



Configuration Guide

Version 1.5.9

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1 Overview

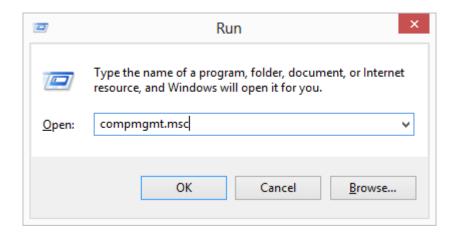
1.1 Purpose

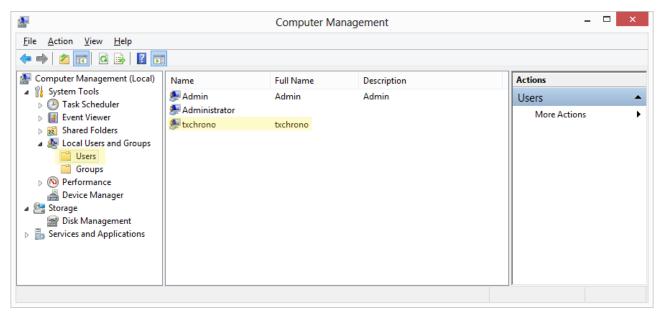
This document describes the manual configuration steps required to make TX Chrono operate properly in a particular environment. Initially TX Chrono is installed with default settings.

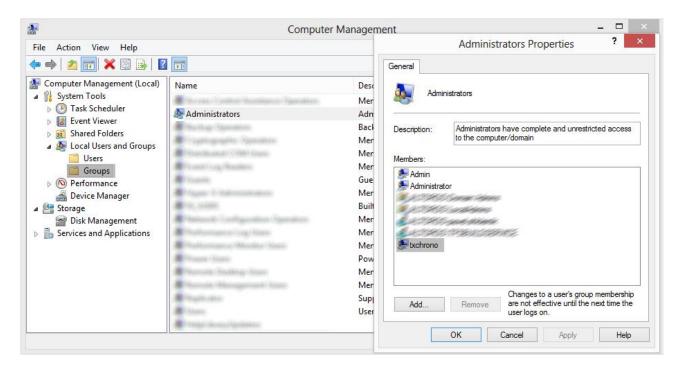
Chapter 2 is the example of a step-by-step configuration.

1.2 Preconditions

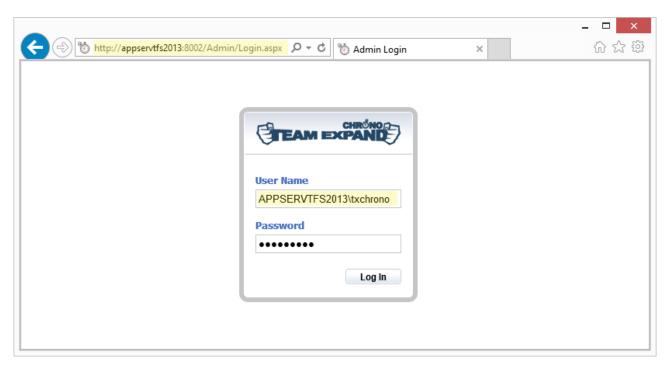
- 1. All the TX Chrono components are successfully installed as described in the **TX Chrono Installation Guide** document.
- 2. You have permissions to configure TX Chrono. By default, TX Chrono can be configured by any **local user** added to the Local Windows Administrators:







Login for administrators is available by the following path: ~/Admin/Login.aspx



Note: You can find links to Admin and User login on the server desktop after installation:

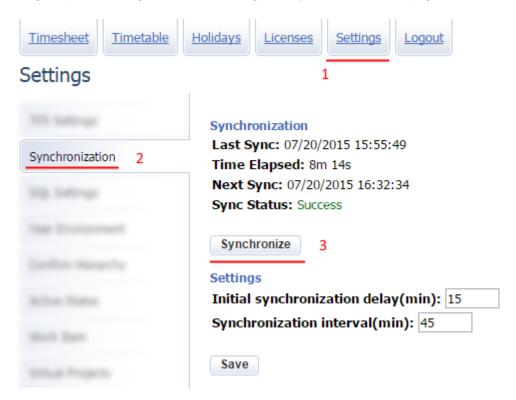


1.3 Applying changes

To apply the changes after modification of the TX Chrono configuration, one needs to execute the synchronization by one off the following ways:

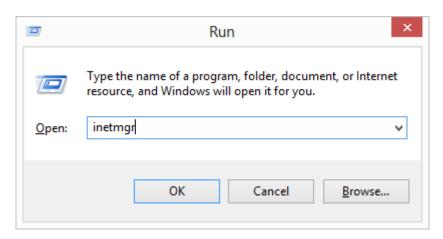
1.3.1 Sync via UI

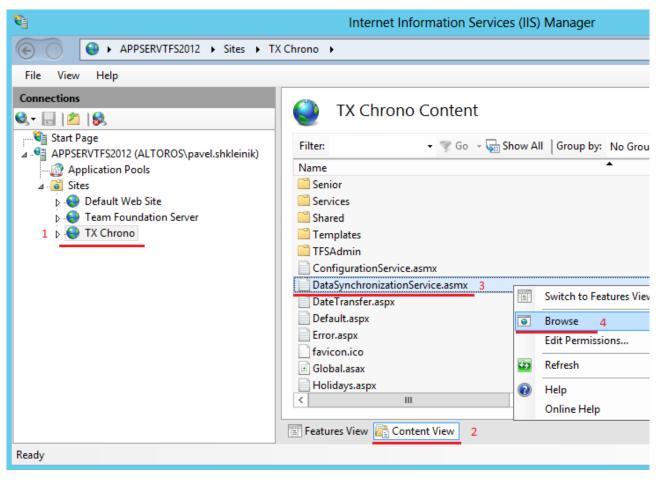
Login to the application as administrator (member of Team Foundation Administrators or Local Administrators group) and navigate to the **Settings -> Synchronization** page:

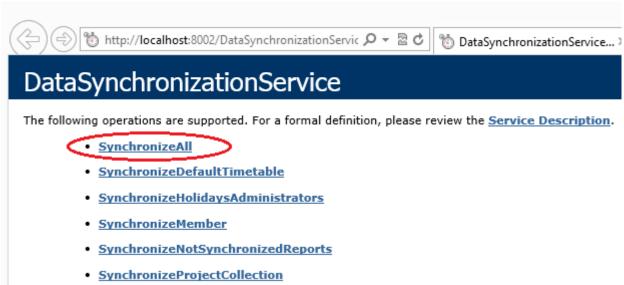


1.3.2 Sync via Web Service

Open the IIS manager and select Sites -> TXChrono, then right click **DataSynchronizationService.asmx** and execute the **Browse** context command. On the page appeared click **SynchronizeAII.**







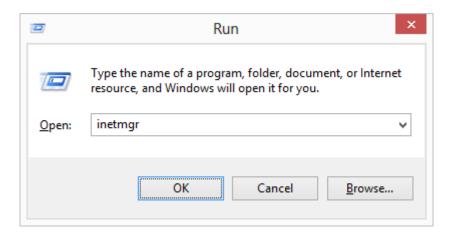
Click the Invoke button. If the operation succeeds, it should return true as shown bellow

```
<?xml version="1.0" encoding="utf-8" ?>
<boolean xmlns="http://tempuri.org/">true</boolean>
```

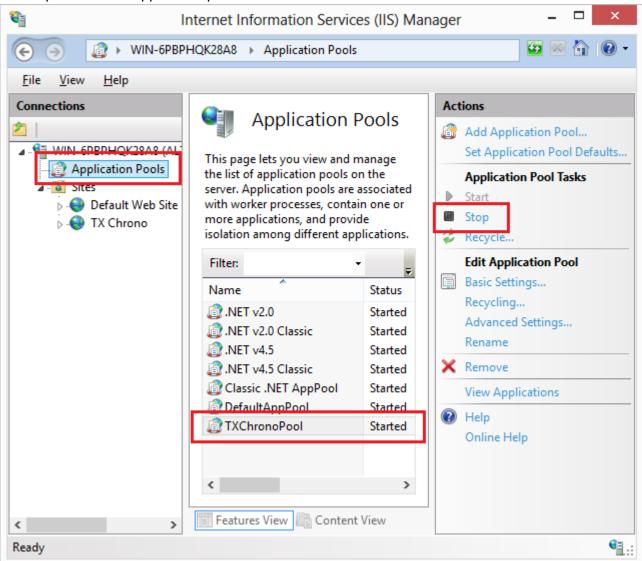
1.4 Clear cache

Sometimes it is required to clear TX Chrono cache (for instance to insure that application uses latest configuration and data). Follow the steps below to clear the cache:

• Run Internet Information Services (IIS) Manager on the machine where TX Chrono is installed:



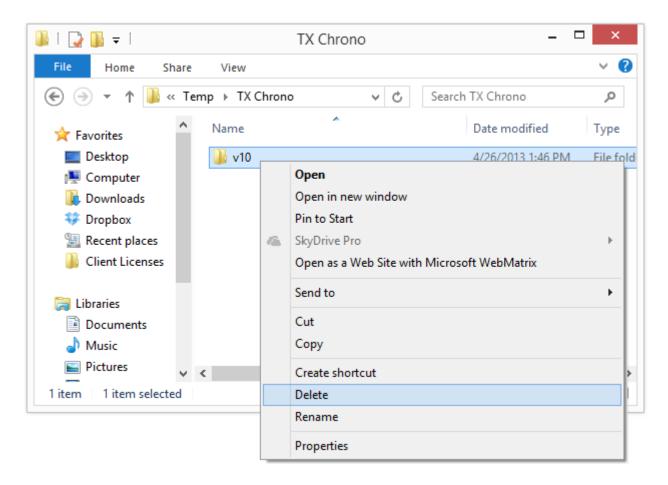
• Stop TX Chrono application pool:



• Delete TX Chrono cache folder content:

You can find path to the cache folder in the TX Chrono web.config file

<add key="WorkItemTrackingCacheRoot" value="C:\Windows\Temp\TX Chrono"/>



• Start TX Chrono application pool

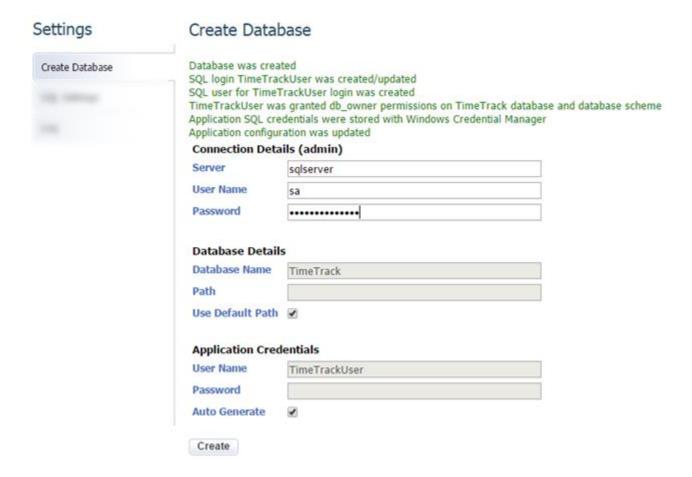
2 Application Configuration

2.1 Database

If you are installing all-new TX Chrono instance you need to create application database. In case of upgrade process you need to connect to your existing database.

2.1.1 Create Database

If you login into TX Chrono as Administrator and there is no connection to the TimeTrack database you will be offered to create one:



Feel the following fields:

SQL Server Name

Either specify the SQL Server name where TimeTrack database should be deployed. Sample values: 'sqlserver', '(local)', '.\sqlexpress', '.', '192.168.0.207', etc.

User Name (admin)

This user should have SQL Server Administrator permissions. The credentials will be used once only to create the database and will never be stored by application.

Path (optional) where the database files should be stored

Specify the full directory path where you want TX Chrono Database to be stored at. If *Use Default Path* is checked, database files will be created in the default folder of SQL Server, usually it is something like this: 'C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\DATA'.

User Name (application, optional)

Account that will be used by application to connect to the TimeTrack database. By default password will be auto-generated and saved to the Windows Credentials Store.

2.1.2 Connect to Existing Database

Before connecting to the existing database be sure you've applied Database Update scripts as it is described in the <u>Upgrade Guide</u>. If you login into TX Chrono as Administrator and there is no connection to the TimeTrack database you will be offered to connect to existing one:

Settings	SQL Setting	S
	Connection Det	tails
COL Cottings	Server	sqlserver
SQL Settings	Database Name	TimeTrack
	Credentials	
	User Name	TimeTrackUser
	Password	••••••
	Status	ОК
	Save	

Feel the following fields:

SQL Server Name

Either specify the SQL Server name where TimeTrack database is hosted. Sample values: 'sqlserver', '(local)', '.\sqlexpress', '.', '192.168.0.207', etc.

User Name (application)

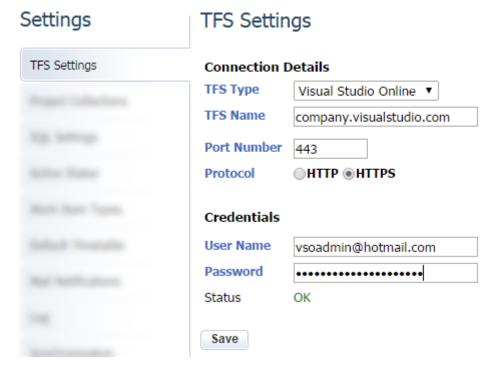
Account with db_owner permissions to the TimeTrack database.

2.2 TFS Connection

First and most important configuration step is establishing connection to TFS (Team Foundation Server) or VSO (Visual Studio Online). To configure connection open **Settings -> TFS Settings** view and fill form with your connection details:

Settings	TFS Settin	TFS Settings		
TFS Settings	Connection [Details		
	TFS Type	TFS On Premises ▼		
	TFS Name	tfs.company.com		
	Path	tfs		
	Port Number	8080		
	Protocol	●HTTP ○HTTPS		
	Credentials			
	Domain	domain		
	User Name	tfsadmin		
	Password	•••••		
	Status	OK		
	Save			

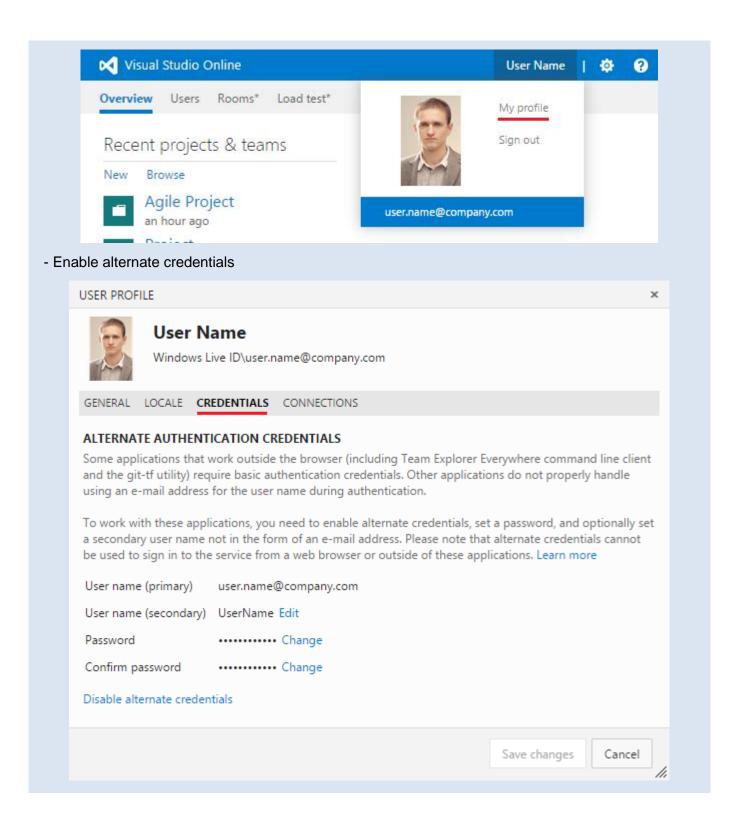
TFS on premises or hosted TFS connection details



