks of TimePunch. Common Tasks can be used in any project.

GetActiveCommonTasks

This method loads all common tasks that are active. Active tasks are such which have no delete flag set.

```
List<TaskDto> GetActiveCommonTasks(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		commonTasks@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		Collection of active common tasks

GetAllCommonTasks

This method load all common tasks, independently if they are marked as deleted or not.

```
List<TaskDto> GetAllCommonTasks(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		commonTasks@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		Collection of common tasks

ImportTasks

This method imports the transferred activities. In contrast to the Save method, the activities are not mapped by ID, but by name.

```
List<TaskDto> ImportTasks(
      out TpFault fault,
      TpAuthentication authentication,
      List<TaskDto> tasks);
```

Needed Permission		commonTasks@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
tasks		Collection of common tasks to import
Return Value		Returns a collection of all common tasks

LoadCommonTask

This method loads a single task. This can be useful if one has to reload a deleted task for a single time entry.

```
TaskDto LoadCommonTask(
      out TpFault fault,
      TpAuthentication authentication,
      Guid taskId);
```

Needed Permission		commonTasks@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		The loaded task

SaveCommonTasks

This method stores the common task list to the database. It's important that the list contains all active tasks. Tasks that are not within the list, will be marked as deleted automatically.

```
void SaveCommonTasks(
      out TpFault fault,
      TpAuthentication authentication,
      IEnumerable<TaskDto> tasks);
```

Needed Permission		commonTasks@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
tasks		Collection of active common tasks

TimePunch Customer Service

This service provides an interface for accessing the customer data that are stored in TimePunch.

CreateCustomer

This method creates a new customer object and returns it. The customer data won't be stored in the database.

```
CustomerDto CreateCustomer(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		customers@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		New CustomerDTO object with the preset of customer data.

SaveCustomers

This method saves the customer to the database and returns the stored data as a result again.

```
CustomerDto[] SaveCustomers(
        out TpFault fault,
        TpAuthentication authentication,
        CustomerDto[] customers);
```

Needed Permission		customers@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
customers		Array of customer data to store in the database
Return value		The customer data that has been stored in the database.

ImportCustomers

This method imports the given customer data in the database. The difference to the save method is that the customer data is identified with the customers Ref Nr and the Name, instead of the Id.

```
CustomerDto[] ImportCustomers(
        out TpFault fault,
        TpAuthentication authentication,
        CustomerDto[] customers);
```

Needed Permission		customers@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
customers		Array of customer data to import in the database
Return value		The customer data that has been stored in the database.

LoadCustomers

This method loads the customer data with the passed customer ids. The method should be preferred to the search, if the IDs of the customer data are known.

```
CustomerDto[] LoadCustomers(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] customerIds);
```

Needed Permission		customers@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
customerIds		Array of customer ids to load from the database
Return value		The customer data that has been loaded from the database.

MarkCustomersAsDeleted

This method marks the customer data as deleted. But the data won't be physically deleted.

```
void MarkCustomersAsDeleted(
       out TpFault fault,
       TpAuthentication authentication,
       Guid[] customerIds);
```

Needed Permission		customers@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
customerIds		Array of customer ids to mark as deleted in database

DeleteCustomers

This method attempts to physically delete the customer's data in the database. If the customer is already in use, the physical deletion is no longer possible. In this case, the customer should only be marked as deleted.

```
void DeleteCustomers(
       out TpFault fault,
       TpAuthentication authentication,
       Guid[] customerIds);
```

Needed Permission		customers@manage
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
customerIds		Array of customer ids to physically delete in database

SearchCustomers

This method searches for all customers on the basis of the specified search object.

```
CustomerDto[] SearchCustomers(
        out TpFault fault,
        TpAuthentication authentication,
        CustomerSearchDto templateCustomer);
```

Needed Permission		customers@access
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
templateCustomer		Search object that holds the properties used for searching the real customers
Return value		Found customer data

SearchActiveCustomers

This method searches for all active customers on the basis of the specified search object.

```
CustomerDto[] SearchCustomers(
        out TpFault fault,
        TpAuthentication authentication,
        CustomerSearchDto templateCustomer);
```

Needed Permission		customers@access
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
templateCustomer		Search object that holds the properties used for searching the real customers
Return value		Found customer data

TimePunch Holiday Service

This service gains access to the public holiday definitions in TimePunch.

GetCountries

Using this method all countries and regions, that are stored in TimePunch for holiday calculation, will be returned.

```
CountryDto[] GetCountries(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		publicHolidays@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return Value		List of all defined Countries

GetPublicHolidays

This method loads all holidays of the given country with the defined year.

```
PublicHolidayDto[] GetPublicHolidays(
        out TpFault fault,
        TpAuthentication authentication,
        Guid countryId,
        int year);
```

Needed Permission		publicHolidays@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
countryId		Id of the country to load the holidays
year		Year to load the holidays
Return Value		List of all defined holidays

SavePublicHolidays

This method saves the holidays passed to the country and year defined.

```
void SavePublicHolidays(
       out TpFault fault,
       TpAuthentication authentication,
       Guid countryId,
       int year,
       PublicHolidayDto[] publicHolidayDtos)
```

Needed Permission		publicHolidays@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
countryId		Id of the country to load the holidays
year		Year to save the holidays

ExportPublicHolidays

This method exports all public holidays from TimePunch. The difference to the load method is that not only the holidays of the loaded year and country, but all holidays are returned.

```
PublicHolidayDto[] ExportPublicHolidays(
       out TpFault fault,
       TpAuthentication authentication)
```

Needed Permission		publicHolidays@export
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return Value		List of all defined holidays

ImportPublicHolidays

This method imports all public holidays from TimePunch. The difference to the storage method is that not only the holidays of the loaded year and country, but all holidays are stored.

```
void ImportPublicHolidays(
       out TpFault fault,
       TpAuthentication authentication,
       PublicHolidayDto[] publicHolidayDtos)
```

Needed Permission		publicHolidays@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
publicHolidayDtos		List of public holidays to import

TimePunch Licensing Service

This service can be used to add license information for a TimePunch Profile.

AddLicense

This method adds a TimePunch license to the internal license management.

```
ApplicationLicenseDto AddLicense(
      out TpFault fault,
      TpAuthentication authentication,
      string applicationKey,
      string licensedFor,
      string licenseCode);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKey		Currently not used!
licensedFor		License Name
licenseCode		License Code
return value		Information about the currently added license

GetApplicationLicenses

This method returns the application licenses for the given application keys.

```
ApplicationLicenseDto[] GetApplicationLicenses(
      out TpFault fault,
      TpAuthentication authentication,
      string[] applicationKeys);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to retrieve license information for.
return value		Application specific license information

GetLicensingState

This method checks the licensing of a single employee. It is also important to specify which licenses you want to search for. This is determined by the ApplicationKeys parameter. The actual licensed application key is returned. Example, a license for TimePunch PRO and PZE Watcher is searched for. If the employee has licensed the PZE Watcher, the application key for the Watcher is returned.

```
LicensingState GetLicensingState(
        out TpFault fault,
        TpAuthentication authentication,
        string[] applicationKeys,
        out int daysLeft,
        out string applicationKey);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to retrieve license information for.
daysLeft	Out	Defines how many days the license will be valid.
applicationKey	Out	Gets the application key for that the user owns a specific license.
return value		Gets the licensing state of the user `NoLicense, TestLicenseFound, TestLicenseExpired, LicenseFound, LicenseExpired, Undefined`

IsLicenseUpgradeable

This method checks whether the existing licenses can be updated to a new version of TimePunch. This is of particular interest for version-specific licenses, since these licenses are only valid for a certain version.

```
bool IsLicenseUpgradeable(
        out TpFault fault,
        TpAuthentication authentication,
        string[] applicationKeys,
        string version);
```

Needed Permission		---
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to retrieve license information for.
version		Version that shall be tested.
return value		True, if the current license is upgradable. E.g. the current version is 2.95 – the new version will be 3.2 which will than result in true as the return value.

RequestUpgradeOffer

If the result of the upgrade check is true (IsLicenseUpgradeable), you can use this method to request a quotation for the version upgrade. The method connects to TimePunch and transfers the license data so that an individual upgrade offer can be sent.

```
RequestOfferResult RequestUpgradeOffer(
        out TpFault fault,
        TpAuthentication authentication,
        string[] applicationKeys,
        RequestUpgradeOfferDto requestUpgradeOffer);
```

Needed Permission		---
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to retrieve license information for.
requestUpgradeOffer		Customer data used to send the upgrade offer
Return value		Result of the upgrade offer request `Error, NoUpgradeNecessary, AutomaticOffer, ManualOffer`

GetUserLicenses

This method returns all license data for the employees specified in the search object. It is important to specify which licenses to search. This is set by the parameter applicationKeys.

```
ApplicationKeys.UserLicenseDto[] GetUserLicenses(
        out TpFault fault,
        TpAuthentication authentication,
        string[] applicationKeys,
        UserSearchDto searchDto);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to retrieve license information for.
searchDto		Search object to specify the users for loading the license data.
return value		User specific license information

RemoveLicenses

Using this method already inserted application licenses can be removed again.

```
void RemoveLicenses(
        out TpFault fault,
        TpAuthentication authentication,
        string[] applicationKeys,
        Guid[] applicationLicenseIds);
```

Needed Permission		licenses@manage
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to register the user
applicationLicenseIds		List containing the application license ids that shall be removed for the given application keys.

RegisterUsers

This method attempts to register the specified employee profiles for the application specified in the parameter applicationKeys. This will only work if for the employees still licenses are available.

```
void RegisterUsers(
        out TpFault fault,
        TpAuthentication authentication,
        string[] applicationKeys,
        List<Guid> userIds);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to register the user
userIds		List containing the user ids that shall be registered for the given application keys.

UnregisterUsers

This method removes the license information for an employee. This removes only the licenses for the applications that are specified in the parameter applicationKeys.

```
void UnregisterUsers(
        out TpFault fault,
        TpAuthentication authentication,
        string[] applicationKeys,
        List<Guid> userIds);
```

Needed Permission		core@logon
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
applicationKeys		Specifies the application to un-register the user
userIds		List containing the user ids that shall be un-registered for the given application keys.

TimePunch Logging Service

This service is used to start and stop the time recording and to administrate the recording settings.

GetActiveTimeEntry

This method returns the current active time entry. If no time recording is active, it returns NULL.

```
ActiveTimeEntryDto GetActiveTimeEntry(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		logging@access
Name	Modifier	Description
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
return value		The active time entry or NULL, if the time tracking has not been started.

SearchActiveTimeEntries

This method searches for active time-entries with the given filter. The permission of the authenticated user will be considered. Only time entries of the user profiles that the user is allowed to access will be returned.

```
List<ActiveTimeEntryDto> SearchActiveTimeEntries(
      out TpFault fault,
      TpAuthentication authentication,
      ActiveTimeEntrySearchDto search);
```

Needed Permission		timeEntries@access / core@switchIdentity
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
search		The filter that is used to search the time entries
Return value		Collection with the found time entries

StartWorkTimeLogging

This method starts the work time recording.

```
ActiveTimeEntryDto StartWorkTimeLogging(
      out TpFault fault,
      TpAuthentication authentication,
      Guid projectId,
      Guid? taskId,
      Guid? customerId,
      string description,
      DateTime? startTime,
      out List<TimeEntryDto> todayEntries);
```

Needed Permission		startTime == null ? logging@access : logging@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectId		The id of the project that is used to start the time recording
taskId		The id of the task that is used for the time recording
customerId		The id of the customer that is used for the time recording
description		The description that will be used for the time recording
startTime		The start time of the time recording. Regularly this should be NULL; otherwise a higher user-permission is needed.
todayEntries	Out	Collection of all entries of the current day.
Return value		The current time entry that has been started by the method.

StartBreakTimeLogging

This method starts a new break time recording. It's important that this can only be done if an active time recording is already in place. A break can only be started as a part of the current work time recording.

```
ActiveTimeEntryDto StartBreakTimeLogging(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		logging@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
return value		The current time entry that has been modified by the method.

EndLogging

This method ends the current recording and commits the recorded time entry for the user.

```
ActiveTimeEntryDto EndLogging(
      out TpFault fault,
      TpAuthentication authentication,
      DateTime? endTime,
      out TimeSpan? committedWorkTime,
      out List<TimeEntryDto> todayEntries);
```

Needed Permission		endTime == null ? logging@access : logging@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
endTime		The end time of the time recording. Regularly this should be NULL; otherwise a higher user-permission is needed.
commitedWorkTime	Out	The committed work time
todayEntries	Out	Collection of all entries of the current day.
Return value		The current time entry that has been committed by the method.

CancelLogging

This method cancels the current work time recording. This can be necessary if the current work entry has not been ended correctly.

```
void CancelLogging(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		logging@access
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication

LockSession

This method locks the current work time recording. This should be done e.g. when the screensaver is activated. This locking does not mean an instant break of the current work time recording. How the lock is handled will be defined with the locking settings.

```
void LockSession(
      out TpFault fault,
      TpAuthentication authentication,
      DateTime? lockTime);
```

Needed Permission		logging@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
lockTime		Time that is used as the current lock time. If this parameter is null, the time at the server will be taken.

UnlockSession

This method unlocks the previously locked time entry. When unlocking the time entry, TimePunch analyses the lock time and decides how to handle the current work time recording.

```
ActiveTimeEntryDto UnlockSession(
      out TpFault fault,
      TpAuthentication authentication,
      DateTime? unlockTime);
```

Needed Permission		logging@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
unlockTime		Time that is used as the current unlock time. If this parameter is null, the time at the server will be taken.
Return Value		The unlocked time entry or NULL, if no time entry is active after unlocking the session.

SaveLoggingSettings

This method stores the recording settings for the TimePunch profile.

```
void SaveLoggingSettings(
      out TpFault fault,
      TpAuthentication authentication,
      LoggingSettingsDto settingsDto);
```

Needed Permission		logging@settings
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
settingsDto		The amended Logging Settings that shall be stored.

SearchLoggingSettings

This method returns the logging settings for the given search object.

```
List<LoggingSettingsDto> SearchLoggingSettings(
        out TpFault fault,
        TpAuthentication authentication,
        UserSearchDto userSearchDto);
```

Needed Permission		logging@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userSearchDto		Search object containing the user search data. The coverage will be applied accordingly to the user authentication.
Return value		All user logging settings.

GetLoggingContext

This method is the central place to load all data that are necessary in order to get an overview of the complete time recording status.

```
LoggingContextDto GetLoggingContext(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		logging@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		All data regarding the current time entry logging.

ValidateAndSaveActiveTimeEntry

This method is used to change the currently active time entry. It can be used to change the project, switch start and end time or to amend the project.

```
ActiveTimeEntryDto ValidateAndSaveActiveTimeEntry(
      out TpFault fault,
      TpAuthentication authentication,
      ActiveTimeEntryDto activeTimeEntry);
```

Needed Permission		logging@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
activeTimeEntry		The active time entry that shall be stored
Return value		The currently active time entry after the amendments

ValidateAndSaveRestrictedActiveTimeEntry

This method is used to amend the currently active time entry. Because the method needs less permission one can only change the description and the project or task.

```
ActiveTimeEntryDto ValidateAndSaveRestrictedActiveTimeEntry(
      out TpFault fault,
      TpAuthentication authentication,
      TimeEntryRestrictedSaveDto activeTimeEntry);
```

Needed Permission		logging@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
activeTimeEntry		The active time entry that shall be stored
Return value		The currently active time entry after the amendments

TimePunch Mailing Service

This service contains methods in ordert o send mails within TimePunch.

SendMail

This method sends an email within TimePunch. The sender of the email is always the authorized employee.

```
void SendMail(
    out TpFault fault,
    TpAuthentication authentication,
    string subject,
    string body,
    IEnumerable<UserMailAddressDto> userMailAddresses,
    IEnumerable<PlainMailAddressDto> plainMailAddresses);
```

Needed Permission		mails@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
subject		Mail subject
body		Mail body
userMailAddresses		List containing all TimePunch users that are Receiver or Copy Receiver of the mail.
plainMailAddresses		List containing all non - TimePunch users that are Receiver or Copy Receiver of the mail.

SendMailWithAttachements

This method sends a mail within TimePunch with appropriate attachments. The sender of the email is always the authorized employee.

```
void SendMailWithAttachements(
    out TpFault fault,
    TpAuthentication authentication,
    string subject,
    string body,
    IEnumerable<UserMailAddressDto> userMailAddresses,
    IEnumerable<PlainMailAddressDto> plainMailAddresses,
    IEnumerable<MailAttachementDto> mailAttachements);
```

Needed Permission		mails@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
subject		Mail subject
body		Mail body
userMailAddresses		List containing all TimePunch users that are Receiver or Copy Receiver of the mail.
plainMailAddresses		List containing all non - TimePunch users that are Receiver or Copy Receiver of the mail.
mailAttachements		List containing all attachements for the mail.

TimePunch Project Service

This service contains methods in order to work with the projects of TimePunch.

CreateProject

This method creates a new project and returns it. The project is saved directly in the database when it is created and filled with the default values.

```
ProjectDto CreateProject(
      out TpFault fault,
      TpAuthentication authentication,
      string projectId,
      string projectDescription,
      string projectCode,
      Guid? copyFromProject);
```

Needed Permission		projects@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectId		Unique identifier of the project
projectDescription		Short description of the project
projectCode		Unique identifier that can be used by a barcode reader
Guid?		Id of the project that shall be used as a template, or NULL.
Return value		Returns the created project

DeleteProject

This method deletes the given project physically in the database. But this can only be done, if the project is not referenced by any time-entries. If the project is referenced it's recommended to do a soft-delete. That means to set the delete flag in the project entity.

```
void DeleteProject(
      out TpFault fault,
      TpAuthentication authentication,
      Guid projectId);
```

Needed Permission		projects@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectId		Id of the project that shall be deleted

ExportProjectUserRelations

This method exports the employee-specific settings for one or more projects.

```
List<ProjectUserRelationDto> ExportProjectUserRelations(
        out TpFault fault,
        TpAuthentication authentication,
        ProjectSearchDto projectSearch);
```

Needed Permission		projects@export
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
searchCriteria		Criteria that are used for searching the projects.
Return value		Collection of project related user data

GetProjectUsers

This method returns a list of TimePunch profiles that are able to book on certain projects

```
List<ProjectUserDto> GetProjectUsers(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] projectIds);
```

Needed Permission		projects@report
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectIds		Collection of project ids to load the project relevant times
Return value		List of project / user combinations that are allowed to book the relevant project ids. It also contains the scheduled work and the pool type (Shared / Private)

GetTotalProjectTimes

This method is used to retrieve the current project times for the given projects and employees.

```
List<ProjectTimeDto> GetTotalProjectTimes(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] projectIds,
        Guid[] userIds);
```

Needed Permission		UserIds == null ? projects@access : projects@report
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectIds		Collection of project ids to load the project relevant times
userIds		User ids of all users for which the project data shall be loaded, or null to load the data for the current user.

ImportProjects

This method imports a list of projects. In contrast to the Save method, it is not the project IDs that are used for identification, but the project name.

```
void ImportProjects(
        out TpFault fault,
        TpAuthentication authentication,
        List<ProjectDto> projects);
```

Needed Permission		projects@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projects		Collection of projects to import

ImportProjectTasks

This method imports a list of project-specific activities. The activities are identified by the description text and not by the task ID.

```
void ImportProjectTasks(
       out TpFault fault,
       TpAuthentication authentication,
       List<ProjectTaskDto> projectTasks);
```

Needed Permission		projects@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectTasks		Collection of project dependend tasks to import

ImportProjectUserRelations

This method imports the employee assignments to a project. In contrast to the *SaveProjectUserRelations* method, the employees are not assigned to the logon name via the technical ID, but via the logon name.

```
void ImportProjectUserRelations(
       out TpFault fault,
       TpAuthentication authentication,
       List<ProjectUserRelationDto> userRelations);
```

Needed Permission		projects@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userRelations		Collection of project user relations tasks to import

LoadProject

This method loads the project with the given project id.

```
ProjectDto LoadProject(
      out TpFault fault,
      TpAuthentication authentication,
      Guid projectId);
```

Needed Permission		projects@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectId		Id of the project to load
Return value		The loaded project data

LoadProjectUserRelations

This method loads the employee-specific settings of a project for all authorized employees.

```
List<ProjectUserRelationDto> LoadProjectUserRelations(
      out TpFault fault,
      TpAuthentication authentication,
      Guid projectId);
```

Needed Permission		projects@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectId		Id of the project to load
Return value		Collection of user specific project data

MarkProjectsAsDone

This method sets the delete-flag in the project and marks the project therefore as finished. That means it's not allowed to book new time-entries to the project. But existing time-entries stay as they are.

```
void MarkProjectsAsDone(
      out TpFault fault,
      TpAuthentication authentication,
      Guid[] projectIds);
```

Needed Permission		projects@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectIds		Collection of project ids to set the soft delete flag

SaveProject

This method stores the project in the database.

```
ProjectDto SaveProject(
      out TpFault fault,
      TpAuthentication authentication,
      ProjectDto project);
```

Needed Permission		projects@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
project		Project data that shall be stored
Return value		The stored project data will be returned

SaveProjectUserRelations

This method updates the employee assignment in the projects.

```
void SaveProjectUserRelations(
      out TpFault fault,
      TpAuthentication authentication,
      List<ProjectUserRelationSaveDto> userRelations);
```

Needed Permission		projects@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userRelations		List of user and project related data.

SearchAuthorizedProjects

This method searches for projects in which the employee is authorized, using the specified search criteria. The found projects are returned. Authorized projects are all projects assigned to the employee.

```
List<ProjectDto> SearchAuthorizedProjects(
      out TpFault fault,
      TpAuthentication authentication,
      ProjectSearchDto searchCriteria);
```

Needed Permission		projects@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
searchCriteria		Criteria that are used for searching the projects.
Return value		Collection of found projects

SearchProjects

This method searches all available projects with the given search criteria. The found projects will be returned.

```
List<ProjectDto> SearchProjects(
      out TpFault fault,
      TpAuthentication authentication,
      ProjectSearchDto searchCriteria);
```

Needed Permission		projects@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
searchCriteria		Criteria that are used for searching the projects.
Return value		Collection of found projects

SetProjectLifeCycle

This method sets the current lifecycle of one or more projects. The lifecycle specifies how the project can be used in TimePunch.

```
public enum ProjectLifeCycle
{
    /// Life cycle is undefined
    Undefined,

    /// The project can be changed, but not booked
    Planning,

    /// The project can be changed and booked
    Active,

    /// The project can not be changed, not booked, but reported
    Done,

    /// The project can not be changed, not booked and is not visible for reporting
    Deleted,
}

void SetProjectLifeCycle(
       out TpFault fault,
       TpAuthentication authentication,
       Guid[] projectIds,
       ProjectLifeCycle projectLifeCycle);
```

Needed Permission		projects@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projectIds		Collection of project ids for that the life cycle shall be changed.
projectLifeCylce		The new life cycle to set

TimePunch Reporting Service

The reporting service provides methods for reporting in TimePunch. The methods are very powerful and should be used only for reporting purposes due to the performance.

GetDailySummaries

This method returns a daily summary of working time data for the selected period and given employees. The coverage applies to the used identity data.

```
List<ReportDailySummaryDto> GetDailySummaries(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime startDate,
        DateTime endDate,
        List<Guid> userIds);
```

Needed Permission		summary@report
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
startDate		First reporting date
endDate		Last reporting date
userIds		List containing all user ids for which the daily summary shall be reported.
Return value		List of all daily summaries.

GetMonthlySummaries

This method returns a monthly summary of the working time data for the selected period and the transferred employees.

```
List<ReportSummaryDto> GetMonthlySummaries(
        out TpFault fault,
        TpAuthentication authentication, >
        DateTime startDate,
        DateTime endDate,
        List<Guid> userIds);
```

Needed Permission		summary@report
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
startDate		First reporting date
endDate		Last reporting date
userIds		List containing all user ids for which the daily summary shall be reported.

Needed Permission		summary@report
Name	**Modifier**	**Description**
Return value		List of all monthly summaries.

GetYearlySummaries

This method returns an annual summary of the working time data for the selected period and the transferred employees.

```
List<ReportYearlySummaryDto> GetYearlySummaries(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime startDate,
        DateTime endDate,
        List<Guid> userIds);
```

Needed Permission		summary@report
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
startDate		First reporting date
endDate		Last reporting date
userIds		List containing all user ids for which the daily summary shall be reported.
Return value		List of all yearly summaries.

GetDailySummariesAnonymized

The difference here is that the working time data is largely anonymized, so that it cannot be deduced from the actual times of the employees. This means that the method also requires less authorization.

```
List<ReportDailySummaryDto> GetDailySummariesAnonymized(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime startDate,
        DateTime endDate,
        List<Guid> userIds);
```

Needed Permission		summary@reportAnon
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
startDate		First reporting date
endDate		Last reporting date
userIds		List containing all user ids for which the daily summary shall be reported.
Return value		List of all daily summaries.

GetReportTimeEntriesUserBased

This method returns the time entries of the selected employees. The focus of the query is on employee times, not on one or more projects.

```
List<ReportTimeEntryDto> GetReportTimeEntriesUserBased(
        out TpFault fault,
        TpAuthentication authentication,
        TimeEntrySearchDto searchDto);
```

Needed Permission		timeEntries@report
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
searchDto		Search object to filter the time entries
Return value		List of all selected time entries

GetReportTimeEntriesProjectBased

This method returns the time entries of the selected projects. In contrast to the *GetReportTimeEntriesUserBased* method, the focus is not on employees, but on projects. The time accounts of the projects (total, posted, available) are determined for each project on the transferred key date. Nevertheless, the method also selects the postings assigned to the projects and returns them.

```
List<ReportTimeEntryDto> GetReportTimeEntriesProjectBased(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime? reportingDate,
        out List<ReportProjectTimeDto> projectTimes,
        TimeEntrySearchDto searchDto);
```

Needed Permission		projects@report
Name	**Modifier**	**Description**
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
reportingDate		Reference Date that is used to evaluate the project counters. If null, the current date will be used.
projectTimes	Out	List of all project times at the given reporting date.
searchDto		Search object to filter the time entries
Return value		List of all selected time entries

GetReportProjectTimes

This method returns all project times of the passed project IDs for the given key date.

```
List<ReportProjectTimeDto> GetReportProjectTimes(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime? reportingDate,
        List<Guid> projectIds);
```

Name	Modifier	Description
Fault	Out	Contains the error if an exception occurs.
Authentication		User authentication
reportingDate		Reference Date that is used to evaluate the project counters. If null, the current date will be used.
projectTimes	Out	List of all project times at the given reporting date.
Return value		List of all project times at the given reporting date.

TimePunch Summary Service

This service contains methods in order to access the time accounts of the TimePunch profiles.

GetSummaryLocks

This method returns all information about the month-end closings that are found for the employees through the search object.

```
List<SummaryLockDto> GetSummaryLocks(
       out TpFault fault,
       TpAuthentication authentication,
       UserSearchDto userFilter = null);
```

Needed Permission		monthend@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userFilter		Search object containing the user filter. The coverage will be applied to the filter.
Return value		List that contains all summary locks for the found staff members.

LoadAllYearlySummaries

This method returns all yearly account data for the authorized employee.

```
List<YearlySummaryDto> LoadAllYearlySummaries(
       out TpFault fault,
       TpAuthentication authentication);
```

Needed Permission		summary@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		List containing all yearly sumamries for the given user.

LoadDailySummaries

Using this method a summary for each working day in the given period can be loaded.

```
List<DailySummaryDto> LoadDailySummaries(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime startDate,
        DateTime endDate);
```

Needed Permission		summary@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
startDate		First date to retrieve the daily summary
endDate		Last date to retrieve the daily summary
Return value		List that contains all daily summaries from start through end date

LoadAllMonthlySummaries

This method can be used to load all monthly summaries of working time for a user.

```
List<MonthlySummaryDto> LoadAllMonthlySummaries(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		summary@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication

LoadMonthlySummary

This method will load the monthly summary of the working time for the specified user at the given reference date.

```
MonthlySummaryDto LoadMonthlySummary(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime? referenceDate = null);
```

Needed Permission		summary@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication

Needed Permission		summary@access
Name	**Modifier**	**Description**
referenceDate		Date for that the monthly Summary shall be loaded, or null if the monthly summary for the current date shall be returned.
Return value		The monthly summary for the given reference date.

LoadTimeAccounts

This method loads the current time accounts of the TimePunch profiles. Depending on whether only the time account of the authorized user or all time accounts may accessed, different permissions will be needed.

```
List<TimeAccountDto> LoadTimeAccounts(
      out TpFault fault,
      TpAuthentication authentication,
      UserSearchDto userSearch,
      DateTime? referenceDate = null);
```

Needed Permission		timeAccounts@access / timeAccounts@report
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userSearch		Information that are used to search the TimePunch profiles
referenceDate		The date of which the time accounts shall be loaded. By default this is always the day before today
Return value		List of Time account information entities

LoadYearlySummary

This method loads the annual vacations for the authorized user for the given reference date.

```
YearlySummaryDto LoadYearlySummary(
      out TpFault fault,
      TpAuthentication authentication,
      DateTime? referenceDate = null);
```

Needed Permission		summary@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
referenceDate		The date of which the yearly summary shall be loaded, or null if the current date is used.
Return value		The yearly summary for the given user and reference date.

ReCalculateAllSummaries

This method forces the recalculation of all monthly data of the employees specified in the user filter starting from the reference date.

```
void ReCalculateAllSummaries(
       out TpFault fault,
       TpAuthentication authentication,
       UserSearchDto userFilter,
       DateTime? referenceDate = null)
```

Needed Permission		summary@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userFilter		Filter that is used to search the TimePunch profiles.
referenceDate		Defines the date since when the monthly summaries shall be re-calculated. If NULL, all monthly summaries of a user will be re-calculated.
Return value		The calculated monthly summary, after the calculation date has been applied.

SaveMonthlySummary

This method saves the basic data that are used to calculate the monthly working and flexi time.

```
MonthlySummaryDto SaveMonthlySummary(
       out TpFault fault,
       TpAuthentication authentication,
       MonthlySummarySaveDto summary);
```

Needed Permission		summary@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
summary		Contains the data that can be used to calculate the monthly working time data.
Return value		The calculated monthly summary, after the calculation date has been applied.

SaveYearlySummary

This method save the basic data that are used to calculate the annual vacation.

```
YearlySummaryDto SaveYearlySummary(
       out TpFault fault,
       TpAuthentication authentication,
       YearlySummarySaveDto summary);
```

Needed Permission		summary@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
summary		Contains the data that can be used to calculate the annual leave.
Return value		The calculated annual leave, after the calculation date has been applied.

SetSummaryLocks

Using this method, one can perform the month-end closing. The conclusion is either performed for the currently authenticated- employee (if the UserIDs are NULL), or for all given employee ids.

```
void SetSummaryLocks(
       out TpFault fault,
       TpAuthentication authentication,
       DateTime? lockedUpTo,
       List<Guid> userIds = null);
```

Needed Permission		CAN_MANAGE_MONTHEND, if lockedUpTo is filled CAN_RESET_MONTHEND, if lockedUpTo is NULL
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
lockedUpTo		Date up to that the month ends gets locked. If the lockedUpTo is NULL all months will be unlocked.
userIds		A list that contains the user ids for that the month end closing will be executed. If the list is NULL or empty, the current identity user will be used.

TimePunch Sync Service

This service contains methods in order to search for time entries or projects that have to be synchronized with mobile devices. Also it offers method in order to import / synchronize time entries and projects.

GetUseableSyncUserProfiles

This method searches for all TimePunch profiles that can be used in order to sync data. As an additional information the last synchronization date will be returned.

```
List<SyncUserProfileDto> GetUseableSyncUserProfiles(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		sync@access - current user core@switchIdentity - different users
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		List of TimePunch profiles that can be used for synchronisation purposes.

SearchTimeEntriesForSynchronisation

This method searches all time entries and the depending projects as well as the tasks that can be send to a mobile device since the given synchronisation time.

The method does not check the creation or modification date, but the date of the time entry if it's newer than the sync time.

```
void SearchTimeEntriesForSynchronisation(
      out TpFault fault,
      TpAuthentication authentication,
      DateTime? lastSyncTime,
      out IEnumerable<TimeEntryDto> timeEntries,
      out IEnumerable<ProjectDto> projects,
      out IEnumerable< TaskDto> commonTasks);
```

Needed Permission		timeEntries@upload
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
lastSyncTime		Synchronisation-Time
timeEntries	Out	Collection of time entries starting with the given sync time
projects	Out	Projects that are referenced by the found time entries
commonTasks	Out	Common tasks that are referenced by the found time entries

SearchProjectsForSynchronisation

This method searches for all projects that a user can send to his mobile devices.

```
IEnumerable<ProjectDto> SearchProjectsForSynchronisation(
      out TpFault fault,
      TpAuthentication authentication);
```

Needed Permission		projects@upload
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return Value		Projects that can be used for synchronization purposes.

UpdateLastSyncDate

This method updates the synchronisation date for the current user.

```
void UpdateLastSyncDate(
      out TpFault fault,
      DateTime? syncDate,
      TpAuthentication authentication);
```

Needed Permission		timeEntries@upload
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
syncDate		Sync Date to set, or null if the current date shall be used.
authentication		User authentication

ApplyProjects

This method imports the given projects and merges it with the already existing.

```
void ApplyProjects(
      out TpFault fault,
      TpAuthentication authentication,
      IEnumerable<ProjectDto> projects,
      IEnumerable<TaskDto> commonTasks);
```

Needed Permission		projects@download
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
projects		Collection of projects that shall be imported.
commonTasks		Collection of common tasks that shall be imported.

ApplyTimeEntries

This method imports the given time-entries, projects as well as tasks and merges it with the already existing.

```
void ApplyTimeEntries(
      out TpFault fault,
      TpAuthentication authentication,
      IEnumerable<TimeEntrySaveDto> timeEntries,
      IEnumerable<ProjectDto> projects,
      IEnumerable<TaskDto> commonTasks);
```

Needed Permission		projects@download
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntries		Collection of time entries to impoert
projects		Collection of projects that are referenced by the time entries.
commonTasks		Collection of common tasks that are referenced by the time entries.

TimePunch Async Sync Service

This service offers methods for the asynchronous import of time entries or projects. The asynchronous import has the advantage that the client can be informed about the current state of the import via the offered call back service. This can be very useful with big and long running imports.

ApplyProjects

This method imports the given projects and merges it with the already existing.

```
void ApplyProjects(
      TpAuthentication authentication,
      IEnumerable<ProjectDto> projects,
      IEnumerable<TaskDto> commonTasks);
```

Needed Permission		projects@download
Name	**Modifier**	**Description**
authentication		User authentication
projects		Collection of projects that shall be imported.
commonTasks		Collection of common tasks that shall be imported.

ApplyTimeEntries

This method imports the given time-entries, projects as well as tasks and merges it with the already existing.