Visual Studio Online connections details

Note: To connect to Visual Studio Online you need to enable alternate credentials

- Edit profile



2.3 Project Collections

After we connected to TFS or VSO, we can move forward and select Project Collections to synchronize with. To add Project Collections navigate **Settings -> Project Collections**:

Project Collection Settings

Collection Name	Subscription ID	TFS ID	Subscription URI	
FirstCollection	7132	d4d92364ff	http://tfs.company.com:8002/WorkItemChangedEndpoint.asmx	×
Collection One	1005	c8e153d109	http://tfs.company.com:8002/WorkItemChangedEndpoint.asmx	×
Collection Two	1	2	http://tfs.company.com:8002/WorkItemChangedEndpoint.asmx	4
Collection Two Collection Three				

- 1. If Collections Drop Down is empty click 'Get Collections' button
- 2. Select Project Collection you want to synchronizes with TX Chrono from the Collections Drop Down
- 3. Specify TX Chrono Synchronization Service URI
- 4. Click 'Add' button and wait while TX Chrono performs subscription

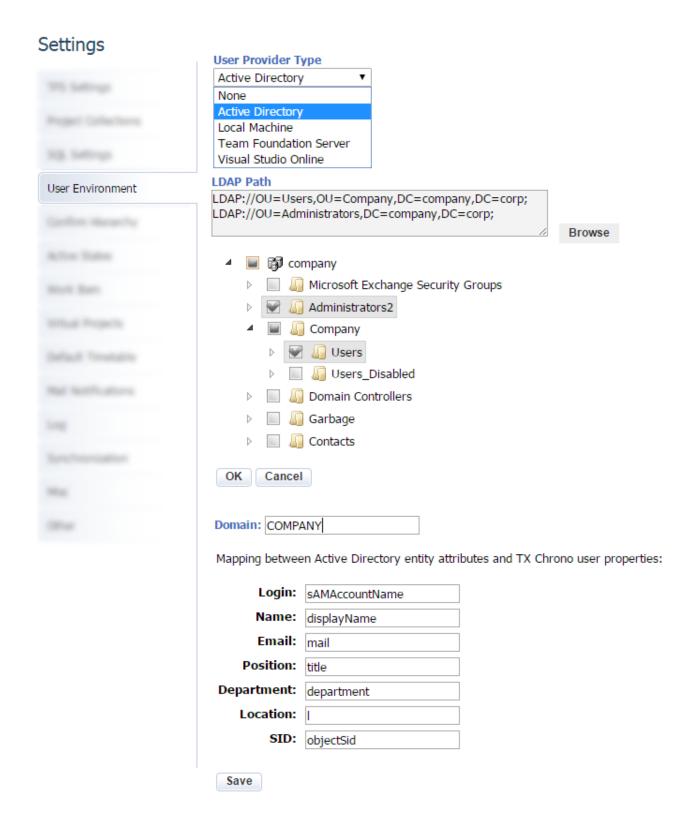
Note: By default 'Subscription URI', points to the URI based on network machine name where TX Chrono is installed. If you are going to use TX Chrono with external TFS, you need to specify public DNS of the server. Examples:

Local Network: http://tfs:8002/WorkItemChangedEndpoint.asmx

Public DNS: http://tfs.company.com:8002/WorkItemChangedEndpoint.asmx

2.4 User Environment

TX Chrono can read user accounts from one of the following sources: Active Directory, Local Machine, Team Foundation Server or Visual Studio Online. You can configure User Provider Type by navigating **Settings -> User Environment**:



As you can see from the screenshot above Active Directory User Provider has additional settings. You can explicitly select from what AD nodes application should read user identities and how map AD properties to the database fields.

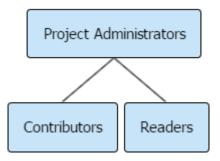
Note: In most cases, mapping between Active Directory properties and database fields does not need any adjustments.

2.5 Approval Hierarchy

User permissions are determined by the roles hierarchy. The hierarchy can contain Project, Collection and Server level groups from Team Foundation Server.

2.5.1 Default Hierarchy

By default, *Project Administrators* is top-level group. The *Readers* and *Contributors* groups are configured to be children groups of the *Project Administrators*.



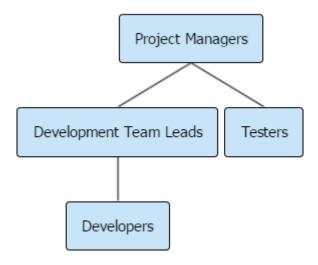
All employees added to the groups with children nodes have access to the **View Timesheets** page (and all other **senior** pages). These employees can view time reports of the users who are added to the groups from child nodes.

By default, Project Administrators can view, approve and decline timesheets of their subordinates.

2.5.2 Hierarchy Configuration Example

The role hierarchy can be configured right after the installation of TX Chrono. After the changes are done, one has to trigger TX Chrono to synchronize with TFS (or wait for auto sync).

The sample of the role hierarchy is shown below. It is similar to the one you may have in your project.

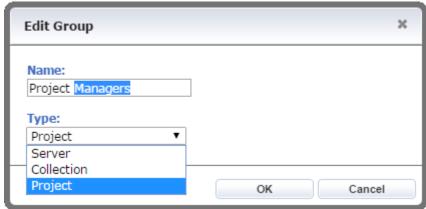


Each node corresponds to a project group in TFS. To create your own role hierarchy, take the following steps:

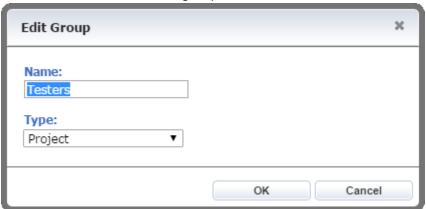
- 1. Navigate to Settings -> Confirm Hierarchy
- 2. Hover node with mouse (action buttons will appear)



- Edit node
- Add child node
- Remove node and all child nodes
- 3. Click Edit Node button to change Node/Group name and Type

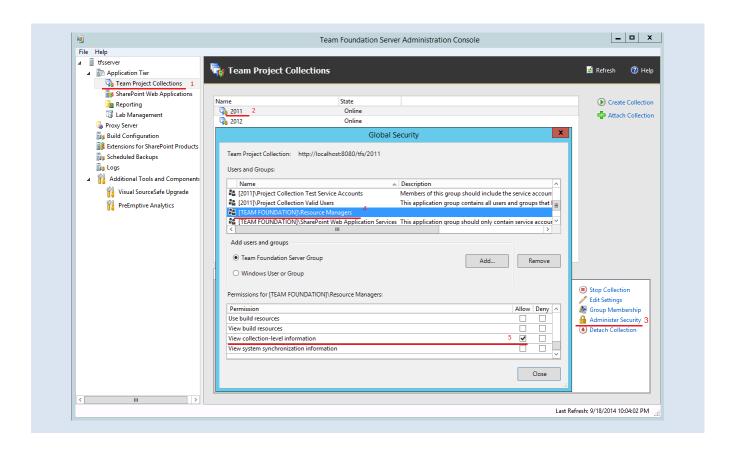


4. Click Add Node button to add child node/group



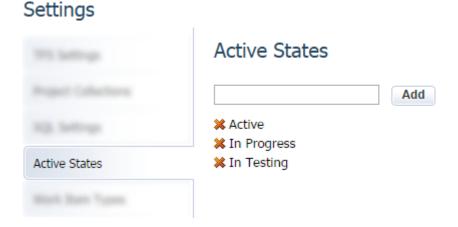
The hierarchy has indirect dependence, i.e. a Project Manager controls (can view reports) Development Team Leads; Development Team Leads control Developers, and therefore the Project Manager controls Developers, as well.

Note: To use Server roles with TFS 2010-2013, you should grant them the "View collection-level information" permissions in each project collection, which is used with TX Chrono.



2.6 Active States

By default, TX Chrono makes a Work Item available for reporting time when the Work Item gets into the "Active" or "In Progress" state. To enable Work Item states other than default ones, navigate to the **Settings -> Active States** view and add states you need:

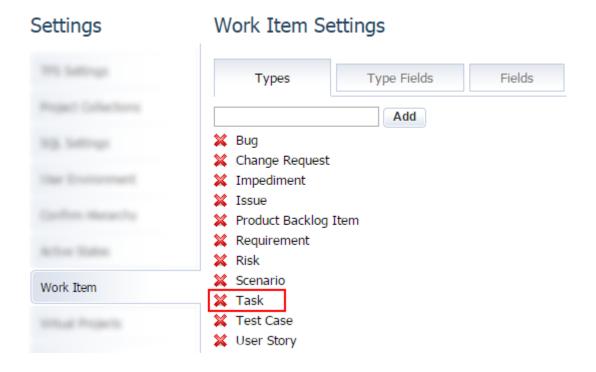


2.7 Work Item

It is possible to configure TX Chrono to display different Work Item Types and fields associated with particular types. Following sections will cover this functionality in details.