```
void ApplyTimeEntries(
      TpAuthentication authentication,
      IEnumerable<TimeEntrySaveDto> timeEntries,
      IEnumerable<ProjectDto> projects,
      IEnumerable<TaskDto> commonTasks);
```

Needed Permission		projects@download
Name	**Modifier**	**Description**
authentication		User authentication
timeEntries		Collection of time entries to impoert
projects		Collection of projects that are referenced by the time entries.
commonTasks		Collection of common tasks that are referenced by the time entries.

ITpSyncCallbackService

In order to use the call back service, the ITpSyncCallbackService Interface of the client needs to be implemented.

Code Snippet

```
[ServiceContract]
public interface ITpSyncCallbackService
{
    /// <summary>
    /// Informs the Client that the current sync failed with an exception
    /// </summary>
    /// <param name="fault">The fault.</param>
    [OperationContract (IsOneWay=true)]
    void SyncFailed(TpFault fault);

    /// <summary>
    /// Informs the Client that the current sync succeeded properly
    /// </summary>
    [OperationContract(IsOneWay = true)]
    void SyncSucceeded();

    /// <summary>
    /// Informs the Client about the progress of the sync process
    /// </summary>
    [OperationContract(IsOneWay = true)]
    void SyncProgress(int percent);
}
```

TimePunch TimeEntry Service

This service contains methods in order to work with the time-entries of TimePunch.

AssignTimeEntriesToCustomer

With this method, you can assign multiple time entries to a new customer.

```
void AssignTimeEntriesToCustomer(
       out TpFault fault,
       TpAuthentication authentication,
       Guid[] timeEntryIds,
       Guid customerId);
```

Needed Permission		timeEntries@restrictedEdit
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntryIds		Array of ids of the time entries that shall be amended.
customerId		New customer Id that is used to update the time entries.

AssignTimeEntriesToProjects

With this method, you can assign multiple time entries to a new project.

```
void AssignTimeEntriesToProjects(
       out TpFault fault,
       TpAuthentication authentication,
       Guid[] timeEntryIds,
       Guid projectId,
       Guid taskId);
```

Needed Permission		timeEntries@restrictedEdit
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntryIds		Array of ids of the time entries that shall be amended.
projectId		New project Id that is used to update the time entries.
taskId		New task Id that is used to update the time entries.

BatchFilterUpdate

This method updates all public and private filters in TimePunch.

```
TpFault BatchFilterUpdate(
        TpAuthentication authentication,
        List<TimeEntrySearchDto> privateFilters,
        List<TimeEntrySearchDto> publicFilters);
```

Needed Permission		timeEntryFilter@manage
Name	**Modifier**	**Description**
authentication		User authentication
privateFilters		Collection of private filters
publicFilters		Collection of public filters
Return value		Fault object if an exception occurs

CheckTimeEntryOverlapping

This method checks whether the given time entry would override existing time entries in the database. Thus an unintended override of time entries can be prevented.

```
bool CheckTimeEntryOverlapping(
        out TpFault fault,
        TpAuthentication authentication,
        TimeEntryDto entryToCheckOverlapping);
```

Needed Permission		timeEntries@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
entryToCheckOverlapping		Time Entry that shall be checked against the existing time entries in the database.
Return value		Returns true, if the given time entry would harm existing time entries.

CopyTimeEntries

This method copies a list of time entries and reinstates them on the passed date.

```
void CopyTimeEntries(
       out TpFault fault,
       TpAuthentication authentication,
       List<TimeEntrySaveDto> entriesToCopy,
       DateTime insertAt);
```

Needed Permission		timeEntries@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
entriesToCopy		List of time entries to copy
insertAt		Date from that the time entries shall be inserted.

CreateBreakTimeDummy

This method creates a break time entry. A break time entry is always required if there is a period of time between the last time entry and the following time entry.

```
TimeEntryDto CreateBreakTimeDummy(
       out TpFault fault,
       TpAuthentication authentication,
       DateTime startBreak,
       DateTime endBreak);
```

Needed Permission		timeEntries@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
startBreak		Start time of the dummy break entry
endBreak		End time of the dummy break entry.
Return value		The created time entry

CreateNewTimeEntry

This method creates a new time-entry and returns it. The time-entry won't be saved. Only after calling the save method it is available in the TimePunch profile.

```
TimeEntryDto CreateNewTimeEntry(
      out TpFault fault,
      TpAuthentication authentication,
      DateTime date);
```

Needed Permission		timeEntries@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
DateTime		Date that shall be used for creating the new time entry.
Return value		The created time entry

DeleteTimeEntries

This method deletes the given time entries from the TimePunch profile. It's important to know, that only time-entries of the authenticated TimePunch profile are allowed to be deleted.

```
void DeleteTimeEntries(
      out TpFault fault,
      TpAuthentication authentication,
      Guid[] timeEntryIds);
```

Needed Permission		timeEntries@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntryIds		Collection of time entry Ids that shall be deleted.

DeleteTimeEntryFilter

This method deletes a time entry filter.

```
TpFault DeleteTimeEntryFilter(
       TpAuthentication authentication,
       Guid filterId);
```

Needed Permission		timeEntryFilter@manage timeEntryFilter@managePublic
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
filterId		Id of the filter that shall be deleted
Return value		Fault object if an exception occurs

ImportTimeEntries

This method imports the transferred time entries. The import takes into account not the IDs but the start and end times, as well as the project and activity names.

```
void ImportTimeEntries(
       out TpFault fault,
       TpAuthentication authentication,
       List<TimeEntryDto> rows);
```

Needed Permission		timeEntries@restrictedEdit commonTasks@manage projects@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
rows		Collection of time entries to import

LoadTimeEntries

This method should be used, if the time entry ids are known, in order to load the time entries.

```
List<TimeEntryDto> LoadTimeEntries(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] timeEntryIds);
```

Needed Permission		timeEntries@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntryIds		Array of ids of the time entries that shall be loaded.
Return value		Returns the loaded time entries

LoadTimeEntryFilter

This method loads a time entry filter with the corresponding ID.

```
TimeEntrySearchDto LoadTimeEntryFilter(
        out TpFault fault,
        TpAuthentication authentication,
        Guid timeEntrySearchId);
```

Needed Permission		timeEntryFilter@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntrySearchId		Id of the time entry filter
Return value		Returns the loaded time entry filter

MarkTimeEntries

This method marks the transferred time entries with the corresponding marker in TimePunch.

```
void MarkTimeEntries(
       out TpFault fault,
       TpAuthentication authentication,
       List<Guid> selectedIds,
       TimeEntryMarkAs markAs)
```

Needed Permission		timeEntries@restrictedEdit
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
selectedIds		List of time entry ids to mark

markAs		Marker that shall be set for the time entries
		`Paid = 1`
		`Important = 2`
		`Onsite = 4`

SaveTimeEntryFilter

This method saves a time entry filter in the database. The mapping is not carried out using the ID, but the name of the report filter.

```
TimeEntrySearchDto SaveTimeEntryFilter(
       out TpFault fault,
       TpAuthentication authentication,
       TimeEntrySearchDto timeEntryFilter);
```

Needed Permission		timeEntryFilter@manage timeEntryFilter@managePublic
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntryFilter		Time Entry Filter so save
Return value		The stored time entry filter

SearchTimeEntries

This method searches for time-entries with the given filter. The permission of the authenticated user will be considered. Only time entries of the user profiles that the user is allowed to access will be returned.

```
List<TimeEntryDto> SearchTimeEntries(
      out TpFault fault,
      TpAuthentication authentication,
      TimeEntrySearchDto search);
```

Needed Permission		timeEntries@access / core@switchIdentity
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
search		The filter that is used to search the time entries
Return value		Collection with the found time entries

SearchTimeEntryFilters

This method uses the search filters criteria to find time entry filters in the database. A list of all the time entry filters found is then returned.

```
List<TimeEntrySearchDto> SearchTimeEntryFilters(
      out TpFault fault,
      TpAuthentication authentication,
      TimeEntryFilterSearchDto searchFilterCriteria);
```

Needed Permission		timeEntryFilter@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
searchFilterCriteria		Searchfilter criteria
Return value		Collection containing the found time entry search objects

SearchAssignableUsers

This method returns all employee profiles that can be assigned to the transferred group type.

```
UserGroupMemberDto[] SearchAssignableUsers(
        out TpFault fault,
        TpAuthentication authentication,
        GroupType groupType,
        Guid userGroupId);
```

Needed Permission		userGroups@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
groupType		Group type for that the user profiles shall be searched
userGroupId		Id of the user group that shall be used as a target for the assignable user profiles.
Return value		Returns the found user groups

SearchCoveredUserGroups

This method searches for user groups in which the employee is either in charge or at least entered as an assistant.

```
UserGroupDto[] SearchCoveredUserGroups(
        out TpFault fault,
        TpAuthentication authentication,
        UserGroupSearchDto userGroupSearch);
```

Needed Permission		userGroups@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userGroupSearch		The user group definition to search for
Return value		Returns the found user groups

UnmarkTimeEntries

This method removes the markers on the transferred time entries.

```
void UnmarkTimeEntries(
       out TpFault fault,
       TpAuthentication authentication,
       List<Guid> selectedIds,
       TimeEntryMarkAs markAs);
```

Needed Permission		timeEntries@restrictedEdit
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
selectedIds		List of time entry ids to mark

markAs		Marker that shall be removed from the time entries
		`Paid = 1`
		`Important = 2`
		`Onsite = 4`

UpdateTimeEntryFilter

This method updates an existing time entry filter. To call the update method, the time entry filter to be updated should already exist.

```
TimeEntrySearchDto UpdateTimeEntryFilter(
       out TpFault fault,
       TpAuthentication authentication,
       TimeEntrySearchDto filter);
```

Needed Permission		timeEntryFilter@manage timeEntryFilter@managePublic
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
filter		Time Entry Filter so save
Return value		The stored time entry filter

ValidateAndSaveBreakReplacement

This method was specially developed to be used by employees without special rights. It is used so that existing breaks, that is, the time between two time entries, can be assigned with a project by an employee without special rights.

```
TimeEntrySaveResultDto ValidateAndSaveBreakReplacement(
      out TpFault fault,
      TpAuthentication authentication,
      TimeEntrySaveDto timeEntry);
```

Needed Permission		timeEntries@restrictedEdit
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntry		Time entry that shall be stored in the database. The time entry must fit into a break time.
Return value		Returns the result of storing the time entry (Ok, BreakEnforced, EmptyBreakEntry) and the stored time entries

ValidateAndSaveRestrictedTimeEntry

This method is used to amend a time entry. Because the method needs less permission, one can only change the description, the project and the task of the time-entry.

```
TimeEntrySaveResultDto ValidateAndSaveRestrictedTimeEntry(
      out TpFault fault,
      TpAuthentication authentication,
      TimeEntryRestrictedSaveDto timeEntry);
```

Needed Permission		timeEntries@restrictedEdit
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntry		Time entry that shall be stored in the database.
Return value		Returns the result of storing the time entry (Ok, BreakEnforced, EmptyBreakEntry)

ValidateAndSaveTimeEntry

This method takes a time entry, validates it and saves it in the database.

```
TimeEntrySaveResultDto ValidateAndSaveTimeEntry(
      out TpFault fault,
      TpAuthentication authentication,
      TimeEntrySaveDto timeEntry);
```

Needed Permission		timeEntries@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntry		Time entry that shall be stored in the database.
Return value		Returns the result of storing the time entry (Ok, BreakEnforced, EmptyBreakEntry)

ValidateAndSaveTimeEntrySeries

This method is used to create a time entry series, e.g. in order to create holiday entries. For that it's necessary to define the start and end date. The concrete times are taken from the working times model of the user.

```
TimeEntrySaveResultDto ValidateAndSaveTimeEntrySeries(
      out TpFault fault,
      TpAuthentication authentication,
      TimeEntrySeriesDto timeEntrySeries);
```

Needed Permission		timeEntries@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntrySeries		Time entry series that shall be stored in the database.
Return value		Returns the result of storing the time entry (Ok, BreakEnforced, EmptyBreakEntry) and the stored time entries

ValidateAndSaveTimeEntryCopies

Using this method copies of time entries can be created, e.g. to create an entry that occurs on several day in a row. Maybe the staff member takes part on a weekly trainee.

```
TimeEntrySaveResultDto ValidateAndSaveTimeEntryCopies(
       out TpFault fault,
       TpAuthentication authentication,
       TimeEntrySaveDto timeEntry);
```

Needed Permission		timeEntries@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
timeEntry		Time entry copy that shall be stored in the database.
Return value		Returns the result of storing the time entry (Ok, BreakEnforced, EmptyBreakEntry) and the stored time entries

TimePunch User Group Service

The user group service allows grouping of employee profiles. Thus, employees can be grouped together for teams, departments, and offices.

CreateUserGroup

This method creates a new group and returns it. It is important that the group not yet gets stored to the database. This happens only when the group is saved.

```
UserGroupDto CreateUserGroup(
       out TpFault fault,
       TpAuthentication authentication,
       GroupType groupType);
```

Needed Permission		userGroups@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
groupType		Type of the user group that shall be created (e.g. Team, Department, Branch)
Return value		Returns the created user group

DeleteUserGroups

This method clears the passed user groups. The members of the group will not be associated any other group.

```
void DeleteUserGroups(
       out TpFault fault,
       TpAuthentication authentication,
       Guid[] userGroupIds);
```

Needed Permission		userGroups@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userGroupIds		List that contains all user group ids that shall be deleted.
Return value		-

ImportUserGroupAssignments

This method imports the passed group memberships. In contrast to the save method, the ID and not the common name of the group is important.

```
UserGroupMemberDto[] ImportUserGroupAssignments(
        out TpFault fault,
        TpAuthentication authentication,
        GroupType groupType,
        UserGroupMemberDto[] groupAssignments);
```

Needed Permission		userGroups@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
groupType		Type of the user group for which the group assignments shall be imported
groupAssignments		User Group assignments to import
Return value		-

LoadUserGroup

This method loads the group with the specified ID and returns it.

```
UserGroupDto LoadUserGroup(
        out TpFault fault,
        TpAuthentication authentication,
        Guid userGroupId);
```

Needed Permission		userGroups@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userGroupId		Id of the user group to load
Return value		Returns the loaded user group

SaveUserGroup

This method saves the user group in the database. It is important that if the group members in the object are NULL, only the basic data of the Group gets stored.

```
UserGroupDto SaveUserGroup(
        out TpFault fault,
        TpAuthentication authentication,
        UserGroupDto userGroup);
```

Needed Permission		userGroups@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userGroup		The user group to save
Return value		Returns the persisted user group

SaveUserGroupAssignments

This method saves the group membership of employee profiles to the given group.

```
void SaveUserGroupAssignments(
        out TpFault fault,
        TpAuthentication authentication,
        UserGroupSaveMemberDto[] groupAssignments);
```

Needed Permission		userGroups@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
groupAssignments		User Group assignments to save
Return value		-

SearchAssignableUsers

This method returns all employee profiles that can be associated with the passed type of group.

```
UserGroupMemberDto[] SearchAssignableUsers(
        out TpFault fault,
        TpAuthentication authentication,
        GroupType groupType,
        Guid userGroupId);
```

Needed Permission		userGroups@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
groupType		Group type for that the user profiles shall be searched
userGroupId		Id of the user group that shall be used as a target for the assignable user profiles.
Return value		Returns the found user groups

SearchCoveredUserGroups

This method searches for user groups where the employee has the lead, or is registered at least as an Assistant of the group.

```
UserGroupDto[] SearchCoveredUserGroups(
        out TpFault fault,
        TpAuthentication authentication,
        UserGroupSearchDto userGroupSearch);
```

Needed Permission		userGroups@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userGroupSearch		The user group definition to search for
Return value		Returns the found user groups

SearchUserGroupAssignments

This method returns all members of the group to which the profile search fits and agrees with the passed type of group. The data are used primarily for the export of the group.

```
UserGroupMemberDto[] SearchUserGroupAssignments(
        out TpFault fault,
        TpAuthentication authentication,
        UserSearchDto userSearch,
        GroupType groupType);
```

Needed Permission		userGroups@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userSearch		Use the given user search object to tailor the search results.
groupType		Group type for that the user profiles shall be searched
Return value		Returns the found user assignments

SearchUserGroup

This method searches for user groups with the given properties. It can be searched for the group name and the group type.

```
UserGroupDto[] SearchUserGroups(
        out TpFault fault,
        TpAuthentication authentication,
        UserGroupSearchDto userGroupSearch);
```

Needed Permission		userGroups@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userGroupSearch		The user group definition to search for
Return value		Returns the found user groups

TimePunch User Profile Service

This service provides methods to manipulate staff profiles in TimePunch.

CreateNewUserProfile

Using this method, you can create a new employee profile in TimePunch. This requires only a few details. As a result, the core permissions will be returned of the employee.

```
UserProfileRightsDto CreateNewUserProfile(
    out TpFault fault,
    TpAuthentication authentication,
    string userName,
    Guid? copyFromUserId,
    string[] applicationKeys,
    bool directLogon,
    out List<string> permissions);
```

Needed Permission		---
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication with proposed logon and password information
userName		Fore -and sure name of the user that shall be created
copyFromUserId		NULL, if no defaults shall be copied or a valid user id, if the e.g. the worktime settings shall be copied.
applicationKeys		The applications for that the user shall be created.
directLogon		True, if the user shall be directly licensed. False, if the user shall only be created, but need not to be registered directly.
Permissions	Out	List that contains the permissions of the newly created user.
return value		Object that contains the core user data and the permissions.

DeleteUserProfileDataOlderThan

You can use this method to delete time data from existing user profiles. For this purpose, the delete method is given a period of years. Time data that is older than the specified number of years is deleted from the transferred profiles.

```
void DeleteUserProfileDataOlderThan(
    out TpFault fault,
    TpAuthentication authentication,
    int olderThanYears,
    Guid[] userIds);
```

Note: Only fully completed years are considered.

This means that if data older than 1 year is to be deleted in May 2018, the data will be deleted by 31.12.2016.

Needed Permission		dsgvo@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
olderThanYears		Specifies the amount of years to look back in time
userIds		User ids for that the data shall be deleted.

DownloadProfileImages

This method loads the profile images of specified TimePunch profiles.