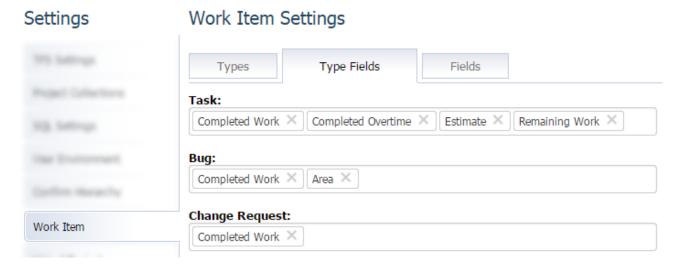
2.7.1 Types

To configure Work Item Types navigate to the **Settings -> Work Item -> Types** view and add ones you need. By default, application is configured to display only **Task** Work Item Type:

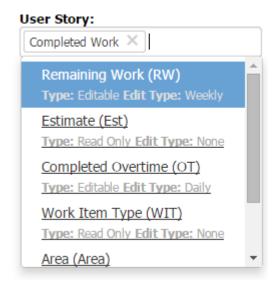


2.7.2 Type to Field Mapping

You can make Work Item Types look different using Type to Fields mapping. To associate or disassociate Type and Fields navigate to **Settings -> Work Item -> Type Fields**:



On mouse focus on Work Item Fields box a list with available Fields will appear:

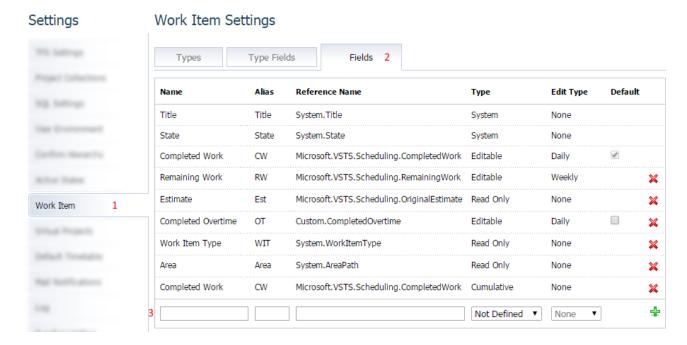


Choose field you need and it will be associated with the selected Work Item Type.

2.7.3 Fields

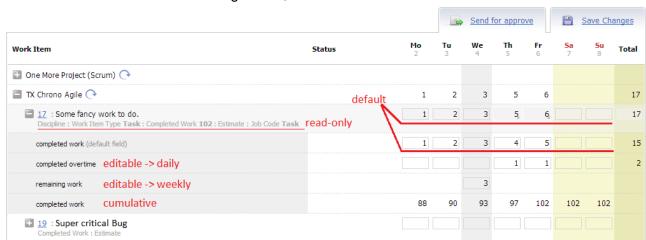
TX Chrono is able to work with multiple Work Item Fields. By default, TX Chrono displays only the Completed Work, Title and ID fields.

To configure your Work Item Fields, navigate to the **Settings -> Work Item -> Fields** view:



- Name the name of a work item field (should be the same as in TFS)
- Alias the abbreviation that will be displayed on the Project Report page instead of the field name. If alias is empty, the field name will be displayed. Aliases should be equal for fields with the same name.
- Reference Name the reference name of the work item field (should be equal to the reference name of the field in TFS: http://msdn.microsoft.com/en-us/library/ms194971.aspx)
- Field Type defines how the field will be displayed:
 - o Editable the field is available for editing
 - o Read Only cannot be modified

- o Filter can be added to some reports
- Hidden [reserved]
- o **Cumulative** displays field value for each particular day
- Edit Type defines how the field can be modified.
 - Daily fields are available for editing the whole week; the history of changes is stored
 - Weekly fields are available for editing for the current date only; the history of changes is not stored;
 - o None cannot be modified
- Default one of the defined fields for a Work Item Type should be default. Default fields allow time reporting in cells with task totals. The reported time will be added to the default field. This possibility is available only if no time was reported on this task before/during the current week or time was reported on default field only.



After configuration, Timesheet could look like this:

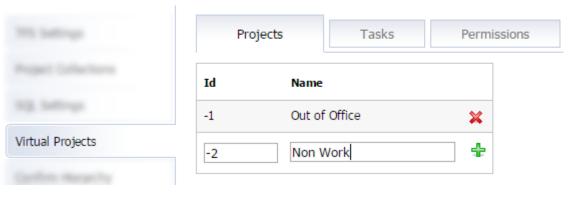
2.8 Virtual Projects

TX Chrono is able to work with Work Items from TFS projects and tasks from projects defined in TX Chrono itself, the so-called **Virtual Projects**. These projects are used for adding **Tasks** that are **available for all users**, for example Vacation, Day Off, Sickness, etc.

2.8.1 Projects

You can define Virtual Projects by navigating Settings -> Virtual Projects -> Projects:

Settings



Creating new Virtual Project is very simple:

- Specify Project ID (should be negative integer value)
- Specify Project Name (should not be empty)
- Click Add button

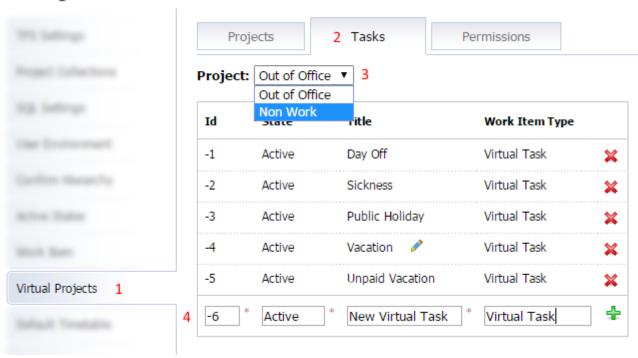
That it. Virtual project was created.