```
List<UserProfileImageDto> DownloadProfileImages(
    out TpFault fault,
    TpAuthentication authentication,
    ImageFormat imageFormat,
    Guid[] userIds);
```

Needed Permission		---
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
imageFormat		The image format (e.g. max size) the user profiles shall be returned. Valid values are: `Thumbnail16`, `Thumbnail24`, `Thumbnail32`, `Thumbnail64`, `Thumbnail128`, `Thumbnail256`, `Thumbnail512`, `Portrait300X400`, `Portrait512X682`, `Portrait600X800`, `Portrait768X1024`, `Portrait900X1200`
Return value		List containing the profile images for the given profiles.

ExportUserProfileData

This method exports the profile data of selected employees. The search is used for this purpose.

```
List<UserProfileDataDto> ExportUserProfileData(
        out TpFault fault,
        TpAuthentication authentication,
        UserSearchDto search);
```

Needed Permission		userProfiles@export
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
UserSearchDto		The search object that is used to find the profiles to export.
Return value		List containing the profile data for the found profiles.

ImportUserProfileData

This method imports the profile data of the passed-employees. The logon is crucial for the creation or update of the profiles.

```
List<UserProfileDataDto> ImportUserProfileData(
        out TpFault fault,
        TpAuthentication authentication,
        List<UserProfileDataDto> userProfiles);
```

Needed Permission		userProfiles@import
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userProfiles		List containing the profile data that shall be imported.
Return value		List containing the profile data that has been imported.

LoadUserProfileDefaults

The method returns the default values for the specified employee profiles. Those values serve the internal logic of the calculation (flexible working hours / holidays) as offset or underlying.

```
List<UserProfileDefaultsDto> LoadUserProfileDefaults(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] userIds);
```

Needed Permission		userProfiles@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userIds		The user ids of the members from which the profile defaults shall be loaded
Return value		List with default profile information of the specified users.

LoadUserProfileDetails

This method loads the detailed information about the employee profile.

```
List<UserProfileDetailsDto> LoadUserProfileDetails(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] userIds);
```

Needed Permission		userProfiles@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userIds		The user ids of the members from which the profile details shall be loaded
Return value		List with detailed profile information of the specified users.

LoadUserProfileRights

This method loads the permissions of the specified employee profiles.

```
List<UserProfileRightsDto> LoadUserProfileRights(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] userIds);
```

Needed Permission		permissions@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userIds		The user ids of the members from which the permissions shall be loaded
Return value		List with profile permission information of the specified users.

LoadUserProfileSensitive

This method loads relevant and sensitive employee data from the transferred employee profiles. The data can only be read out by users with the appropriate authorization and only if the employees are present in the user³s coverage.

```
List<UserProfileSensitiveDto> LoadUserProfileSensitive(
        out TpFault fault,
        TpAuthentication authentication,
        Guid[] userIds)
```

Needed Permission		userSensitive@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userIds		The user ids of the members from which the sensitive data shall be loaded
Return value		List with sensitive information of the specified users.

SaveUserProfileDefaults

This method updates the default values for the specified employee profiles. This works only, if still no monthly closing has been done for the profiles. The SaveUserProfileDetails method must be used to update basic data.

```
List<UserProfileDefaultsDto> SaveUserProfileDefaults(
        out TpFault fault,
        TpAuthentication authentication,
        List<UserProfileDefaultsDto> defaults);
```

Needed Permission		userProfiles@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
details		List containing the profile defaults that shall be updated.
Return value		List containing the profile defaults that has been updated.

SaveUserProfileDetails

This method updates the profile information for one or more employees.

```
List<UserProfileDetailsDto> SaveUserProfileDetails(
        out TpFault fault,
        TpAuthentication authentication,
        List<UserProfileDetailsDto> details);
```

Needed Permission		userProfiles@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
details		List containing the profile data that shall be updated.
Return value		List containing the profile data that has been updated.

SaveUserProfileRights

This method updates the rights of the specified employee profiles. The SaveUserProfileDetails method must be used to update basic data.

```
List<UserProfileRightsDto> SaveUserProfileRights(
        out TpFault fault,
        TpAuthentication authentication,
        List<UserProfileRightsDto> rights);
```

Needed Permission		permissions@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
details		List containing the profile rights that shall be updated.
Return value		List containing the profile rights that has been updated.

SaveUserProfileSensitive

This method stores employee information relevant to data protection. The data can only be stored by users with appropriate authorization and only if the employees are present in the user's coverage.

```
List<UserProfileSensitiveDto> SaveUserProfileSensitive(
        out TpFault fault,
        TpAuthentication authentication,
        List<UserProfileSensitiveDto> sensitive);
```

Needed Permission		userSensitive@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
sensitive		List containing the sensitive user data that shall be updated.
Return value		List containing the profile rights that has been updated.

SearchUserProfilesToDelete

This method searches for user profiles that contain data that is older than the specified time in years. The profiles found can serve as a basis for the method `DeleteUserProfileDataOlderThan`.

```
List<UserDSGVOInfoDto> SearchUserProfilesToDelete(
    out TpFault fault,
    TpAuthentication authentication,
    int olderThanYears,
    UserSearchDto userSearchDto);
```

Needed Permission		dsgvo@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
olderThanYears		Specifies the amount of years to look back in time
userSearchDto		Search definition used to search the user profiles

UploadProfileImage

This method updates the profile pictures for the given employee profiles.

```
void UploadProfileImage(
    out TpFault fault,
    TpAuthentication authentication,
    UserProfileImageDto[] profileImages);
```

Needed Permission		userProfiles@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
profileImages		List containing the profile images that shall be updated.

TimePunch Work Model Service

The work model service offers methods to access the work models of the staff members.

AddEmptyWorkmodel

This method is used to add an empty working time model to an employee who leaves the company. From this date on, the employee has officially no longer any planned working time. This freezes the current overtime.

```
void AddEmptyWorkmodel(
       out TpFault fault,
       TpAuthentication authentication,
       DateTime dateOfLeaving);
```

Needed Permission		workdayModels@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
dateOfLeaving		Date used to evaluate add a new empty workmodel

GetWorkDayModels

Using this method the workday models for the given user can be retrieved starting by start date through the end date.

```
List<WorkdayDto> GetWorkDayModels(
       out TpFault fault,
       TpAuthentication authentication,
       DateTime startDate,
       DateTime endDate);
```

Needed Permission		workdayModels@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
userSearch		Information that are used to search the TimePunch profiles
startDate		First date for that the workday model shall be retrieved.
endDate		Last date for that the workday model shall be retrieved.
Return value		List of all workday models for the given authentication.

GetWorkModel

This method returns the working time model for the passed date.

```
WorkModelDto GetWorkModel(
        out TpFault fault,
        TpAuthentication authentication,
        DateTime date,
        Guid? userId = null);
```

Needed Permission		workdayModels@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
date		Date used to evaluate the valid work model
userId		User Id for whom the work model shall be received. Or NULL to evaluate it for the current user.
Return value		Work model that is valid for the given date.

GetWorkModels

This method returns all working time models for the given employee.

```
List<WorkModelDto> GetWorkModels(
        out TpFault fault,
        TpAuthentication authentication);
```

Needed Permission		workdayModels@access
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
Return value		List of all work models for the authenticated identity

SaveWorkModels

This method saves the work schedules for the given employee. It is important that the list is complete, missing working-time models in the staff profile are getting removed.

```
void SaveWorkModels(
       out TpFault fault,
       TpAuthentication authentication,
       List<WorkModelDto> workModels);
```

Needed Permission		workdayModels@manage
Name	**Modifier**	**Description**
fault	Out	Contains the error if an exception occurs.
authentication		User authentication
workModels		List of all work models for the authenticated identity

Entities

This chapter contains information about the entities and data structures of the TimePunch API.

Core

TpFault

The object of the class TpFault will always be returned if an error occurs.

Datatype	Name	Description
Integer	ErrorCode	Error Code Nr.
String	Message	Error Message
String	FaultType	Exception Type
TpFault	InnerFault	Inner fault object

TpAuthenticationFault : TpFault

Die Klasse *TpAuthenticationFault* ist von *TpFault* abgeleitet. Die Klasse hat ein weiteres Feld mit dem Namen Failure welches den Grund für den Autorisierungsfehler enthält.

Datatype	Name	Description

AuthenticationFailure	Failure	`UnexpectedException`
		⇨ `an unexpected exception occured`
		
		`NoRemoteConnection`
		⇨ `Not used exception`
		
		`NoDatabaseConnection`
		⇨ `There's no database connection defined`
		
		`UserProfileNotFound`
		⇨ `The given user profile couldn't be found`
		
		`IncorrectPassword`
		⇨ `The password wasn't correct`
		
		`IdentityProfileNotFound`
		⇨ `The given identity couldn't be found`
		
		`PasswordRequired`
		⇨ `No password has been set`
		
		`OldDatabaseVersion`
		⇨ `The database structure is outdated must be updated`

```
TimePunchOutdated
    ⇨ The database structure is newer than the
      running TimePunch version. So TimePunch
      needs to be updated.

NoLogonName
    ⇨ No user logon has been set

DataBelongsToDifferentProfile
    ⇨ The user tries to edit data which belongs
      to a different user profile.

NotInCoverage
    ⇨ The user tries to edit data of a user
      profile that is not in his/her coverage.

InsufficientRights
    ⇨ The user has no permission to execute the
      command.

InsufficientRightsToMigrateDatabase
    ⇨ The user tries to migrate the database
      to a newer version. This is only allowed
      for people who have the rights to
      administrate TimePunch.
```

PagingContextDto

This object is the base class for all search object. It includes an option for paging the results

Datatype	Name	Description
Bool	UsePaging	Yes, if paging shall be used. No, if all result shall be returned at once.
Int	Page	Zero based number of the page, or empty if no paging is used.
Int	PageSize	Number of entries at the page, or empty if no paging is used.

TimePunch Authentication Service

TpAuthentication

The authentication object has to be send with every method whenever a user-authentication is required. This ensures that the user has the required access rights.

Datatype	Name	Description
String	CustomerToken	Not used at the moment.
String	TpUser	TimePunch Profile of the used Principal
String	TpHashedPwd	Password Hash (build with MD5 Encryption)
String	Identity	Profile Name of the used Identity, or empty, if the identity is equal to the principal. In order to switch the identity, the principal needs administration rights.
String	Culture	Culture that is used for the localization. e.g. „de-DE”

UserProfileDto

Diese Klasse enthält die Basisdaten um ein TimePunch Profil zu identifizieren.

Datatype	Name	Description
Guid	Id	Unique ID of TimePunch Profile
String	SaveAsName	Name of the TimePunch Profile used to show the user.
String	LogonName	By default the logon name is identical to the used windows logon.
String	UserName	First name and last name of the user.
String	Email	Email of the user

UserLogonDto : UserProfileDto

This class is derived from the UserProfileDto and contains the base data and in addition a TimePunch profile to identify expanded information.

Datatype	Name	Description
UserRights	Rights	Permission of the user
DateTime?	FirstEntry	Date/Time of the first entry, if the user has an entry, otherwise NULL
DateTime?	LastEntry	Date/Time of the last entry, if the user has an entry, otherwise NULL
Bool	IsUserProfileActive	True, if the user profile is active.
DateTime?	LockedUpTo	Date until that the time entries are locked. NULL, if no time entries are locked at all.
Bool	IsInCoverage	True, if the user profile is in coverage

UserSearchDto : PagingContextDto

This class contains all basic data of PagingContextDto and defines a filter to search for TimePunch profiles.

Datatype	Name	Description
UserFiltering	UserFiltering	Defines if the users are filtered (CurrentUser, AllUser, SelfDefined)
Guid[]	UserIds	If Filter is set to “SelfDefined” than the users will be filtered by the given ids.
String	GenericSearch	Generic search string that search for logon and/or user name.
Bool?	IsUserDeleted	NULL, searches for deleted and active users. True, to search only for deleted users. False, to search only for non-deleted users.

AutoregistrationDto

This class contains information about whether automatic registration of new employees is allowed.

Datatype	Name	Description
Bool	IsAutoregistrationAllowed	Defines whether the auto-registration of new staff members is allowed.
UserRights	DefaultUserRights	Get the user rights of new staff members
Bool	IsAutomaticLicensing	Defines whether new members will get a new license. But only if there are licenses still available.

TimePunch Configuration Service

CostCenterDto

This class contains information about the cost center assignment of the different booking types in TimePunch.

Datatype	Name	Description
String	SicknessCostcenter	Cost center that is used for sickness bookings
String	LeaveCostcenter	Cost center that is used for leave bookings
String	OfficialBankHolidayCostcenter	Cost center that is used for official bank holiday bookings
String	SpecialLeaveCostCenter	Cost center that is used for special leave bookings
String	CorrectionCostCenter	Cost center that is used for overtime/flexitime corrections

SalaryExportDto

This class contains information about the settings for wage data export.

Datatype	Name	Description
String	FixedSalaryTypeNo	Defines the account for the fixed salary export.
String	TemporaryHourlyWageTypeNo	Defines the account for the temporary hourly wage workers.
String	HourlyWageTypeNo	Defines the account for the hourly wage workers.
String	SicknessTypeNo	Defines the account for the time of sickness.
String	LeaveTypeNo	Defines the account for the leave time.
String	SpecialLeaveTypeNo	Defines the account for the special leave time.
String	PaidOvertimeTypeNo	Defines the account for the paid overtime.
String	OfficialBankHolidayTypeNo	Defines the account for the official bank holiday.
String	SaturdayWorkAmTypeNo	Defines the account for the work at Saturday morning.
String	SaturdayWorkPmTypeNo	Defines the account for the work at Saturday afternoon.
String	SundayWorkTypeNo	Defines the account for the worktime at Sunday.

Datatype	Name	Description
String	NightShiftTypeNo	Defines the account for the night shift working time.
String	NightShiftCoreTypeNo	Defines the account for the night shift core working time.

SalaryExportType	ExportType	Defines the type of the salary export.
		
		`SimplePayout`
		⇨ `The complete month gets exported`
		
		`SubsequentPayout`
		⇨ `Export in the middle of the month using DATEV retroactive billing`
		
		`FloatingPayout`
		⇨ `Export in the middle of the month without using the DATEV recalculation`

DatevExportSaveDto: SalaryExportDto

This class contains information about the settings for exporting to DATEV..

Datatype	Name	Description
String	AccountendNo	Defines the number of the accountend. This is the company who manages the DATEV access for the customer.
String	ClientNo	Defines the client number of the customer.

DatevExportDto: DatevExportSaveDto

In addition to the actual DATEV information, this class also contains data on the set cost centers.

Datatype	Name	Description
String	SicknessCostcenter	Cost center that is used for sickness bookings
String	LeaveCostcenter	Cost center that is used for leave bookings
String	OfficialBankHolidayCostcenter	Cost center that is used for official bank holiday bookings
String	SpecialLeaveCostCenter	Cost center that is used for special leave bookings
String	CorrectionCostCenter	Cost center that is used for overtime/flexitime corrections

LexwareExportDto: SalaryExportDto

In addition to the actual wage information, this class also contains data on the set cost centers.

UserSettingsDto

This class contains settings for the behaviour of TimePunch.

Datatype	Name	Description
Bool	IsAllowedToOverwriteBreaks	Flag that indicates whether a break can be overwritten by user with restricted access. This value is false by default, because we don't want the user (without the managing permissions) to do that.
String	IsAllowedToManageProjectAccess	Flat that indicates whether the timepunch user can manage project access. This value is true by default. It may only be false, if the project access gets managed by a 3rd party software

TimePunch Customer Service

CustomerDto

This class contains all customer data.

Datatype	Name	Description
Guid	Id	Unique ID of the customer
String	CustomerName	Name of the customer. This field, combined with the CustomerRefNr is unqiue.
String	CustomerRefNr	Ref. Nr. of the customer. This field, combined with the CustomerName is unqiue.
String	CustomerCode	Barcode of a customer. Used to identify a customer by its barcode.
String	EMailAddress	Email address of the customer
String	PostalAddress	Postal address of the customer.
String	Website	Customers web site URL
String	ContactPerson	Name of the contact person of the customer
String	ContactPerson JobPosition	Job Position of the contact person
String	PhoneNumber	The phone number of the customer or/and the contact person.
String	FaxNumber	The fax number of the customer or/and the contact person.
String	MobileNumber	The mobile number of the customer or/and the contact person.
String	Notes	Notes field to describe the customer
Datatype	Name	Description

ColumnFlagsFor TimeSheetExport	ColumnFlags	A bit field that defines the columns that are used for exporting data to the customer.
		
		`None = 1,`
		`Date = 2,`
		`Weekday = 4, Description = 8,`
		`Project = 16,`
		`Task = 32,`
		`StartTime = 64, EndTime = 128,`
		`WorkingTime = 256, BreakTime = 512, Leave = 1024,`
		`Flexitime = 2048, Sick = 4096,`
		`Journey = 8192, HourlyRate = 16384`

Datatype	Name	Description
String	ExportTimeSheet MailTemplate	Mail template that is used to send the time sheet to the customer.

SyncTimeSheetFlags	SyncSheetFlags	A bit field that defines if also the time sheet data will be send to the customer (wich is the receiver)/ or a second sender (sender).
		
		`Undefined = 0,`
		`None = 1,`
		`SyncToSender = 2, SyncToReceiver = 4`

Bool	IsCustomerDeleted	True, if the customer has been marked as deleted.

CustomerSearchDto

This class is derived from the PagingContextDto and contains the fields that can be used to search for customers.

Datatype	Name	Description
String	CustomerName	Name of the customer. This field, combined with the CustomerRefNr is unqiue.
String	CustomerRefNr	Ref. Nr. of the customer. This field, combined with the CustomerName is unqiue.
String	EMailAddress	Email address of the customer
String	PostalAddress	Postal address of the customer.
String	Website	Customers web site URL
String	ContactPerson	Name of the contact person of the customer
String	ContactPerson JobPosition	Job Position of the contact person
String	PhoneNumber	The phone number of the customer or/and the contact person.
String	FaxNumber	The fax number of the customer or/and the contact person.
String	MobileNumber	The mobile number of the customer or/and the contact person.
String	Notes	Notes field to describe the customer
Datatype	Name	Description
String	GenericSearch	The generic search will search for customers by the name and also the ref. Nr.

Datatype	Name	Description
String	ExportTimeSheet MailTemplate	Mail template that is used to send the time sheet to the customer.
List<Guid>	CustomerIds	The method will only search in the given customer ids.
bool?	IsCustomerDeleted	NULL to search all customers independent of the state / True, False to search customers with a defined state.

TimePunch Holiday Service

CountryDto

This class contains the definition of a country.

Datatype	Name	Description
Guid	Id	Unique ID of the country
String	Name	Name of the country, e.g. Deutschland
RegionDto[]	Regions	List of Regions that belongs to the country (e.g. Hessen)

RegionDto

This class contains information about a region (for example, Hessen) and is embedded in a CountryDTO object.

Datatype	Name	Description
Guid	Id	Unique ID of Region
String	Name	Name of the Region

PublicHolidayDto

This class contains information about a public holiday.

Datatype	Name	Description
Guid	CountryId	Unique ID of the Country
String	Country	Name of the country
Guid?	RegionId	Unique ID of the Region
String	Region	Name of the region
String	Name	Name of the public holiday
Int?	ValidSinceYear	Year since the holiday is valid
Int?	ValidUntilYear	Year until the holiday is valid
Bool	IsHalfDay	True, if it's only a half day holiday
PublicHolidayType	PublicHolidayType	Type of the public holiday
DateTime	Date	Date of the public holiday
Bool	Reverse	True, indicates that the numbered holiday will be reversed.
Int	Number	Number that is used for counting when used in numbered holidays
DayOfWeek	Weekday	Weekday of the public holiday

Datatype	Name	Description
PublicHolidayDto	ReferencedHoliday	Referenced holiday if the current holiday is dependend on it
string	ValidationInformation	Gets a string that defines when the holiday is valid

TimePunch Licensing Service

ApplicationLicenseDto

This class contains the license data of TimePunch.

Datatype	Name	Description
Guid	Id	Unique ID of the application license
String	LicensedFor	Name of whom the license has been registered.
String	LicenseCode	License Code
Int	CountKeys	Amount of users who can use this application license.
Int	UsedKeys	Amount of licenses that are already in use.
DateTime	ValidUntil	If the license is only valid for a time period, this field contains the expiration date.
String	ValidForVersion	If the license is only valid for a given TimePunch Version, this version is filled in here.
Bool	IsLicenseValid	True, if the returned application license is valid for the installed version of TimePunch.
String	ApplicationKey	The application key to which the application license belongs.

UserLicenseDto

This class contains the license information for a TimePunch profile.

Datatype	Name	Description
Guid	Id	Unique ID of the application license
UserProfileDto	User	TimePunch Profile to that the user license belongs too
String	ApplicationKey	The module or application key for that the license is valid
Guid	ApplicationLicenseId	The Id of the application license for which the user is licensed.

TimePunch Logging Service

ActiveTimeEntryDto

This class contains the data of the currently active time-entry. The active time entry is the one for which the current time is recorded.

Datatype	Name	Description
Guid	Id	Unique ID of the active time entry
DateTime	LastUpdate	Time stamp of the last update
Guid	ProjectId	Unique project Id for that the time tracking has been started.
String	ProjectName	Name of the project for that the time tracking has been started.
Guid	TaskId	Unique Task Id, if the time tracking has been started for a specific task.
String	TaskName	Name of the task, if the time tracking has been started for a specific task.
String	Description	Description of the current time entry.
DateTime	LogonTime	Start time of the current time tracking.
Double	BreakTime	Amount of break time in hours within the current time tracking.
DateTime	BreakStartTime	Start time of the current break, if the user started a break.
DateTime	BreakEndTime	End time of the last break, if the break has been finished.
TimeEntry-LoggingState	LoggingState	Defines the state of the current logging (NoActiveEntry, WorkTimeLogging, BreakTimeLogging)
Long	BackgroundColor	Background colour of the project that gets tracked.
Long	TextColor	Text colour of the project that gets tracked.
DateTime	LockTime	Timestamp where the PC got locked due to a screensaver event etc.
String	LogonName	Dependent TimePunch profile
Datatype	Name	Description
Guid	UserId	Id of the user dependent TimePunch Profile
String	CustomerName	Name of the customer that has been set for the time entry.
String	CustomerRefNr	Ref.Nr. of the customer that has been set for the time entry

Datatype	Name	Description
Guid	CustomerId	Unique customer Id
Bool	IsImportant	True, if the time entry has been marked as important. This will force the project report to show the description.
Bool	IsOnsite	True, if the time entry has been marked as onsite.
String	ProjectDescription	Gets the project description
String	TaskNameId	Gets the displayed task id
String	TaskDescription	Gets the task description
TimeEntryType	Usage	Gets the usage of the active time entry
String	TimeZone	Gets the timezone where the active time entry belongs too
Bool	IsNotInvoiced	True, if the active time entry gets not invoiced at all.

ActiveTimeEntrySearchDto

This class is derived from the PagingContextDto and will be used to search for active time entries.

Datatype	Name	Description
List<Guid>	FilteredProjects	If null, all projects will be returned. If the collection is empty, nothing will be returned. If the collection is filled with project ids, only entries with the given project ids will be returned.
List<Guid>	FilteredTasks	If null, all tasks will be returned. If the collection is empty, nothing will be returned. If the collection is filled with task ids, only entries with the given task ids will be returned.
List<Guid>	FilteredUsers	If null or empty, the data of the current user will be returned. If the collection is filled with, only entries with the given user ids will be returned.

LoggingContextDto

The Logging Context contains all data that is necessary for the client in order to do a proper time-recording.

Datatype	Name	Description
List<ProjectDto>	ActiveProjects	Collection containing all projects the user can book times.

Datatype	Name	Description
List<TaskDto>	CommonTasks	Collection of common tasks
ActiveTimeEntryDto	ActiveTimeEntry	Active time entry, if a logging has been started.
LoggingSettingsDto	Settings	Logging Settings for the current user
List<TimeEntryDto>	TodayEntries	Collection of time entries of the current day
Guid	ProposedProjectId	Id of the Project that should be used to start the next time recording.
Guid	ProposedTaskId	Id of the Task that should be used with the next time recording.
TimeAccountDto	TimeAccount	Current time account information.
List<CustomerDto>	Customers	List of customers the user can choose from.

LoggingSettingsDto

This class contains the recording settings for the TimePunch profile.

Datatype	Name	Description
Bool	InstantLogging	Value indicating whether the time recording shall start directly after starting the TimePunch Watcher.
Recording-Mode	RecordingMode	Value indicating in which recording mode the TimePunch Watcher shall be used (Complex, Simple, Orwell)
Int	RemaindUserAfterMinutes	Amount of minutes after that the user shall get a reminder.
Int	TimeRecordingPrecision	Recording precision in minutes
Double	MaxTimeOfInactivity	Gets max. Time of inactivity before an automatic break will be started.
Guid	DefaultProjectId	Default project id to start the first logging
String	DefaultProjectName	Default project name
Guid	DefaultTaskId	Default task id to start the first logging
String	DefaultTaskName	Default task name
Default-ProjectMode	DefaultProjectMode	Defines if the recording shall start with a fixed project or with the project that has been used for the last time recording.
UserProfileDto	UserProfile	The user profile to which the logging settings belongs.

TimePunch Mailing Service

The TimePunch contains all DTOs needed to send emails mailing service. These include in particular the addresses of DTOs.

PlainMailAddressDto

This class is used for mail recipients that are not associated with any user profile in TimePunch.

Datatype	Name	Description
MailAddressType	MailAddressType	Defines the address type (From, Sender, To, CC, Bcc).
String	MailAddress	Mail Address
String	DisplayName	Display name of the mail receiver/sender

UserMailAddressDto

This class is used for all mail recipients that can be mapped to a user profile in TimePunch.

Datatype	Name	Description
MailAddressType	MailAddressType	Defines the address type (From, Sender, To, CC, Bcc).
Guid	UserId	Id of the TimePunch User Profile.

MailAttachementDto

This class contains all the data of an attachment that can be sent by the TimePunch mailing service.

Datatype	Name	Description
String	FileName	File name of the attachement.
Byte[]	Content	Content of the attachement to send.
String	MimeType	Mime Type of the attachement

TimePunch Project Service

ProjectDto

This class contains all data of a project.

Datatype	Name	Description
Guid	Id	Unique ID of the project
DateTime	LastUpdate	Time stamp of the last update
Bool	IsPaid	Indicates that the project will be paid If true, PricePerHour, Vat and Currency must be filled.
Double	PricePerHour	Defines the hourly rate
Double	Vat	Defines the VAT
String	Currency	Defines the used currency. E.g. €
Long	TextColor	Text colour of the project.
Long	BackgroundColor	Background colour of the project
String	ProjectName	Name of the project
String	ProjectDescription	Short description of the project
Bool	IsProjectDeleted	True, if the project has been deleted
Bool	IsProjectTimeLimited	True, if the project is limited in time. If true, StartDate and EndDate must be filled
DateTime?	StartDate	The first valid booking date for the project, or NULL if the project is not time limited.
DateTime?	EndDate	The last valid booking date for the project, or NULL if the project is not time limited.
List<TaskDto>	TaskList	Collection of tasks that belongs to the project
Bool	IsWorkingTimeRestricted	True, if the project has a maximum amount of working hours. If true, MaxWorkingTime must be filled
Datatype	Name	Description
Double	MaxWorkingTime	Maximum Amount of Working Time
CustomerDto	Customer	Default customer that is used when creating new time entries.

Datatype	Name	Description

ProjectState	ManualProjectState	Current project state.
		
		`Calculated = 0,`
		`Green = 1,`
		`Yellow = 2,`
		`Red = 3`

String	ProjectStateDescription	User defined description of the project state
Bool	DontInheritCommonTasks	True, if the client shall not show the common tasks at the project level.
Bool	IsOrderBased	True, if the project is based on a customer order
String	Account	Project account number
String	CostCenter	Cost center of the project

OrderType	OrderType	The order type of the project
		
		`Undefined = 0`
		`PrivateSector = 1`
		`PublicService = 2`
		`SupplyOfTemporaryWorkers = 3`
		`ServiceContract = 4`
		`ContractToProduceAWork = 5`

String	ContractId	Order nr. of the project
String	PlaceOfServiceProvision	The place of service provision
Double?	ChargingJourneyTime	Percentage of driving time hat counts as working time
Int	RoundPrecisionInMinutes	Rounding precision in minutes

Rounding	Rounding	Type of rounding
		
		`NotRounded = 0`
		`Rounded = 1`
		`RoundUp = 2`
		`RoundDown = 3`

Double	YellowTrafficLight	Factor where the traffic light turn to yellow
Double	RedTrafficLight	Factor where the traffic light turn to red
ProjectLifeCycle	ProjectLifeCycle	Current life cycle state of the project

Datatype	Name	Description

ProjectAvailability	ProjectAvailability	Defines from whom the project can be accessed.
		
		`AvailableForAll = 0`
		`AvailableForSelected = 1`
		`AvailableForNone = 2`

UserProfileDto	ProjectOwner	Defines the project owner
Guid?	ParentProjectId	Id of the parent project or NULL, if there is no parent project defined.
String	ParentProjectName	Read only name of the parent project
String	ParentProjectDescription	Read only description of the parent project
String	FurtherAccountingDetails	User specific data used to concrete the project accounting
String	ProjectCode	The barcode of a project. Used to identify a project by a barcode scanner.
Bool	IsMaxWorkingTimeExceedable	True, if the maximum working time of a project can be exceeded

ProjectSearchDto

This class is derived from the PagingContextDto and contains a filter in order to search for projects.

Datatype	Name	Description
String	ProjectName	Name of the project to search
Bool	InTimeFrame	If true, only projects that are active and in the bookable time frame will be returned
Bool	EnrichWithTasks	If true, the projects will be loaded with included task information.
String	GenericSearch	Generic search will search for project name and description
ProjectLifeCycle	ProjectLifeCycle	Searches only for projects that matches the defined lifecylce
Guid?	ParentProjectId	If set, returns only the projects of the given parent
Bool	EnrichWithUserDefinedCustomer	If true, the projects will be enriched with customer data

ProjectTaskDto : TaskDto

This class is derived from TaskDto and contains the name of the project to which the task belongs as an additional property.

Datatype	Name	Description
String	Project	Name of the project to which the task belongs

ProjectTimeDto

This class is used to retrieve the time budget of a project.

Datatype	Name	Description
DateTime?	Date	NULL, if all project times shall be looked up. A special date if only the times up to the passed date shall be calculated.
Guid	UserId	Id of the TimePunch User that has been looked up.
Guid	ProjectId	Id of the project that has been looked up.
Double	ScheduledWork	The scheduled work for the project.
Double	HoursWorked	The hours the user has already been worked on the project.
Double	AvailableWork	The available work that can be booked by the user.

ProjectUserDto : UserProfileDto

This class contains the combination of Project and Profile information. It will be used read only to identify which profiles can book times to the distinct projects. The class is derived from the UserProfileDto.

Datatype	Name	Description
Guid	Id	Unique ID of TimePunch Profile
String	ProjectName	Name of the project
Guid	ProjectId	Id of the project
Double	ScheduledWork	The scheduled work for the user.
PoolType	PoolType	The pool type (allowed values are Shared / Private)
UserRights	UserRights	Contains the permissions of the user that belongs to the project. This field is used to identify project leaders.

ProjectUserRelationSaveDto : UserProfileDto

This class contains user-specific settings for a project. This class is derived from UserProfileDto.

Datatype	Name	Description
Guid	ProjectId	Id of the project
Guid?	CustomerId	Id of the default customer if set, or NULL if no default customer has been set.
Double?	PricePerHour	Price per hour if set, or NULL if no user specific price per hour has been set.
Double?	MaxWorkingTime	Maximum working time for the user in the specified project. Or NULL, if no maximum working time for the user has been set.
Double?	ChargingJourneyTime	Percent of charging journey time for the user in the specified project. Or NULL, if no charging journey time has been set.

ProjectUserRelationDto : ProjectUserRelationSaveDto

This method is derived from *ProjectUserRelationSaveDto* and contains additional information that is only returned when loading the data.

Datatype	Name	Description
String	Project	Name of the project
String	CustomerRefNr	Reference number of the customer
String	CustomerName	Name of the customer
UserRights	UserRights	The permission of the given user.

This class contains all data that describes a task. A task can be attached directly to a project, or standalone as a common task that is not bound to a project. Common Tasks can be used in combination with any project.

Datatype	Name	Description
Guid	Id	Unique ID of the task
String	TaskNameId	Name of the task
String	TaskDescription	Description of the task
Bool	IsDeleted	True, if the task is deleted and cannot be used for new time entries.
TimeEntryType	Usage	Defines how the task entry will be booked when creating new time entries.

Datatype	Name	Description
Double	CostFactor	The cost factor defines a factor that multiplied by the hourly rate, defines the net cost.
String	TaskCode	Barcode of the task. Used to identify a task by the barcode scanner.
Double	WorktimeFactor	The worktime factor defines which part of duration will be added to the worktime.
String	WorkTypeNo	Booking account type no. that overrides the default type no. for the work
String	OtherTypeNo	Booking account type no that overrides the default type no. for special times (e.g. on call service)

TimePunch Reporting Service

The reporting service contains many DTOs which can be used for the preparation of reports.

ReportCustomerDto

This class contains all customer data that is relevant for report generation.

Datatype	Name	Description
Guid	CustomerId	Unique Id of the Customer in TimePunch
String	CustomerName	Name of the customer
String	CustomerRefNr	Ref. No. of the customer
String	Website	URL of the customers website
String	ContactPerson	Contact person of the customer
String	ContactPersonJobPosition	Job that the contact person of the customer owns.
String	EMailAddress	Email Address of the customer
String	PostalAddress	Postal address of the customer
String	PhoneNumber	Phone number of the customer
String	FaxNumber	Fax number of the customer
String	MobileNumber	Mobile number of the customer
String	Notes	Notes of the customer
String	VatRegNo	Vat No. of the customer
ColumnFlagsFor TimeSheetExport	ColumnFlags	[Currently not used] Columns for time sheet export to the customer
String	ExportTimeSheet MailTemplate	[Currently not used] Mail template for the time sheet export
SyncTimeSheetFlags	SyncSheetFlags	[Currently not used] Timesheet syncrhonize options
Bool	IsCustomerDeleted	True, if the customer has been deleted in TimePunch.
String	CustomerCode	Barcode of a customer. Used to identify the customer by its barcode.

ReportDailySummaryDto

This class contains the report data for daily reporting.

Datatype	Name	Description
ReportSummaryDto	Summary	Reference to the monthly summary
ReportWorkdayDto	Workday	Workday model for the reported working day.
DateTime	Date	Reported date
DateTime?	LogonTime	Earliest logon at the date
DateTime?	LogoffTime	Latest logoff at the date
String	Description	Description text of the reported date
Double	AbsDailyOvertime	Absolute daily overtime. This value is always >0 or 0.
Double	AbsDailyMinustime	Absolute daily minus time. This value is always >0 or 0.
Double	DailyEstimatedWorktime	Estimated working time at the given date.
Double	DailyEstimatedPaidtime	Estimated paid time at the given date.
Double	DailyOvertime	Daily overtime, this value can also be negative.
Double	DailyBankHoliday	Daily bank holiday hours
Double	DailyBankHolidayAsDays	Daily bank holiday as part of day
Double	DailySpecialLeave	Daily special leave hours
Double	DailySpecialLeaveAsDays	Daily special leave as part of day
Double	DailyAbsence	Daily absence hours
Double	DailyAbsenceAsDays	Daily absence as part of day
Double	CurrentOvertime	Current overtime at the given date
Double	DailySickComplete	Daily sick and sick not paid hours
Double	DailySickCompleteAsDays	Daily sick and sick not paid as part of day
Double	DailySickNotPaid	Daily sick not paid hours
Double	DailySickNotPaidAsDays	Daily sick not paid as part of day
Double	DailySick	Daily sick hours
Double	DailySickAsDays	Daily sick as part of day
Double	DailyTakenOvertime	Daily taken overtime

Datatype	Name	Description
Double	DailyTakenOvertimeAsDays	Daily taken overtime as part of day
Double	DailyLeave	Daily leave hours
Double	DailyPaidLeave	Daily paid leave hours, This can vary from the daily leave if the payout gets calculated by the last 13 weeks
Double	DailyLeaveAsDays	Daily leave as part of day
Double	DailySpareTime	Daily spare time hours
Double	DailySpareTimeAsDays	Daily spare time as part of day
Double	DailyBreaktime	Daily break time hours
TimeEntryType	DailyUsage	Aggregated main usage of the day
DateTime?	LogonTimeUncut	Uncutted logon time, even if the cutter did run
DateTime?	LogoffTimeUncut	Uncutted logoff time, even if the cutter did run
Double	DailyNightSurchargeCoretime	Daily night surcharged core time
Double	DailyNightSurchargeTime	Daily night surcharged time
Double	DailySaturdayWorktime	Daily saturday worktime
Double	DailySundayWorktime	Daily Sunday worktime
Double	DailyPublicHolidayWorktime	Daily public holiday worktime
Double	DailySaturdayWorktimeAm	Daily worktime at Saturday morning
Double	DailySaturdayWorktimePm	Daily worktime at Saturday afternoon
Double	DailySurchargedOvertime	Daily surcharged overtime
Double	DailyOnCallServicetime	Daily on call service time
Double	DailyOnCallServicetimeAsDays	Daily on call service time as part of day
Double	DailyPaidSick	Daily paid sick time
Double	DailyPaidBankHoliday	Daily paid bank holiday time

ReportDSGVOInfoDto

This class contains the report data for the information form of the General Data Protection Regulation which comes into force on 25.05.2018.

Datatype	Name	Description
ReportUserDto	User	Defines the user for that the report contains data.
DateTime?	FirstEntry	Date/Time of the first timeentry of the user
DateTime?	LastEntry	Date/Time of the last timeentry of the user
DateTime?	LockedUpTo	Date up to when the timeentries has been locked.
Double	WorkdaysPerWeek	Count the workdays per week
Double	HoursPerWeek	Amount of working hours per week
List<ReportLeadingUserDto>	LeadingUsers	List of the users who have access to the personal data of the user

ReportLeadingUserDto

This class contains all information about the users who have access to other employees.

Datatype	Name	Description
Guid	UserId	Defines the id of the leading user
String	LogonName	Logon name of the leading user
String	UserName	User name of the leading user
String	Email	Email of the leading user
UserRights	Rights	User rights of the leading user
Guid	CoveredUserId	User Id of the user that can be accessed by the leading user
String	CoveredLogonName	Logon name of the user that is covered by the leading user
String	CoveredUserName	User name of the user that is covered by the leading user
String	CoveredEmail	Email of the user that is covered by the leading user
Guid	Id	Unique identifier of the object

ReportProjectDto

This class contains all project-related data that can be used for reporting.

Datatype	Name	Description
ReportCustomerDto	Customer	Defines the customer that can be set for project.

Datatype	Name	Description
Guid?	CustomerId	The Id of the customer or NULL if o customer has been set.
DateTime?	ReportingDate	The date where the reporting has been requested.
Guid	ProjectId	The id of the project.
Guid	ParentProjectId	The id of the parent project.
Guid	ProjectOwnerId	The Id of the project owner. The id is always an employee id.
String	Currency	The currency that has been defined for the project.
Double	ProjectPricePerHour	The price per hour defined for the given project.
Double	Vat	The vat tht is used to calculate the gross amount for the current project.
Long	TextColor	The text color that is used to display the time entries that are related to the project.
Long	BackgroundColor	The background color that is used to display the time entries that are related to the project.
String	ProjectName	The name of the project
String	ProjectDescription	The description of the project
ProjectLifeCycle	ProjectLifeCycle	The current project life cycle of the project (e.g. Planning/Active/Done/Deleted)
Bool	IsProjectTimeLimited	True, if the project has a fixed ending.
DateTime	StartDate	The first date from that the project can be booked
DateTime	EndDate	The last date until that the project can be booked.
List<ReportTaskDto>	TaskList	Collection of project related tasks

ProjectAvailibility	ProjectAvailibility	Defines if the project is useable by all, none or only a few
		`AvailableForAll = 0`
		`AvailableForSelected = 1`
		`AvailableForNone = 2`

List<ReportProjectUserDto>	UserRelations	Collection of users that are related to the project

Datatype	Name	Description
Double?	ProjectMaxWorkingTime	The maximum amount of working time that has been defined at the project.
Int	RoundPrecisionInMinutes	The rounding in minutes that has been defined in the project data.

Rounding	Rounding	Defined rounding for the project invoicing.
		`NotRounded = 0`
		`Rounded = 1`
		`RoundUp = 2`
		`RoundDown = 3`

Double	YellowTrafficLight	The percentage of worktime to available work where the project will turn yellow
Double	RedTrafficLight	The percentage of worktime to available work where the project will turn red
Double?	ProjectChargingJourneyTime	The percentage of driving time that is calculated as working time.

ProjectState	ManualProjectState	The manual project state
		`Calculated = 0`
		`Green = 1`
		`Yellow = 2`
		`Red = 3`

String	ProjectStateDescription	The description that explains the current project state, if the project state has been set manually
Bool	DontInheritCommonTasks	True, if the project does not inherit common tasks, e.g. does not show it.
Bool	IsOrderBased	True, if the project is order based and offers special input fields for that.
String	Account	The internal account that can be used for worktime accumulation.
String	CostCenter	The cost center for the project that can be used for export tasks.

OrderType	OrderType	A business driven order type.
		`Undefined = 0`
		`PrivateSector = 1`
		`PublicService = 2`
		`SupplyOfTemporaryWorkers = 3`
		`ServiceContract = 4`
		`ContractToProduceAWork = 5`

Datatype	Name	Description
String	ContractId	The project based contract id
String	PlaceOfServiceProvision	Address where the service will be provided.
Bool	IsProjectTimeSet	True, if the project has a defined amount of work
Double	SharedPool	Defined working time for the shared pool
Double	PrivatePool	Defined working time for the private pools
Double	ScheduledWork	Scheduled work of the project.
Double	HoursWorked	Hours that have already been worked at the project.
Double	AvailableWork	Available hours that can be booked.
String	FurtherAccountingDetails	User specific data used to concrete the project accounting
String	ProjectCode	Barcode of a project. Used to identify a project by its barcode.

ReportProjectTimeDto

This class contains additional information about the project in connection with the employee and the planned, completed and open project budget.

Datatype	Name	Description
ReportUserDto	User	TimePunch related user data
ReportProjectUserDto	ProjectUser	Project related user data
ReportProjectDto	Project	Project data
Double	ScheduledWork	Scheduled work for the user and project
String	PoolType	Type of the project pool S ➔ Shared pool P ➔ Private pool
Date?	Date	Reference data for that the evaluated times are valid.
Double	HoursWorked	Already worked hours by user for the project
Double	AvailableWork	Available hours that can be allocated by the user for the project.

ReportProjectUserDto

This class contains specific information about an employee in connection with a project.

Datatype	Name	Description
Guid	UserProjectId	Project Id
Guid	ProjectUserId	User Id
Bool?	IsAllowedToUseProject	True, if the user is allowed to book the project
Double?	UserPricePerHour	Price per hours that is defined for the user within the given project. Null, if no special price has been set.
Double?	UserMaxWorkingTime	Max working time that is defined for the user within the given project. Null, if no max working time has been set.
Guid?	UserCustomerId	Customer Id that is defined for the user within the given project. Null, if no special customer id has been set.
Double?	UserChargingJourneyTime	Percentage of charged journey time for the user within the given project. Null, if no special charging has been set.

ReportSummaryDto

This class contains all the important data for monthly reporting.

Datatype	Name	Description
ReportYearlySummaryDto	YearlySummary	Yearly summary data
ReportWorkModelDto	WorkModel	Active Workmodel for the given reporting date.
Int	Month	Number of the reported month (e.g. 1-12)
Double	EstimatedWorkdaysPerMonth	Amount of estimated workdays per month
Double	EstimatedWorktimePerMonth	Estimated worktime per month.
Double	EstimatedPaidtimePerMonth	Estimated paid time per month.
Double	Overtime	Overtime in the given month.

Datatype	Name	Description
Double	CalculatedOvertime	Calculated overtime for the given month. The calculated overtime is the total overtime before the overtime cut.
Double	Breaktime	Amount of breaktime in month.
Double	Drivetime	Amount of drivetime in month.
Double	Worktime	Amount of worktime in month.
Double	TakenOvertime	Amount of taken overtime in month.
Double	Leave	Amount of leave in month.
Double	PaidLeave	Amount of paid leave hours in month. This can vary from the leave, if the paid leave gets calculated by the average of the last 13 weeks.
Double	LeaveAsDays	Amount of leave days in month.
Double	SickComplete	Amount of sick hours and sick not paid hours in month.
Double	SickCompleteAsDays	Amount of sick days and sick not paid days a month.
Double	Sick	Amount of sick time in month.
Double	SickAsDays	Amount of sick days in month.
Double	SickNotPaid	Amount of sick not paid hours in month.
Double	SickNotPaidAsDays	Amount of sick not paid as days in month.
Double	TotalOvertime	Total overtime in month.
Bool	Locked	True, if the month-end closing has been done.
DateTime	Date	The first date in month.

Datatype	Name	Description
OvertimeCutMode	OvertimeCutMode	Defines when the overtime gets cutted, e.g on monthly basis or at all (cumulative)
Bool	IsPaidOvertimeCalculated	True, if the paid overtime gets automatically calculated.
Double	PaidOvertime	Amount of paid overtime in month.
Double	DecreasePaidTime	Amount of hours that will decrease the payout to the user.
Double	MissingHourCompensation	Amount of working time that gets added to the monthly working time.
Guid	RegionId	Selected region in the current month.
Guid	CountryId	Selected country in the current month.
Double	MaximumOvertime	The maximum overtime in the curren month.
Double	OvertimeStartsAt	Default value above the additional working time gets counted as overtime.

WorkContract	WorkContract	The work contract of the user
		`Employee = 0`
		`Freelancer = 1`
		`Wageworker = 2`
		`Shiftworker = 3`

Double?	PaidTime	Amount of paid time in month
Double	UnpaidTime	Amount of unpaid time in month
Double	BankHoliday	Amount of bank holiday in the current month.
Double	BankHolidayAsDays	Time at bank holidays per month. e.g. 1 equals 1 day, 0.5 equals half day
String	CountryName	Name of the country
String	RegionName	Name of the region
Double	PreviousMonthOvertime	Amount of overtime from the previous month.

Datatype	Name	Description
Double	SpecialLeave	Amount of special leave in month
Double	SpecialLeaveAsDays	Amount of special leave as days in month
Double	PaidSick	Paid sick time, that can differ from real sick time (13 weeks average)
Double	PaidBankHoliday	Paid bank holiday time, that can differ from real bank holiday time (13 weeks average)

ReportTaskDto

This class contains all the data for an task.

Datatype	Name	Description
Guid	TaskId	Unique Id of the task
String	TaskNameId	Business driven Id of the task
String	TaskDescription	Description of the task
Bool	IsTaskDeleted	True, if the task has been deleted.
TimeEntryType	Usage	The usage or booking type of the task.
Double	CostFactor	The costfactor that is provided to calculate the project invoice.
String	TaskCode	Barcode of the task. Used to identify the task by a barcode scanner.
Double	WorktimeFactor	The worktime factor defines which part of duration will be added to the worktime.
String	WorkTypeNo	Booking account type no. that overrides the default type no. for the work
String	OtherTypeNo	Booking account type no that overrides the default type no. for special times (e.g. on call service)

ReportTimeEntryDto

This class contains all the time entry data for report creation.

Datatype	Name	Description
ReportCustomerDto	Customer	Customer details set to the time entry
ReportProjectDto	Project	Project details for the time entry
ReportTaskDto	Task	Task details for the time entry

Datatype	Name	Description
ReportProjectUserDto	ProjectUser	Project and user related data
ReportUserDto	User	User related data
ReportWorkdayDto	Workday	Information about the workday
Double	PaidWorktTime100	Defines the worktime that the user gets paid
Double	NetAmount	Defines the net amount the user can invoice
Double	GrossAmount	Defines the gross amount the user can invoice
Double	PricePerHour	Defines the price per hour the user can invoice
Double	CalculatedPricePerHour	Defines the calculated price per hour, which is the PricePerHour multiplied by the cost factor of the task
Double?	ChargingJourneyTime	The percentage of charged journey time. The result will be displayed as work time.
Double?	MaxWorkingTime	The maximum working time the user can book
Guid	CreatedBy	Id of the user who created the time entry
DateTime	Created	The timestamp when the time entry has been created
Guid	LastUpdatedBy	Id of the user who last updated the time entry
DateTime	LastUpdate	The timestamp when the time entry gets the latest update
Bool	IsBankHolidayInherited	True, if the referenced data is a public holiday
Bool	IsNonRegularWorkday	True, if the user does not work regulary at this day (e.g. Sunday)
String	BankHoliday	Name of the bank holiday, if the IsBankHolidayInherited value is true
Double	NightSurcharge Coretime100	Amount of hours that is within the night surcharge core time
Double	NightSurcharge Time100	Amount of hours that is within the night surcharge time
Double	NightSurcharge TimeCompete100	Amount of the night surcharge core time and the night surcharge time

Datatype	Name	Description
Double	Saturday Worktime100	Amount of Saturday work time
Double	Sunday Worktime100	Amount of Sunday work time
Double	PublicHoliday Worktime100	Amount of public holiday work time
Guid	ProjectId	Id of the related project
Guid	TaskId	Id of the related task
Guid	ProjectUserId	Id of the related project user
DateTime	LogonTime	Start time of the time entry
DateTime	LogoffTime	End time of the time entry
Bool	IsPaid	Flag that defines if the time entry has been paid
TimeEntryType	Usage	Usage or booking type of the time entry
Double	BreakTime100	Amount of booked break time
String	Description	Description of the time entry
Guid?	ProjectCustomerId	Id of the cusomter defined by the project
Guid	TimeEntryId	Id of the time entry
Double	Worktime100	Amount of worktime
Bool	IsImportant	Flag that defines if the time entry is important.
Bool	IsOnSite	Flag that defines if the time entry is onsite.
Bool	IsDataPreview	Flag that defines if the time entry is a data preview entry
Double	LeaveAsDays	Amount of leave days
Double	Leave100	Amount of leave hours
Double	SickAsDays	Amount of sick time as days
Double	Sick100	Amount of sick time as hours
Double	SickNotPaidAsDays	Amount of sick time not paid as days
Double	SickNotPaid100	Amount of sick time not paid as hours
Double	DrivingTimeAsDays	Amount of driving time as days
Double	DrivingTime100	Amount of driving time as hours
Double	TakenOvertimeAsDays	Amount of taken overtime as days

Datatype	Name	Description
Double	TakenOvertime100	Amount of taken overtime as hours
Int	Days	Amount of days the time entry spans
Bool	IsVirtual	True, if the time entry is only virtual - means calculated and not manually booked by the user
String	CreatedByUser	Name of the user who created the time entry
String	LastUpdateByUser	Name of the user who did the last update
Double	Duration100	The duration of the time span
Double	DurationAsDay	The duration of the time span in fraction of the day
Double	OnCallService100	Amount of on call service time as hours
Double	OnCallServiceAsDays	Amount of on call service time as days

ReportUserDto

This class contains all user-specific data for reporting.

Datatype	Name	Description
Guid	UserId	Unique Id of the TimePunch Profile
String	LogonName	Unique Logon name of the TimePunch Profile
String	UserName	User name of the TimePunch Profile
String	PersonnelNumber	Given personnel number.
String	UserCode	Barcode of the staff member. Used to identify a user by its barcode.
Double	DefaultOvertimeStartsAt	Default value above the additional working time gets counted as overtime.
LeaveCarryForward	DefaultLeaveCarryForward	Value that defines when the new leave shall be added to the staff member. Allowed values are BeginOfJanuary through BeginOfDecember.

Datatype	Name	Description
LeaveExpiration	DefaultLeaveExpiration	Defines when the leave of the previous year will expire. Allowed values are Instantly, Never and EndOfJanuary through EndOfDecember.
UserRights	Rights	The current user profile rights (e.g. None, View, Edit, Full, Human Resource or Admin)
OvertimeCutMode	DefaultOvertimeCutMode	Defines if the overtime shall be cut. Possible values are None, Monthly or Cumulative
Bool	DefaultIsPaidOvertimeCalculated	True, if the overtime gets automatically paid.
DateTime	DefaultBeginOfWork	The default time, when the user starts working. This can be overwritten by any working time model.
WorkContract	DefaultWorkContract	Work contract that is set for the user in the profile.
Double	PreviousOvertime	The overtime with that TimePunch starts the overtime calculation at beginning of the first month.
Double	PreviousSickdays	The amount of sick days with that TimePunch starts the sick day counter at the beginning of the first month.
String	SaveAsName	The user name of the TimePunch Profile if set, or the logon name.
Double	DefaultChargingJourneyTime	Defines how many percentage of the driving time will be booked as working time.
Guid	DefaultRegionId	The default region id, if no other has been defined.
Guid	DefaultCountryId	The default country id, if no other has been defined.
Double	DefaultAnnualVacation	Default value of the annual vacation.

LeaveCalculation	DefaultLeaveCalculation	Defines the default, if user leave is based per hours or per days.
		`Days = 0`
		`Hours = 1`

Datatype	Name	Description
Double	DefaultLeavePerDay	Amount of hours for a leave day
Double?	DefaultPaidTime	The time that the user gets paid per default.
Double	DefaultMaximumOvertime	Default value of the maxium overtime settings for the profile.

LeaveSetting	LeaveSetting	Defines how the leave offset shall be used for calculation.
		
		`TakeAsOffset => In the first year, the user has extra holiday available, because he/she carry it forward from the previous time recording.`
		
		`TakeAsStatic => In the first year, the user does not own the complete holidays, but the one he entered`

LeaveCalculation	DefaultPreviousLeaveCalculation	Defines the default for the previous or initial leave calculation. The previous leave can be based on hours or days.
Double	DefaultPreviousLeavePerDay	The amount of hours that have been previously set as default to define the length of a leave day. The value is hourly based and only used if the previous holiday is defined per hours.
Double?	DefaultRemainingLeave	The leave that will be used instead of the yearly holidays. Only used when LeaveSetting is set to TakeAsStatic. The value is hourly based and NULL, if the leave is counted in days.
Double	DefaultRemainingLeaveAsDays	The leave that will be used instead of the yearly holidays. Only used when LeaveSetting is set to TakeAsStatic.

Datatype	Name	Description
Double?	DefaultAdditionalLeave	Leave that will be added to the annual leave in the first year. Only used when LeaveSetting is set to TakeAsOffset. The value is hourly based and NULL, if the leave is counted in days.
Double	DefaultAdditionalLeaveAsDays	Leave that will be added to the annual leave in the first year. Only used when LeaveSetting is set to TakeAsOffset.
DateTime	LastSyncTime	Timestamp when the user has been synced time entries.
UserAccountType	UserAccountType	Type of the TimePunch Profile Account (UserAccount, TechnicalAccount)
String	Email	Email Address of the user
Bool	IsUserInCoverage	True, if the user gets covered by the Authenticated Identity Profile.
String	TimeZone	Time Zone Information for the user.
String	Team	Information about the team to that the user belongs
String	Department	Information about the department to that the user belongs
String	Branch	Information about the branch to that the suer belongs.
String	Birthname	Name at birth of the user
String	PrivatePostalAddress	Postal address of the user
DateTime?	Birthday	Birthday of the user
String	Birthplace	Place where the user has been born
String	Nationality	Nationality of the user
DateTime?	DateOfJoining	Date where the user joined the company
String	InsurancePolicyNumber	Number of the insurance policy of ther user

Datatype	Name	Description
Bool	IsMainJob	True, if the current job is the main job of the user.
Bool	HasOtherJobs	True, if the user has other jobs beside the current one.
String	JobDescription	Description of the current job the user is employed for.
Bool	IsRelatedToEmployer	True, if the user has a relation to the employer (e.g. brother etc)
Bool	IsFreedFromPensionInsurance	True, if the user is freed from pension insurance
String	BankingInstitut	Name of the banking institute for the wage payment or salary
String	InternationalBankAccountNumber	IBAN Number to pay the wage or salary
String	BankIdentifierCode	Bank identifier code
Double	HourlyWage	Hourly wage that the user gets paid.
Double	Salary	Monthly salary the user gets paid.
DateTime?	DateOfLeaving	Date where the user left the company.
String	Md5PassHash	MD5 Password hash
String	Sha256PassHash	SHA 256 Password hash
String	PasswordSalt	Password salt value

ReportWorkdayDto

This class defines the working time model for a single working day.

Datatype	Name	Description
Bool	HasToWork	True, if the user has commonly to work the day.
Double	WorkmodelDefinedWorkTime	The amount of worktime that is defined for the day.
Double	WorkmodelDefinedPaidTime	The amount of paid time that is defined for the day.
DateTime	BeginOfWork	The planned begin of the workday

Datatype	Name	Description
DateTime	EndOfWork	The planned end of the workday
Bool	IsBreakDefined	True, if a break has been defined for the workday.
Double	WorkmodelDefinedBreakTime	The breaktime that has been defined for the workday.
Double	ForceBreakAbove	The amount of work aboe that the break is mandatory
Double	EstimatedDuration	The estimated duration of the workday (public holidays will be evaluated too)
Double	EstimatedWorktime	The estimated worktime of the workday (public holidays will be evaluated too)
Double	EstimatedPaidtime	The estimated paidtime of the workday (public holidays will be evaluated too)
Double	EstimatedBreaktime	The estimated breaktime of the workday (public holidays will be evaluated too)
Double	EstimatedFractionOfDay	The estimated fraction of the workday (public holidays will be evaluated too).

IMPORTANT: The Estimated… Properties will evaluate the public holidays, which is the main difference to the other fields.

ReportWorkModelDto

This class contains all the user-specific data of a working time model for reporting.

Datatype	Name	Description
String	DisplayName	Displayname of the work model.
DateTime	ValidSince	Date starting from that the work model is used.
Double	WorkdaysPerWeek	Amount of work days per week.
Double	HoursPerWeek	Amount of working hours per week.
Bool	SundayHasToWork	True, if Sunday is a regular working day.
Double	SundayEstimatedWorkTime	Estimated working time at Sunday.

Datatype	Name	Description
Bool	MondayHasToWork	True, if Monday is a regular working day.
Double	MondayEstimatedWorkTime	Estimated working time at Monday.
Bool	TuesdayHasToWork	True, if Tuesday is a regular working day.
Double	TuesdayEstimatedWorkTime	Estimated working time at Tuesday.
Bool	WednesdayHasToWork	True, if Wednesday is a regular working day.
Double	WednesdayEstimatedWorkTime	Estimated working time at Wednesday.
Bool	ThursdayHasToWork	True, if Thursday is a regular working day.
Double	ThursdayEstimatedWorkTime	Estimated working time at Thursday.
Bool	FridayHasToWork	True, if Friday is a regular working day.
Double	FridayEstimatedWorkTime	Estimated working time at Friday.
Bool	SaturdayHasToWork	True, if Saturday is a regular working day.
Double	SaturdayEstimatedWorkTime	Estimated working time at Saturday.

ReportYearlySummaryDto

This class contains all the data that is important for annual leave and reporting.

Datatype	Name	Description
Int	Year	Current year. E.g 2015
LeaveCarryForward	LeaveCarryForward	Defines the month, when the remaining leave will carried forward to the next year.
LeaveExpiration	LeaveExpiration	Defines the month, when the previous leave will expire in the current calculation period.
DateTime	StartOfYearlySummary	Date when the calculation of the new year starts.
DateTime	EndOfYearlySummary	Date when the calculation of the year ends

Datatype	Name	Description
DateTime	LeaveExpirationDate	Date when the previous leave expires.
Double?	AdditionalLeave	Amount of additional leave hours from the previous year.
Double	AdditionalLeaveAsDays	Amount of additional leave days from the previous year.
LeaveCalculation	LeaveCalculation	Defines if the leave calculation is based on days or hours.
Double?	AnnualLeave	Amount of annual leave hours.
Double	AnnualLeaveAsDays	Amount of annual leave days
Double	LeavePerDay	Amount of hours that are calculated for one leave day.
Double	LeaveInYear	Taken leave hours in the current year.
Double	LeaveAsDaysInYear	Taken leave days in the current year.
Double	LeaveInYearUntilExpiration	Taken leave hours until the old leave expires.
Double	LeaveAsDaysInYearUntilExpiration	Taken leave days until the old leave expires.
Double	LeaveInYearNewPeriod	Taken leave hours in the new leave period of the current year.
Double	LeaveAsDaysInYearNewPeriod	Taken leave days in the new leave period of the current year.
Double	SickAsDaysInYear	Amount of sick days in year
Double	SickNotPaidAsDaysInYear	Amount of sick days that are not paid in the current year.
Double	SickCompleteAsDaysInYear	Amount of sick days and sick days not paid in year.

Datatype	Name	Description
Double?	RemainingLeaveUntilExpiration	Remaining leave as hours until the old leave expires. NULL, if the leave is counted in days.
Double	RemainingLeaveAsDaysUntilExpiration	Remaining leave as days until the old leave expires.
Double?	RemainingLeaveNewPeriod	Remaining leave as hours in the new period. NULL, if the leave is counted in days.
Double	RemainingLeaveAsDaysNewPeriod	Remaining leave as days in the new period.

TimePunch Summary Service

DailySummaryDto

This entity contains the summary of the working time per day.

Datatype	Name	Description
UserProfileDto	User	TimePunch Profile for that the entity contains the daily summary.
DateTime	Date	Date for that the daily summary has been retrieved.
DateTime?	LogonTime	Earliest start time
DateTime?	LogoffTime	Latest end time
String	Description	Manual descriptions
Double	EstimatedWorktime	Amount of the estimated working time
Double	EstimatedPaidtime	Amount of the estimated paid time (this can vary because of the leave payment)
Double	Worktime	Real logged working time
Double	Overtime	Overtime
Double	Sick	Sick time
Double	SickAsDays	Sick time per day. e.g. 1 equals 1 day, 0.5 equals half day
Double	TakenOvertime	Taken overtime
Double	TakenOvertimeAsDays	Taken overtime per day. e.g. 1 equals 1 day, 0.5 equals half day
Double	PaidLeave	Amount of leave that gets paid to the user
Double	Leave	Time booked as leave
Double	LeaveAsDays	Time booked as leave. e.g. 1 equals 1 day, 0.5 equals half day
Double	Breaktime	Break between working times
Double	BankHoliday	Time at bank holidays that are relevant for payment on public holidays.
Double	BankHolidayAsDays	Time at bank holidays per day. e.g. 1 equals 1 day, 0.5 equals half day
Double	SpecialLeave	Time that is booked as a special leave.
Double	SpecialLeaveAsDays	Time booked as special leave per day.
TimeEntryType	Usage	The main time entry usage of the day. Valid values are Worktime, DrivingTime, Leave, Sickness, TakeOvertime,

Datatype	Name	Description
		SpecialLeave, OfficialBankHoliday, Weekend, Weekday, MissingWorkday
Double	PaidSick	Paid sick time, that can differ from real sick time (13 weeks average)
Double	PaidBankHoliday	Paid bank holiday time, that can differ from real bank holiday time (13 weeks average)

MonthlySummarySaveDto

Using this DTO the conditions for the monthly working time calculation can be set.

Datatype	Name	Description
Guid	Id	Unique ID of the monthly summary
DateTime	Date	Date of the month that shall be saved

WorkContract	WorkContract	Type of work contract for the user.
		`Employee = 0`
		`Freelancer = 1`
		`Wageworker = 2`
		`Shiftworker = 3`

Double?	PaidTime	The amount of time that the user gets paid, NULL if the amount gets calculated
CountryDto	Country	The country information used for the holiday calculation.
RegionDto	Region	The region information used for the holiday calculation.
OvertimeCutMode	OvertimeCutMode	The cut mode defines if the overtime shall be cut monthly, cumulative or even not cut.
Double	OvertimeStartsAt	Amount of additional working time that is included in the working contract. Starting at this number, the working time is called overtime.
Double	MaximumOvertime	The maximum amount of overtime that a user can have in the OvertimeCutMode range.
Bool	IsOvertimeAboveLimitPaid	True, if the amount of overtime that exceeds the maximum overtime shall be paid out.
Double	PaidOvertime	Paid out overtime. Either manually input or calculated.
Double	DecreasePaidTime	The value will decrease the payout

Datatype	Name	Description
Double	MissingHourCompensation	Used to compensate missing overtime.

MonthlySummaryDto : MonthlySummarySaveDto

This class contains the summary of the working times for one month.

Datatype	Name	Description
UserProfileDto	User	User profile for that the monthly summary has been created.
Bool	Locked	True, if the current month has been locked.
Double	EstimatedWorktime	Defines the estimated working time for the user.
Double	EstimatedPaidtime	Defines the estimated paid time for the user.
Double	Worktime	Real logged working time
Double?	PreviousOvertime	Overtime of the previous month.
Double?	Overtime	Overtime of the current month.
Double?	CalculatedOvertime	Gets the originally calculated overtime
Double?	TakenOvertime	Taken overtime of the current month
Double?	TotalOvertime	Total overtime at the end of the month.
Double	Breaktime	Amount of breaktime in the month.
Double	Drivetime	Amount of driving time in the month.
Double	Sparetime	Amount of spare time (it's the time that the user has been taken off – regardless what reason) in the month.
Double	Leave	Amount of leave in the current month.
Double	LeaveAsDays	Amount of days that the user has been booked as Leave.
Double	PaidLeave	Amount of leave that gets paid, this can vary from the leave the user has taken.
Double	SickComplete	Amount of sick time and sick not paid hours
Double	SickCompleteAsDays	Amount of sick time and sick not paid days
Double	Sick	Amount of sick in the current month.
Double	SickAsDays	Amount of days that the user has been booked as Sickness.

Datatype	Name	Description
Double	SickNotPaid	Amount of sick time that is not paid
Double	SickNotPaidAsDays	Amount of sick days that are not paid
Double	BankHoliday	Time at bank holidays that are relevant for payment on public holidays.
Double	BankHolidayAsDays	Time at bank holidays per day. e.g. 1 equals 1 day, 0.5 equals half day
Double	SpecialLeave	Amount of special leave the user has taken
Double	SpecialLeaveAsDays	Amount of special leave the user has taken in days
Double	UnpaidTime	The unpaid time is the difference of the paid time to the regular working time
Double	PaidSick	Paid sick time, that can differ from real sick time (13 weeks average)
Double	PaidBankHoliday	Paid bank holiday time, that can differ from real bank holiday time (13 weeks average)

SummaryLockDto

This class contains the data for the month-end closing.

Datatype	Name	Description
UserProfileDto	User	TimePunch User Profile
DateTime?	LockedUpTo	Date until that the user summary has been closed.

TimeAccountDto

This class contains the summary of the working time data for a special TimePunch Profile for the current month.

Datatype	Name	Description
UserProfileDto	User	TimePunch User Profile
Double	WorktimeInMonth	Work time in the given month
Double	SickDaysInYear	Amount of sick days in the given year
Double?	TotalOvertimeUntilToday	Amount of overtime in sum until the current day
Double	PlannedLeaveDaysInYear	Planned leave days in the current year
Double?	UnplannedLeaveDaysInYear	Amount of holidays the user did not planned, within in the current year.

Datatype	Name	Description
Double?	AnnualLeave	Amount of holidays in the current year.

TimeCutAnalyse	TimeCutAnalyse	Defines if a time cut did take place, or if it is foreseeable.
		`NoCut = 0,`
		`Foreseeable = 1,`
		`Cutted = 2`

WorkContract	WorkContract	Workcontract of the user

YearlySummarySaveDto

This DTO is used to amend the yearly holiday calculation.

Datatype	Name	Description
Guid	Id	Unique ID of the yearly summary
Int	Year	The year for that the summary is valid
LeaveCarryForward	LeaveCarryForward	Defines the month, when the remaining leave will carried forward to the next year.
LeaveExpiration	LeaveExpiration	Defines the month, when the previous leave will expire in the current calculation period.
Double	AnnualLeaveAsDays	The amount of leave days in the given year.
Double?	AnnualLeave	The amount of leave hours in the given year, NULL if the leave gets calculated in days.
Double	LeavePerDay	Defines the amount of hours that will be calculated for a taken leave day

LeaveCalculation	LeaveCalculation	Defines if the leave will be calculated in days or hours
		`Days = 0`
		`Hours = 1`

YearlySummaryDto : YearlySummarySaveDto

This DTO contains all information to display the yearly holiday account of a profile. The class is derived from the YearlySaveSummaryDto

Datatype	Name	Description
UserProfileDto	User	The user for which the summary data is loaded.
DateTime	StartDate	The first date in the calculation period.
DateTime	LastDate	The last date in the calculation period.
Bool	Locked	True, if the yearly summary has been locked. That is the case if one month in the calculation period has been locked. So it will be set indirectly.
DateTime	LeaveExpirationDate	Defines the date when the previous leave will expire.
Double	LeaveInYear UntilExpiration	Amount of leave hours in the current year until the expiration date.

Datatype	Name	Description
Double	LeaveAsDaysInYear UntilExpiration	Amount of leave days in the current year until the expiration date.
Double	LeaveInYear NewPeriod	Amount of leave hours in the current year after the expiration date.
Double	LeaveAsDaysInYear NewPeriod	Amount of leave days in the current year after the expiration date.
Double	LeaveInYear	Amount of leave hours in the current calculation period.
Double	LeaveAsDaysInYear	Amount of leave days in the current calculation period.
Double	SickCompleteAsDaysInYear	Amount of sick days in year and sick days not paid in year
Double	SickNotPaidAsDaysInYear	Amount of days marked as sickness not paid in the current calculation period.
Double	SickAsDaysInYear	Amount of days marked as sickness in the current calculation period.
Double?	RemainingLeave UntilExpiration	Amount of remaining leave hours until the expiration date.
Double	RemainingLeaveAsDays UntilExpiration	Amount of remaining leave days until the expiration date.
Double?	RemainingLeave NewPriod	Amount of remaining leave hours after the expiration date.
Double	RemainingLeaveAsDays NewPeriod	Amount of remaining leave days after the expiration date.
Double?	AdditionalLeave	The additional leave hours of the previous year that will be added to the current annual leave hours.
Double	AdditionalLeaveAsDays	The additional leave days of the previous year that will be added to the current annual leave days.
LeaveCalculation	PreviousLeaveCalculation	The leave calculation of the previous year.
Double	PreviousLeavePerDay	The previous leave hours that defined the length of a leave day.

TimePunch Sync Service

SyncUserProfileDto

This class contains information about the TimePunch Profile and the last synchronization date.

Datatype	Name	Description
Guid	Id	Unique ID of TimePunch Profile
String	SaveAsName	Name of the TimePunch Profile used to show the user.
String	LogonName	By default the logon name is identical to the used windows logon.
String	UserName	First name and last name of the user.
DateTime	LastSyncTime	Filled, if the profile has been synced at some date.

TimePunch TimeEntry Service

TimeEntryDto : TimeEntrySaveDto

This class contains all data of a time-entry.

Datatype	Name	Description
String	ProjectName	Name of the project that is used by the time entry
String	TaskName	Name of the task that is used by the time entry.
Double	WorkTime	Amount of work time in hours
Double	Duration	Complete duration of the time entry
Double	Leave	Amount of leave in hours
Double	Sick	Amount of sick time in hours
Double	DrivingTime	Amount of driving time in hours
Double	TakenOvertime	Amount of taken overtime in hours
Long	BackgroundColor	Background colour of the project that gets tracked.
Long	TextColor	Text colour of the project that gets tracked.
Guid	UserId	Id of the user dependent TimePunch Profile
String	CustomerName	Name of the customer that has been set for the time entry.
String	CustomerRefNr	Ref.Nr. of the customer that has been set for the time entry
Guid	CustomerId	Unique customer Id
Bool	IsVirtual	True, if the time entry is only a virtual entry, like weekend, missing workday etc.
Double	DurationAsDay	Duration of the time entry in relation to the workday
String	ProjectDescription	Description of the project referenced by the time entry
String	TaskNameId	Business driven task id
String	TaskDescription	Description of the task referenced by the time entry
UserProfileDto	CreatedBy	Information about the user who created the time entry.
UserProfileDto	LastUpdatedBy	Information about the user who last updated the time entry.

TimeEntryFilterSearchDto

This class is used to search for time entry filters.

Datatype	Name	Description

Confidentiality	Confidentiality	Searches for time entry filters with the following confidentiality.
		`Undefined = 0 (search private and public)`
		`Private  = 1`
		`Public  = 2`

Bool	DeepLoad	True, if the filter shall be returned with all dependencies (projects/tasks/customers)

TimeEntryRestrictedSaveDto

This class contains the relevant data in order to execute a restricted time entry modification. That means the user does not need elevated permissions.

Datatype	Name	Description
Guid	Id	Unique ID of the active time entry
DateTime	LastUpdate	Time stamp of the last update
Guid	ProjectId	Unique project Id of the time entry
Guid	TaskId	Unique Task Id of the time entry
String	Description	The description of the time entry
Guid	CustomerId	Unique customer Id
Bool	IsImportant	True, if the time entry has been marked as important. This will force the project report to show the description.
Bool	IsOnSite	True, if the time entry has been marked as onsite.
Bool	IsNotInvoiced	True, if the current entry gets not invoiced at all.

TimeEntryResultDto

This class is returned by save operations. It contains the result of the operation, as well as the data itself.

Datatype	Name	Description

TimeEntrySaveResult	Result	The result of the save operation.
		`NotSaved = -1,`
		`Ok = 0,`
		`BreakEnforced = 1,`
		`EmptyBreakEntry = 2`

List<TimeEntryDto>	TimeEntries	List that contains the stored time entries.

TimeEntrySaveDto

This class contains all base data in order to save a time-entry.

Datatype	Name	Description
Guid	ProjectId	Unique project Id of the time entry
Guid	TaskId	Unique Task Id of the time entry
String	LogonName	Dependent TimePunch Profile
DateTime	LogonTime	Logon time stamp of the time entry
DateTime	LogoffTime	Logoff time stamp of the time entry
Double	Duration	Complete duration of the time entry
String	Description	The description of the time entry
Bool	HasBeenPaid	Flag that defines if the time entry has been marked as paid.
TimeEntryType	Usage	Define the type of the time entry (WorkTime, DrivingTime, Leave, Sickness, TakeOvertime, BankHoliday, OfficialBankHoliday, Weekend)
Double	BreakTime	Amount of break time in hours
Guid	CustomerId	Unique customer Id
Bool	IsImportant	True, if the time entry has been marked as important. This will force the project report to show the description.
Bool	IsOnSite	True, if the time entry has been marked as onsite.
Bool	IsNotInvoiced	True, if the time entry gets not invoiced at all.

TimeEntrySearchDto : PagingContextDto

With this class a filter can be defined in order to search time entries. This class is derived from the PagingContextDto

Datatype	Name	Description
String	ReportTitle	Title of the time entry search filter
Confidentiality	Confidentiality	Defines if the time entry search filter is private or public – means only accessible by the person who created it, or accessible for all users.
DateTime	LogonTime	Search time entries starting with the given logon time
DateTime	LogoffTime	Search time entries through the given logoff time
TimeEntry-SearchPayment	Payment	Defines the type of the entries to search (SearchAllEntries, PaidEntries, NonPaidEntries)
List<Guid>	FilteredProjects	If null, all projects will be returned. If the collection is empty, nothing will be returned. If the collection is filled with project ids, only entries with the given project ids will be returned.
List<Guid>	FilteredTasks	If null, all tasks will be returned. If the collection is empty, nothing will be returned. If the collection is filled with task ids, only entries with the given task ids will be returned.
List<Guid>	FilteredUsers	If null or empty, the data of the current user will be returned. If the collection is filled, only entries with the given user ids will be returned.
Bool	ShowPublicHolidays	True, if public holidays shall be returned for the given time frame.
Bool	ShowWeekends	True, if the weekends shall be returned for the given time frame.
Bool	ShowBreaks	True, if the break times shall be shown.
Bool	ShowWorkingTime	True, if the working times shall be shown.
List<Guid>	FilteredCustomers	If null or empty, the data of the all customers will be returned. If the collection is filled, only entries with the given customer ids will be returned.
Bool	ShowWeekdays	True, if also weekdays shall be returned.

Datatype	Name	Description
Bool	ShowMissingdays	True, if also missing workdays shall be returned. Missing workdays are weekdays that are marked as working days. But for that working days are no time entry bookings available in the database.
DateTime?	FirstModificationTime	It defines the first modification date to search for time entries. Means all time entries that are amended after the given date.
DateTime?	LastModificationTime	It defines the latest modification date to search for time entries. Means all time entries that are amended before the given date.
Bool?	IsImportant	NULL to search both important and unimportant time entries. True to search for important and False to search for unimportant time entries
Bool?	IsOnSite	NULL to search both on site and offsite entries. True to search for onsite entries and false to search for offsite entries
Bool?	IsNotInvoiced	NULL to search both invoiced and not invoiced entries. True to search only not invoiced entries.
Bool	EnhanceWithAuditTrail	True, if the result shall be enhanced with information about who changed or who created the time entries.

TimeEntrySearchTimeFrame	TimeFrame	Used to set the logon/logoff time automatically with a constant value
		
		`AllEntries = 0`
		`UserDefined = 1`
		`CurrentWeek = 2`
		`CurrentMonth = 3`
		`CurrentYear = 4`
		`PreviousWeek = 5`
		`PreviousMonth = 6`
		`PreviousYear = 7`
		`Last30Days = 8`
		`Last3Month = 9`
		`Last6Month = 10`
		`Today = 11`

TimeEntrySeriesDto

Time entry series can be created using this class. Time entry series start with a specific time, but with time of day. The concrete time is taken from the work time model by TimePunch for the given user.

Datatype	Name	Description
Guid	ProjectId	Unique project Id of the time entry
Guid	TaskId	Unique Task Id of the time entry
String	LogonName	Dependent TimePunch Profile
DateTime	LogonDate	Logon date of the time entry
DateTime	LogoffDate	Logoff date of the time entry

TimeOfDay	LogonTimeOfDay	Time of day to start the time entry
		
		`Morning = 0,`
		`Midday = 1,`
		`Evening = 2`

TimeOfDay	LogoffTimeOfDay	Time of day to end the time entry
		
		`Morning = 0,`
		`Midday = 1,`
		`Evening = 2`

String	Description	The description of the time entry
TimeEntryType	Usage	Define the type of the time entry (WorkTime, DrivingTime, Leave, Sickness, TakeOvertime, BankHoliday, OfficialBankHoliday, Weekend)
Double	BreakTime	Amount of break time in hours
Guid	CustomerId	Unique customer Id

TimePunch User Group Service

UserGroupDto

This class defines a group of users such as team, department or branch. Each group has group leader and zero to n assistants.

Datatype	Name	Description
String	GroupName	Unique Name of the Group (unique in combination with the group type)
GroupType	GroupType	Defines the type of the group (e.g. Team, Department or Branch)
UserProfileDto	GroupLeader	Leader of the defined group
List <UserGroupMemberDto>	GroupMembers	Group Members

UserGroupMemberDto : UserGrouSaveMemberDto

This class contains the data from loading group members. The class is derived from the UserGroupSaveMemberDto class.

Datatype	Name	Description
String	GroupName	Name of the group where the member belongs to.

UserGrouSaveMemberDto

This class contains all data that is necessary to save group members. The class is derived from the UserProfileDto class.

Datatype	Name	Description
Guid?	GroupId	Id of the group to that the user belongs
GroupType	GroupType	Type of the group to that the group belongs.
GroupMemberType	MemberType	Defines the type of the group member (e.g. Member or Assistant)

UserGroupSearchDto : PagingContextDto

This class offers properties to search for user groups. This class is derived from the PagingContextDto.

Datatype	Name	Description
String	GroupName	Name of the user group to search for.
GroupType	GroupType	Type of the user group to search for (or undefined to search all group types)
Bool	EnrichWithMembers	True, if the group members shall be included within the result.

TimePunch User Profile Service

UserProfileDataDto

This class contains all profile information that is also available at the individual methods, but combined in one export DTO. Therefore special export rights are required.

Datatype	Name	Description
UserProfileDto	Profile	The basic profile information (e.g. Name, email etc)
UserProfileDetailsDto	Details	The detailed profile information (e.g. working time contract)
UserProfileDefaultsDto	Defaults	The default information that is used as an offset or pre-set for internal calculations.
UserProfileRightsDto	Rights	The permission information for the TimePunch Profile.
UserProfileSensitiveDto	Sensitive	The sensitive user information for the TimePunch Profile. Those information can only be retrieved if the user has permissions to access those informations. (`userSensitive@export`)
Bool	IsPasswordSet	True, if the user has a password set.
String	PasswordWrite Only	[Write Only] Password that shall be used for the given user profile.

UserProfileDefaultsDto : UserProfileDto

This class is derived from the UserProfileDto and contains default values that are used as the calculation base for a TimePunch profile.

Datatype	Name	Description
Double	PreviousOvertime	Offset value for the overtime calculation.
Double	PreviousSickdays	Offset value for the sickdays.

LeaveSetting	LeaveSetting	Defines how the leave offset shall be used for calculation.
		
		`TakeAsOffset => In the first year, the user has extra holiday available, because he/she carry it forward from the previous time recording.`
		
		`TakeAsStatic => In the first year, the user does not own the complete holidays, but the one he entered`

Datatype	Name	Description
Double?	AdditionalLeave	Leave hours that will be added to the annual leave in the first year. This feature is only used when LeaveSetting is set to TakeAsOffset.
Double	AdditionalLeaveAsDays	Leave that will be added to the annual leave in the first year. This feature is only used when LeaveSetting is set to TakeAsOffset.
Double?	RemainingLeave	The leave hours that will be used instead of the yearly holidays in the first year. This feature is only used when LeaveSetting is set to TakeAsStatic.
Double	RemainingLeaveAsDays	The leave that will be used instead of the yearly holidays in the first year. This feature is only used when LeaveSetting is set to TakeAsStatic.
Double	LeavePerDay	Defines the length of a leave day if leave calculation is set to hours.
LeaveCalculation	LeaveCalculation	Defines if the leave defaults are calculated in days or hours
Bool	IsLocked	[Readonly] True, if the defaults can't be changed because months are locked.

UserProfileDetailsDto : UserProfileDto

The class is derived from UserProfileDto and contains all the detail data of the employee profile.

Datatype	Name	Description
String	PersonnelNumber	Personnel number of the staff member.
String	UserCode	Barcode of the staff member. Used to identify the user by a barcode scanner.
Double	ChargingJourneyTime	The percentage of working time that shall be booked when the user enters a driving time period.
String	Timezone	The time zone for the user. The time zone is used to calculate the correct logon/logoff time.
CountryDto	Country	Country that is used for holiday calculation
RegionDto	Region	Region that is used for holiday calculation

Datatype	Name	Description

WorkContract	WorkContract	Work Contract enumeration that specifies how the staff member shall be booked.
		`Employee = 0`
		`Freelancer = 1`
		`Wageworker = 2`
		`Shiftworker = 3`

Double?	PaidTime	The regular paid time, if the user is employed as a wage worker or shift worker.
OvertimeCutMode	OvertimeCutMode	Defines if the overtime shall be cut. Possible values are None, Monthly or Cumulative
Double	OvertimeStartsAt	Number of overtime that is included in the working contract. Above this limit the working time will be counted as overtime.
Double	MaximumOvertime	Maximum limit of overtime until which the working time will be counted as overtime.
Bool	IsOvertimeAboveLimitPaid	True, if the working time above the maximum overtime shall be marked as paid out.
LeaveCarryForward	LeaveCarryForward	Value that defines when the new leave shall be added to the staff member. Allowed values are BeginOfJanuary through BeginOfDecember.
LeaveExpiration	LeaveExpiration	Defines when the leave of the previous year will expire. Allowed values are Instantly, Never and EndOfJanuary through EndOfDecember.
Double	AnnualLeaveAsDays	Amount of leave days with that the user can plan with.
Double	AnnualLeave	Amount of leave hours with that the user can plan with.
Double	LeavePerDay	Defines the length of a leave day if leave calculation is set to hours
LeaveCalculation	LeaveCalculation	Defines if the leave defaults are calculated in days or hours

UserProfileImageDto : UserProfileDto

This class is used to read or update the profile images of the staff members. The class is derived from the UserProfileDto.

Datatype	Name	Description
ImageFormat	ImageFormat	The used image format. For uploading only Original can be used.
Byte[]	ImageData	The image data as PNG or JPG Format.

UserProfileRightsDto: UserProfileDto

This class contains the base data of the employee profile and in addition also the permission information.

Datatype	Name	Description
UserRights	UserRights	Permission group of the user (None, View, Edit, Full, HumanResource, Admin)

UserProfileSensitiveDto : UserProfileDto

This class contains the employee's data protection relevant information.

Datatype	Name	Description
string	Birthname	Birth name of the user
String	PrivatePostalAddress	Private postal address of the user
DateTime?	Birthday	Date when the user was born
String	Birthplace	Place where the user was born
String	Nationality	Nationality of the user
DateTime?	DateOfJoining	Date when the user joined the company
DateTime?	DateOfLeaving	Date when the user left the company, or NULL if the user is still employed.
String	InsurancePolicyNumber	The insurance policy number
Bool	IsMainJob	True, if the current job is the main job of the user
Bool	HasOtherJobs	True, if the user also have other jobs
String	JobDescription	Description of the work that the user does
Bool	IsRelatedToEmployer	Defines if the user is in any relation to his employer (e.g. sister, son etc)
Bool	IsFreedFromPensionInsurance	Defines if the user is freed from pension insurance.
String	BankingInstitut	Name of the banking institut for monthly salary submission.

Datatype	Name	Description
String	InternationalBank AccountNumber	IBAN Code of the employee
String	BankIdentifierCode	BIC Code of the banking institute
Double	HourlyWage	Hourly wage of the user if he/she is employed as a wage worker or shift worker
Double	Salary	Monthly salary of the user if he/she is employed as an employee
String	FurtherUserInformation	Additional user information

TimePunch Work Model Service

WorkModelDto

This class contains the defintion of one working time model.

Datatype	Name	Required	Description
DateTime	ValidSince	Yes	The date from which of the work model is valid
List<WorkdayDto>	WorkdayModels	Yes	List of the workday models

WorkdayDto

This class contains the definition for one workday.

Datatype	Name	Required	Description
DateTime	Date	Yes	Defines the date of the workday model
Bool	HasToWork	Yes	True, if the day is marked as a workday.
Double	AttendanceTime		If it's a workday, the attendance time defines how long the staff member has to stay in the office.
Bool	IsTimeFrameDefined		True, if a time frame for the workday has been defined. False, if only the working time duration has been defined.
DateTime	BeginOfWork		Begin of the defined time frame.
DateTime	EndOfWork		End of the defined time frame.
double?	BreakTime		Not Null, if a mandatory break time has been defined.
Double	EstimatedWorkingTime		The estimated working time for the given date.
Double	EstimatedBreakTime		The estimated break time for the given date.

Constant values

This chapter contains information about the constant values that are important in TimePunch.

Core

ApplicationKeys

Within the class `TimePunch.Enums.Core.ApplicationKeys` the application keys are defined. This can be used to verify the application licenses. Following methods are important for that:

- ValidateAuthentication
- GetLicensedUserProfiles

The following constant values are defined:

```
public static class ApplicationKeys
{
    /// <summary>
    /// Application Key for TimePunch PRO
    /// </summary>
    public const string TIMEPUNCH_PRO = "Tp";

    /// <summary>
    /// Application Key for TimePunch ONE
    /// </summary>
    public const string TIMEPUNCH_ONE = "One";

    /// <summary>
    /// Application Key for TimePunch TEN
    /// </summary>
    public const string TIMEPUNCH_TEN = "Ten";

    /// <summary>
    /// Application Key for PZE Terminal
    /// </summary>
    public const string PZE_TERMINAL = "PZE";

    /// <summary>
    /// Application Key for PZE Watcher
    /// </summary>
    public const string PZE_WATCHER = "WAT";

    /// <summary>
    /// Application Key for PZE Studio
    /// </summary>
    public const string PZE_STUDIO = "STU";

    /// <summary>
    /// Application Key for PZE Studio
    /// </summary>
    public const string PZE_ONLINE = "ONL";
}
```

Annex

The annex contains some helping code in order to use the TimePunch API. This isn't necessary at all, but can be very helpful.

Hash the password with the MD5 cryptography provider

The following code makes use of the MD5 cryptography provider in order to hash a password. The hashed password can be used to do the authorization with the TpAuthentication entity.

```
public static string MD5Hash(string text)
{
        System.Security.Cryptography.MD5 md5
          = new System.Security.Cryptography.MD5CryptoServiceProvider();
        return System.Text.RegularExpressions.Regex
                 .Replace(BitConverter.ToString(
                    md5.ComputeHash(ASCIIEncoding.Default.GetBytes(text))), "-", "");
}
```

End of the Document