Note: To delete Virtual Projects you need to delete all associated Virtual Tasks first. If you have some Time Reports associated with Virtual Task you need to delete them as well. If you just want to hide Virtual Project from UI then move all associated with the Project Virtual Tasks to non-Active state.

2.8.2 **Tasks**

You can add Virtual Tasks to Virtual Projects. To add Virtual Task navigate to **Settings -> Virtual Projects -> Tasks**:

Settings



When you create Virtual Task you can set values for most of the Fields defined in the <u>2.7.3 section</u> of the current guide. Only System fields are mandatory (Id, State and Title). After you fill data you need press Add button to save your changes. Repeat this routine for all Virtual Tasks you need.

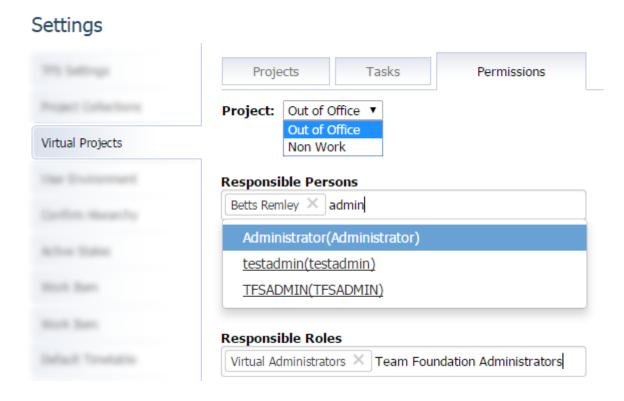
Note: To delete Virtual Task you need to delete all Time Reports associated with it first. If you want to hide Virtual Task from UI then change it state to some different form Active (something like this: Closed, Hidden or any random characters set).

2.8.3 Permissions

After Virtual Projects are created you can configure user permissions. You can do it in two ways:

- Responsible Persons a list of logins that are entitled to view and confirm the time reported on tasks of a corresponding Virtual Project.
- Responsible Roles a list of TFS Server Groups. Members of these groups are able to view and confirm time reported on tasks of a corresponding Virtual Project.

To manage Virtual Projects Permissions navigate to **Settings -> Virtual Projects -> Permissions**:



Since permissions are configured individually for each Virtual Project, at first you need to select one to configure permissions for from the Projects drop down. After project is selected you can:

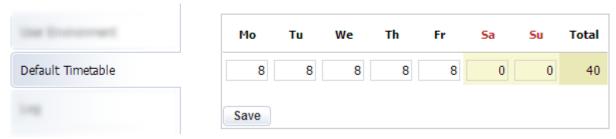
- Add responsible users from the list. Start typing employee name to filter the list.
- Add TFS Server-level groups in the Responsible Roles section. You need to type group name and press Enter key to add new group.

Note: If user list is empty this can mean that <u>User Environment</u> haven't been configured or application wasn't <u>synchronized</u>. Please, be sure that you configured Server Group permissions as it is described in the note to <u>section 2.5.2</u>.

2.9 Default Timetable

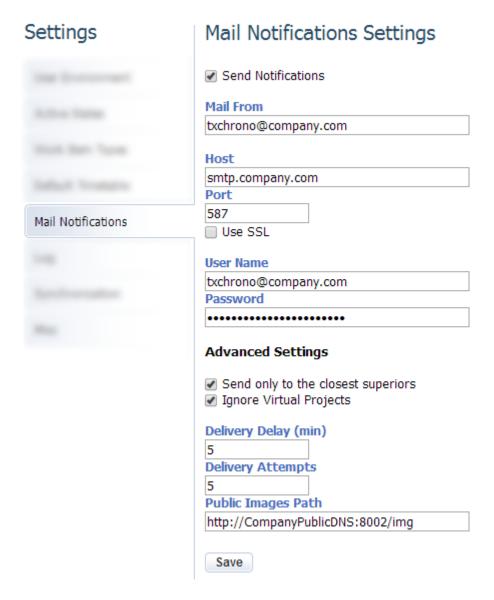
Every user has default working schedule (8 hours every day from Monday till Friday). Each employee can adjust his own timetable visiting his timesheet. To modify default timetable you can navigate to the **Settings -> Default Timetable** page:

Settings



2.10 Mail Notifications

To configure Mail Notifications settings navigate to the **Settings -> Mail Notifications** view:



You can adjust the following settings:

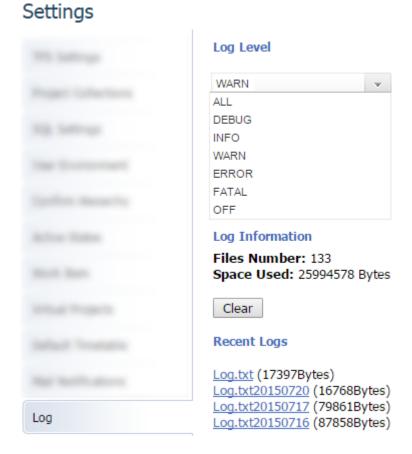
SETTING DESCRIPTION

SEND NOTIFICATIONS	Turns Mail Notifications on/off
--------------------	---------------------------------

MAIL FROM	Contains e-mail, which will be shown in Mail Notifications in "From" field
HOST	Specifies the host used for SMTP transactions
PORT	Specifies the port number used for SMTP transactions
ENABLE SSL	Defines whether secure connection should be used
USERNAME	Specifies the user name part of authentication to the SMTP host
PASSWORD	Specifies the password part of authentication to the SMTP host
SEND ONLY TO THE CLOSEST SUPERIORS	Check to deliver mails only to the direct superiors
IGNORE VIRTUAL PROJECTS	Check if you don't want Virtual Project administrators receive notifications about time changed on Virtual Projects
DELIVERY DELAY	Accumulated notifications summary will be delivered to the recipients regularly after delay elapses (delay is set in minutes)
DELIVERY ATTEMPTS	Number of attempts to send the notification. When number of attempts is exceeded, notification will be deleted from the queue.
PUBLIC IMAGES PATH	Image path to be included in the html-mail markup (use public DNS to make media available anywhere through the internet).

2.11 Log

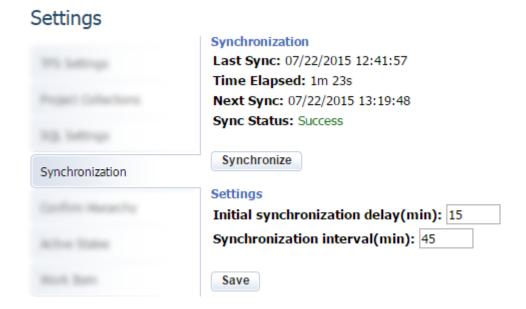
To provide comprehensive troubleshooting tools application has two logging mechanisms: File System and Windows Event logs. You can configure File System logger by navigating **Settings -> Log** view:



Default Log Level values is Warn. Also, via this view you can view and clear old log files.

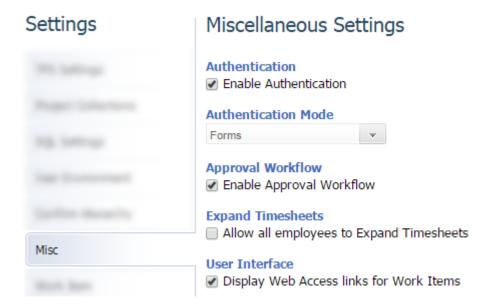
2.12 Synchronization Schedule

By default, TX Chrono performs background synchronization with environment every 45 minutes (with 15 minutes delay before first sync). You can adjust these values by navigating to the **Settings -> Synchronization** page:



2.13 Miscellaneous

In Miscellaneous section are grouped some important settings that haven't find their place in other configuration sections yet. To manage this settings you can navigate to **Settings** -> **Miscellaneous** view:



2.13.1 Authentication

Application can work in one of two authentication modes: Forms and Windows. You can select suitable for you authentication way from the correspondent drop down:



Windows authentication mode can be normally used only with Active Directory and Work Groups User Provider Types.

Note: You can disable authentication only with Form Authentication Mode enabled.

2.13.2 Approval Workflow

If you don't want your employees to send time for approve and your managers review and approve it you can turn off this workflow. By clearing *Enable Approval Workflow* checkbox you will hide from User Interface all relevant buttons and menu items:

Approval Workflow ✓ Enable Approval Workflow

2.13.3 Expand Timesheets

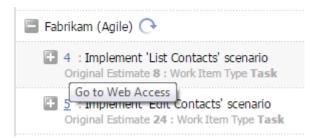
By default employees can report time only on that days and Work Items when ones were assigned to them and in <u>Active State</u>. In accordance with initial application configuration only employees with senior privileges can customize Work Items active periods. You can allow all employees to expand Work Item active periods by checking *Allow all employees to Expand Timesheets*:

Expand Timesheets

Allow all employees to Expand Timesheets

2.13.4 Web Access

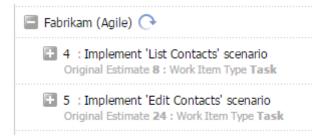
Application can display links to TFS Web Access near with Work Item Titles:



You can disable this behavior by clearing Display Web Access links for Work Items checkbox:

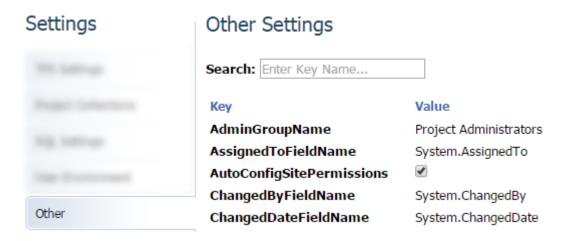
User Interface

Display Web Access links for Work Items



2.14 Other

There are plenty of other settings with different level of importance. Be sure if you understand how application will behave before changing any values. Basically, all other settings can be one of three types: String, Boolean or Integer. To change some setting you can navigate to the **Settings** -> **Other** view:



You can use Search Filter to quickly find setting you need. To edit String and Integer settings click on current value and edit box will appear. Value will be saved when text box lost focus:

