magicdraw™

Architecture Made Simple

TEAMWORK SYSTEM

version 17.0.1

user guide

No Magic, Inc.
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TEAMWORK SYSTEM

With MagicDraw Teamwork Server you can assign as many developers as needed to work simultaneously on the same project using multiple workstations. The resulting Teamwork project is saved on the server for sharing with other MagicDraw^{TM} applications. Users with administrator rights can create new users by creating a name and assigning various permissions to work on projects. The permissions assigned will determine whether the new user can update, commit, edit, create, and delete model elements, diagrams, and projects.

To enable Teamwork support, you should install and run the MagicDraw Teamwork Server software. Each MagicDraw application acts as a client in the Teamwork system.

At www.magicdraw.com/viewlets in the **Project management an collaboration** section, you will find the Teamwork viewlets to help you understand how to work with the Teamwork Server.

NOTE	The Teamwork Server functionality is available with MagicDraw client Standard, Professional, Architect, and Enterprise editions only.

Teamwork Concepts

Get acquainted with basic Teamwork concepts before getting started with Teamwork projects in MagicDraw^{TM}.

Create Teamwork project

Create a new project that is stored in the Teamwork Server and is available for other users with the appropriate permissions. For more information, see “Creating a Teamwork Project” on page 23.

Update project

Load the latest version of a project from the server into MagicDraw^{TM}. For more information, see “Updating” on page 39.

Lock elements for edit

Lock elements for edit model elements of the project to edit them. When an element is locked for edit, other users in the same project cannot edit it until the element is unlocked. For more information, see “Locking Model Elements and Diagrams for Editing” on page 26.

Unlock elements

Unlock model elements/diagrams, so that other users can lock them for editing. For more information, see “Locking Model Elements and Diagrams for Editing” on page 26.

Commit project

Use commit to save changes in the project. Committing saves a new project version to the server. Before committing, the user can select elements to unlock add comments and/or tags. If a new project version is available on the server, the project is automatically updated before committing. For more information, see “Committing to Teamwork Server” on page 37.

Update lock information

Refresh the list of elements that are locked by other users.

Author

A user who has committed a new project version.

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Version

A unique number assigned to the committed project. Project version numbers begin at zero (for the initial version) and increase with every new project version.

Comment

Optional description of changes in the committed version.

Tag

Information about the status of a project (approved, initially tested, etc.), or other important information.

Administrator Login

The default Administrator's account in Teamwork System is:

Login name: Administrator

Password: Administrator

To prevent illegal access, it is advisable to change the Administrator's password.

For more information, see Section “Managing Teamwork Server” on page 43.

Teamwork Server Administrator's Console

A remote connection for Teamwork Server status observation and administrative control. The server holds information about active users and loaded projects. The Administrator can shutdown or restart the server, change its properties, and view log files (including debug information) for the server and separate projects.

Repository

A storage place for projects and their versions managed by the Teamwork Server.

Project category

A concept which enables visual grouping of projects in Teamwork Server repository.

Native user

A user whose account data is stored locally, i.e. in the native Teamwork Server repository.

External user

A user whose account data (all except the login name) is stored in an external database, e.g., Subversion, ClearCase, or LDAP.

Teamwork Module

A Teamwork project containing one or more shared packages. Modules are created with a purpose to reuse them or to decompose projects into parts.

Dependency between two elements

A situation where one element (dependent element) refers to the data of the other element (independent element).

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Teamwork System Layout

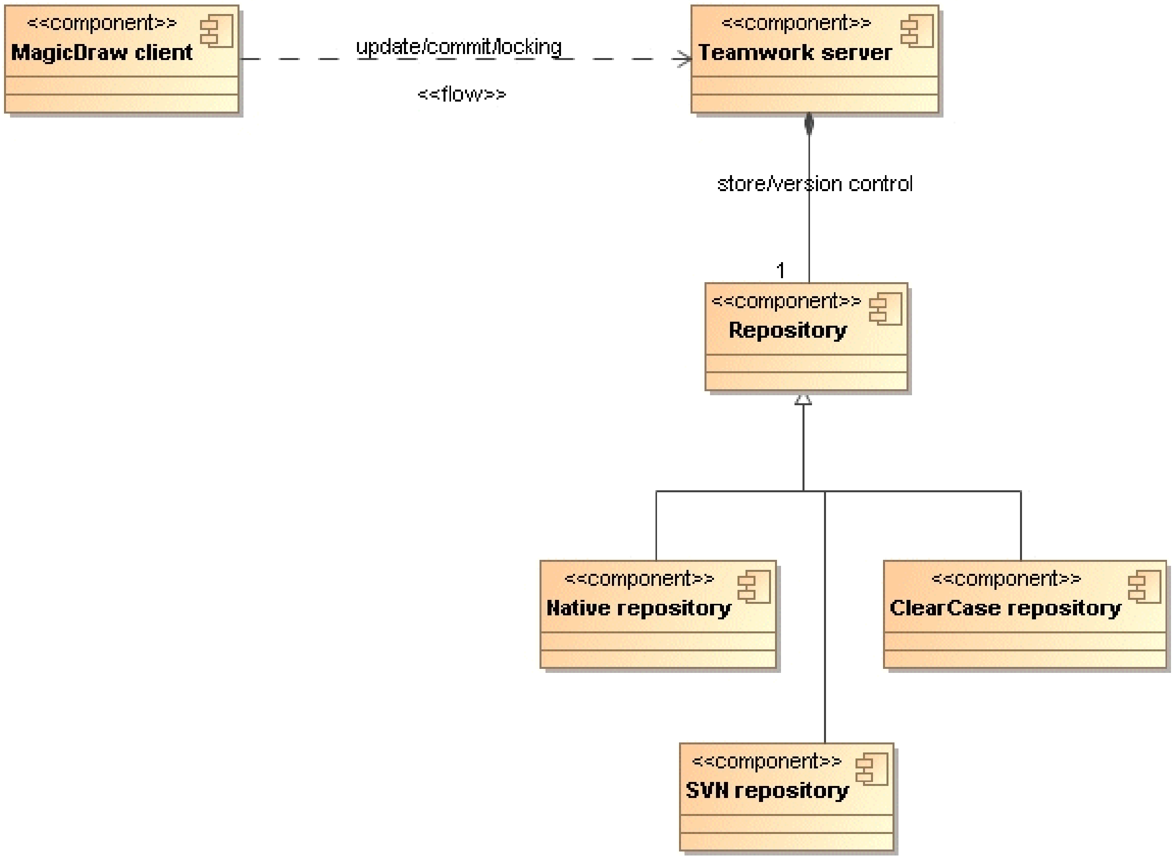

Figure 1 -- Teamwork system layout

The diagram above describes the layout of the Teamwork system. MagicDraw clients communicate (using Java RMI, over TCP/IP) with the Teamwork Server to retrieve projects stored on the server, edit them, and commit them back to the Teamwork Server for storage.

The Teamwork Server keeps track of projects versions. Additionally, it performs several administrative functions such as user login, authentication, and check permissions to access projects.

The Teamwork Server uses repositories for project version storage. The administrator can select any one of the supported repository types in the Teamwork Administrator's console to configure the server (for more information, see Section “Starting the Administrator’s Console” on page 47). Data can migrate from one to another repository type. This functionality is also accessible from the Teamwork Administrator's console.

3 different types of repositories are supported in MagicDraw:

- Built-In Repository (the default MagicDraw repository type).
- SVN repository (since v12.5).
- ClearCase repository (since v12.5).

Regardless of the repository used, users will not feel the difference because the user workflow remains the same.

For more information about specifying repositories, see the Administrator’s Console dialog description, “Repository tab” on page 57.

For more information about importing or exporting project to the native repository, see the Administrator’s Console dialog description, “Projects tab” on page 49.

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Built-In Repository

This is a default repository type. When the Teamwork Server is first installed and started, it is configured to use this type of repository. The Built-In repository is the only type of repository available in the version prior to 12.5 of Teamwork Server.

When the Teamwork Server is configured to use the Built-In repository, a directory is designated for project storage. The Server then uses its internal proprietary code to implement a versioned repository for a collection of projects.

Additionally, a simple user authentication/authorization scheme is implemented in the repository to store a simple list of users and their passwords (securely encrypted using one-way encryption) in a user file. When MagicDraw users log into the server, it uses this user file to verify these users and their passwords. Users' rights to access different projects are also described using this file.

Advantage	Disadvantage
Simple to configure (the only configuration parameter is a directory where project versions will be stored) and does not dependent on external tools.	Consume a lot of storage capacity, which increases complexity and maintenance costs. The teamwork administrator has to set up the appropriate backup policy and monitor the growth of disk space used when project versions accumulate. Usually, organization have their own control systems to store code, documents etc. and these system determine the appropriate backup and space allocation.

SVN Repository

The Teamwork Server can be configured to use SVN repository as a back-end. In this mode, the Teamwork Server retrieves and commits project versions into the SVN repository.

To use this repository type, SVN client must be correctly installed on the computer where the Server runs. The Teamwork Server must be able to launch svn executable - svn executable must be in PATH and have appropriate permissions. The supported SVN client versions are 1.4, 1.5, and 1.6 (since Teamwork Server version 17.0).

All SVN repository access methods are supported:

- local access through file:// type URLs
- remote repository access through svn://, svn+ssh:// type URLs
- remote repository access through HTTP and WebDAV - http://, https:// type URLs

NOTE	Only password based logins are supported (public/private key logins for svn+ssh:// and https:// access methods are currently not available).

The Teamwork Server with SVN repository supports pass-through authentication into the SVN. A pass-through authentication is used for all access methods except file:// method. In this case, the Teamwork Server only maintains a list of users, but not their passwords; their passwords are not stored. When a user tries to log into the Teamwork Server, server does not verify the password itself, but it logs into the SVN with the typed user name/password. All the project update/commit actions on the repository are performed by the server on the user's request. Hence, if you explore the repository with the SVN tools, you will see that all the changes are attributed to the correct user.

For file:// type URLs, pass-through authentication is not possible. The Teamwork Server uses the same built-in authentication method as the Built-In repository type, the users list with their crypted passwords is maintained in a repository file. The server authenticates users using this file. Actions in a repository are performed by the server on the user's request. If the server is started as NT service, all actions in the repository will be attributed

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to the Local System user (unless a different user is specified in the service settings). If the server is started manually, all actions in the repository will be attributed to the user who started the server. This difference can only be seen when examining the SVN repository with the SVN native tools. When looking at the project versions with MagicDraw client, all commit actions will be attributed to the uses who performed them.

NOTE	When a project file is committed into the SVN repository, the server stores additional auxiliary information about the project in an additional directory. If you commit the MyProject.mdzip project into the server, the auxiliary information will be stored in the MyProject_files directory nearby. Do not delete this directory from the repository.

For best performance, the Teamwork Server and SVN repository should have a good link between them. Optimally Teamwork Server could run on the machine where the repository is installed.

Advantage	Disadvantage
Projects with their versioning information can be stored in the same repository alongside the other artifacts, produced by the team: code, documentation, etc. There is no need to maintain a separate repository for MagicDraw projects, schedule backups, and monitor for storage used.	Dependent on external tool, the SVN client.

ClearCase Repository

The teamwork Server can be configured to use ClearCase repository as a back-end. In this mode, the Teamwork Server retrieves and commits project versions into the ClearCase repository.

To use this repository type, the ClearCase client must be correctly installed on the computer where the Server runs. It must be able to launch cleartool executable - cleartool executable must be in PATH and have appropriate permissions. The supported ClearCase client versions are v7.0 or later (earlier versions might work, but were not tested).

All actions (update/commit) are performed in the ClearCase repository by the server on user request. If the server is started as NT service, actions in the repository will be attributed to the Local System user (unless a different user is specified in the service settings). If the server is started manually, all actions in the repository will be attributed to the user who started the server. This difference can only be seen when examining the ClearCase repository with the ClearCase native tools. When looking at the project versions with MagicDraw client, all commit actions will be attributed to the users who performed them.

NOTE	When a project file is committed into the ClearCase repository, the server stores additional auxiliary information about the project in an additional directory. If you commit the MyProject.mdzip project into the server, the auxiliary information will be stored in the MyProject_files directory nearby. Do not delete this directory from the repository.

For best performance the Teamwork Server should run on the machine where the repository is installed.

Advantage	Disadvantage
Projects with their version information can be stored in the same repository alongside the other artifacts, produced by the team: code, documentation, etc. There is no need to maintain a separate repository for MagicDraw projects, schedule backups, and monitor storage used.	Dependent on ClearCase client.

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Installing and Running Teamwork Server

System Requirements

The maximum number of projects that can be opened in the Teamwork Server depends on the system capabilities. See the requirements in the following table.

For Teamwork Server with Built-In repository

	Minimum	Recommended
Disk space	200MB[1]	200MB or more
Memory	128MB	256MB or more
Software	Any platform with JDK version 1.6.0 is suitable. For UNIX platform, X Window server is required.	JDK 1.6.0_24

[1] The size of the project depends on how many versions are committed to the server. Every time someone commits changes to a repository, a new version of the whole project is created. For instance, if the project size is 500kB and there are 10 developers who commit their changes twice a day you will need an extra 400MB disk space in the repository for a two-month run.

For Teamwork Server with SVN repository

	Minimum	Recommended
Disk space	100MB[1]	150MB or more
Memory	128MB	256MB or more
Software	Any platform with JDK version 1.6.0 is suitable. For UNIX platform, X Window server is required. SVN client version 1.4, 1.5, or 1.6.	JDK 1.6.0_24 SVN client version 1.4, 1.5, or 1.6 (since Teamwork Server version 17.0).

[1] Teamwork Server with SVN or ClearCase repository maintains the checked out project cache. The size of this cache depends only on the number and size of projects stored. It does not grow as new versions check in. The disk space to store these new versions is consumed on the SVN/ClearCase repository itself.

For Teamwork Server with ClearCase repository

	Minimum	Recommended
Disk space	100MB	150MB or more
Memory	128MB	256MB or more
Software	Any platform with JDK version 1.6.0 is suitable. For UNIX platform, X Window server is required. ClearCase client version 7.0 or above	JDK 1.6.0_24 ClearCase client version 7.0

Installing

Windows platform

Run the downloaded file MD_UML_<version>_ teamwork_server_win.exe. Follow the instructions in the installation program.

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UNIX platform

Confirm that X Window server is running. Run the downloaded file MD_UML_<version>_teamwork_server_unix.sh. Follow the instructions in the installation program.

MAC OS X platform

Confirm that X Window server is running. Run the downloaded file MD_UML_<version>_teamwork_server_mac.dmg and install the application by dropping the launcher to the Applications folder (or another preferred location).

Other Platforms

Extract the downloaded file MD_UML_<version>_teamwork_server_no_install.zip. You can launch the Teamwork Server by opening either teamwork_server.exe or ./teamwork_server in the bin directory.

These files require some modifications prior to launching them.
Confirm you have JVM installed.

Upgrading Teamwork Server

You can use automatic or manual upgrade of Teamwork Server.

In automatic upgrade, a new Teamwork Server version will be installed instead of current one. If you need to keep the current server version without any changes, please upgrade the server manually. The manual upgrade allows for installing a new server version on a new location. You will be able to import your old projects and users, to test a functionality of a new server version, and only after that to remove a previous server version.

Since the version of 16.9 commercial licenses are locked to the particular machine. You will be requested to activate the license and receive the commercial license dedicated for the particular machine after the upgrade. If you have already activated the license before upgrading with a new version, the license will be activated automatically.

NOTE	You should have valid Software Assurance to upgrade Teamwork Server. For more about Software Assurance, see at https://www.magicdraw.com/software_assurance.

Automatic upgrade of Teamwork Server

The easiest way to renew MagicDraw Teamwork Server is to upgrade it automatically. Using this feature the upgrade with newest versions and service packs is done automatically.

IMPORTANT!	Make sure server and the client versions are the same. Also it is recommended to use the same JVM version for the server and client.

To upgrade Teamwork Server automatically

1. Stop Teamwork Server (see "Stopping Teamwork Server" on page 19) and close the **Administrator's Console**.
2. Remove Teamwork Server from Windows services if it was added. See the procedure "To remove Teamwork Server from the Windows services" on page 19.
3. Start Teamwork Server using GUI (see "Starting the server using GUI" on page 15).
4. In the **Teamwork Server** startup dialog, click the **Check for Updates** button.

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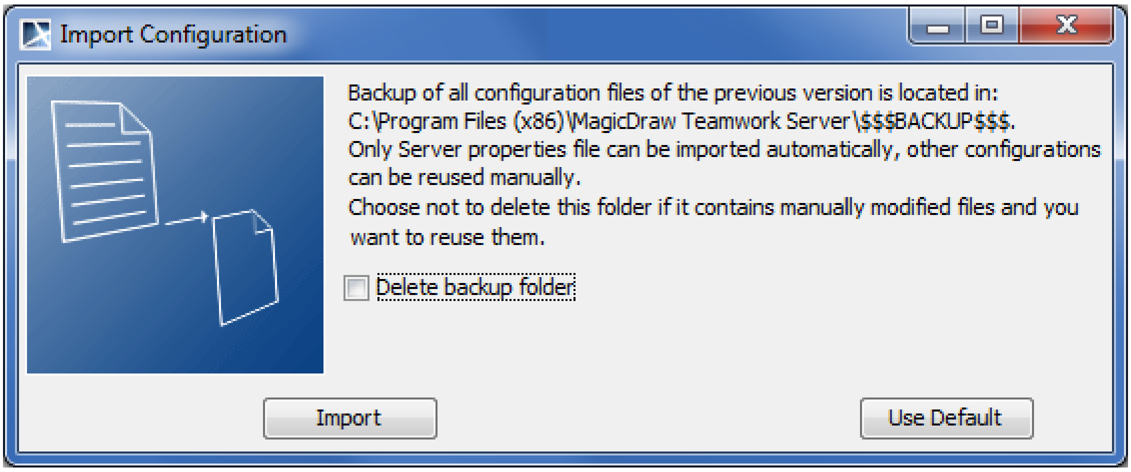
5. The **HTTP Proxy Server Connection** dialog opens. Click **Use HTTP proxy server** if you want to use a proxy server. Enter required values and click **OK** when you are done. Checking for updates starts.
6. The **Update Information** dialog opens wherein information about available updates is displayed. Click the **Update to New Version** button to start upgrading the server.
7. The **Import Configuration** dialog opens after the upgrading has finished. Click the **Import** button if you want to import server configuration files used in a previous server version.



Backup of all configuration files of the previous version is located in:
C:\Program Files (x86)\MagicDraw Teamwork Server\$$$BACKUP$$$.
Only Server properties file can be imported automatically, other configurations can be reused manually.
Choose not to delete this folder if it contains manually modified files and you want to reuse them.

□ Delete backup folder

IMPORTANT! We strongly recommend to store the backup folder.

8. Receive the commercial license dedicated for the particular machine and activate it, if you did not activate the license before the upgrade. For instructions how to receive Teamwork Server license, see at https://www.magicdraw.com/installing/?product=teamwork#activating.

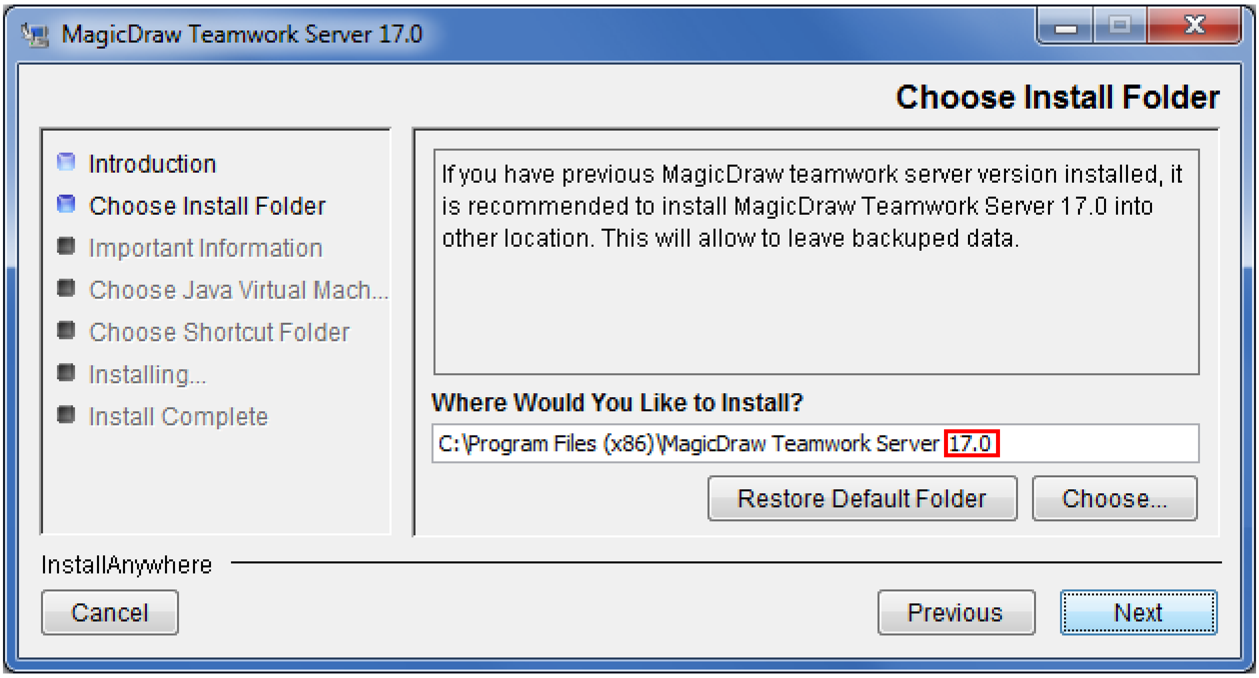
Manual upgrade of Teamwork Server

Installation of a newer version does not detect nor remove the current server version. All projects and users can be imported to the new server. For the description of importing procedures, see "Importing projects and users from earlier versions of Teamwork Server" on page 14. The version of project server and client should be the same and cannot be mixed up. Also it is recommended to use the same JVM version for the server and client.

To upgrade Teamwork Server manually

1. Stop Teamwork Server (see "Stopping Teamwork Server" on page 19).
2. Remove Teamwork Server from Windows services, if it was added. See the procedure "To remove Teamwork Server from the Windows services" on page 19.
3. Run the installation file. For the successful installation please use the following recommendations:
    - To allow for restoring backup data, install a new Teamwork Server version into the other location than current Teamwork Server is installed. Under **Choose Install**

Folder, add, for example, the version you are installing number to the end of the folder name.



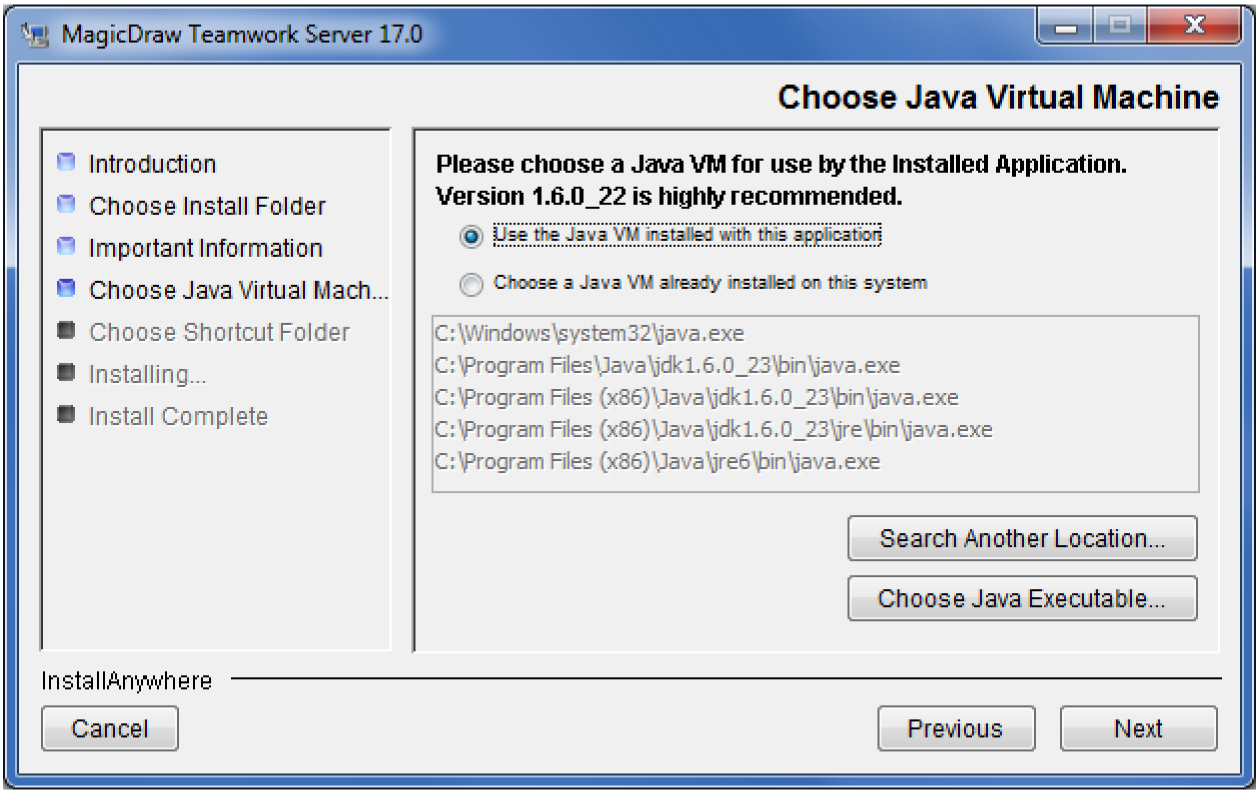
Choose Install Folder

If you have previous MagicDraw teamwork server version installed, it is recommended to install MagicDraw Teamwork Server 17.0 into other location. This will allow to leave backuped data.

Where Would You Like to Install?

C:\Program Files (x86)\MagicDraw Teamwork Server 17.0

- Under **Choose Java Virtual Machine**, click **Use the Java VM installed with this application**.



Choose Java Virtual Machine

Please choose a Java VM for use by the Installed Application. Version 1.6.0_22 is highly recommended.

● Use the Java VM installed with this application

○ Choose a Java VM already installed on this system

C:\Windows\system32\java.exe
C:\Program Files\Java\jdk1.6.0_23\bin\java.exe
C:\Program Files (x86)\Java\jdk1.6.0_23\bin\java.exe
C:\Program Files (x86)\Java\jdk1.6.0_23\jre\bin\java.exe
C:\Program Files (x86)\Java\jre6\bin\java.exe

4. Start newly installed Teamwork Server. The **Import Configuration** dialog opens. For information about using this dialog, see the procedure "To import projects using GUI" on page 14.

NOTE	The import time can take more than 1 hour 30 minutes. Importing time depends on quantity and size of projects you are importing.

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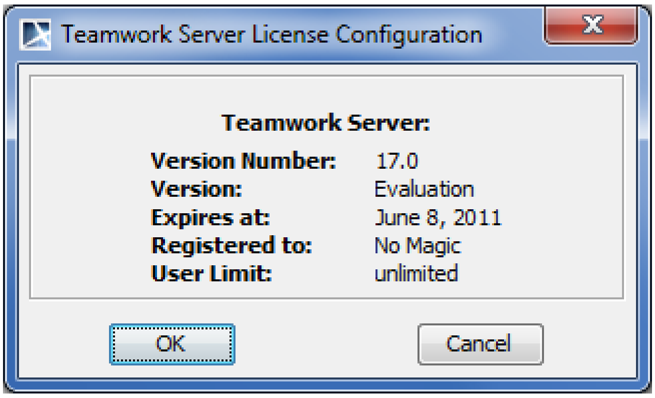
5. In the Teamwork Server License Manager dialog, enter the license key. For more information about node locked license activation, see at http://www.magicdraw.com/installing/?product=teamwork#unlocking. The Teamwork Server License Configuration dialog with license information opens after you have entered a license key.



Teamwork Server License Configuration

Teamwork Server:

Version Number: 17.0
Version: Evaluation
Expires at: June 8, 2011
Registered to: No Magic
User Limit: unlimited

Click **OK**. The **Teamwork Server** startup dialog opens.

6. Click the **Start Server** button. The server starts.
7. If it is needed, add Teamwork Server to Window services. See the procedure "To add Teamwork Server to Windows services" on page 17.
8. Remove the old Teamwork Server version.

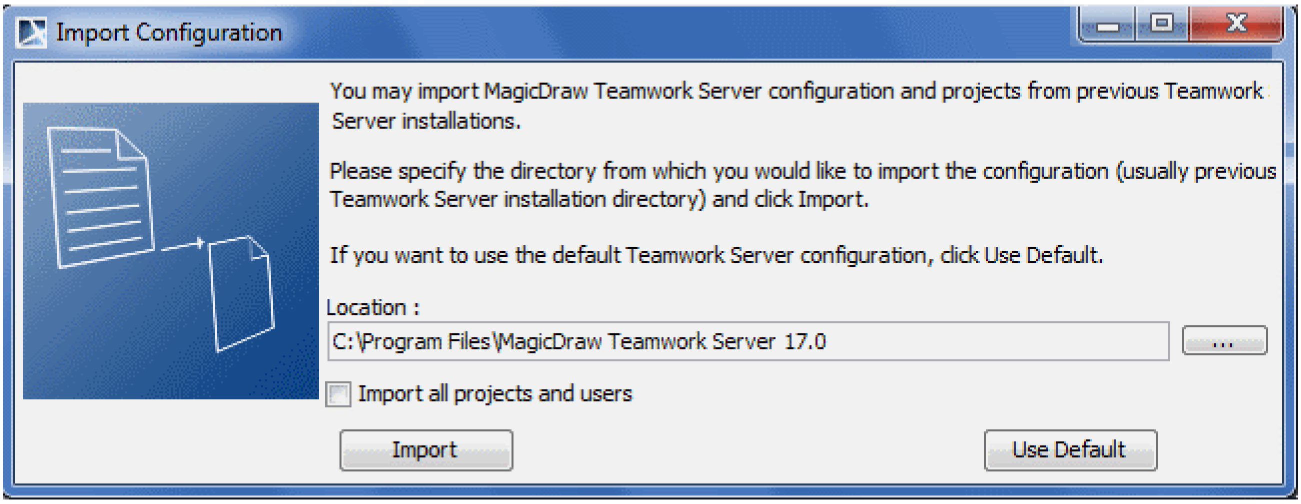
IMPORTANT!	Make sure server and client versions are the same. Also it is recommended to use the same JVM version for the server and client.

Importing projects and users from earlier versions of Teamwork Server

If you have projects stored in earlier versions of Teamwork Server, you can import them automatically using MagicDraw GUI, or to do this manually.

To import projects using GUI

1. After the installation is complete and Teamwork Server is launched for the first time, the **Import Configuration** dialog opens.



Import Configuration

You may import MagicDraw Teamwork Server configuration and projects from previous Teamwork Server installations.

Please specify the directory from which you would like to import the configuration (usually previous Teamwork Server installation directory) and click Import.

If you want to use the default Teamwork Server configuration, click Use Default.

Location : C:\Program Files\MagicDraw Teamwork Server 17.0

☐ Import all projects and users

Figure 2 -- The Import Configuration dialog

2. In the **Location** box, specify the path to the previous Teamwork Server installation that was found in your computer. Click the **...** button to browse for the desired location.

3. Select the **Import all projects and users** check box to transfer projects and users to the latest version of Teamwork Server.
4. Click **Import**.

To import projects manually

- Copy the **Projects** folder with all its files from the previous Teamwork Server installation folder to the new <Teamwork Server home>/Projects folder.

NOTE	Follow the instructions in dialogs to update profiles during project import.

Migrating from the SVN/ClearCase repository to the Built-In repository type

1. Start the server on the SVN/ClearCase repository.
2. Open the **Administrator's Console**, trigger project export. Select a directory to dump the permanently store the projects. This will be the directory in which the server will subsequently operate.
3. In the **Administrator's Console**, reconfigure the server for the Built-In repository. Specify the directory where you stored the projects as a directory to work with.
4. Restart server in order to use this new repository.
5. Projects are now in a new Built-In repository.

Starting Teamwork Server

To start the server for the first time, run the file *teamwork_server.exe* from the bin folder and browse the license key when prompted. The key is no longer required the next time the server is run.

For more information about node locked license activation, see at http://www.magicdraw.com/installing/?product=teamwork#unlocking.

Starting the server using GUI

To start Teamwork Server

1. Do one of the following:
   - Start Teamwork Server the same way you would start any application on your operating system.
   - Run *teamwork_server.exe* in the server bin folder. The **Teamwork Server** startup dialog opens.

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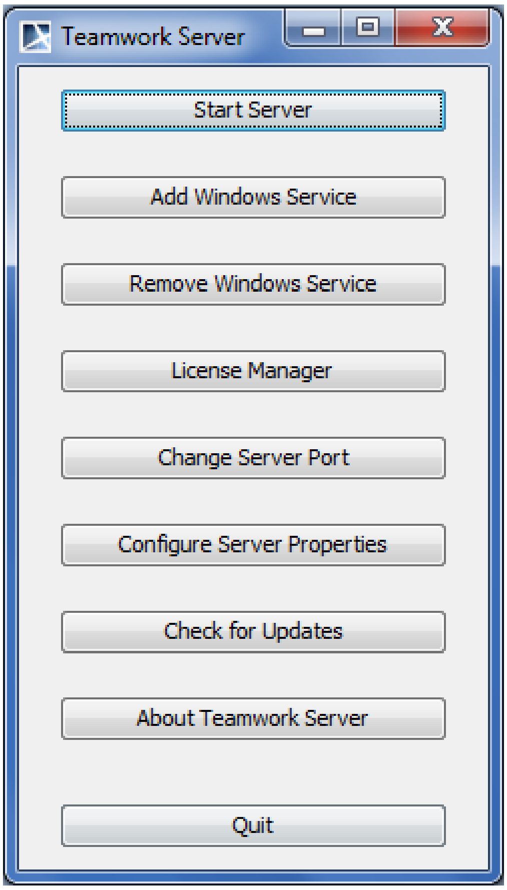

Figure 3 -- Teamwork Server startup dialog

2. Click the **Start Server** button.

To change the server license key

1. Run *teamwork_server.exe* in the server bin folder. The **Teamwork Server** startup dialog opens.
2. Click the **Licence Manager** button. The **Teamwork Server Licence Manager** dialog opens.
3. On the opened dialog, click the **Select License Key Files** button to browse for a file with the Teamwork Server license key.
4. In a browser, open a new licence key file.
5. Click **OK** after you have changed the server license key.

NOTE Restart the server to apply changes.

To change the server port for the current launch

1. Run *teamwork_server.exe* in the server bin folder. The **Teamwork Server** startup dialog opens.
2. Click the **Change Server Port** button and enter the new server port. This port is used when launching the server, or when adding the Windows service.

The Teamwork Server exports remote objects through one port: RMI registry port.

Starting the server without using GUI

To start Teamwork Server from the command line

Do one of the following:

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- Add the parameter NOGUI when starting the server from the command line.
- Run *teamwork_server_nogui.exe* in the server bin folder.

To add Teamwork Server to Windows services

1. Run *teamwork_server.exe* in the server bin folder. The **Teamwork Server** startup dialog appears.
2. Click the **Add Windows Service** button. After the service is added, select one of the following:
    - Start this service from the Windows Services list.
    - Reboot the computer and the Service will start automatically.
    - To run the server, click the **Start Server** button.

NOTE This feature is available only on Windows operating systems.

IMPORTANT! Windows 7 OS and Windows Vista OS Firewall do not allow remote connections. Hence after adding Teamwork Server to Windows 7 or Windows Vista services, you have to add the Teamwork Server port number 1100 in Windows Firewall Exceptions list. Only then all remote connections to Teamwork Server will be allowed.

To start Teamwork Server as a service on Red Hat Linux

1. Create a new service script file named “teamwork”.
2. Copy the following script code and paste it into the file.

```
#!/bin/bash
#
# chkconfig: - 91 60
# description: MagicDraw TeamWork Server


### BEGIN INIT INFO
# Provides: teamwork
# Required-Start: $local_fs $network $named $remote_fs $syslog
# Required-Stop: $local_fs $network $named $remote_fs $syslog
# Short-Description: MagicDraw TeamWork Server
# Description: This script is used to start MagicDraw TeamWork Server
### END INIT INFO


RETVAL=0
TEAMWORK_HOME="/var/MagicDraw_Teamwork_Server/bin"
prog="teamwork_server_nogui"
prog_stop="stop_teamwork_server"
desc="MagicDraw Teamwork Server"
args="SERVICE"

check() {
if [ -f /var/lock/$prog ]; then
 if ps -p $(cat /var/lock/$prog 2>/dev/null) >/dev/null; then
       return 0
 fi
fi
return 3
}


status() {
check
if [ $? -eq 0 ]; then
 echo $"${desc} is running..."
return 0
fi
echo $"${desc} is stopped"
return 3
}


start() {
check
if [ $? -eq 0 ]; then
  echo $"${desc} is already started..."
  return 2
fi

echo -n $"Starting $desc ($prog): "
$TEAMWORK_HOME/$prog $args &
RETVAL=$?
SCRIPT_PID=$!

COUNT=0
while [ "$COUNT" -le 15 ] && [ -z $JAVA_PID ]
do
JAVA_PID=$(pgrep -P $SCRIPT_PID java)
let COUNT=COUNT+1
sleep 1
done
[ $RETVAL -eq 0 ] && echo $JAVA_PID >/var/lock/$prog
echo
}

stop() {
echo -n $"Shutting down $desc ($prog): "
$TEAMWORK_HOME/$prog_stop
RETVAL=$?
[ $RETVAL -eq 0 ] && rm -f /var/lock/$prog
return $RETVAL
}


case "$1" in
  start)
    start
    RETVAL=$?
    ;;
  stop)
    stop
    ;;
  restart)
    stop
    start
    RETVAL=$?
    ;;
  status)
    status teamwork
    RETVAL=$?
    ;;
  *)
    echo $"Usage: $0 {start|stop|restart|status}"
    exit 3
    esac
exit $RETVAL
```

NOTE This script can also be used in non-RedHat based GNU/Linux distributions.

3. Change the value of the TEAMWORK_HOME variable according to the path of the Teamwork Server installation bin folder.

4. Save the file and move it into the system directory “/etc/init.d”.
5. In the command line, type the following commands:

```
cd /etc/rc3.d
ln -s ../init.d/teamwork S99teamwork
```

TIP	You can also configure the service for runlevel using the following command: `chkconfig --level 3 teamwork on`

6. In the command line, type the following command:

```
service teamwork start
```

To change the server license key from the command line

1. Stop the Teamwork Server (see "Stopping Teamwork Server" on page 19).
2. Start the Teamwork Server from the command line. Add the following argument: "-changeKey -key:<path to the key file location>".

This is the sample for the Windows OS:

```
teamwork_server_nogui.exe -changeKey -key:C:\MagicDraw_16_0_TeamworkServer_key.xml
```

NOTE	The path to the key file should be fully qualified and without spaces.

Stopping Teamwork Server

To stop Teamwork Server

- In the <Teamwork Server home>\bin directory, run the *stop_teamwork_server.exe*.

To stop Teamwork Server on Red Hat Linux

- In the command line, type the following command:

```
service teamwork stop
```

To remove Teamwork Server from the Windows services

1. Run *teamwork_server.exe* in the server bin folder. The **Teamwork Server** startup dialog opens.
2. Click the **Remove Windows Service** button.

NOTE	This feature is available only on Windows operating systems.

Working with Teamwork Projects

View Online Demo	Working in Teamwork

You must have certain permissions to work with Teamwork projects. The following are the most important steps when working with Teamwork projects:

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1. Create a Teamwork project or add a non-Teamwork project to the Teamwork Server.Open the Teamwork project.
2. Lock the elements you want to edit and edit them in the open project.
3. Select the model elements to unlock and commit the project.
4. Create categories for visual grouping of Teamwork projects.

If you want to lock an element for editing, the application will check for the permissions you have and the availability of the element.

Before committing elements, you can unlock the elements you have previously locked. Committing to Teamwork Server will create a new project version.

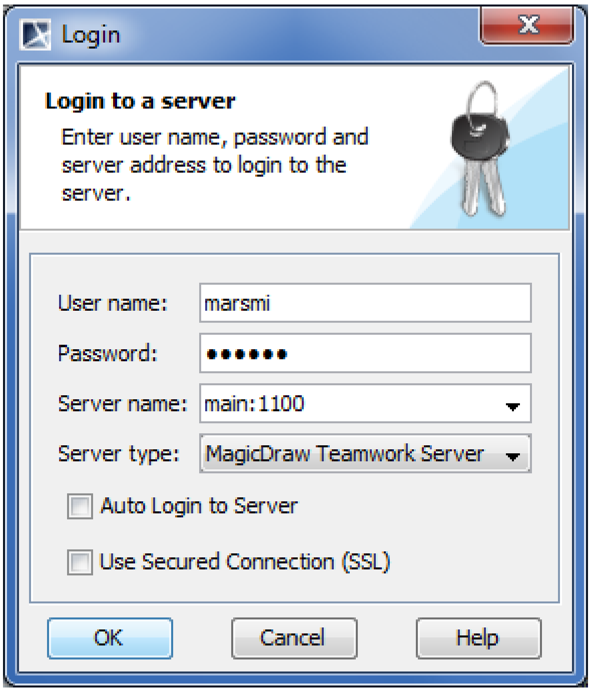
Logging to the Teamwork Server

To log in to the Teamwork Server

1. From the **Collaborate** menu, select **Login**. The **Login** dialog opens (see the following figure).
2. Enter your login name, password, Teamwork Server name, and the port number.
3. **NEW!** In the **Server type** list, click **MagicDraw Teamwork Server**.
4. If you want the client application to remember your credentials in order to login next time to the server automatically upon starting the client application, select the **Auto login to server** check box.
5. If you need to connect to the server using the SSL connection select the **Use Secured Connection (SSL)** check box. For more information about the configuration of SSL connection refer to "Secured Connection tab" on page 54.

IMPORTANT!	If the SSL connection is established in the server side, you should also use the SSL connection in the client side when connecting to the server.

6. Click **OK**.



Login

Login to a server

Enter user name, password and server address to login to the server.

User name: marsmi

Password: ●●●●●●

Server name: main:1100

Server type: MagicDraw Teamwork Server

□ Auto Login to Server

□ Use Secured Connection (SSL)

Figure 4 -- The Login dialog

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To enter the Teamwork address and port

- Type server address (you can use domain name or IP address), colon, and then port number in the **Server name** text box, in the **Login** dialog (Figure 4 on page 20). For example, *localhost:1100*.

For more information on how to change server port, see “To change the server port for the current launch” on page 16.

NOTE	If the SSL connection is established in the server side, you should also use the SSL connection in the client side when connecting to the server.

The default Administrator's account in Teamwork System is:

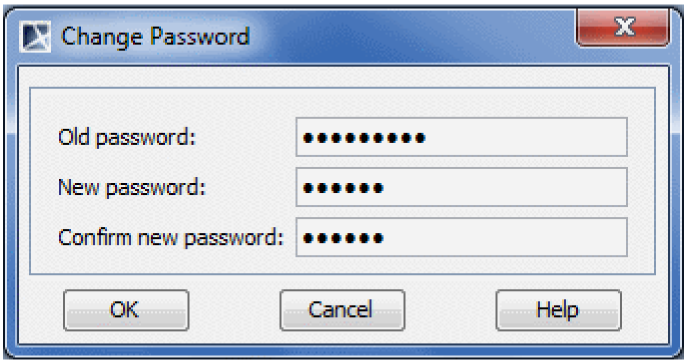
Login name: Administrator

Password: Administrator

NOTEs	• To prevent unauthorized access, change the Administrator's password. • When the SVN repository is used, the administrator's login name is set in the server configuration parameters and password in the underlying SVN repository.

To change the password for the specific user

- From the **Collaborate** menu, select **Change Password**.



Change Password

Old password: ••••••••••

New password: ••••••

Confirm new password: ••••••

Figure 5 -- Change Password dialog

Element name	Function
Old Password	Type the current password.
New Password	Type the new password.
Confirm New Password	Retype the new password to confirm it.

NOTE	Passwords cannot be changed if the Teamwork Server is configured with the SVN repository and pass-through authentication. In this case, use the appropriate native tools to change the password.

To log out from the Teamwork Server

- From the **Collaborate** menu, select **Logout**.

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Creating and Managing Categories

Teamwork Server supports visual grouping of projects. You can build a structure of the whole project repository by creating categories and grouping Teamwork projects into these categories.

You can create an unlimited number of your own categories, rename or remove them, or move projects to them.

Teamwork projects that do not belong to any created category will be automatically moved to the system category named *“Uncategorized”*.

To create a new category

1. From the **Collaborate** menu, choose either **Open Server Project** or **Projects**.
2. On the opened dialog’s toolbar, click the **Create Category** button. The **Create Category** dialog opens.

   TIP! You can also this dialog by selecting the **Create Category** command from the shortcut menu.

3. Enter the category name.
4. Click **OK**.

To rename a category

NOTE You cannot rename the *“Uncategorized”* category.

1. From the **Collaborate** menu, choose either **Open Server Project** or **Projects**.
2. On the opened dialog, select a category or a project that belongs to the category you want to rename and then click the **Rename Category** button. The **Rename Category** dialog opens.

   TIP You can also open this dialog by selecting the **Rename Category** command from the shortcut menu.

3. Enter a new category name.
4. Click **OK**.

To move a project to a category

NOTE A project can belong to only one category at the same time.

1. From the **Collaborate** menu, choose either **Open Server Project** or **Projects**.
2. On the opened dialog, select the project you want to move, and then click the **Move to Category** button. The **Move to Category** dialog opens.

   TIP You can also open this dialog by selecting the **Move to Category** command from the shortcut menu.

3. Select the category.
4. Click **OK**.

To remove the category

NOTE	• You cannot remove the system category “Uncategorized”. • Projects from the removed category will be automatically moved to the system category.

1. From the **Collaborate** menu, choose either **Open Server Project** or **Projects**.
2. On the opened dialog, select the category or the project that belongs to the category you want to remove, then click the **Remove Category** ⊟ button and confirm your decision.

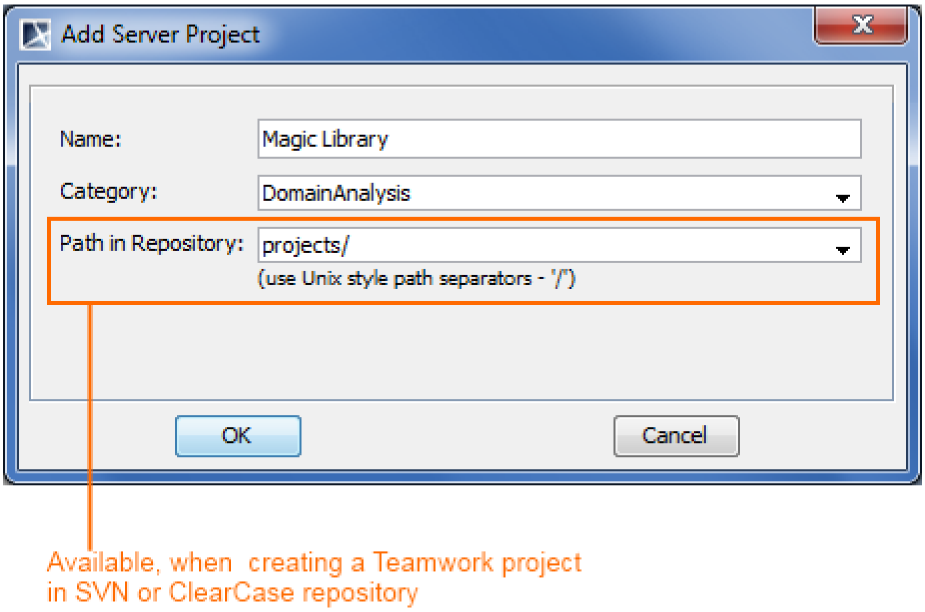
TIP	You can also remove the category by selecting the **Remove Category** command from the shortcut menu.

Creating a Teamwork Project

This section provides the step-by-step instructions on how to create a new Teamwork project.

To create a new Teamwork project

1. From the **Collaborate** menu, choose either **Open Server Project** or **Projects**.
2. Click the **Add** button. The **Add Server Project** dialog opens.
3. Type a new project name.
4. Either select an existing category or type a new category name.
5. Specify a path in the repository, if Teamwork Server is configured with either the SVN or ClearCase repository.
6. Click **OK**.



Name: Magic Library
Category: DomainAnalysis
Path in Repository: projects/
(use Unix style path separators - '/')

Available, when creating a Teamwork project in SVN or ClearCase repository

Figure 6 -- An example of the Add Server Project dialog

Adding a Non-Teamwork Project to Teamwork Server

You can add any project to Teamwork Server with MagicDraw version 7.0 and greater.

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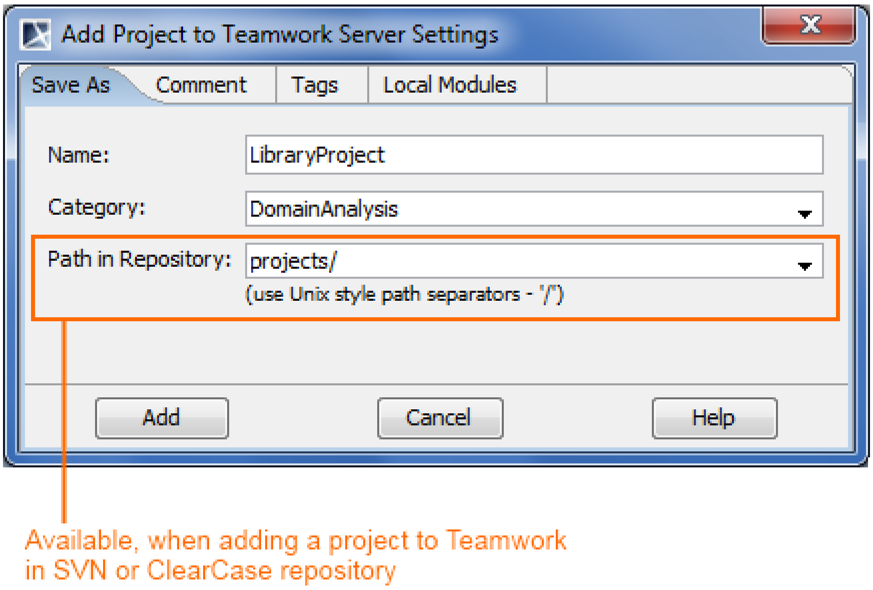
This section provides step-by-step instructions on how to add a non-Teamwork project to Teamwork Server.

View Online Demo	Add Project to Teamwork

To add a non-Teamwork project to Teamwork Server

NOTE	Project will be added to Teamwork Server together with the selected modules.

1. Log in to Teamwork Server.
2. Open the project you want to add to Teamwork Server.
3. From the **Collaborate** menu, choose **Add Project to Server**. The **Add Project to Teamwork Server Settings** dialog opens.



Name: LibraryProject
Category: DomainAnalysis
Path in Repository: projects/
(use Unix style path separators - '/')

Available, when adding a project to Teamwork in SVN or ClearCase repository

Figure 7 -- An example of the Add Project to Teamwork Settings dialog, the Save As tab

4. In the **Save As** tab, fill in the following information:
   4.1. Enter the name of the project for the Teamwork Server, if there is such need.
   4.2. Either select an existing category or type a new category name.
   4.3. Specify a path in the repository if Teamwork Server is configured with either the SVN or ClearCase repository.

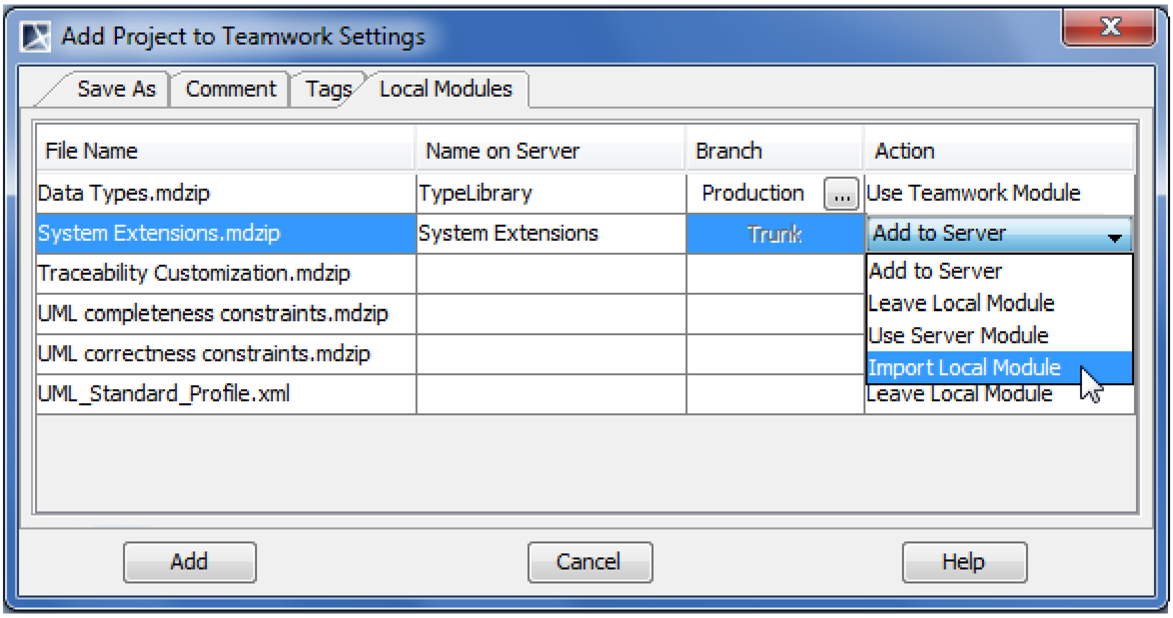
NOTE	• For the ClearCase repository, a path cannot be empty. At least the VOB name must be specified. • For the SVN repository, the path can be empty. In this case, the project will be stored under the repository root.

5. In the **Comments** tab, type your comments about the project.
6. In the **Tags** tab, add a tag, if needed.
7. The **Local Modules** tab lists all local modules used in the project. From the **Action** drop-down list, select what do you want to do with local modules when adding a project to Teamwork Server:
   - **Add to Server** adds the whole selected module to Teamwork Server. Select a module name on the server from the **Name on Server** drop-down list or type a new one.

- **Leave Local Module** leaves the selected module on a local workstation.

> **IMPORTANT!** Standard modules provided by MagicDraw can take only this action.

- **Use Server Module** uses a module or its branch from Teamwork Server. You can select the whole module (trunk) or a branch. For example, which is given in Figure 8 on page 25, the *Production* branch of the *TypeLibrary* module is selected.
- **Import Local Module** imports the content of the selected module into a project that you are saving.



File Name	Name on Server	Branch	Action
Data Types.mdzip	TypeLibrary	Production ...	Use Teamwork Module
System Extensions.mdzip	System Extensions	Trunk	Add to Server
Traceability Customization.mdzip			
UML completeness constraints.mdzip			
UML correctness constraints.mdzip			
UML_Standard_Profile.xml			Leave Local Module

Figure 8 -- An example of the Add Project to Teamwork Settings dialog, the Local Modules tab

8. Click the **Add** button.

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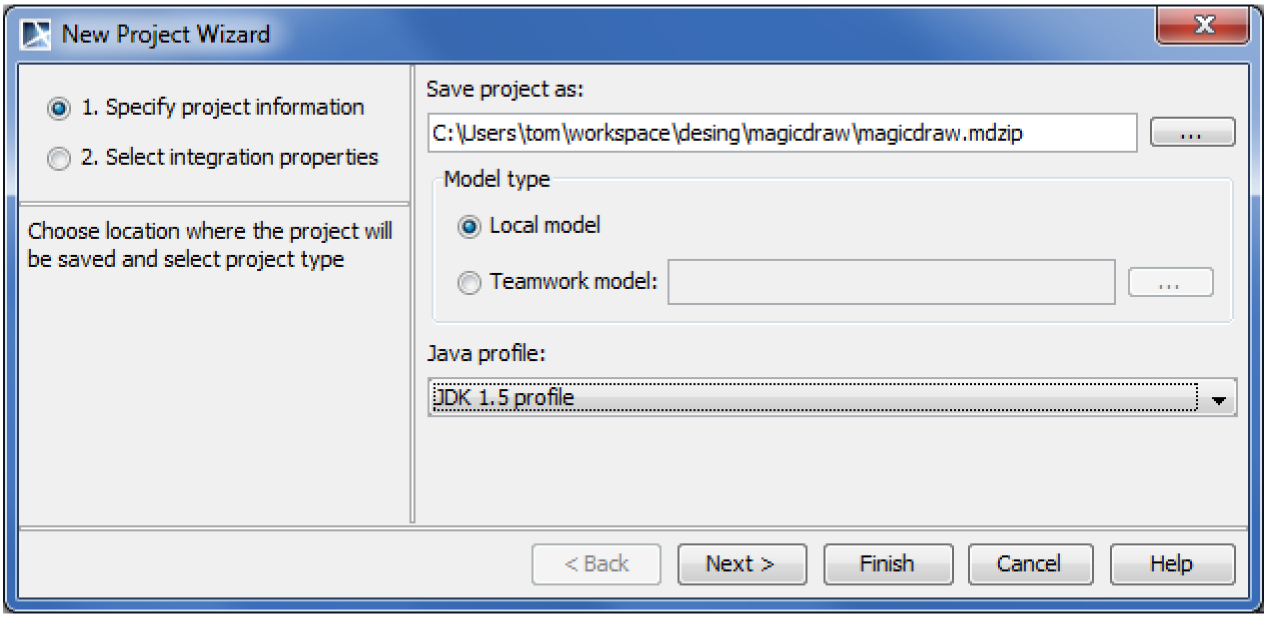
Creating Teamwork Project in IDE integration

1. Start a new MagicDraw project in the IDE integration you are working on. The **New Project Wizard** dialog opens.



New Project Wizard

● 1. Specify project information
○ 2. Select integration properties

Choose location where the project will be saved and select project type

Save project as: C:\Users\tom\workspace\desing\magicdraw\magicdraw.mdzip

Model type
● Local model
○ Teamwork model:

Java profile: JDK 1.5 profile

Figure 9 -- The New Project Wizard dialog

2. Select **Teamwork model** and click the **...** button to login to Teamwork Server.
3. After log in, select an existing project or add a new one. The model from IDE source will be updated in the selected project. Click **Next.**
4. Specify integration properties and click **Finish**. The Teamwork Project opens in MagicDraw.

Locking Model Elements and Diagrams for Editing

Before the editing process, you need to lock the model elements so other users can not edit them. Elements and diagrams can only be locked by one and only one user at a time.

In the project, you can lock or unlock particular items. The following table describes the connection between locked items and editable data.

Locked Item	Editable Data
Element	Element specification properties (in the Specification window).
Diagram	• Diagram specification properties (in the Specification window). • Diagram properties (in the Diagram Properties dialog). • Symbol layout on the diagram pane. • Symbol properties (in the Symbol Properties dialog).
Diagram with elements	• Diagram specification properties (in the Specification window). • Element specification properties (in the Specification window and on the diagram pane). • Diagram properties (in the Symbol Properties dialog). • Symbol properties (in the Symbol Properties dialog). • Symbol layout on the diagram pane.

IMPORTANT! Locking is allowed, if selected elements, symbols, or diagrams are not locked by the other user.

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Representation of locked elements

In the **Containment** tree, names of elements are presented in two colors. They are as follows:

- Locked elements are presented in black, meaning they are editable.
- Unlocked elements are presented in grey, meaning they are not editable.

The following figure illustrates the **Containment** tree with locked and unlocked elements.

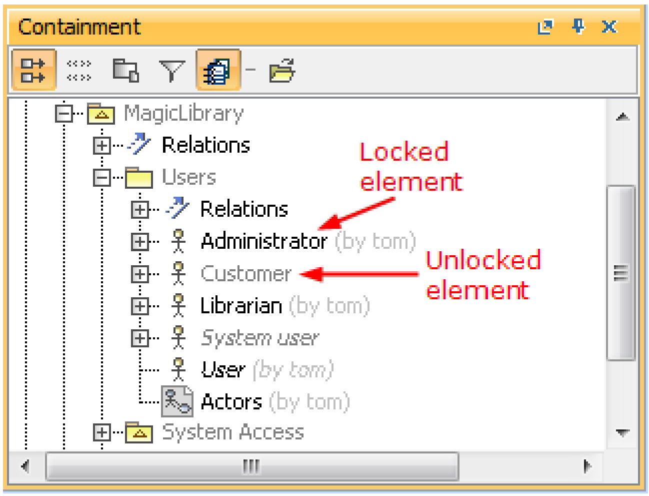
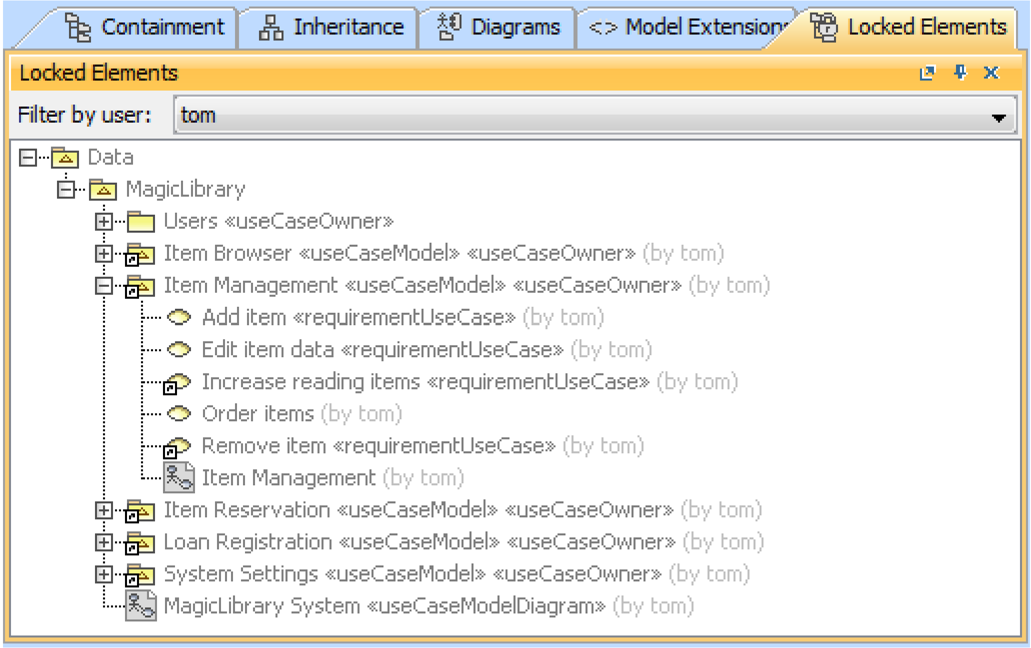


Figure 10 -- Locked and unlocked elements in Containment tree

NEW! To see the list of locked elements

- In the Model Browser, click the **Locked Elements** tab.


Containment
Inheritance
Diagrams
Model Extension
Locked Elements
Locked Elements
Filter by user:
tom
Data
MagicLibrary
Users «useCaseOwner»
Item Browser «useCaseModel» «useCaseOwner» (by tom)
Item Management «useCaseModel» «useCaseOwner» (by tom)
Add item «requirementUseCase» (by tom)
Edit item data «requirementUseCase» (by tom)
Increase reading items «requirementUseCase» (by tom)
Order items (by tom)
Remove item «requirementUseCase» (by tom)
Item Management (by tom)
Item Reservation «useCaseModel» «useCaseOwner» (by tom)
Loan Registration «useCaseModel» «useCaseOwner» (by tom)
System Settings «useCaseModel» «useCaseOwner» (by tom)
MagicLibrary System «useCaseModelDiagram» (by tom)

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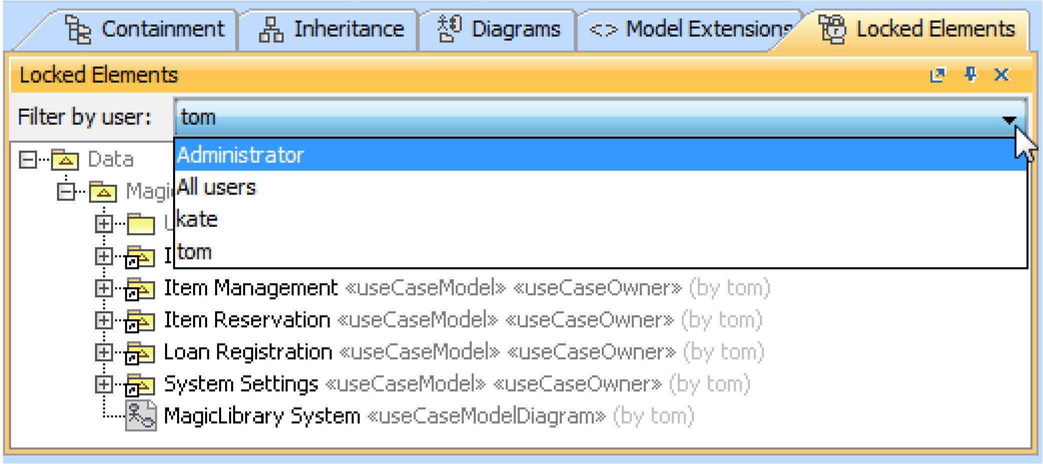
- In the **Filter by user** box, select a user whose locks you want to see.


Containment
Inheritance
Diagrams
<> Model Extensions
Locked Elements
Locked Elements
Administrator
All users
kate
tom
Data
Magi
Item Management «useCaseModel» «useCaseOwner» (by tom)
Item Reservation «useCaseModel» «useCaseOwner» (by tom)
Loan Registration «useCaseModel» «useCaseOwner» (by tom)
System Settings «useCaseModel» «useCaseOwner» (by tom)
MagicLibrary System «useCaseModelDiagram» (by tom)

Filter by user: tom

NOTE	If you do not see the **Locked Elements** tab, on the main menu, click **Collaborate** > **View Locked Elements**.

Locking commands

Availability of locking commands depends on the item selected for locking. Commands are described in the following table:

Command in shortcut menu	What is locked	Real-life examples
NEW! Lock Element for Editing in Diagram **NOTE:** The command is available only on symbol's shortcut menu.	• The selected element in the Model Browser. • The diagram pane whereon the selected symbol is. • The element represented by the selected symbol. • The diagram in the Model Browser.	You can use this command in the following situations: • When you want to modify the element and only this element in the diagram. • When you have already locked the element, but it is impossible to modify it in the diagram. For example, you have locked the element in the browser but modification is forbidden in the diagram.
Lock Element for Edit	The selected element in the Model Browser.	You can use this command, if you want to modify the specification of the element in the Specification window.
Lock Elements for Edit Recursively	The selected element and its owning elements in the Model Browser.	You can use this command if you want to modify inner elements that are contained by the selected element. For example, a project has three packages: Analysis, Design, and Implementation. Each of the package contains elements. Lock the package recursively to edit all elements in the package.

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Command in shortcut menu	What is locked	Real-life examples
NEW! Lock Diagram Content for Edit **NOTE:** The command is available only on symbol's or diagram's shortcut menu.	• Symbols on a diagram pane of a selected diagram. • The diagram pane of the selected diagram. • Elements of the selected diagram in the Model Browser. • The selected diagram in the Model Browser.	You can use this command when you are working with the diagram and elements that are represented on this diagram. You will be able to modify each element specification on the diagram and the diagram itself.
Lock Diagram for Edit **NOTE:** The command is available only on symbol's or diagram's shortcut menu.	• Symbols on the diagram pane of the selected diagram. • The diagram pane of the selected diagram. • The selected diagram in the Model Browser.	You can use this command if you want to change only the representation of the diagram. You will be able to modify every symbol representation on the diagram and change the symbols layout.

Locking procedures

To lock elements and / or diagrams

1. Do one of the following:
   - Select an element in the Model Browser.
   - Select a diagram in the Model Browser.
   - Select a symbol on a diagram pane.
   - Right-click the diagram pane.
2. On the selected item's shortcut menu, point to **Lock** or **Lock Diagram**, and then click a desired locking command. For more information about locking commands, see "Locking commands" on page 28.

NOTE	The list of commands may vary depending on the item you have selected.

To lock several elements

1. Do one of the following:
   - Select several elements in the Model Browser.
   - Select several symbols on the diagram pane.
2. On the selected elements shortcut menu, click **Lock for Edit**. This allows for editing locked element specification properties in the Specification window.

To lock an element in the Specification window

1. Open the Specification window of the selected element or symbol.

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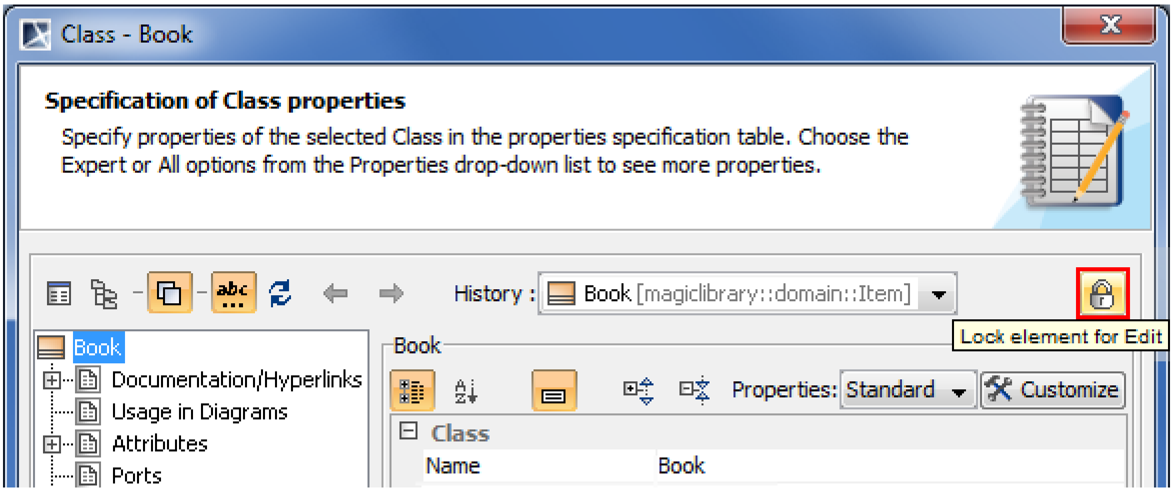
2. Click the Lock element for Edit button (see the highlighted button in the following figure). This allows for editing locked element specification properties in the Specification window.



Class - Book

Specification of Class properties

Specify properties of the selected Class in the properties specification table. Choose the Expert or All options from the Properties drop-down list to see more properties.

History : Book [magiclibrary::domain::Item]

Properties: Standard

Class	
Name	Book

Figure 11 -- Lock element for Edit button (fragment of Specification window)

To lock an element assigned as a property value

1. Open the Specification window of the selected element or symbol.
2. In the element property list, select the element assigned as a the property value.
3. On the selected value shortcut menu, point to **Lock**, and then click one of available commands:
    - **Lock Element for Edit**.
    - **Lock Elements for Edit Recursively**. This command is available if the selected value is an owner for some elements.

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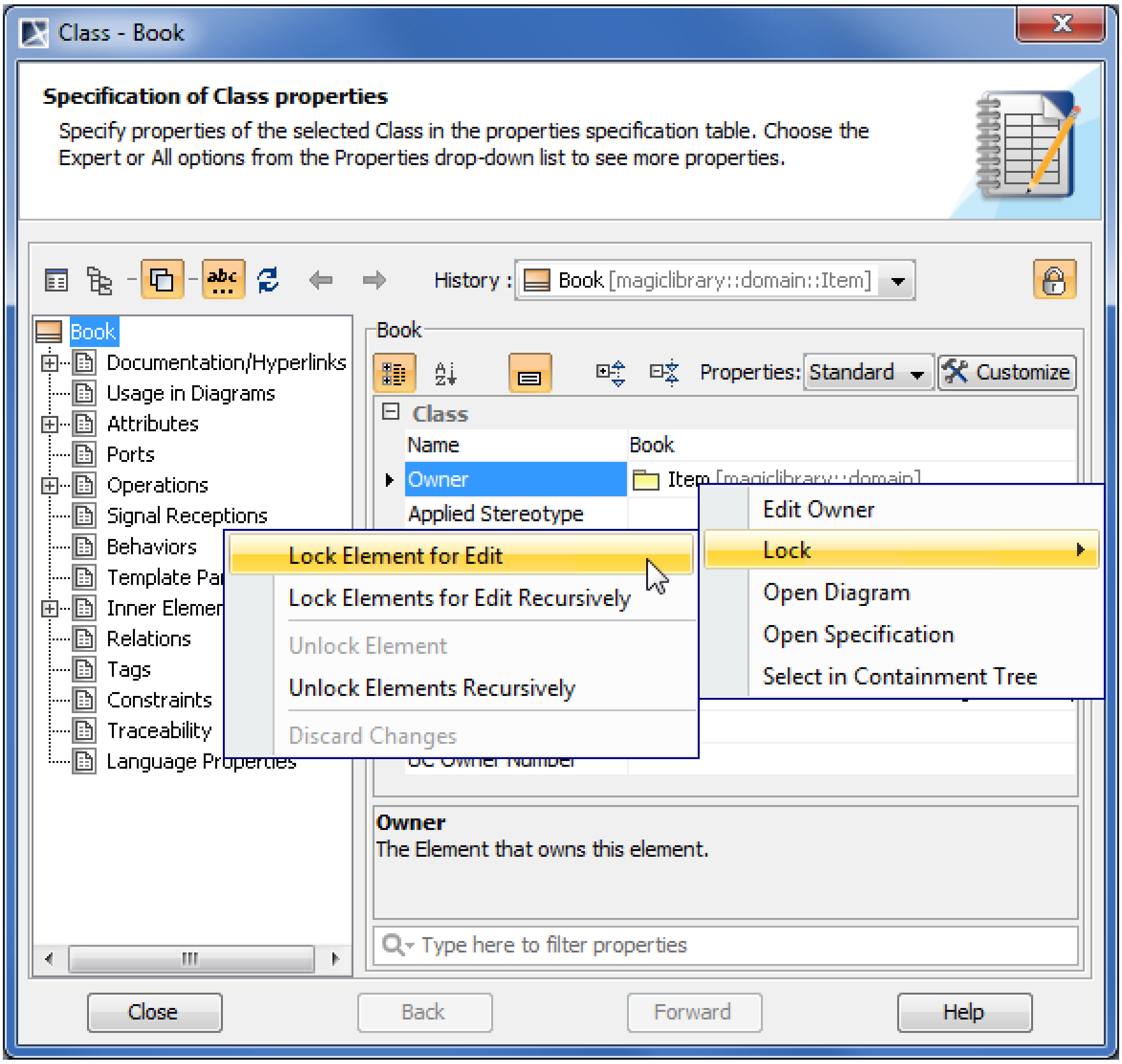
For more information about locking commands, see "Locking commands" on page 28.



Class - Book

Specification of Class properties

Specify properties of the selected Class in the properties specification table. Choose the Expert or All options from the Properties drop-down list to see more properties.

History : Book [magiclibrary::domain::Item]

Properties: Standard

Class	
Name	Book
Owner	Item [magiclibrary::domain]
Applied Stereotype	

Owner
The Element that owns this element.

Figure 12 -- Locking property value in Specification window

Locking for reverse engineering

To reverse a code to the model that was already reversed, you need to lock elements that store code engineering information.

To lock elements for reverse engineering

1. In the **Code engineering sets** branch, select a code engineering set or code engineering element you want to reverse.
2. On the selected items shortcut menu, click **Reverse**. The **Reverse Options** dialog opens.
3. In the **Reverse Options** dialog, set required options and click **OK**. For more information about **Reverse Options** dialog, see “Reverse” in “MagicDraw CodeEngineering UserGuide.pdf”.

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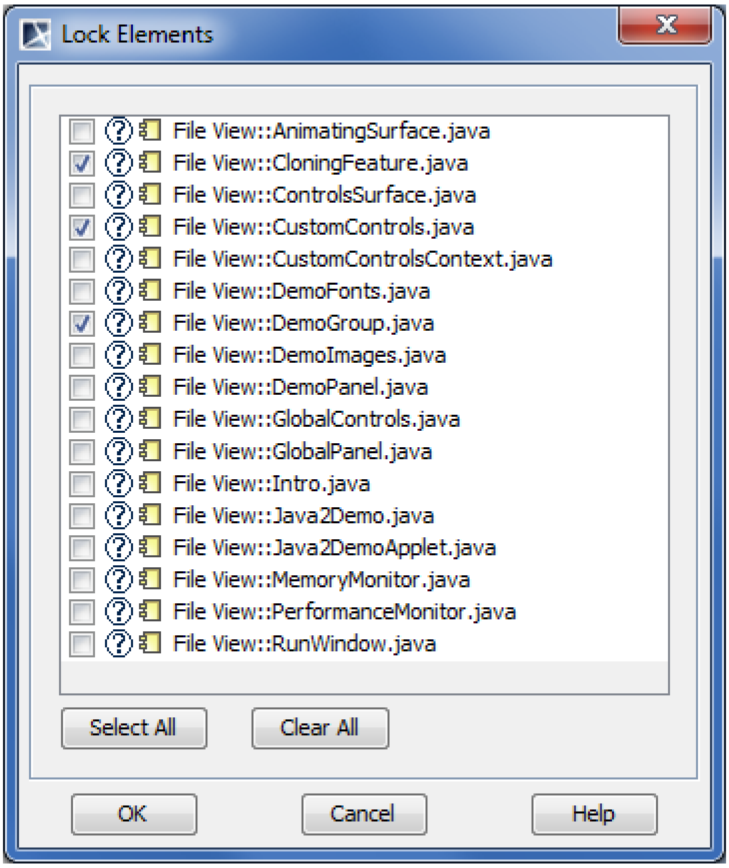
4. The **Lock Elements** dialog opens. Select elements you want to lock and click **OK**.



- ☐ File View::AnimatingSurface.java
- ☑ File View::CloningFeature.java
- ☐ File View::ControlsSurface.java
- ☑ File View::CustomControls.java
- ☐ File View::CustomControlsContext.java
- ☐ File View::DemoFonts.java
- ☑ File View::DemoGroup.java
- ☐ File View::DemoImages.java
- ☐ File View::DemoPanel.java
- ☐ File View::GlobalControls.java
- ☐ File View::GlobalPanel.java
- ☐ File View::Intro.java
- ☐ File View::Java2Demo.java
- ☐ File View::Java2DemoApplet.java
- ☐ File View::MemoryMonitor.java
- ☐ File View::PerformanceMonitor.java
- ☐ File View::RunWindow.java

IMPORTANT! Make sure you have selected all files you are reversing.

5. Depending on options you have selected in the **Reverse Options** dialog, you may need to perform some more steps. Please follow instructions provided on your screen.

Unlocking Model Elements and Diagrams

Once the editing process is completed, you need to unlock the model elements so other users could edit them.

Unlocking commands

Availability of unlocking commands depends on the locked item selected for unlocking. Commands are described in the following table:

Command in shortcut menu	What is unlocked	Real-life examples
NEW! Unlock Element in Diagram **NOTE:** The command is available only on symbol’s shortcut menu.	• The diagram pane whereon the selected symbol is. • The element represented by the selected symbol. • The diagram in the Model Browser. • The selected element in the Model Browser.	You can use this command after you have finished modifying the symbol on the diagram.
Unlock Element	The selected element in the Model Browser.	You can use this command after you have finished modifying the element.

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Command in shortcut menu	What is unlocked	Real-life examples
Unlock Elements Recursively	The selected element and its owning elements in the Model Browser.	You can use this command after you have finished modifying all elements owned by the selected elements.
NEW! Unlock Diagram Content **NOTE:** The command is available only on symbol's or diagram's shortcut menu.	• Symbols on a diagram pane of a selected diagram. • The diagram pane of the selected diagram. • Elements of the selected diagram in the Model Browser. • The selected diagram in the Model Browser.	You can use this command after you have finished modifying the diagram and its symbols.
Unlock Diagram **NOTE:** The command is available only on symbol's or diagram's shortcut menu.	• Symbols on the diagram pane of the selected diagram. • The diagram pane of the selected diagram. • The selected diagram in the Model Browser.	You can use this command after you have finished modifying diagram representation, but still need to continue working with elements used on the diagram.

Unlocking procedures

To unlock elements or / and diagrams

1. Do one of the following:
   - Select a locked element in the Model Browser.
   - Select a locked diagram in the Model Browser.
   - Select a locked symbol on a diagram pane.
   - Right-click the diagram pane.
2. On the selected item's shortcut menu, point to **Lock** or **Lock Diagram**, and then click a desired unlocking command. For more information about locking commands, see "Unlocking commands" on page 32.

NOTE	The list of commands may vary depending on the item you have selected.

To unlock several elements

1. Do one of the following:
   - Select several locked elements in the Model Browser.
   - Select several locked symbols on the diagram pane.
2. On the selected elements shortcut menu, click **Unlock**. This forbids editing element specification properties in the Specification window.

To unlock all element

1. From the **Collaborate** menu, select **Unlock All**. The **Commit Settings** dialog opens.
2. In the **Locked Elements** tab, you may select elements to unlock. By default, all locked elements in the project are selected.
3. Click **Commit** when you are done.

To unlock an element in the Specification window

1. Open the Specification window of the selected locked element or locked symbol.
2. Click the Unlock element button (see the highlighted button in the following figure). This forbids editing element specification properties in the Specification window.

NOTE	If the element was modified, you will be requested to commit changes to the server.

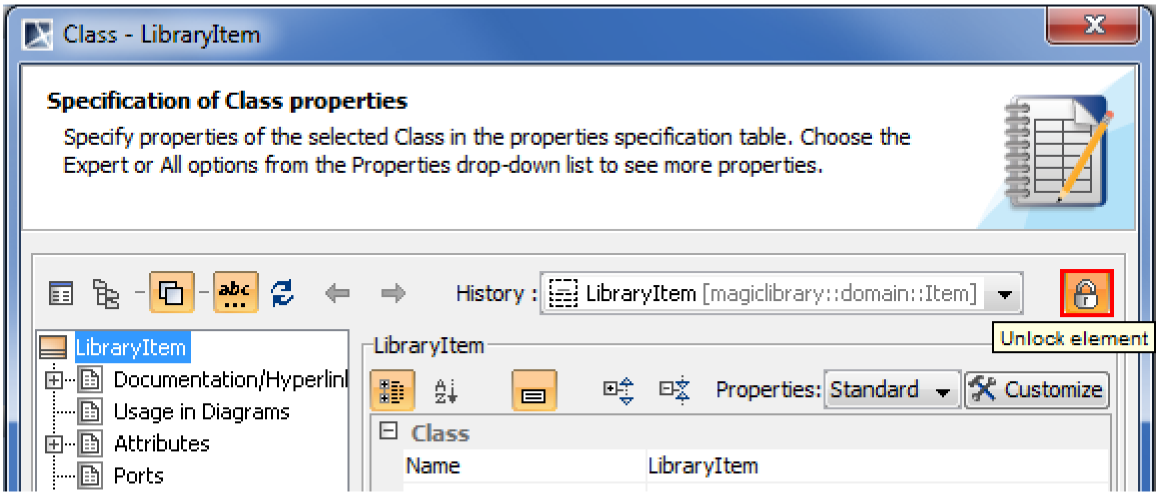
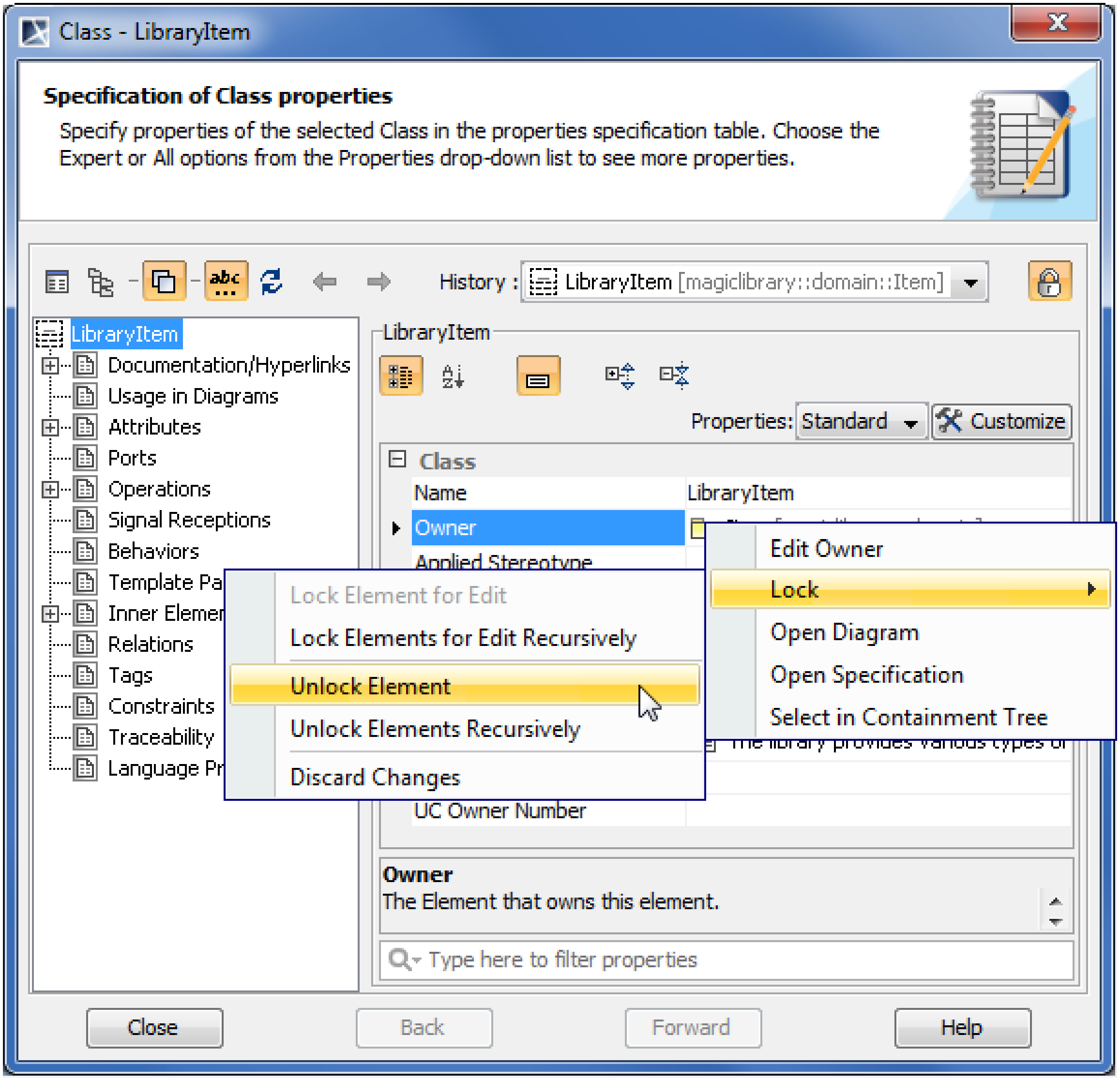

Class - LibraryItem
Specification of Class properties
Specify properties of the selected Class in the properties specification table. Choose the Expert or All options from the Properties drop-down list to see more properties.
History : LibraryItem [magiclibrary::domain::Item]
Unlock element
LibraryItem
Documentation/Hyperlinl
Usage in Diagrams
Attributes
Ports
LibraryItem
Properties: Standard
Customize
Class
Name
LibraryItem

Figure 13 -- Unlock element button (fragment of Specification window)

To unlock an element assigned as a property value

1. Open the Specification window of the selected element or symbol.
2. In the element property list, select the element assigned as a the property value.
3. On the selected value shortcut menu, point to **Lock**, and then click one of available commands:
   - **Unlock Element**.
   - **Unlock Elements Recursively**. This command is available if the selected value is an owner for some elements.

For more information about unlocking commands, see "Unlocking commands" on page 32.



Class - LibraryItem

Specification of Class properties

Specify properties of the selected Class in the properties specification table. Choose the Expert or All options from the Properties drop-down list to see more properties.

History : LibraryItem [magiclibrary::domain::Item]

Properties: Standard

Owner
The Element that owns this element.

Figure 14 -- Unlocking property value in Specification window

To unlock on project committing

1. From the **Collaborate** menu, select **Commit Project** or press CTRL+K. The **Commit Settings** dialog opens.
2. Click the **Locked Elements** tab.
3. In the elements list, select elements you want to unlock. Click **Select All**, if you need to unlock all locked elements in your project.

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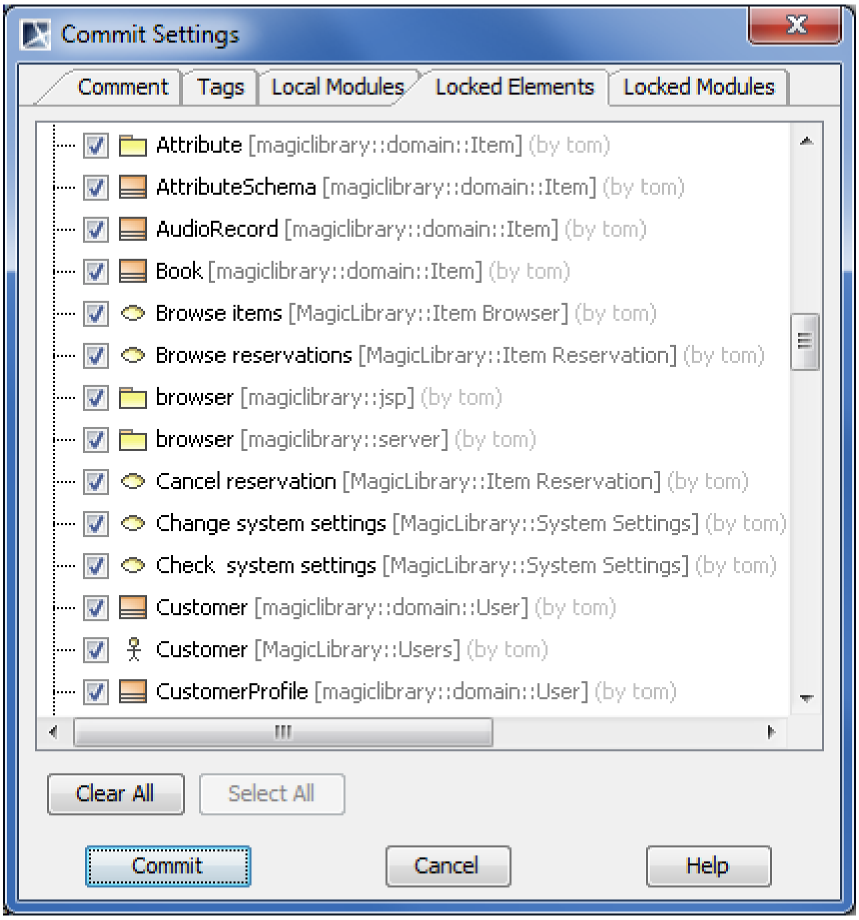
4. Click **Commit** when you are done.



☑ Attribute [magiclibrary::domain::Item] (by tom)
☑ AttributeSchema [magiclibrary::domain::Item] (by tom)
☑ AudioRecord [magiclibrary::domain::Item] (by tom)
☑ Book [magiclibrary::domain::Item] (by tom)
☑ Browse items [MagicLibrary::Item Browser] (by tom)
☑ Browse reservations [MagicLibrary::Item Reservation] (by tom)
☑ browser [magiclibrary::jsp] (by tom)
☑ browser [magiclibrary::server] (by tom)
☑ Cancel reservation [MagicLibrary::Item Reservation] (by tom)
☑ Change system settings [MagicLibrary::System Settings] (by tom)
☑ Check system settings [MagicLibrary::System Settings] (by tom)
☑ Customer [magiclibrary::domain::User] (by tom)
☑ Customer [MagicLibrary::Users] (by tom)
☑ CustomerProfile [magiclibrary::domain::User] (by tom)

Figure 15 -- Commit settings dialog. List of locked elements

NOTE:	Model elements that are not modified are unlocked without committing them to the server.

Unlocking with administrator permissions

The administrator (that is a user named “Administrator”) can forcibly unlock elements locked by other users. The unlocking procedures for administrator are the same as described in section "Unlocking procedures" on page 33.

Forcibly unlocking is helpful when elements are left locked by the user who is currently unavailable.

IMPORTANT!	To avoid data loss, it is recommended to use forcibly unlocking only in very special cases. Keep in mind, the changes made by the user that locked elements may not be committed to the server.

The user has a possibility to commit changes made to elements that were forcibly unlocked by an administrator. To commit changes, the following conditions should be satisfied:

- The user should have the latest version before locked elements have been lost.
- A new revision of the project has not been committed to the server.

The preceding scenario is very rare, and users should not rely on it. After all, if administrator forcibly unlocked elements, it means there was a need to edit these elements for some purpose.

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Changes to elements that were locked and not forcibly unlocked by an administrator, can be committed to teamwork normally.

To delete an element from the Teamwork project

1. Lock the element or elements you want to delete (see "Locking Model Elements and Diagrams for Editing" on page 26).
2. Delete the element.
3. Commit the project to the Teamwork Server.

IMPORTANT!	If the element contains inner elements which can be locked separately, these inner elements should not be locked by the other users to complete element removal. For this reason, we suggest to use command **Lock Element for Edit Recursively** to lock all inner elements so nobody could prevent you from removing selected elements.

Committing to Teamwork Server

When committing a project, new data (data from the MagicDraw application) is merged with the existing one (the current project data on the server). If the current merged element does not yet reside on the server, it should be added to the project without merging.

IMPORTANT!	Only modifier model elements are committed to the server before the new project version is created.

Any new elements added to the parent scope are given a unique name when placed among elements of the same type.

Each new project version is created and saved to the server.

To commit a new project or changes in a project

1. From the **Collaborate** menu, select **Commit Project**, or press CTRL+K.
2. In the **Commit Settings** dialog, type the comment in the **Commit Comment** tab (optional).
3. Enter the tag in the **Tag** tab (optional).
4. If locked elements are present, select the elements you want to unlock from the **Locked Elements** list box. To select all the locked elements, **Select All**.
5. Click **OK**.

NOTE	After committing a project, a new project version that contains changes will be saved in the Teamwork Server. If you want to save the project locally to your computer, on the **File** menu, click **Save Project** and choose one of the two first options in the **Save Options** dialog: • **Save the project locally.** This option allows you to commit changes made to a locally-saved project to Teamwork Server later. • **Save the local copy of the project and remove locking and version information.** The project will be saved on a disk and will not include any locking or version information. A local copy of the project cannot be committed to the Teamwork Server.

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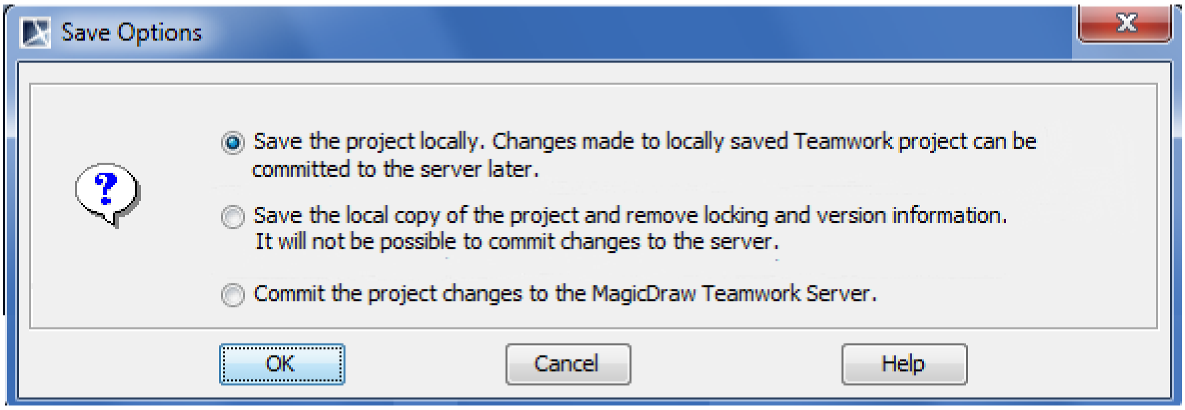
Saving a Teamwork Project

You can select any of the following options save when saving a Teamwork project for the first time:

- **Save the project locally.** This option allows you to commit changes made to a locally-saved project to Teamwork Server later.
- **Save a local copy of the project and remove locking and version information.** The project will be saved on a disk and will not include any locking or version information. A local copy of the project cannot be committed to the Teamwork Server.
- **Commit the project changes to the MagicDraw Teamwork Server.** Once selected, this option will automatically be chosen whenever MagicDraw saves the Teamwork project.

To choose the save option

1. From the **File** menu, choose **Save Project As**. The **Save Options** dialog will open.
2. Select one of the three save options.
3. Click **OK**.



Save Options

● Save the project locally. Changes made to locally saved Teamwork project can be committed to the server later.

○ Save the local copy of the project and remove locking and version information. It will not be possible to commit changes to the server.

○ Commit the project changes to the MagicDraw Teamwork Server.

Figure 16 -- The Save Options dialog

If the first or third save option is selected in the **Save Options** dialog, it will be used every time Teamwork Server saves the project (the second option won’t be saved for the next time). You may notice that the name of the appropriate command on the **File** menu is dynamic. Depending on the project's last save option, the command name can either be **Save Locally with Server Information** or **Commit to Server**. The ToolTip of the appropriate button on the **File** toolbar will change as well.

To save a Teamwork project

Do one of the following:

- On the **File** menu, choose 💾 .

NOTE	The command name depends on the save option selected in the **Save Options** dialog. It can be one of the following: • **Save Locally With Server Information**. • **Commit to Server**.

- On the **File** toolbar, click 💾 .

NOTE	The ToolTip text of this button depends on the save option selected in the **Save Options** dialog. It can be one of the following: • **Save Locally With Server Information**. • **Commit to Server**.

- Press CTRL+S.

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Updating

When *updating* a project, the latest project version from the server is loaded. A new version of a project is created every time a user commits new data to the server.

NOTE	Model elements that are locked for will not be updated.

When *updating lock information*, the list of elements that are locked by other users is refreshed.

You should update a project when you know that a new project version is available on the server.

To update the whole project

- From the **Collaborate** menu, select **Update Project**, or press CTRL+U.

To update elements that are locked by other users

- From the **Collaborate**menu, select **Update Lock Information**, or press CTRL+SHIFT+U.

Versioning

Every time a project is committed, a new project version is created. You can undo committed changes by setting a previous project version as latest.

To view project versions

1. From the **Collaborate** menu, select **Projects** or **Open Server Project** commands.
2. Click the **Versions** button. The **Project Versions** dialog opens.

The **Versions** dialog lists all versions of the selected project. You can set the selected project version as latest, edit comments, and review other project versions.

Visibility of version tags

Project version tags are visible in the following places:

- Version browser
- Branches browser

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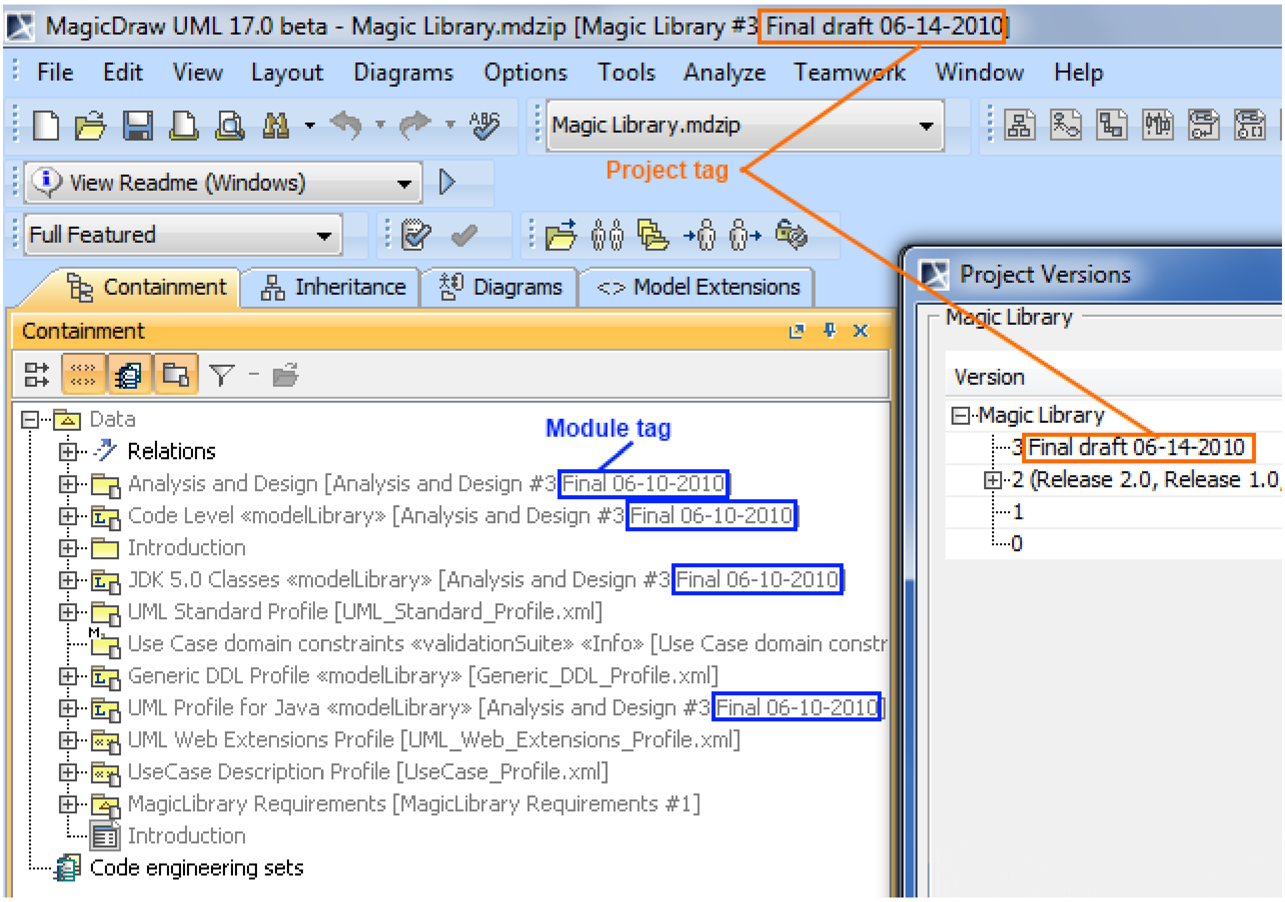
- Module/project name representation in the containment tree/application title.


MagicDraw UML 17.0 beta - Magic Library.mdzip [Magic Library #3 Final draft 06-14-2010]
File
Edit
View
Layout
Diagrams
Options
Tools
Analyze
Teamwork
Window
Help
Magic Library.mdzip
View Readme (Windows)
Full Featured
Containment
Inheritance
Diagrams
Model Extensions
Containment
Data
Relations
Analysis and Design [Analysis and Design #3 Final 06-10-2010]
Code Level «modelLibrary» [Analysis and Design #3 Final 06-10-2010]
Introduction
JDK 5.0 Classes «modelLibrary» [Analysis and Design #3 Final 06-10-2010]
UML Standard Profile [UML_Standard_Profile.xml]
Use Case domain constraints «validationSuite» «Info» [Use Case domain constr
Generic DDL Profile «modelLibrary» [Generic_DDL_Profile.xml]
UML Profile for Java «modelLibrary» [Analysis and Design #3 Final 06-10-2010]
UML Web Extensions Profile [UML_Web_Extensions_Profile.xml]
UseCase Description Profile [UseCase_Profile.xml]
MagicLibrary Requirements [MagicLibrary Requirements #1]
Introduction
Code engineering sets
Project Versions
Magic Library
Version
Magic Library
3 Final draft 06-14-2010
2 (Release 2.0, Release 1.0,
1
0

Project tag

Module tag

Figure 17 -- Places where projects tags are displayed

Sending Messages

While working with a Teamwork project, you can send a message to any users who are currently logging on to the server.

NOTES	You can send a message only to users who are on the same Teamwork Server. To refresh the list of available users, reopen the **Send Message** dialog.

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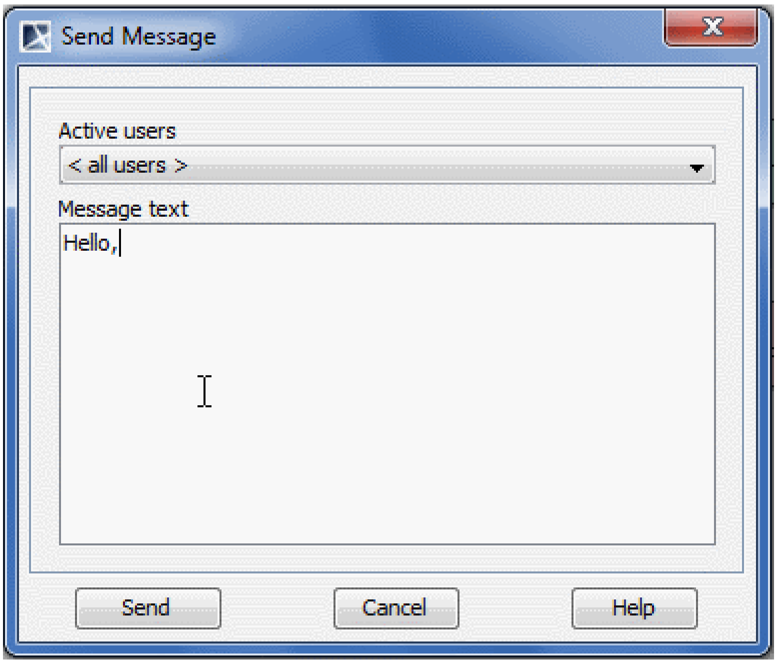
To send a message to one or multiple Teamwork user

1. From the **Collaborate** menu, select **Send a Message** or press CTRL+SHIFT+M. The **Send Message** dialog opens.



Hello,

Figure 18 -- Send Message dialog

2. From the **Active Users** drop-down list, select a user to whom you want to send a message. To send a message to all active users, select <all users> command.
3. Type the message in the **Message Text** box**.**
4. Click **Send**.

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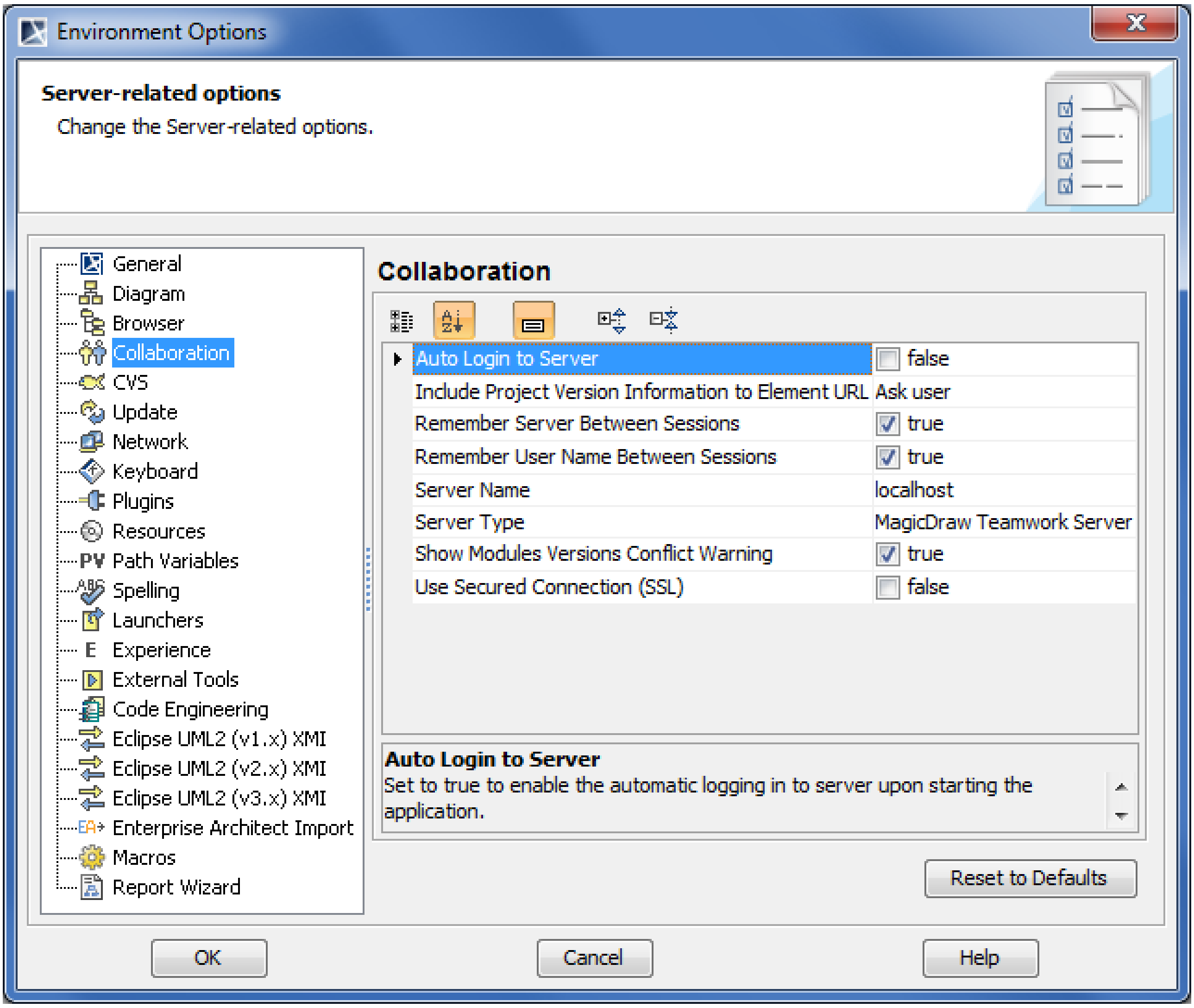
Customizing Teamwork Server Properties

In the **Collaboration** pane of the **Environment Options** dialog, set the general Teamwork Server properties.



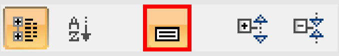
Auto Login to Server	□ false
Include Project Version Information to Element URL	Ask user
Remember Server Between Sessions	☑ true
Remember User Name Between Sessions	☑ true
Server Name	localhost
Server Type	MagicDraw Teamwork Server
Show Modules Versions Conflict Warning	☑ true
Use Secured Connection (SSL)	□ false

Auto Login to Server
Set to true to enable the automatic logging in to server upon starting the application.

Figure 19 -- Environment Option dialog. Collaboration tab

NEW! For better understanding an option you can read its description that tells what is the effect of changing the option value.

To read the option description

IMPORTANT!	Make sure that the Show Description mode is turned on in the **Environment Options** dialog. To turn the Show Description mode on or off, click the Show Description button on the tab toolbar. 

1. Click an option, whose value you want to change.
2. Read the option description in the area below the tab options list. You are ready now to change the option value.

For more information about the **Environment Options** dialog, see “Customizing Environment Options” in the MagicDraw UserManual.pdf.

Managing Teamwork Server

Users Management

You can create two types of users in Teamwork Server: normal users that may have different permissions and users with administrator rights. Users with administrator rights can do the following actions in Teamwork Server:

- Manage users.
- Create projects and assign users to them.
- Manage project versions and branches.
- Set user permissions for the system and projects (the read and edit modes are set by default).
- Remove users and projects from Teamwork.

The Teamwork Server users have their own user accounts (including login names and passwords given by the administrator) and various types of permissions. According to the storage place of the user accounts, users can be either:

- **Native** - the user's account data is stored locally.
- **External** - the user's account data is stored in the external database (Subversion/ClearCase and/or LDAP). Only the login name of an external user is stored locally.

You can create, edit, or remove both types of Teamwork users regardless of whether the integration with any external database (Subversion, ClearCase, LDAP) is enabled or disabled. The names of native and external users are unique per single server.

You can convert an external user to a native one and vice versa. Users with administrator rights can change a specific user's type by editing the user's account information, or convert a whole list of active Teamwork users by using the Teamwork Administrator's console.

You will be connected to Teamwork Server once the authorization process, which will prompt for your user ID (login name and password), has been completed. Upon verification, you can work with the system.

NOTE	If there are two MagicDraw clients with the same login name, only one client is allowed to log into Teamwork Server at a time.

To add a new native user

View Online Demo	Create a New User in Teamwork

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. Click the **Add** button. The **Add User** dialog opens (see "Add/Edit User Dialog" on page 70).
3. Enter the user's login name, full name for better identification, and password.
4. Click **OK**.
5. Select the types of system permissions for the user in the **Permissions** list (see "User permissions" on page 46).

To add a new external user

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. Click the **Add** button. The **Add User** dialog opens (see "Add/Edit User Dialog" on page 70).
3. Enter the user's login name and full name for better identification.

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4. Select the **External User** check box.
5. Click **OK**.
6. Select the types of system permissions for the user in the **Permissions** list (see "User permissions" on page 46).

NOTE As you cannot set a password for an external user in MagicDraw's Teamwork Server, use an appropriate tool for managing the external database (Subversion, ClearCase, or LDAP) wherein the user's account is stored.

To convert a native user to an external one by editing the user's account information

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. Click the **Edit** button. The **Edit User** dialog opens (see "Add/Edit User Dialog" on page 70).
3. Enter the user’s full name.
4. Select the **External User** check box.
5. Click **OK**.

NOTE

- The password of a native user, who has been converted to an external user, will be retained. However, it will not be used in the user authentication.
- The user's native password will be enabled again only if the user is converted back to a native user.

To convert all native users to external

NOTE All converted users will be able to log into Teamwork Server only if they are available in the external user sources (LDAP, Subversion, or ClearCase server to which your server is integrated).

1. Start **Teamwork Administrator’s Console** (see "Starting Teamwork Administrator’s Console" on page 48).
2. In the **Active Users** tab, click the **Convert Native Users to External** button (see "Active Users tab" on page 48).
3. Click **Yes** to confirm your decision.

You will be informed once the conversion has been completed. A Teamwork Server's user conversion can be:

- **Successful** - when all the users are converted from native to external. In this case the informational message is displayed, and you can check the list of all converted users in the server log.
- **Unsuccessful** - when the conversion failed. In this case an error message is displayed, and you can see the server log for more details.
- **Non-applicable** - when there are no users to convert from native to external. In this case an informational message is displayed.

For the information about the server log file, see “Log File tab” on page 53.

To convert an external user to native by editing the user's account information

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. Click the **Edit** button. The **Edit User** dialog opens (see "Add/Edit User Dialog" on page 70).
3. Enter the user’s full name.
4. Clear the **External User** check box.

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5. Type and retype the password.

   NOTE If the converted user used to be a native user, the password will be the same one used when he or she was a native.

6. Click **OK**.

To convert all external users to native

NOTE
- All converted users will not be able to log into Teamwork Server as they do not have passwords; therefore, the administrator has to set up a password for each user after the conversion.
- If the converted user used to be a native user, the password will be reset to the same one used when he or she was a native.

1. Start **Teamwork Administrator's Console** (see "Starting Teamwork Administrator's Console" on page 48).
2. On the **Active Users** tab, click the **Convert External Users to Native** button (see "Active Users tab" on page 48).
3. Click **Yes** to confirm your decision.

You will be informed once the conversion has been completed. A Teamwork Server's user conversion can be:

- **Successful** - when all the users are converted from external to native. In this case an informational message is displayed, and you can check the list of all converted users in the server log.
- **Unsuccessful** - when the conversion failed. In this case an error message is displayed, and you can see the server log for more details.
- **Non-applicable** - when there are no users to convert from external to native. In this case an informational message is displayed.

For the information about the server log file, see "Log File tab" on page 53.

To remove a user from Teamwork

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. In the **Users** area, select the user and click **Remove**.

To assign a project to a user

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. Click **More**, if you do not see the Teamwork projects list. The list of available Teamwork projects is dispayed in the **Available Projects** area.
3. Select a project you want to assign to the selected user.
4. Click the **<<** button to move the selected project to the **Assigned Projects** list.
5. Click **OK** when you are done.

NOTES
- Once a user has been added to a project, the default user rights will be created allowing the user to access the project only according to the rights given.
- The system permissions have a higher priority over the project permissions. For example, a user whose system permissions allow model editing can edit all projects, even if the user does not have rights to edit the projects.

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User permissions

You can give several types of permissions to the Teamwork users to coordinate the work of the whole team. You can specify the types of user permissions in the **Edit Users** dialog (see "Edit Users Dialog" on page 68).

There are two categories of permissions:

- System access – user’s administrative permissions to access and manage users and projects.
- Project access – user’s permissions to work on specific projects.

Permissions	Users can
Edit model	Modify a Teamwork project.
Read model	Open the content of any Teamwork project. **NOTE:** If the **List not assigned projects** permission is not selected, you will be able to open the project using its URL.
Read with modules (Legacy)	Enables to access modules data from the project that is using it.
Assign user to project	Assign any user to any Teamwork project.
Edit project properties	Edit Teamwork project names and tags.
List not assigned projects	See all (assigned and not assigned) teamwork projects. If not selected, only projects that are assigned to the user will be listed.
Create project / category	Create a new Teamwork project or a category.
Rename category	Edit a category name.
Create user	Create a new user.
Remove project / category	Remove a project or a category from Teamwork Server.
Edit user properties	Edit user names and passwords.
Remove user	Delete user accounts from Teamwork Server. This permission will unlock all model elements locked by the user in all projects.
Access user list	Allows user to see other Teamwork Server users.

To view the users’ permissions

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. A list of users and their permissions is presented in the **Permissions** area.

To edit user permissions

1. From the **Collaborate** menu, select **Users**. The **Edit Users** dialog opens (see "Edit Users Dialog" on page 68).
2. In the **Users** area, select a user that permissions you want to edit.
3. Select the check box to give or clear it to remove the selected permission in the **Permissions** area.

To assign a user to a project

1. From the **Collaborate** menu, select **Projects**. The **Edit Projects** dialog opens (see "Edit Projects Dialog" on page 65).

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2. Click **More**, if you do not see the unassigned users list. The list of available users is displayed in the **Available Users** area.
3. Select the user you want to assign to the selected project.
4. Click the **<<** button to move the selected user to the **Assigned Users** list.
5. Click **OK** when you are done.

NOTE	When a user is added to a project, default user rights are created, allowing the user to access the project according to the rights given.

Starting the Administrator's Console

The MagicDraw UML Teamwork Server Administrator's Console is used for Teamwork Server status observation and Administrative control. The server holds information about active users connecting to the server and loaded projects. The Administrator can shutdown or restart the server, change its properties, and view log files (including debug information) for the server and separate projects.

Requirements

	Minimum	**Recommended**
Disk space	8MB[1]	30MB* or more
RAM	64MB	128MB or more

[1] Without JVM. Additional 22 MB are needed for JVM.

Installing Administrator's Console

NOTE	The Administrator's Console is automatically installed when the MagicDraw client or Teamwork Server is installed. So, if one of these is installed, there is no need to install the console separately.

Windows platform

1. Run the downloaded file MD_UML_<version number>_teamwork_admin_win.exe.
2. Follow the instructions in the installation program.

Unix platform

1. Ensure that X Windows server is running.
2. After downloading, open a shell and go to the directory where you downloaded the installer. At the prompt type: sh ./MD_UML_<version number>_teamwork_admin_unix.sh.
3. Follow the instructions in the installation program.

MAC OS X platform

After downloading, double-click MD_UML_<version number>_teamwork_admin_mac.dmg and install the application by dropping the launcher into the Applications folder (or another preferred location).

Requires Mac OS X Leopard or Mac OS X Snow Leopard and Java 1.5.0_19 for 32-bit Mac OS X, and Java 1.6.0_10 for 62-bit Mac OS X.

Other platforms

1. Extract the downloaded file MD_UML_<version number>_teamwork_admin_no_install.zip.
2. Launch teamwork_administrator.exe or ./teamwork_administrator from the bin folder.

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Starting Teamwork Administrator’s Console

To start Teamwork Administrator’s Console

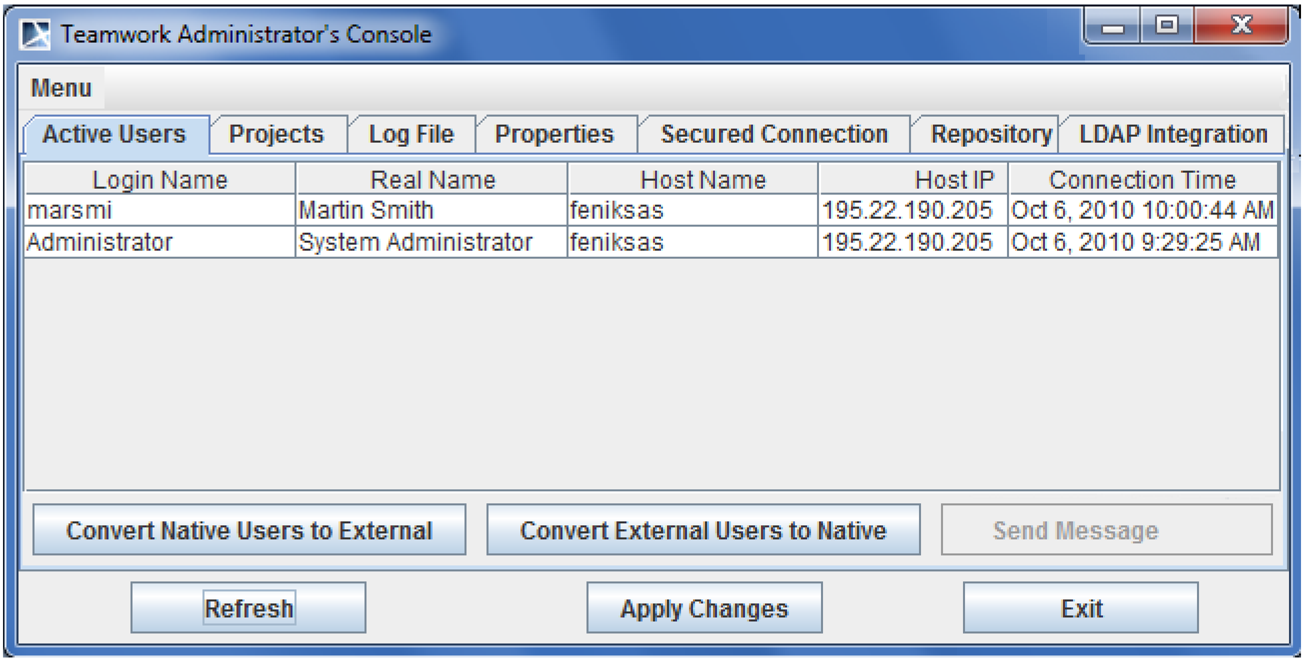
1. Double-click *teamwork_administrator.exe* in <MagicDraw Teamwork Server installation directory>\bin. The **Login** to Teamwork Administrator’s Console dialog opens.
2. Type administrator’s login name and password, server name, and click **OK**. Teamwork Administrator’s Console starts.

Administrator’s Console Dialog

The **Administrator’s Console** dialog is constructed of six tabs: **Active Users**, **Projects**, **Log File**, **Properties**, **Repository**, and **LDAP Integration**. All these tabs are described in the following sections.

Active Users tab

In the **Active Users** tab, the administrator is able to observer all the users who are currently connected to the Teamwork Server.



Login Name	Real Name	Host Name	Host IP	Connection Time
marsmi	Martin Smith	feniksas	195.22.190.205	Oct 6, 2010 10:00:44 AM
Administrator	System Administrator	feniksas	195.22.190.205	Oct 6, 2010 9:29:25 AM

Figure 20 -- Teamwork Administrator's Console. Active Users tab

The GUI elements of the **Active Users** tab are described in the following table.

Element name	Description
Columns of the Active Users list	
Login Name	The Teamwork user's login name.
Real Name	The user's full name.
Host Name	The host name.
Host IP	The host IP address.
Connection Time	The date and time the user connects to Teamwork Server.
Buttons of the Active Users list	

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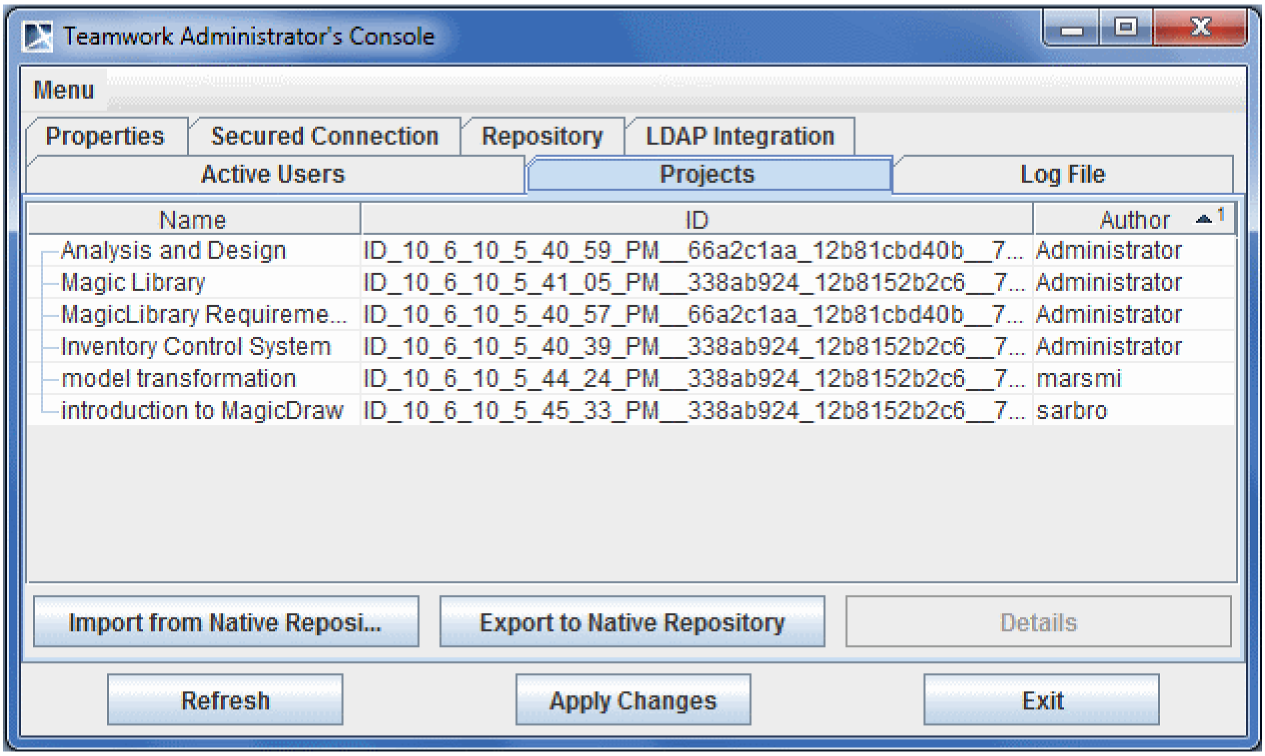
Element name	Description
Convert Native Users to External	Starts the conversion of all connected native users to external users. For more information about this conversion, see section “To convert all native users to external” on page 44.
Convert External Users to Native	Starts the conversion of all connected external users to native users. For more information about this conversion, see section “To convert all external users to native” on page 45.
Send Message	Opens the **Send Message to Remote User** dialog for sending message to a specific user. The button is available, when a user is selected.

Projects tab

The **Projects** tab displays, names, authors, and the status of all projects that are stored on the Teamwork Server.



Name	ID	Author
Analysis and Design	ID_10_6_10_5_40_59_PM__66a2c1aa_12b81cbd40b__7...	Administrator
Magic Library	ID_10_6_10_5_41_05_PM__338ab924_12b8152b2c6__7...	Administrator
MagicLibrary Requireme...	ID_10_6_10_5_40_57_PM__66a2c1aa_12b81cbd40b__7...	Administrator
Inventory Control System	ID_10_6_10_5_40_39_PM__338ab924_12b8152b2c6__7...	Administrator
model transformation	ID_10_6_10_5_44_24_PM__338ab924_12b8152b2c6__7...	marsmi
introduction to MagicDraw	ID_10_6_10_5_45_33_PM__338ab924_12b8152b2c6__7...	sarbro

Figure 21 -- Teamwork Administrator's Console. Projects tab

Import and Export from and to repository can also be triggered from this **Projects** tab. Import and export are conceptually described in the Section “Starting the Administrator’s Console” on page 47. Here only the GUI workflow is presented.

To import projects into the current server

1. In the Teamwork Administrator’s Console **Projects** tab, click the **Import from Native Repository** button. The **Projects Import Wizard** opens.
2. Select the directory where the projects to import are located.
This must be a directory where project versions are stored in a Teamwork Server's Built-In repository format, for example a directory on which the Teamwork Server has previously been configured to operate, or a directory

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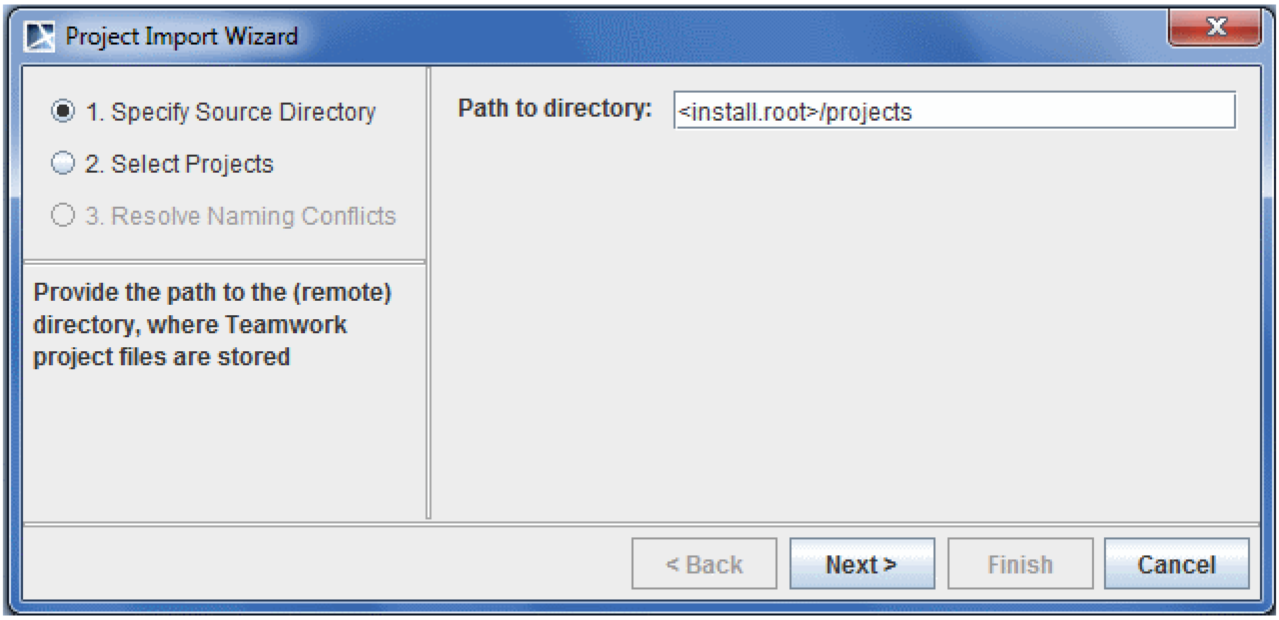
where you have exported the projects using export functionality (see the procedure "To export projects from the current server" on page 51). Click **Next**.

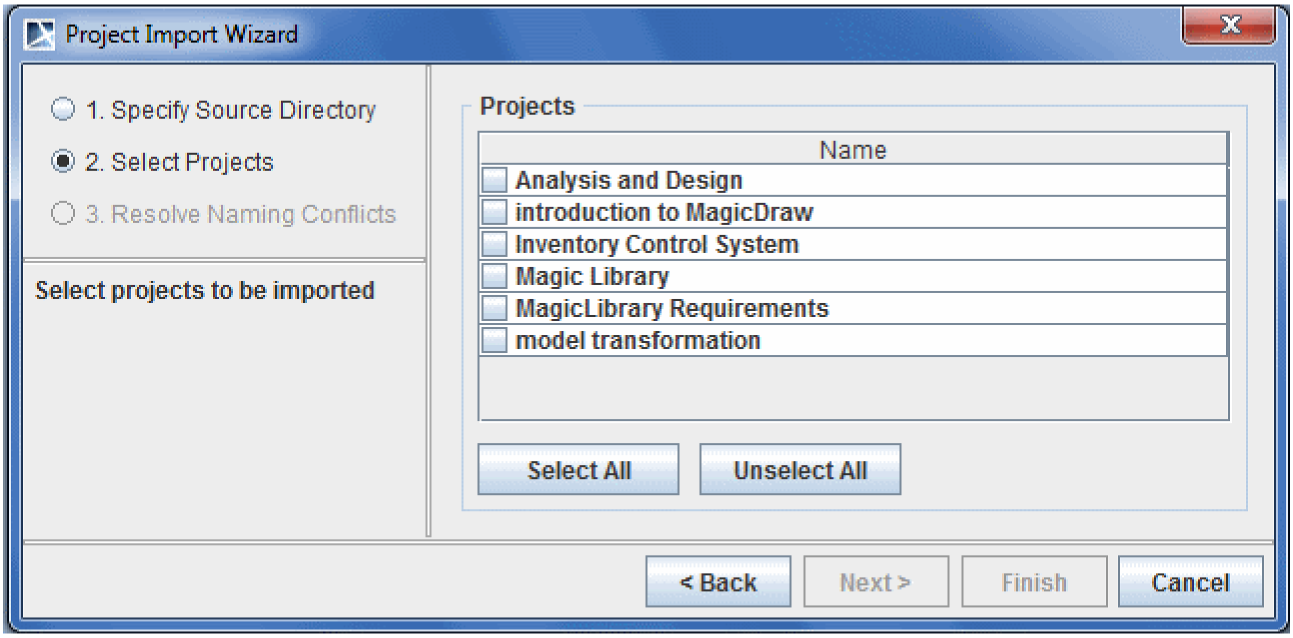
NOTE To restore files from the backup that was made while upgrading the server, in the **Path to directory** box, type the path to the backup folder.



Provide the path to the (remote) directory, where Teamwork project files are stored

Path to directory: <install.root>/projects

3. In the **Projects** list, all the projects that are stored in the directory are displayed. Select any projects to import from the list or click on the **Select All** button to import all projects. Click **Next**.



Select projects to be imported

	Name
□	Analysis and Design
□	introduction to MagicDraw
□	Inventory Control System
□	Magic Library
□	MagicLibrary Requirements
□	model transformation

4. .The **Resolve Naming Conflicts** tab appears. The import process will check if the selected projects/modules/profiles already exist in the selected destination directory server (comparison is done by name). There are two ways to resolve naming conflicts:
   - **Use destination**. The module will not be imported and all other projects/modules, which are being imported, will be modified to use the already existing module/profile in the current server

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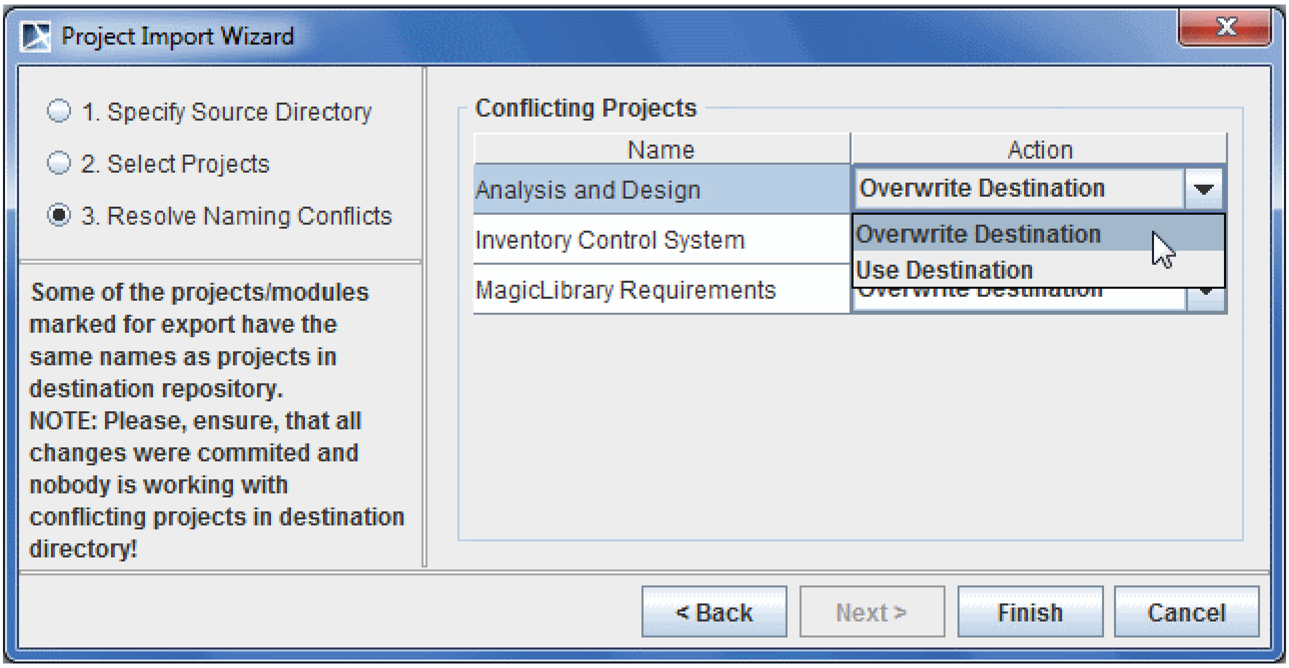
- **Overwrite destination**. Import the selected profiles or modules and commit them by overwriting the existing ones in the current server. Click **Finish**.



○ 1. Specify Source Directory
○ 2. Select Projects
● 3. Resolve Naming Conflicts

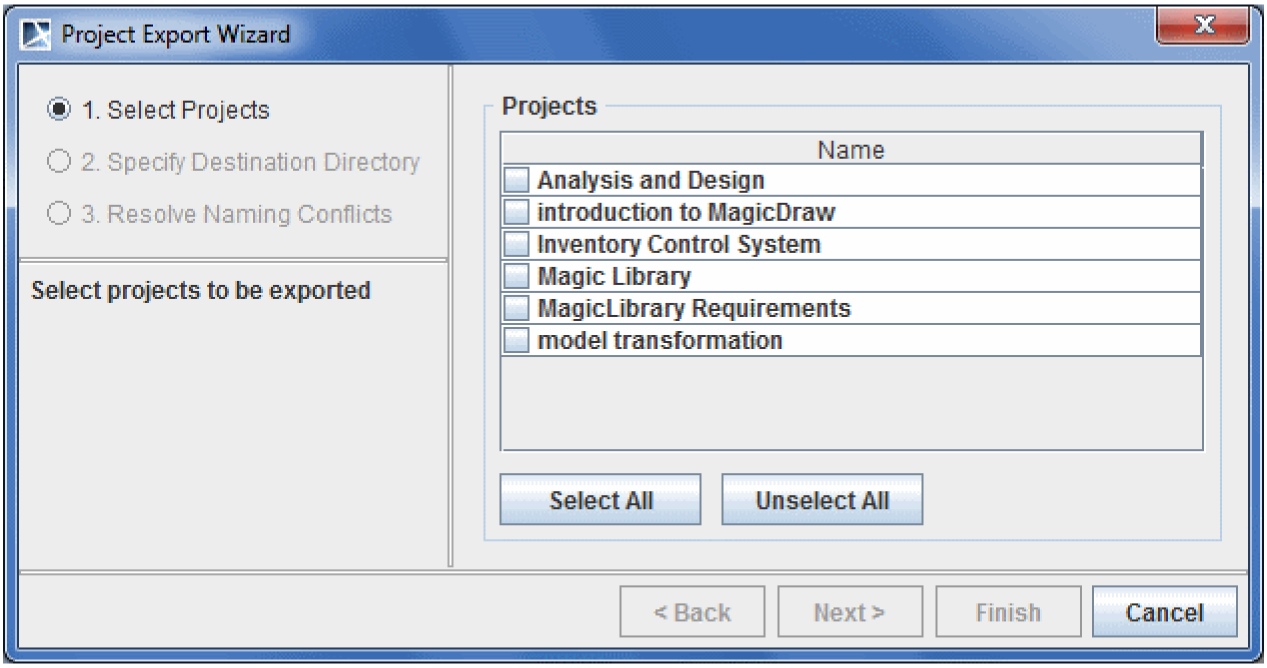
Some of the projects/modules marked for export have the same names as projects in destination repository.
NOTE: Please, ensure, that all changes were commited and nobody is working with conflicting projects in destination directory!

Conflicting Projects

Name	Action
Analysis and Design	Overwrite Destination
Inventory Control System	Overwrite Destination Use Destination
MagicLibrary Requirements	Overwrite Destination

To export projects from the current server

1. In the Teamwork Administrator’s Console **Projects** tab, press the **Export to Native Repository** button. The **Project Export Wizard** opens.
2. Select projects/modules/profiles to export from the list, or click on the **Select All** button to import all projects/modules/profiles. Click **Next**.



● 1. Select Projects
○ 2. Specify Destination Directory
○ 3. Resolve Naming Conflicts

Select projects to be exported

Projects

Name
□ Analysis and Design
□ introduction to MagicDraw
□ Inventory Control System
□ Magic Library
□ MagicLibrary Requirements
□ model transformation

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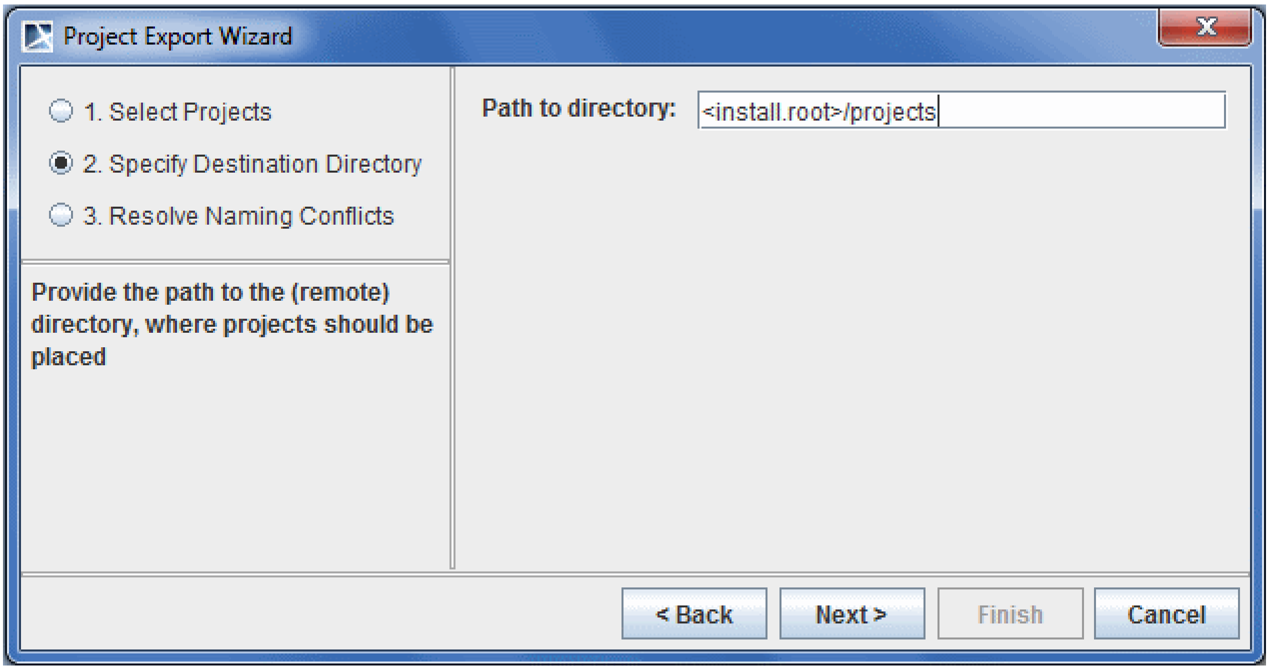
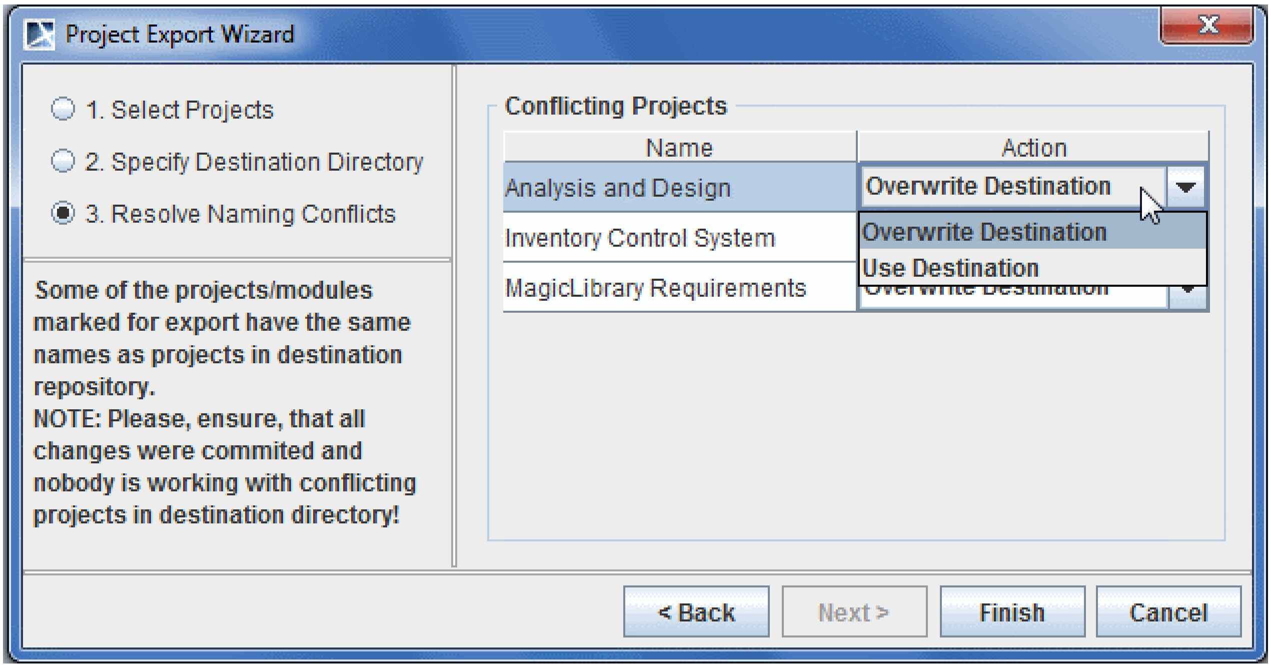
3. Select the directory to export the selected project. This can be either a new directory or a directory where the built-in-type repository is stored.



Provide the path to the (remote) directory, where projects should be placed

Path to directory: <install.root>/projects

4. The resolve naming conflicts in the destination directory opens.
If you select a new directory to export the project, there will be no naming conflicts. The projects/modules/profiles, to be export already exist in the selected destination directory (comparison is done by name), the naming conflicts will occur.
5. There are two actions to resolve the naming conflicts:
   - **Overwrite Destination**. Overwrite the projects/modules/profiles that already exist in the destination directory with the exported projects/modules/profiles.
   - **Use Destination**. Do not replace the projects/modules/profiles that already exist in the destination directory.



Some of the projects/modules marked for export have the same names as projects in destination repository.
NOTE: Please, ensure, that all changes were commited and nobody is working with conflicting projects in destination directory!

Conflicting Projects

Name	Action
Analysis and Design	Overwrite Destination
Inventory Control System	
MagicLibrary Requirements	Overwrite Destination

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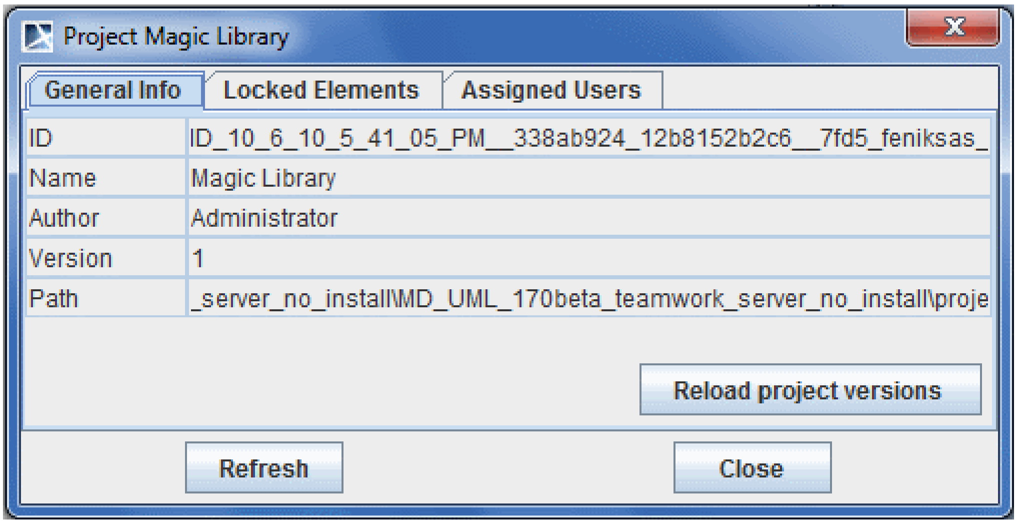
To view the details of a project

Select a project and from the **Teamwork Administrative's Console** dialog and click **Details**. The **Project** dialog opens.

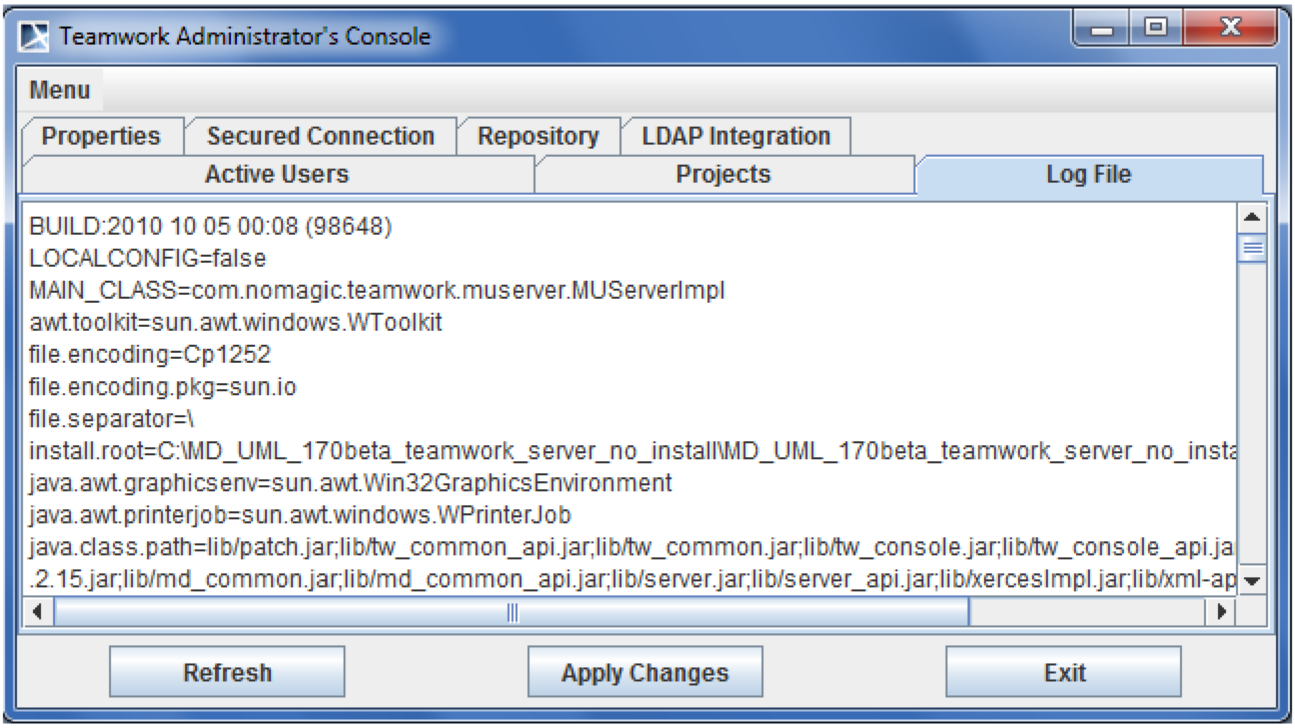


ID	ID_10_6_10_5_41_05_PM__338ab924_12b8152b2c6__7fd5_feniksas_
Name	Magic Library
Author	Administrator
Version	1
Path	_server_no_install\MD_UML_170beta_teamwork_server_no_install\proje

Figure 22 -- Project dialog

Log File tab

If errors occur on the Teamwork Server, use the **Log File** tab to view the error message.



```
BUILD:2010 10 05 00:08 (98648)
LOCALCONFIG=false
MAIN_CLASS=com.nomagic.teamwork.muserver.MUServerImpl
awt.toolkit=sun.awt.windows.WToolkit
file.encoding=Cp1252
file.encoding.pkg=sun.io
file.separator=\
install.root=C:\MD_UML_170beta_teamwork_server_no_install\MD_UML_170beta_teamwork_server_no_insta
java.awt.graphicsenv=sun.awt.Win32GraphicsEnvironment
java.awt.printerjob=sun.awt.windows.WPrinterJob
java.class.path=lib/patch.jar;lib/tw_common_api.jar;lib/tw_common.jar;lib/tw_console.jar;lib/tw_console_api.ja
.2.15.jar;lib/md_common.jar;lib/md_common_api.jar;lib/server.jar;lib/server_api.jar;lib/xercesImpl.jar;lib/xml-ap
```

Figure 23 -- Teamwork Administrator's Console. Log File tab

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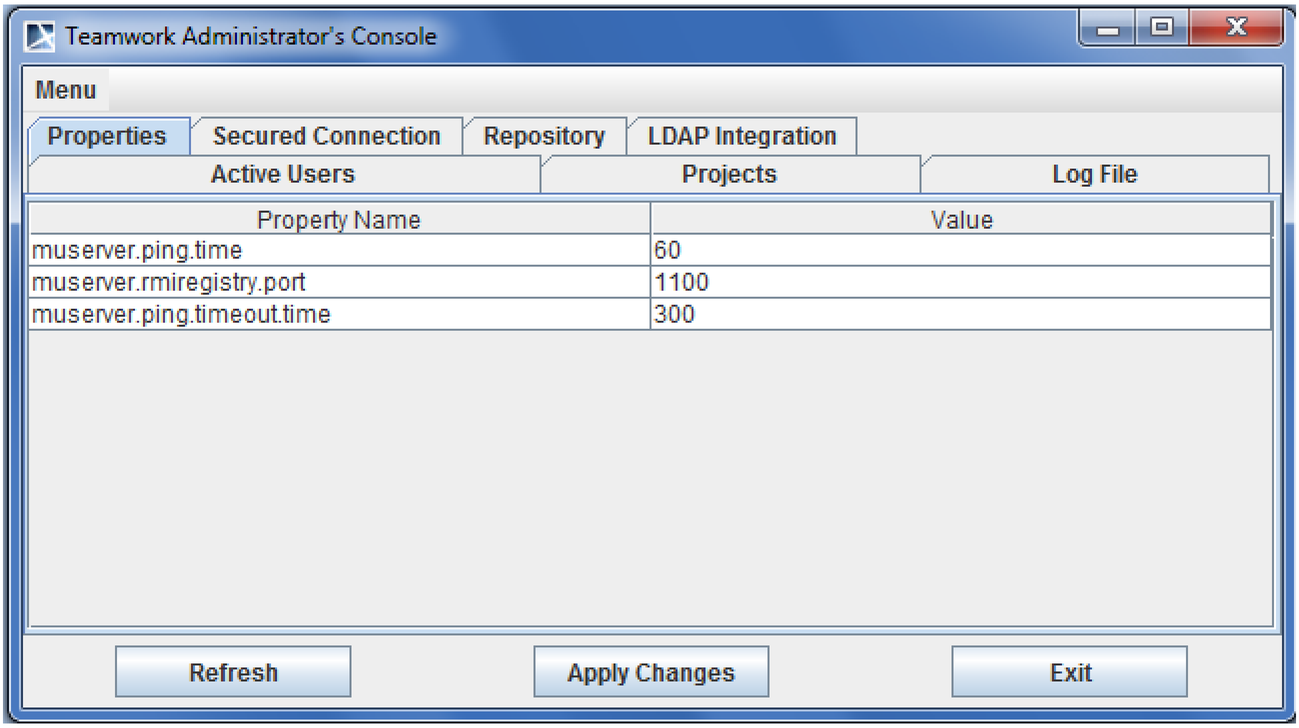
Properties tab



Property Name	Value
muserver.ping.time	60
muserver.rmiregistry.port	1100
muserver.ping.timeout.time	300

Figure 24 -- Teamwork Administrator's Console. Properties tab

The **Properties** tab displays the following Teamwork Server properties:

- **muserver.ping.time** records how often the Teamwork Server pings a client. After sending a ping signal, the server waits for the client to answer. If the client does not respond during the interval of time specified in the Muserver.ping.timeout.time property, the user is logged out from the Server.
- **muserver.ping.timeout.time**. Displays the number of seconds the Teamwork Server will wait for a client's response once the server sent its ping. If no answer is received during this interval, the user is logged out from the Server.
- **muserver.rmiregistry.port**. Specifies the port on which communication between MagicDraw clients and Teamwork Server occurs (RMI traffic over TCP/IP).

NOTE Restart the server to apply changes.

Secured Connection tab

Since version 17.0, you can transfer data in a more secure way using the secured connection (SSL).

NOTE If the SSL connection is established in the server side, you should also use the SSL connection in the client side when connecting to the server.

In order to use the SSL connection, two types of certificates are needed: one for the server and one for the client. Certificates should be in a Java Key Store format.

The server certificate is automatically placed in the <Teamwork Server installation directory>\cert folder after the SSL configuration is done.

The client certificate should be located manually. You should create a folder named “certs” and place into it these two files:

1. A client certificate named *cert.jks*.
2. A file named *cert.pass* wherein the certificate password is typed.

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In this case applications MagicDraw and Teamwork Administrator’s Console are Teamwork server clients. Both of it should have the client certificate. Hence the *certs* folder should be placed in two locations:

- <Teamwork Administrator’s Console installation directory> for the Teamwork Administrator’s Console application
- <user home[1]>\.magicdraw\<version number> for the MagicDraw application (It can be located in the folder <MagicDraw installation directory> either but the user home folder is the default one)

NOTE	If the Teamwork Administrator’s Console is not installed in the separate location, its installation directory is the same as Teamwork Server installation directory or the MagicDraw installation directory (if installed together).

You can get certificates from your system administrator or to generate it by yourself. For more information about generating certificates, see procedure "To generate certificates" on page 56.

To enable the secured connection (SSL)

IMPORTANT!	Only the user with administrator rights can configure Teamwork Server options. The user should be disconnected from Teamwork in MagicDraw while using the Teamwork Administrator’s Console.

1. Run the Teamwork Server Administrator’s Console.
2. In the **Secured Connection** tab, select the **Enable Secure Connection** check box.
3. Click **Browse** to add the server certificate.
4. Enter the JKS password.
5. Click the **Apply Changes** button.
6. Restart Teamwork Server.

NOTE	If you want to change the password for the certificate, you need to regenerate the certificate with a different password.

To remove a certificate, click the **Remove** button.

[1] To find out what is your home folder you may open **Help > About MagicDraw** and select the **Environment** tab in the MagicDraw application. **Configuration Files** links to your home folder.

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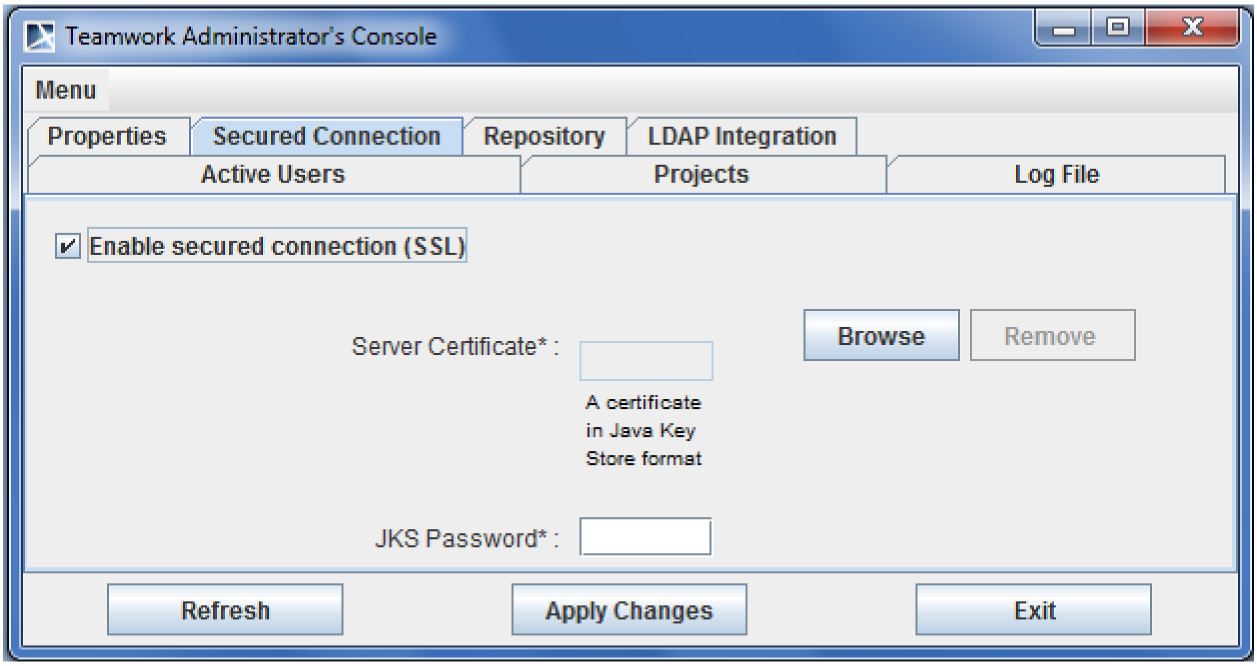

☑ Enable secured connection (SSL)

Server Certificate* :

A certificate in Java Key Store format

JKS Password* :

Figure 25 -- Teamwork Administrator's Console. Secured Connection tab

To generate certificates

TIP!	We recommend you to use the KeyTool IUI application for generating certificates. This is a free tool that can be downloaded from the Internet.

1. Run the KeyTool IUI application.
2. Create empty files for storing certificates:
   - 2.1. Select **Create** > **Keystore**.
   - 2.2. Create an empty keystore file for the server. Do the following:
     - 2.2.1 In the **Keystore file** dialog, set the location of the file and type a file name.
     - 2.2.2 In the **Keystore password** dialog, type the password for the server keystore file and click **OK**.
   - 2.3. Create an empty keystore file for the client. Do the following:
     - 2.3.1 In the **Keystore file** dialog, set the location of the file and type a file name.

TIP!	For easier certificate transfer in next steps create a new folder “certs” and save the file named *cert.jks* in it.

     - 2.3.2 In the **Keystore password** dialog, type the password for the client keystore file and click **OK**.
3. Create a RSA keypair for the server:
   - 3.1. Select **Create** > **Keystore’s entry** > **Private key, with vers. #3** > **RSA**.
   - 3.2. In the **Keystore file** dialog, the **Source** section, open the created server keystore file and type a password.
   - 3.3. Provide the required information in the **Target** section and click **OK**.
   - 3.4. The dialog for creating a new alias will open. Type a new private key entry’s alias name and a password for it. Click **OK**.
   - 3.5. You will see the created alias. Close the dialog.
4. Exclude a public key from the keypair to provide it to the client:

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4.1. Select **Export** > **Private's key first certificate in chain** > **As simple certificate file**.

4.2. In the **Keystore file** dialog, the **Source** section, open the server keystore file and type its password.

4.3. Create a file, whereto the key will be exported. In the **Certificate file** dialog, the **Target** section, set a location and type a file name for the client certificate. Click **OK**.

4.4. The dialog for selecting an alias will open. Select from the list the alias that has been created in step 3.4 and type its password. You will be able to see the created certificate.

5. Import a public key into the client certificate:

5.1. Select **Import** > **Keystore's entry** > **Trusted certificate** > **Regular certificate**.

5.2. In the **Source** section set the certificate file, which has been created in step 4, as a regular certificate file.

5.3. In the **Target** section set the client keystore file *client.jks* as a keystore file and click **OK**.

5.4. The dialog will open asking to enter a new alias name.Enter the alias name created in step 3.4 and click **OK**.

5.5. Some pop-up windows will open informing about the generation process. Close all of them after reviewing.

Generated certificates are ready to use now. Paste them into the right location. For the information on how to configure SSL in a server side please refer to procedure "To enable the secured connection (SSL)" on page 55.

Repository tab

Repository tab is a very important tab. It contains information about the repository of the server. This tab determines where and how the Teamwork Server stores projects and their version information, user lists, etc.

For more information about repositories, see "Teamwork System Layout" on page 7.

NOTE	Restart the Server to apply changes.

There are 3 different types of repository to choose in the Repository type combo box. General information about the types is described in the Section "Teamwork System Layout" on page 7. This section, presents the configuration fields in detail.

The Repository tab layout changes with the type of repository selected.

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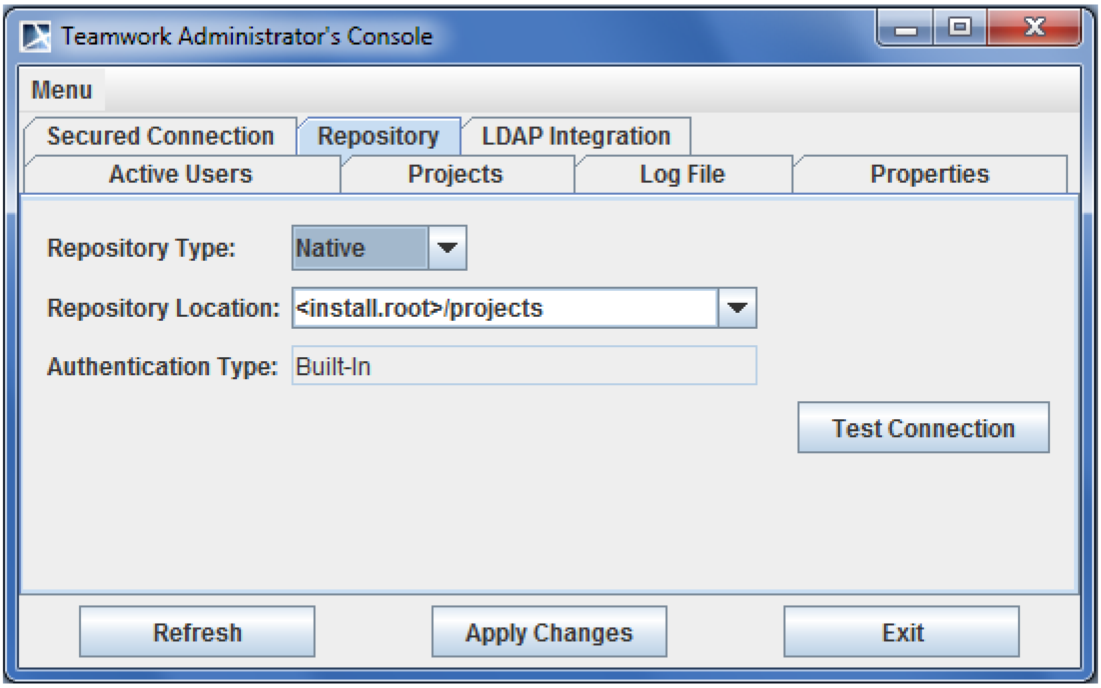
Built-In repository

The Built-In repository type is the simplest one to configure. There is only one editable parameter, that is the **Repository Location**.



Repository Type: Native

Repository Location: <install.root>/projects

Authentication Type: Built-In

Figure 26 -- Teamwork Administrator's Console. Repository tab for Built-In repository type

The GUI elements of the **Repository** tab for the Built-In repository type are described in the following table.

Element name	Description
Fields	
Repository Location	Designate the directory where the Teamwork Server stores information about: project list, users list, project versions, etc.
Authentication Type	The Built-In repository type can only use built-in authentication type. This field is not editable and for information purposes only.
Buttons	
Test Connection	Test new parameters before applying them to the Teamwork Server. If the server cannot start with these new parameters, you will not be able to connect it with the Administrators console and change the parameters back to the old values. You will need to manually edit the muserver.properties file on the computer where Teamwork Server is installed (this file is located in <install.root>/data directory). The Built-In repository type is simple because it requires at least a repository location directory that can be created and edited.

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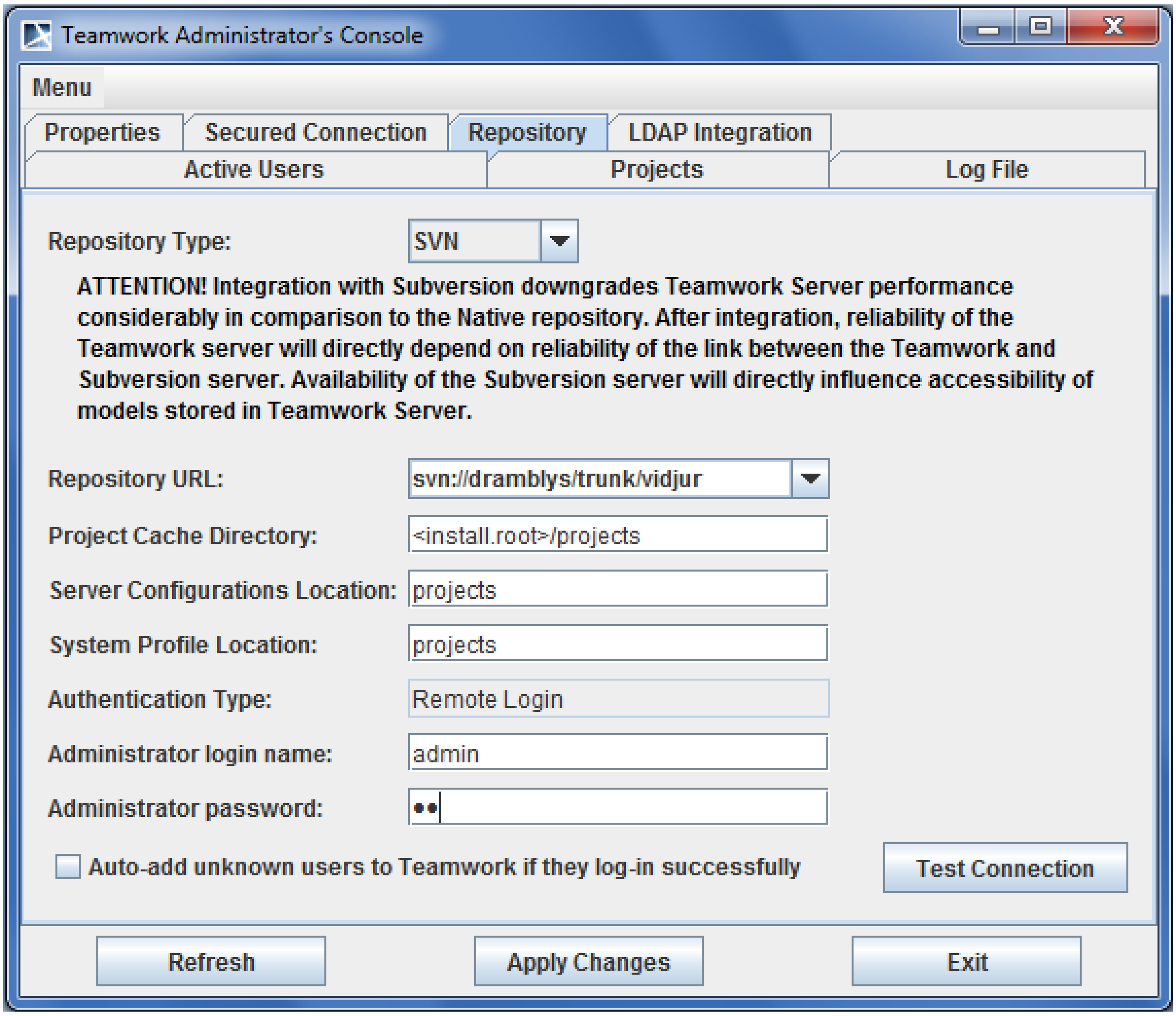
SVN repository



Repository Type: SVN

ATTENTION! Integration with Subversion downgrades Teamwork Server performance considerably in comparison to the Native repository. After integration, reliability of the Teamwork server will directly depend on reliability of the link between the Teamwork and Subversion server. Availability of the Subversion server will directly influence accessibility of models stored in Teamwork Server.

Repository URL: svn://dramblys/trunk/vidjur

Project Cache Directory: <install.root>/projects

Server Configurations Location: projects

System Profile Location: projects

Authentication Type: Remote Login

Administrator login name: admin

Administrator password: ••

□ Auto-add unknown users to Teamwork if they log-in successfully

Figure 27 -- Teamwork Administrator's Console. Repository tab for SVN repository type

When configuring the SVN repository, SVN must be installed on the computer where Teamwork Server runs. svn executable must be accessible on the system's PATH and have appropriate permissions to execute.

Element name	Function
Fields	
Repository URL	An URL field, which points to the SVN repository that will be used. The path can direct to a repository root or any other inner repository folders. All other paths (configurations location, profile location, also project paths, when adding project to the repository) will relate to this location. All repository access types, which are supported by standard SVN installation, are supported here. In particular, file:// (local repositories), svn:// and svn+ssh:// (remote repositories accessible through remote login and svnserve), http:// and https:// (remote repositories, accessible through HTTP and WebDAV) URLs can be used here.
Project Cache Directory	The directory where the Teamwork Server checksout files to work with the repository. The Teamwork Server uses this directory to launch all necessary SVN operations to implement project storage and create project version. This is a “scratchpad” for the Teamwork server to work.

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Element name	Function
Server Configuration Location	The directory in SVN repository where the Teamwork Server keeps its configuration files (project and user lists).
System Profile Location	The directory in SVN repository where the MagicDraw's system profiles are stored.
Authentication Type	Currently not editable. This is an informational-only field, which indicates what authentication type will be used depends on the repository access method (repository URL). If the repository URL is: • svn://, svn+ssh://. The Authentication Type will be **Remote Login**. This means that when performing SVN actions, the Teamwork Server will log in remotely, as the user, who performs the action. A pass-through authentication of MagicDraw clients will be used. • http://, https://. The Authentication Type will be **Basic/Digest HTTP**. This means that when performing SVN actions, the Teamwork Server will authenticate with the web server using HTTP Basic Auth or HTTP Digest Auth (see RFC2617), as the user who performs the action. A pass-through authentication of MagicDraw clients will be used. • file://. The Authentication Type will be **Built-In**. A pass-through authentication is impossible for this type of repository access, hence the Teamwork Server refers back to the same authentication type as that of built-in repositories. The Server will keep its own users list with their passwords, and authenticate users itself. The pass through authentication means that the Teamwork Server will only keep users list, but not their passwords. When a MagicDraw client logs into the Teamwork Server, the server will not verify the password, but will log into SVN instead. It stores the user's password in memory and use it for all subsequent communications with the SVN prompted by the user's actions. This feature decreases the burden on both the administrator and users because all passwords are kept in one place. Certificate based authentication method for svn+ssh:// and https:// is not yet supported.

For pass-through authentication methods (all types of repository URLs except file://) the following fields are available:

Element name	Function
Administrator login name	Specify the administrator of the Teamwork Server. This user will have full permissions to the projects and various administrative tasks, such as updating user list file, project list file, etc. in the SVN repository.
Administrator password	The Administrator's password. The Teamwork Server needs this password to perform various administrative tasks in the SVN repository. **NOTE:** this password will be stored and encrypted in a form that is difficult decrypt. This encrypted password is stored in the muserver.properties file (located in <install.root>/data directory of the Teamwork Server). You can set restricted permissions on this file for example, accessible only to user in the Teamwork Server.
Auto-add unknown users to Teamwork if they log in successfully	Decreases the administrator's burden to manage users list. If this check box is cleared, all MagicDraw users who try to log in, but are not in the users list of the Teamwork Server will be refused an access if they supply correct usernames/ passwords to login the SVN repository. If the check box is checked, MagicDraw users who are not in the users list of the Teamwork Server, but supply correct usernames/passwords to login to the SVN repository will be automatically added to the list and access the server.

The default Built-In authentication method (file:// type URLs) login name is "Administrator" without a password field (not necessary). The "Auto-add unknown users to the Teamwork if they log in successfully" check box is also unavailable (meaningless) in this case.

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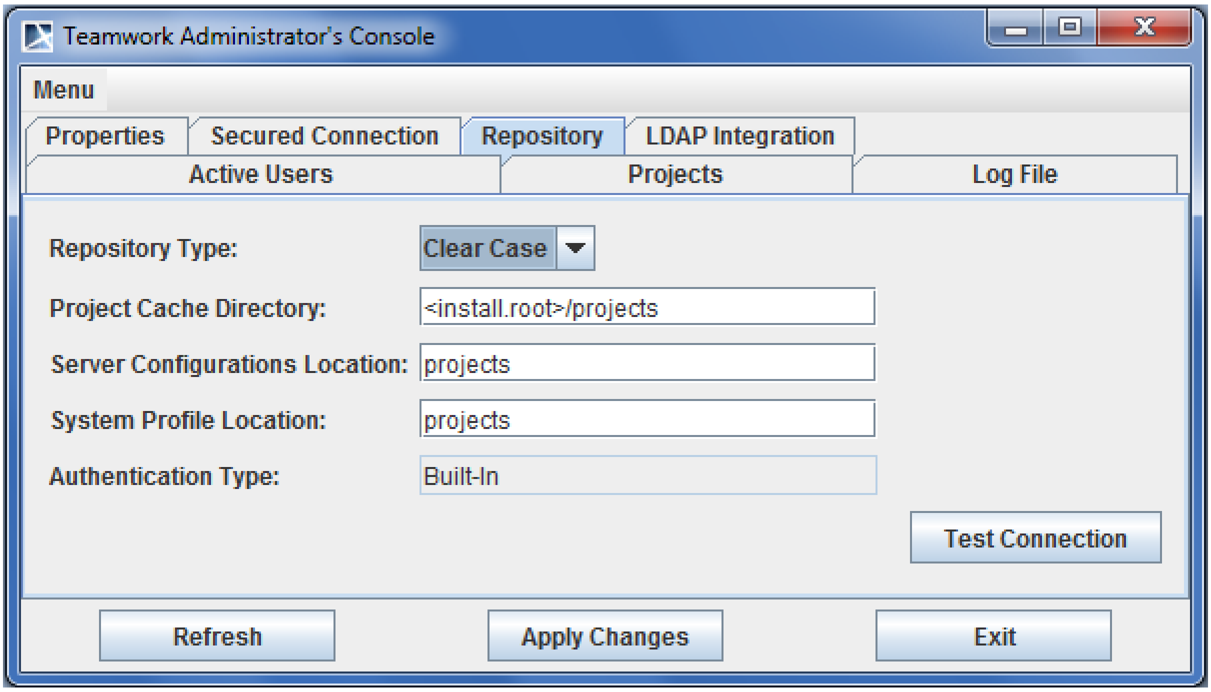
Element name	Function
Buttons	
Test Connection	Test new parameters before applying them to the Teamwork Server. If the server cannot start with these new parameters, you will not be able to connect it with the **Administrator's Console** and change the parameters back to the old values. You will need to manually edit the muserver.properties file on the computer where the Teamwork Server is installed (this file is located in <install.root>/data directory). This test ensures that the Teamwork Server is able to access and write the cache directory, access (and log in with the specified administrator user and password) the SVN repository in the specified location. It also checks the configuration and system profile locations on the SVN repository (the administrator must be able to write there).

ClearCase repository



Repository Type: Clear Case

Project Cache Directory: <install.root>/projects

Server Configurations Location: projects

System Profile Location: projects

Authentication Type: Built-In

Figure 28 -- Teamwork Administrator's Console. Repository tab for Clear Case repository type

The ClearCase type of repository has a few parameters. When configuring this repository, the ClearCase client part must be installed on the computer where the Teamwork Server runs. The Teamwork Server will use cleartool executable to access and manage files in the ClearCase repository, so cleartool must be accessible - the PATH and have appropriate permissions to run. Also, the ClearCase repository must have the right permissions for the user, the Teamwork Server.

Property name	Function
Fields	
Project Cache Directory	The directory where the Teamwork Server checksout files to work with the repository. The Teamwork Server will create a snapshot view (in ClearCase parlance) in this directory and place any necessary VOBs there project and perform all operations necessary to implement project storage and project versions. This is a "scratchpad" for the Teamwork Server to work.

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Property name	Function
Server Configuration Location	The directory in the ClearCase repository, where the Teamwork server keeps its configuration files (project and user lists). **NOTE:** Must begin with some VOB name and cannot be left empty.
System Profile Location	A directory in the ClearCase repository where the MagicDraw's system profiles are stored. **NOTE:** Must begin with some VOB name and it cannot be left empty.
Authentication Type	The ClearCase repository type can only use built-in authentication type. This field is not editable and for information purposes only. The Built-In authentication means that the Teamwork Server manages its own users list and their passwords. When MagicDraw clients connect to the server, it will authenticate them using this list. When the Teamwork Server works with the ClearCase repository, it uses the standard system authority to identify itself to the repository. This means that the Server run as authorized by the user. All actions in the ClearCase repository will be attributed to that user (irrelevant to users in the connecting MagicDraw client). If a user starts the server, it will run as authorized by that user. If the server is started as NT service the service will run under a local system account. This can be a source of cryptic errors, for example if the local system account has no rights to access the ClearCase repository, the Teamwork Server will fail when started as a service, while everything works all right when started from the command line.
Administrator Login Name	When the Built-In authentication type is used, the administrators name is “Administrator”. This field is not editable and for informational purpose only. The default Administrator’s password is (for a new set-up repository) “Administrator”. For security reason it is highly recommended to change the default password after the server starts.
Buttons	
Test	Test new parameters before applying them to the Server. If the server cannot start with these new parameters, you will not be able to connect it with the Administrators console and change the parameters back to the old values. You will need to manually edit the muserver.properties file on the computer where Teamwork Server is installed (this file is located in <install.root>/data directory). This test ensures that Teamwork Server is able to create the ClearCase view in the specified directory and to access the two configured VOBs (for configuration storage and profile storage).

LDAP Integration tab

For more information about LDAP Integration, see "LDAP Support" on page 92.

Data Migration between Different Repositories

3 different types of repositories are supported in MagicDraw v12.5 and above. By default (when first installed) the server uses Built-In repository type. When switching to a different repository type, the task of project migration is inevitably increased.

There are many different but similar use cases, such as migrating the data from the previous built-in-type repository into a new SVN/ClearCase based repository.

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It is possible for the Teamwork Server to import and export projects. This function is triggered from the Administrators console (see section “Administrator’s Console Dialog” on page 48). *Import & Export is only possible in the Built-In repository type format*. The Built-in repository type is a kind of intermediate form for information interchange.

Note that words "import" and "export" here are used relatively to the currently running server (the one to which administrator's console is attached):

- “import” means importing data into the current server from the designated directory;
- “export” means exporting data from the current server into the designated directory.

Migrating the server from the Built-In repository to the SVN/ClearCase repository

1. The Server is started on the Built-In repository (projects/versions stored in a directory).
2. Open the Administrator's Console. Reconfigure the server to work with the SVN/ClearCase repository.
3. In the **Administrator’s Console**, reconfigure the server to work with the ClearCase/SVN repository.
4. Restart server to use the new repository. The Server starts. There is nothing in the repository but the profiles needed to work with MagicDraw.
5. Login again to the **Administrator’s Console** and trigger project import. Select the directory to import from, the same directory from where the export was performed.
6. Projects are now in a new SVN/ClearCase repository.

Migrating from SVN repository to ClearCase repository

1. Server is started on SVN/ClearCase repository.
2. Open Administrator's Console, trigger project export. Choose some temporary directory to dump the data to.
3. In **Administrator's Console**, reconfigure server for work with some ClearCase/SVN repository.
4. Restart the server, to use new repository. Server will be started, repository will be empty - no projects - only the profiles, needed for work with MagicDraw will be added to repository.
5. Login again in the **Administrator’s Console**, and trigger project import. Choose the directory to import from - the same directory where you previously did export.
6. Projects are now in a new, ClearCase/SVN repository.

Changing Teamwork Server Debugging Mode

You can change Teamwork Server debugging mode without restart.

To enable Teamwork Server debugging:

1. Start Teamwork Server Administrator’s Console.
2. Select **Enable Debugging** from the Menu (Figure 29 on page 64).

NOTE	**Enable Debugging** action is disabled in the Offline Administrator’s Console mode.

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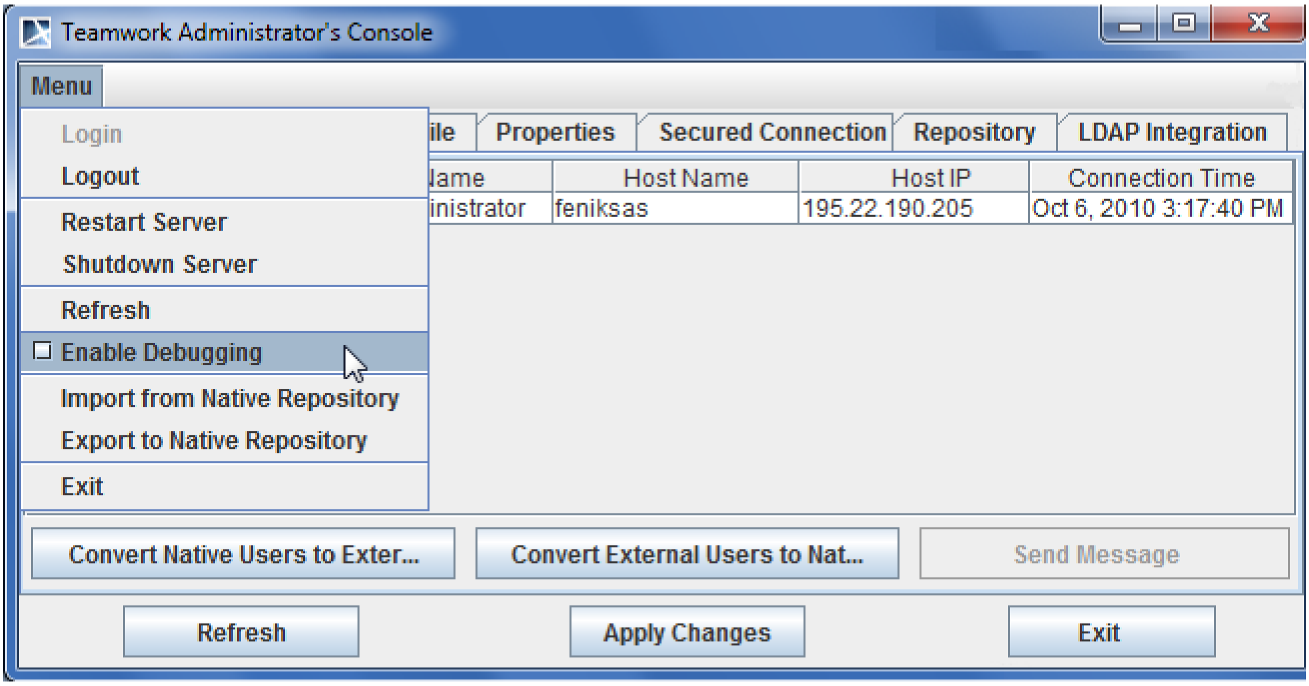

lame	Host Name	Host IP	Connection Time
inistrator	feniksas	195.22.190.205	Oct 6, 2010 3:17:40 PM

Figure 29 -- Teamwork Administrator's Console - Enable Debugging

Collaborate Menu and Collaboration Toolbar

To add the **Collaboration** toolbar

1. Right-click on the free space in the MagicDraw toolbar to open the shortcut menu.
2. On the shortcut menu, click **Collaboration**.

.**Collaborate** menu commands and collaboration toolbar buttons and are described in the following table:

Command	Button	Function
Open Server Project	📂 CTRL+SHIFT+O	Open, add, and/or edit the name of a Teamwork project. You may open separate modules of a project.
Add Project to Server		Add any project to the Teamwork Server.
Server Modules		• **Export Server Module**. Export a package as a Teamwork module. • **Use Server Module**. Select a module you want to use in your Teamwork project.
Merge From		Merge the active project version with selected previous versions of the same project.
Users	👥	Assign / unassign Teamwork projects and set user permissions in the **Edit Users** dialog.

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Command	Button	Function
Projects		Add or delete a Teamwork project, edit a project name, and / or assign users to the project.
Update Project	CTRL+U	Load the latest project version from the server. Model elements that are locked will not be updated.
Commit Project	CTRL+K	Commit active projects. Select elements to unlock before committing.
Unlock All		Open the list of locked elements in the **Commit Settings** dialog. Click the **Commit** button to unlock selected elements.
NEW! View Locked Elements		Open the **Locked Element** tree in the Model Browser.
Update Lock Information	CTRL+SHIFT+U	Update the list of locked model elements.
Login	CTRL+SHIFT+L	Display the user login dialog.
Logout	CTRL+SHIFT+T	Logout from the Teamwork Server.
Change Password		Allow users to change their passwords to login to the Teamwork Server.
Send Message	CTRL+SHIFT+M	Send messages to any user in the Teamwork Server.

NOTE MagicDraw Reader edition allows users to open and review teamwork projects.

Teamwork Dialogs

To activate the Teamwork interface, connect to Teamwork Server.

Edit Projects Dialog

You can use the Edit Projects dialog to manage projects, assign them to other Teamwork users, and set user permissions for the system and specific projects.

To open the **Edit Projects** dialog

- From the **Collaborate** menu, select **Projects**.

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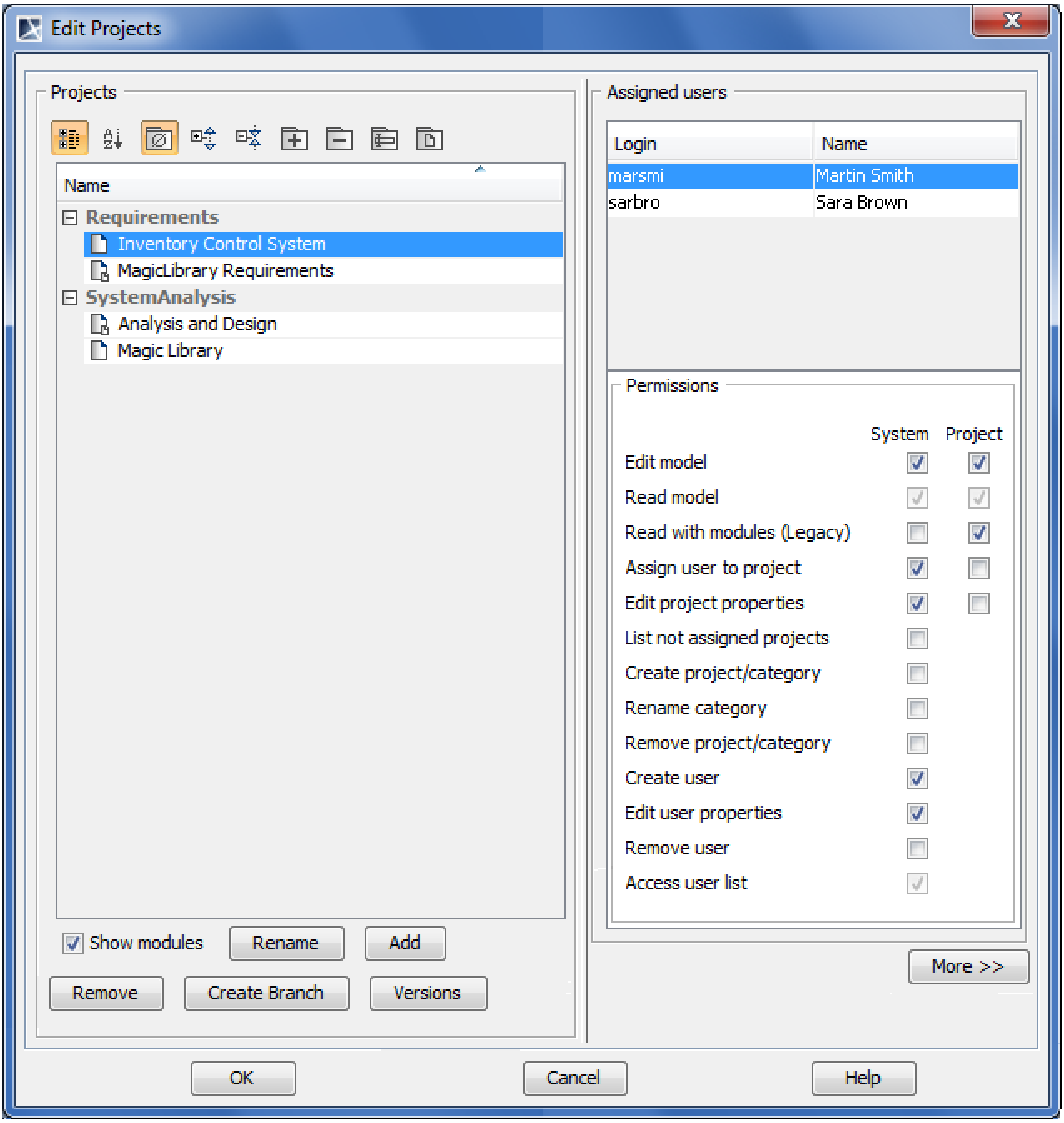
- On the Collaboration toolbar, click the Projects button.



Projects

☑ Show modules

Name
⊟ **Requirements**
Inventory Control System
MagicLibrary Requirements
⊟ **SystemAnalysis**
Analysis and Design
Magic Library

Assigned users

Login	Name
marsmi	Martin Smith
sarbro	Sara Brown

Permissions

	System	Project
Edit model	☑	☑
Read model	☑	☑
Read with modules (Legacy)	☐	☑
Assign user to project	☑	☐
Edit project properties	☑	☐
List not assigned projects	☐	
Create project/category	☐	
Rename category	☐	
Remove project/category	☐	
Create user	☑	
Edit user properties	☑	
Remove user	☐	
Access user list	☑	

Figure 30 -- Edit Projects dialog

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Element name	Description
Buttons of the Category toolbar	
Categorized view	The buttons are the same as those in the **Open Server Project** dialog. For more details about these buttons, see section “Open Server Project Dialog” on page 72.
Alphabetical view	
Show Empty Categories	
Expand	
Collapse	
Create Category	
Remove Category	
Rename Category	
Move to Category	
Columns of the Project list	
Name	• The name of the project. • The name of the category.
Buttons of the Project list	
Show modules	The buttons are the same as those in the **Open Server Project** dialog. For more details about these buttons, see section “Open Server Project Dialog” on page 72.
Rename	
Add	
Remove	
Create Branch	
Versions	
Columns of the Assigned users list	
Login	The login name of the user assigned to the selected project.
Name	The full name of the user assigned to the selected project.
Permissions list	A list of permissions given to the selected user for a specific project. For more details about user permissions, see the section “User permissions” on page 46.
Columns of the Available users list	
Login	The Teamwork user's login name.

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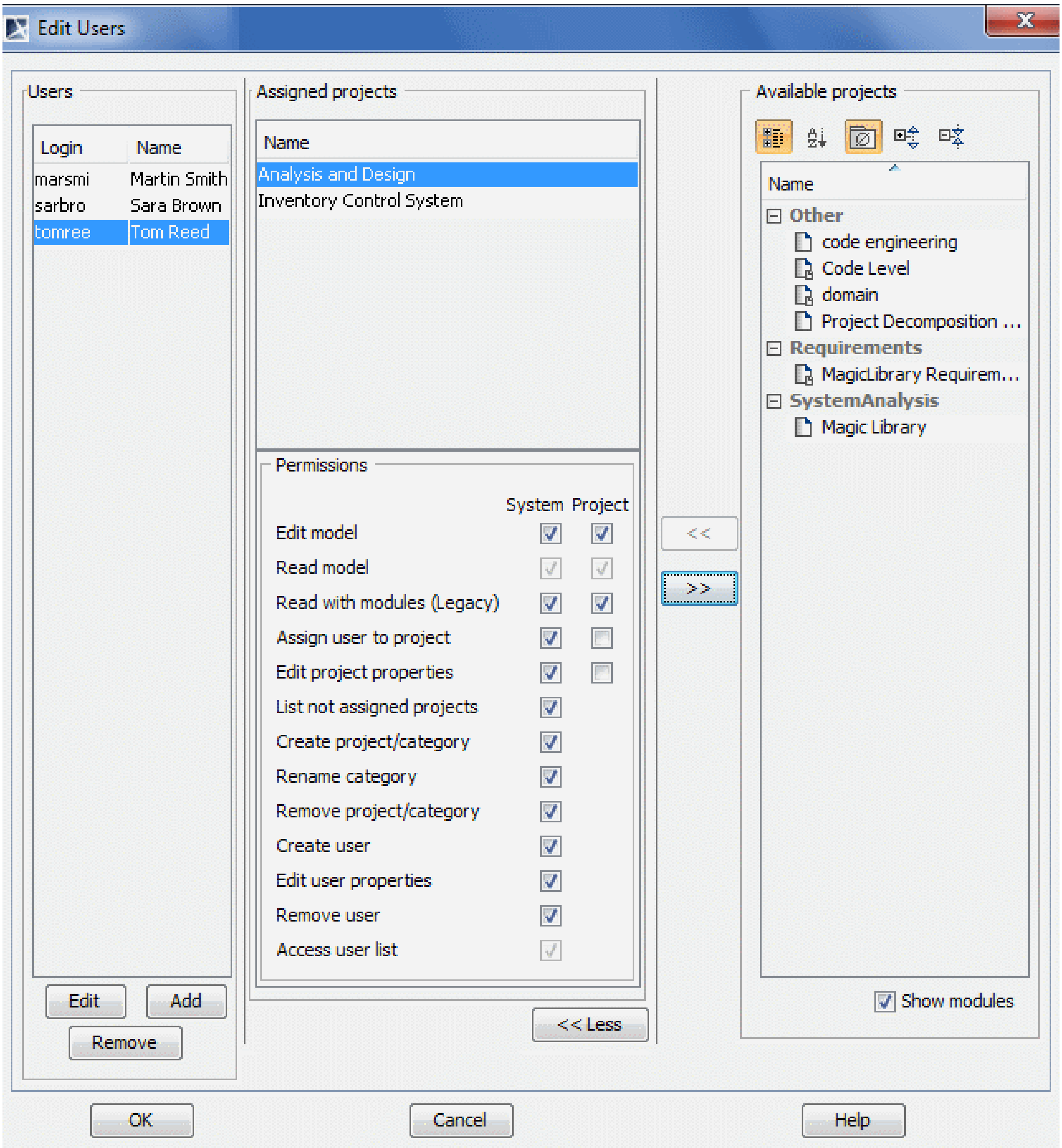
Element name	Description
Name	The Teamwork user's full name.
Buttons between the user lists	
<<	Moves the selected users from the **Available Users** list to the **Assigned Users** list.
>>	Move the selected users from the **Assigned Users** list to the **Available Users** list.

Edit Users Dialog

To open the **Edit Users** dialog

- From the **Collaborate** menu, select **Users**.
- On the Collaboration toolbar,click the Users button.



Login	Name
marsmi	Martin Smith
sarbro	Sara Brown
tomree	Tom Reed

Name
Analysis and Design
Inventory Control System

	System	Project
Edit model	☑	☑
Read model	☑	☑
Read with modules (Legacy)	☑	☑
Assign user to project	☑	☐
Edit project properties	☑	☐
List not assigned projects	☑	
Create project/category	☑	
Rename category	☑	
Remove project/category	☑	
Create user	☑	
Edit user properties	☑	
Remove user	☑	
Access user list	☑	

Name

- Other
  - code engineering
  - Code Level
  - domain
  - Project Decomposition ...
- Requirements
  - MagicLibrary Requirem...
- SystemAnalysis
  - Magic Library

☑ Show modules

Figure 31 -- Edit Users dialog

Group box/Button	Element name	Function
Users	Login	The user login name.
	Name	The user’s full name.
	Edit	Edit the user’s name and password.
	Add	Add a new user to the Teamwork Server.
	Remove	Remove a user from the Teamwork Server.
Assigned Projects	Name	List projects assigned to specific users.

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Group box/Button	Element name	Function
Permissions	-	The detailed description of permissions. See Section “User permissions” on page 46.
<<	-	Move the selected project from the **Available Projects** list to the **Assigned Projects** list.
>>	-	Move the selected project from the **Assigned Projects** list to the **Available Projects** list.
Available Projects	Name	List all available Teamwork projects.

Add/Edit User Dialog

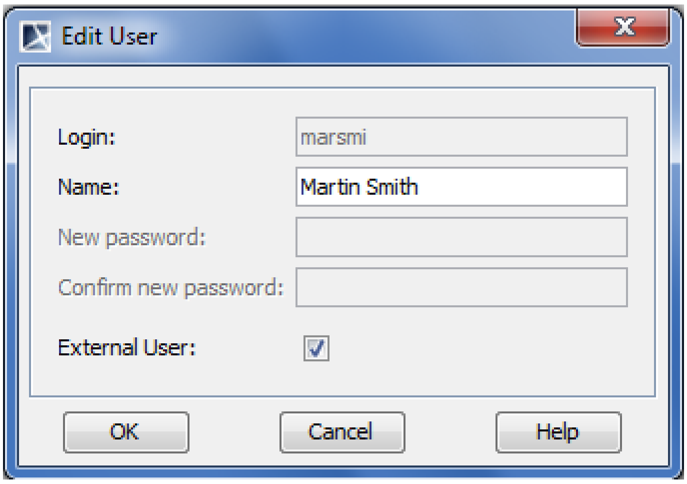
The **Add User** dialog is used for creating a new Teamwork user, and the **Edit User** dialog is used for editing the Teamwork user appropriately. Both dialogs have the same structure, only the **Login** field in the **Edit User** dialog is not editable.

To open the **Add User** dialog

1. From the**Collaborate** menu, select **Users**.
2. Click the **Add** button.

To open the **Edit User** dialog

1. From the **Collaborate** menu, select **Users**.
2. In the **Users** list, select the user and click the **Edit** button.



Login: marsmi
Name: Martin Smith
New password:
Confirm new password:
External User: ☑

Figure 32 -- Edit User dialog

Element name	Description
Login	The login name of the Teamwork user. **NOTE:** Changing the user’s login name is not allowed.
Name	The full name of the Teamwork user.

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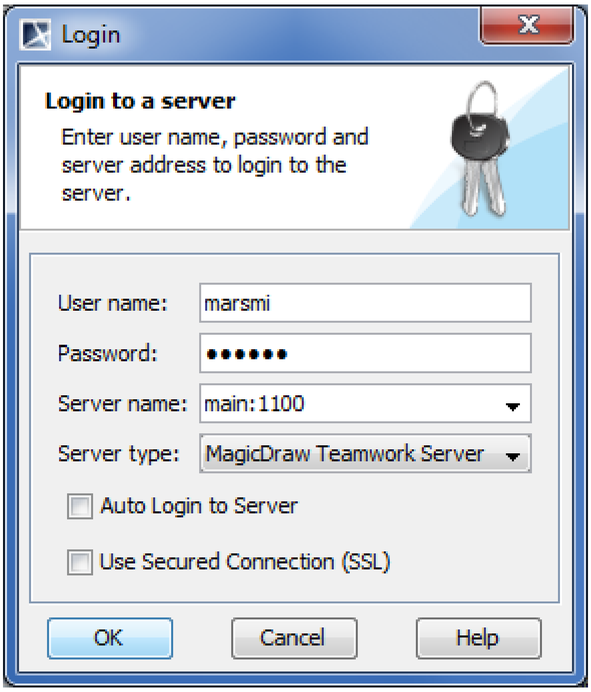
Element name	Description
External User	The check box which indicates whether the user is a native user or an external user. Do one of the following: ● Leave the check box deselected for the native user. ● Select the check box for the external user. For detailed information about adding native and external users, see section “To add a new native user” on page 43 and section “To add a new external user” on page 43.
New password	A new password. The field will be visible if you add or edit a native user (the **External user** check box is clear). **NOTE:** To create or change a password for an external user, use an appropriate tool for managing the external database (Subversion, ClearCase or LDAP) wherein the user’s account is stored.
Confirm new password	The new password retyped. The field will be visible if you add or edit a native user (the **External user** check box is clear).

Login Dialog

To open the **Login** dialog

- From the **Collaborate** menu, select **Login**.



Login

Login to a server

Enter user name, password and server address to login to the server.

User name: marsmi

Password: ●●●●●●

Server name: main:1100

Server type: MagicDraw Teamwork Server

□ Auto Login to Server

□ Use Secured Connection (SSL)

Figure 33 -- Login dialog

Element name	Function
User name	The user’s login name.
Password	The user’s password.
Server name	The name of the Teamwork Server (and port).

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Element name	Function
NEW! Server type	Select the server type from the predefined list.
Auto Login to Server	Automatically connect to the specified Teamwork Server upon starting MagicDraw.
Use Secured Connection (SSL)	Use the secured connection (SSL) for data transfer automatically when connecting to the server. **IMPORTANT!** To select this option be sure that SSL is configured on Teamwork Server.

Open Server Project Dialog

The **Open Server Project** dialog is used for opening projects and managing them as well.

To open the **Open Server Project** dialog

- From the **Collaborate** menu, select **Open Server Project**.
- On the Collaboration toolbar, click the Open Server Project 📂 button.
- Press CTRL+SHIFT+O.

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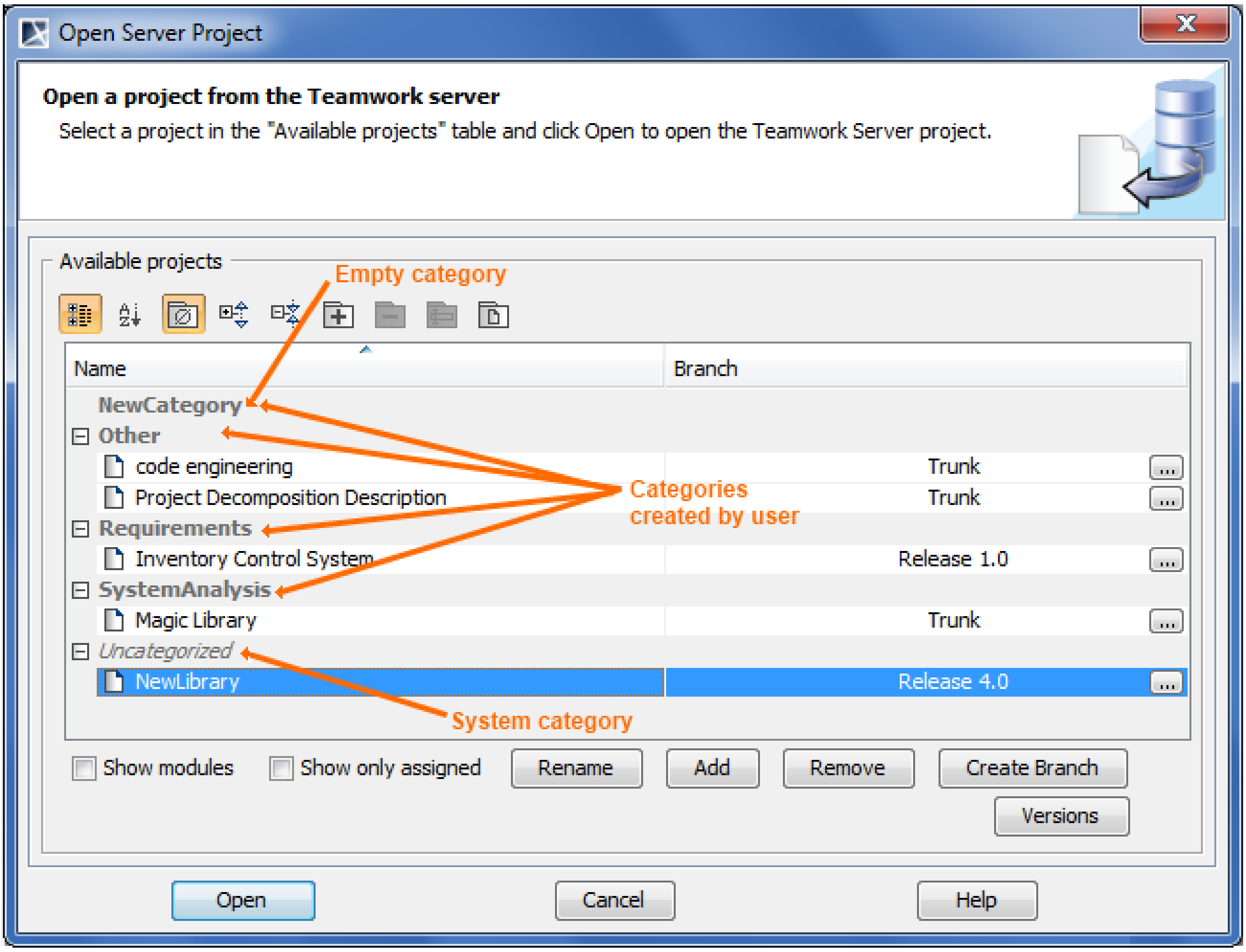

Open Server Project

Open a project from the Teamwork server

Select a project in the "Available projects" table and click Open to open the Teamwork Server project.

Available projects

Name	Branch
NewCategory	
⊟ Other	
code engineering	Trunk
Project Decomposition Description	Trunk
⊟ Requirements	
Inventory Control System	Release 1.0
⊟ SystemAnalysis	
Magic Library	Trunk
⊟ *Uncategorized*	
NewLibrary	Release 4.0

□ Show modules □ Show only assigned

Figure 34 -- The Open Teamwork Project dialog

Element name	Description
Buttons of the Category toolbar	
Categorized view	Displays the categorized structure of the project list.
Alphabetical view	Displays the plain project list without any category.
Show Empty Categories	Shows the categories that have no projects.
Expand	Expands all categories. The button is available only in the categorized view.
Collapse	Collapses all categories. The button is available only in the categorized view.

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Element name	Description
Create Category	Opens the **Create Category** dialog for creating a new category. The button is available only in the categorized view. For more information about creating categories, see section “To create a new category” on page 22.
Remove Category	Opens the dialog asking to confirm or cancel the removal of the selected category. The button is available only in the categorized view, when the category or the project is selected. For more information about removing categories, see section “To remove the category” on page 23.
Rename Category	Opens the **Rename Category** dialog for renaming the selected category. The button is available only in the categorized view, when the category or the project is selected. For more information about renaming categories, see section “To rename a category” on page 22.
Move to Category	Opens the **Move to Category** dialog for choosing the category to move the selected project into. The button is available only in the categorized view, when the project is selected. For more information about project moving to category, see section “To move a project to a category” on page 22.
Columns of the Project list	
Name	● The name of the project. ● The name of the category.
Branch	The name of the project branch, last selected using the **“...”** button, or the value “Trunk”, if the project isn’t branched or if the project itself was last selected.
Buttons of the Project list	
Show modules	Shows those projects that contain one or more shared packages.
Show only assigned	Shows only those projects to which the user is assigned.
Rename	Opens the **Rename** dialog for reaming the project. The button is available only when the project is selected.
Add	Opens the **Add Server Project** dialog for creating a new Teamwork project. For more information about creating new Teamwork projects, see section “To create a new Teamwork project” on page 23.
Remove	Opens the dialog asking to confirm or cancel the removal of the project from the Teamwork Server. The button is available only when the project is selected.
Create Branch	Opens the **Create Branch** dialog for creating a new branch for the selected project or its branch. The button is available only when the project is selected. For more information about creating project branches, see section “To create a project branch” on page 85.
Versions	Opens the **Project Versions** dialog. The button is available only when the project is selected. For more information about project versions, see the following sections: ● “Versioning” on page 39. ● “To open the Project Versions dialog” on page 75.
Common buttons	
Open	Opens the selected project.

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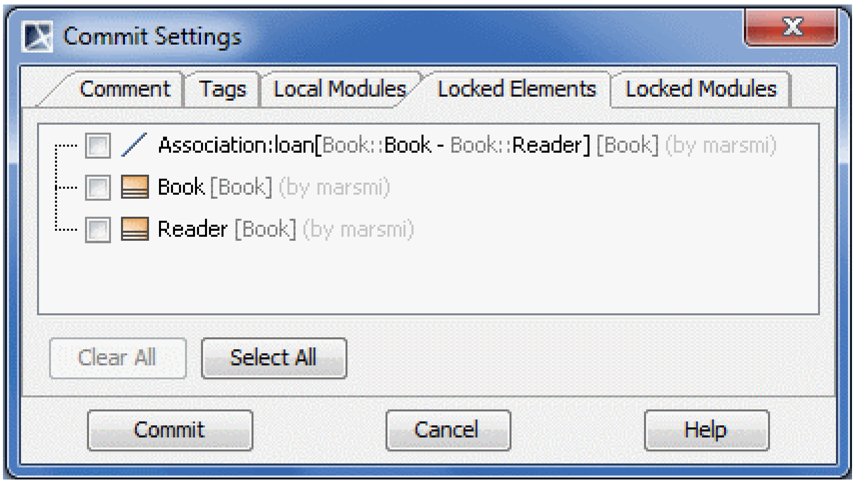
Commit Settings Dialog

To open the **Commit Settings** dialog

- From the **Collaborate** menu, select **Commit Project**.
- Press CTRL+K.



Commit Settings

Comment | Tags | Local Modules | Locked Elements | Locked Modules

□ Association:loan[Book::Book - Book::Reader] [Book] (by marsmi)
□ Book [Book] (by marsmi)
□ Reader [Book] (by marsmi)

Figure 35 -- Commit Settings dialog

Element name	Function
Local Modules	List local modules in the project.
Locked Elements	List model elements that are locked. Before committing, select the elements you want to unlock.
Locked Modules	List locked modules in the teamwork project. To lock modules, from the **Options** main menu, select **Modules** and then click **Lock** in the open **Modules** dialog.
Select All	Select all locked model elements.
Clear All	Clear all selected model elements.

Project Versions Dialog

In this dialog, project versions are listed from the latest one (which is on the top) to the oldest one.

To open the **Project Versions** dialog

1. From the **Collaborate** menu, select **Open Server Project**.

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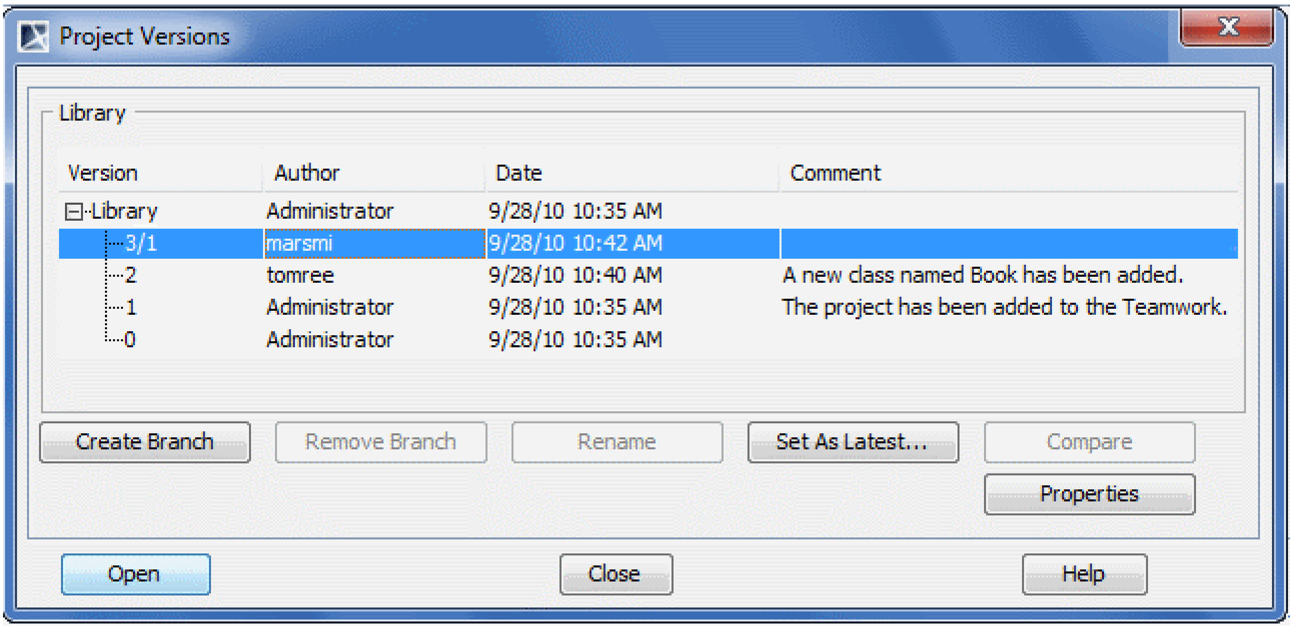
2. In the **Open Server Project** dialog, select a project and click the **Versions** button.



Version	Author	Date	Comment
Library	Administrator	9/28/10 10:35 AM	
3/1	marsmi	9/28/10 10:42 AM	
2	tomree	9/28/10 10:40 AM	A new class named Book has been added.
1	Administrator	9/28/10 10:35 AM	The project has been added to the Teamwork.
0	Administrator	9/28/10 10:35 AM	

Figure 36 -- Versions dialog

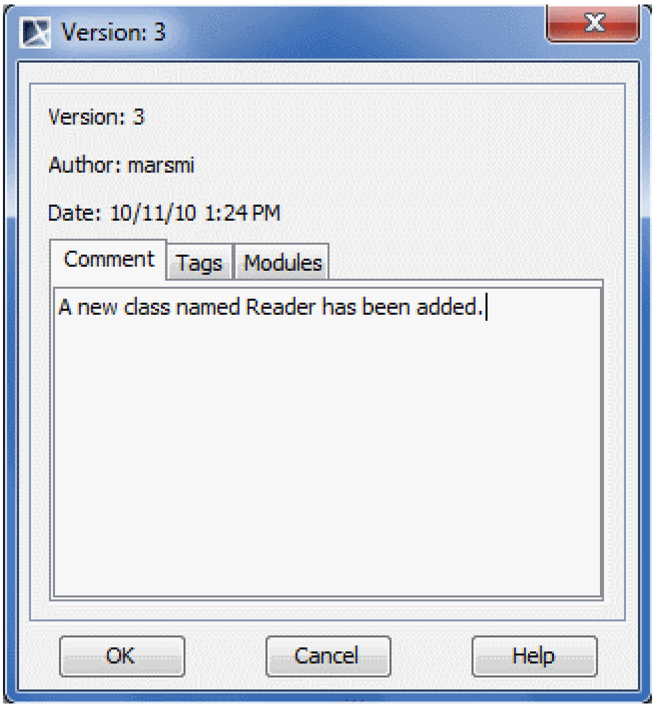
Element name	Function
Version	The version number of a project. **NOTE:** In the example above, you can see that the last project version number is denoted as "3/1". This is the case of setting a previous project version as the latest one. In this particular example, "3" denotes the current project version number and "1" denotes the number of the version, which has been set as the latest one.
Author	The login name of the user, who created the project version.
Date	The date and time, when the project version has been created.
Comment	The description about the changes in the version. You can make a version comment, when committing a version.
Create Branch	Opens the **Create Branch** dialog for creating a new branch for the selected version or a branch. The button is available only if a version or a branch is selected. For more information about creating project branches, see section "To create a project branch" on page 85.
Remove Branch	Opens the dialog asking to confirm or cancel the removal of the selected branch. The button is available only when a branch is selected. **NOTE:** You will not be allowed to undo this action.
Rename	Indicates the branch name for reaming. The button is available only when a branch is selected.
Set As Latest	Set the selected project version as the current version. The created version number consists of two parts: the current version number and the version number that is set as the current version. If a user does not have the right to edit the project, this button is disabled.
Compare	Compares two selected branches. If there are differences between project branches, the result is presented in **Difference Viewer** dialog. The button is available only when two project branches are selected (use SHIFT or CTRL keys).
Properties	Displays information about versions of a project.

Element name	Function
Open	Open the selected version of the project. **NOTE:** You can make changes only to the latest version of the project. Earlier versions are read-only.
Close	Exit the dialog.
Help	Display **MagicDraw Help**.

Version Information Dialog

To open the **Version Information** dialog

1. Open the **Versions** dialog (see the procedure "Project Versions Dialog" on page 75).
2. Select a project and click **Properties**.


Version: 3

Version: 3

Author: marsmi

Date: 10/11/10 1:24 PM

A new class named Reader has been added.

Figure 37 -- Version Information dialog

Element name	Function
Version	The version number of a project.
Author	The author's login name who created the project.
Date	The date and time the selected project version was committed.
Comment	Allow users to type optional descriptions about changes in the committed version. You can enter or edit comments for any project version.
Tags	Shows tags that have been created for the selected project version.
Modules	Displays modules that are used in the selected project version.

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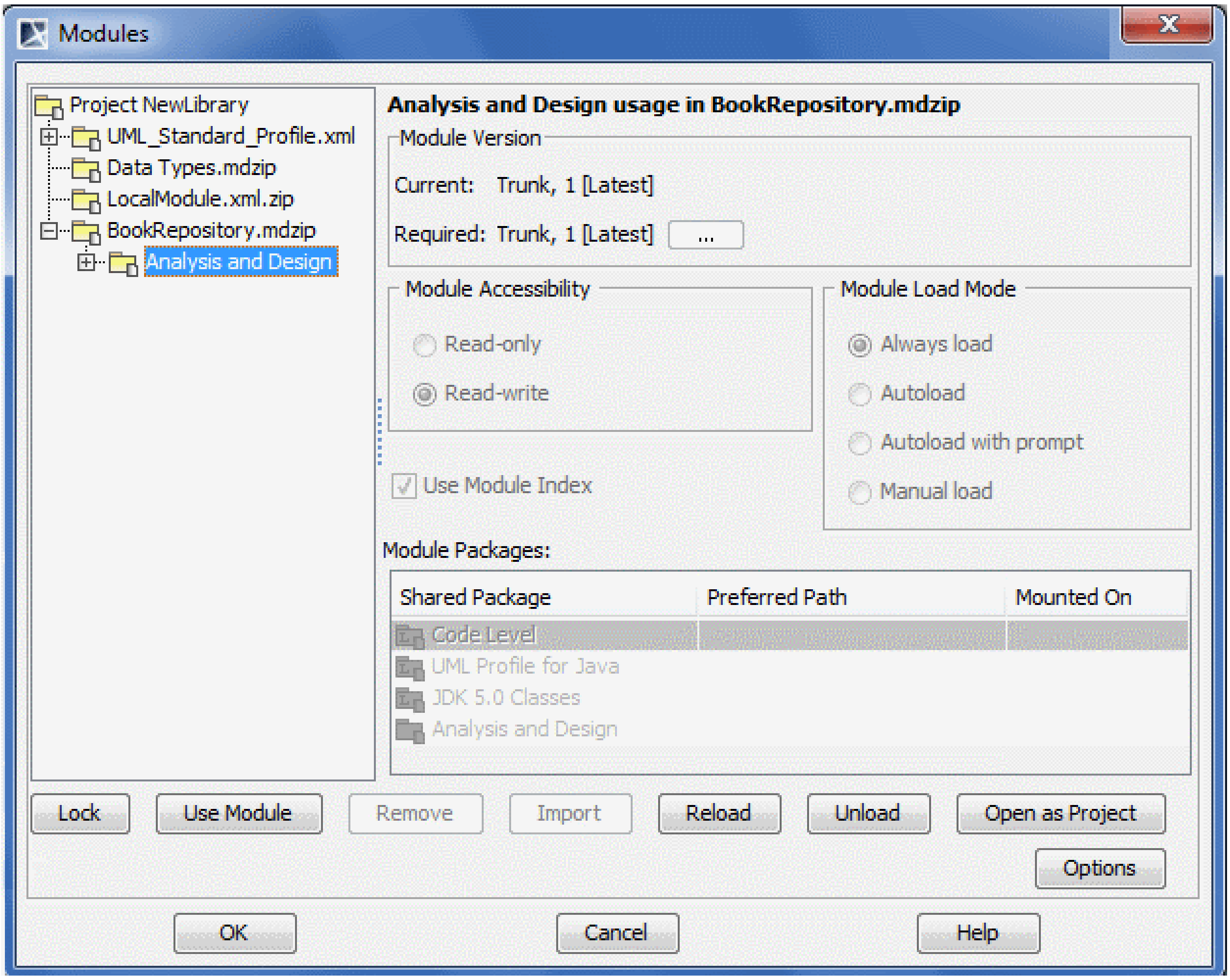
Modules Dialog

To open the **Modules** dialog

1. From the **Options** menu, select **Modules**.



Modules

- Project NewLibrary
  - UML_Standard_Profile.xml
  - Data Types.mdzip
  - LocalModule.xml.zip
  - BookRepository.mdzip
    - Analysis and Design

Analysis and Design usage in BookRepository.mdzip

Module Version

Current: Trunk, 1 [Latest]

Required: Trunk, 1 [Latest]

Module Accessibility

○ Read-only

● Read-write

Module Load Mode

● Always load

○ Autoload

○ Autoload with prompt

○ Manual load

☑ Use Module Index

Module Packages:

Shared Package	Preferred Path	Mounted On
Code Level		
UML Profile for Java		
JDK 5.0 Classes		
Analysis and Design		

Figure 38 -- Version Information dialog

Box name	Function
Module Version	Display current module versions. Click **Lock** to enable **Required** field to change the module versions.
Lock	Click the **Lock** button to lock module for editing. Command enables disabled options and buttons.
Module Accessibility	Specifies how modules are used in a project: • **read-only** modules are not editable in the active project; • **read-write** modules are editable in the active project.
Module Load Mode	Set module loading mode: • **Always load** (default) - modules are always loaded when the project is open. • **Autoload** - module is not loaded when the project is loaded. However MagicDraw monitors user activities in the project and tries estimate when the user want to use the model piece from the unloaded module. • **Autoload with prompt** - mode differs from the Autoload mode in this way: MagicDraw will ask the user before loading the module. • **Manual load** - module is not loaded when the active project is loaded.

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Use Module Index	If selected, uses indexing scope, specified in the **Project Options** dialog.
Shared Package	Name of the shared package.
Preferred Path	Carry the information about the path, where the shared package should be placed in the active project.
Mounted On	Hold the packages of the project on which the corresponding module share is placed. Click the "..." button to change the package or create a new one.
Use Module	Enabled, when a module is selected as read-write. It allows users to use module in the selected module.
Remove	Remove a module from the project.
Import	Import a module to the project.
Reload	Reload a module in the project.
Unload	Unload the module from the project.
Open as Project	Open the selected module as a project.
Options	The **Project Options** dialog opens.

Data Partitioning on Teamwork Server

Data partitioning is the segmentation of a MagicDraw project into multiple independent parts, or modules. Since these modules are saved using the same file format as regular MagicDraw projects, they can be opened and edited in any MagicDraw client application. This approach allows easy reuse of the same basic model libraries in multiple projects.

For more information about data partition, see "Project Partitioning" in "MagicDraw UserManual.pdf".

Creating Teamwork Modules

To create a Teamwork module using the **Collaborate** menu

1. Open a Teamwork project.
2. From the **Collaborate** menu, select **Server Modules** and then click **Export Server Module**. The **Export Module** dialog opens.
3. In the **All data** list, select one or more packages from which you want to create a Teamwork module and click the **Add** button. The packages will be added to the **Selected packages** list.
4. Click **OK**.

NOTE	In this step you may be asked to confirm or cancel the dependency checking between the exported packages and the rest of the project (including shared packages that belong to the project and used modules). The dependency analysis step is described in "Dependencies Between Elements" of "MagicDraw UserManual.pdf".

5. Enter the name of the module for Teamwork Server, if there is such need.
6. Either select an existing category or type a new category name.
7. Click **OK**. The module will be created in Teamwork Server as a separate file.

To create a Teamwork module using the package shortcut menu

1. Open the Teamwork project.

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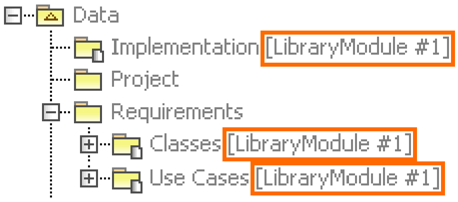
2. In the Browser, select one or more packages from which you want to create a Teamwork module.
3. From the package shortcut menu, select **Modules** and then click **Export Server Module**. The **Export Module** dialog opens. The packages you have selected in the Browser are added to the **Selected Packages** list.
4. You may decide to add more packages. In this case perform step 3, described in the Section “To create a Teamwork module using the Collaborate menu” on page 79.
5. Perform step #4 and step #5, described in the section “To create a Teamwork module using the Collaborate menu” on page 79.

Once the Teamwork module is created, all its packages and the elements they contain are read-only. Module name and version number are displayed in the brackets next to each exported package name in the Browser (see the picture below).


Data
Implementation [LibraryModule #1]
Project
Requirements
Classes [LibraryModule #1]
Use Cases [LibraryModule #1]

Working with Teamwork Modules

In Teamwork Server, a project can be divided in several parts. You may perform several actions with the part of the model:

- Reuse in other Teamwork projects
- Edit it separately.
- Export it as a Teamwork module.

To use a Teamwork module in the Teamwork Project

1. From the **Collaborate** menu, select **Server Modules** and then **Use Server Module**. The **Use Server Module** dialog opens.
2. Select the module you want to use in your project. Click **Next.**
3. Specify **Module Settings** in the next step and click **OK**.

The module will appear as read-only or read-write. It is now available for use in your project. Open the module as a separate project to edit it. For a detailed description about editing a Teamwork module, see “To edit a Teamwork module” on page 81.

To commit a project containing non-teamwork modules to the Teamwork Server

1. From the **Collaborate** menu, select **Commit Project**. The **Commit Settings** dialog opens (see "Commit Settings Dialog" on page 75).
2. If you want to save this local module as a separate teamwork module, perform the following steps:
   2.1. Click the **Local Modules** tab.
   2.2. In the **Action** list, select **Add to Server**. Perform this step for all modules you want to add to teamwork server.

NOTE	MagicDraw standard modules can not be added to server as they already exist there.

3. Click **Commit**.

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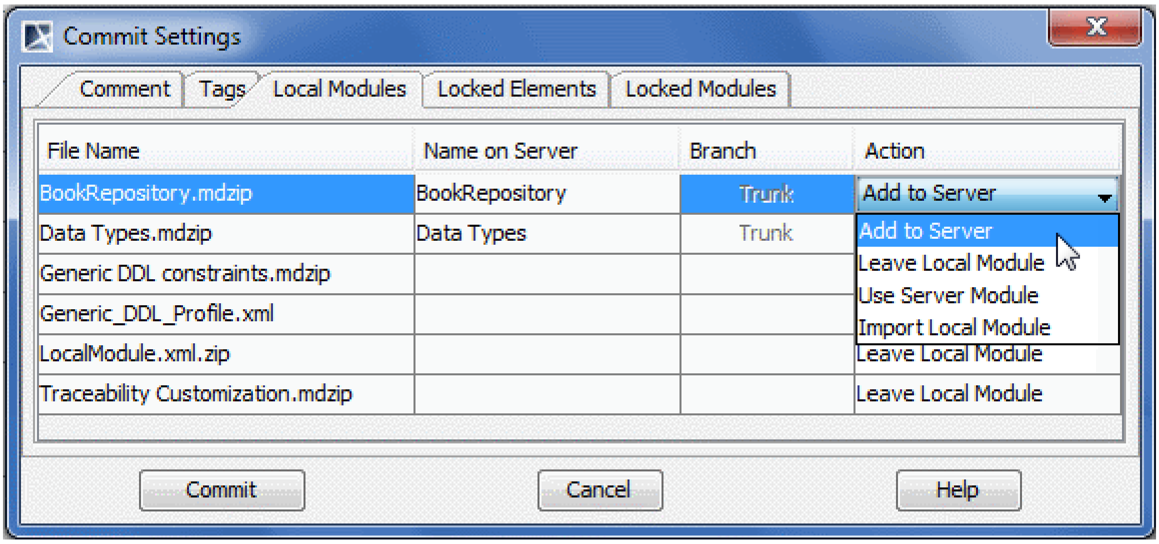


File Name	Name on Server	Branch	Action
BookRepository.mdzip	BookRepository	Trunk	Add to Server
Data Types.mdzip	Data Types	Trunk	
Generic DDL constraints.mdzip			
Generic_DDL_Profile.xml			
LocalModule.xml.zip			Leave Local Module
Traceability Customization.mdzip			Leave Local Module

Figure 39 -- The Commit Settings dialog, Local Modules tab

Now the project is committed to the Teamwork Server, and the modules are created.

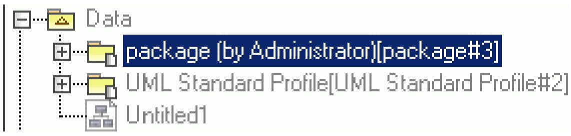
To edit a Teamwork module

1. In the Containment tree, select a module.
2. From the module shortcut menu, select **Modules** > **Open Module As Project**. The module is opened as a new project.
3. Lock the module elements you want to edit. For more information about locking, see “Locking Model Elements and Diagrams for Editing” on page 26.
4. When unlocking an edited element, the **Commit Settings** dialog opens. Click **Commit**.

A new version of this module on the Teamwork Server is created.

To reload a Teamwork module

- From the module shortcut menu, select **Modules** > **Reload Module.** The version number of the latest version is shown beside the module name (see the following figure).


Data
package [by Administrator][package#3]
UML Standard Profile[UML Standard Profile#2]
Untitled1

This procedure allows you to use a new version of a module that has been uploaded to the Teamwork Server. You can use reloaded module in your own Teamwork project.

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Project Branching in Teamwork

View Online Demo	Project branching

Introduction

Project Branching allows the user to derive one project version from another. It duplicates versions of a project and enables users to work simultaneously on them. Branching increases productivity for those who:

- use MDA tools (for example AndroMDA, openArchitectureWare and other).
- produce different products that are still very interrelated. This is common when a product has several versions and each of them is designed for different types of customers.
- have several development teams working on a single product and have to merge several development branches before releasing the product.

MagicDraw supported Teamwork Server repository features:

1. Teamwork Server stores a list of projects.
2. Multiple hierarchical branches are supported for every single project version.
3. Multiple versions of a single project and a branch are supported with one active (editable) version each.
4. The user can open every version of a project or a branch as read-only and one active version as read-write.
5. A project or branch can be derived from any previous version of that project or branch (either from the same branch or different branch).
6. The user can create a branch from any version of a project or a branch.
7. The user can compare two versions of the same or different projects or branches.
8. Teamwork Server integrates with Subversion and ClearCase.

The Teamwork Server project repository structures in MagicDraw are shown in Figure 40 on page 82. The project or branch versions are depicted in rectangles.

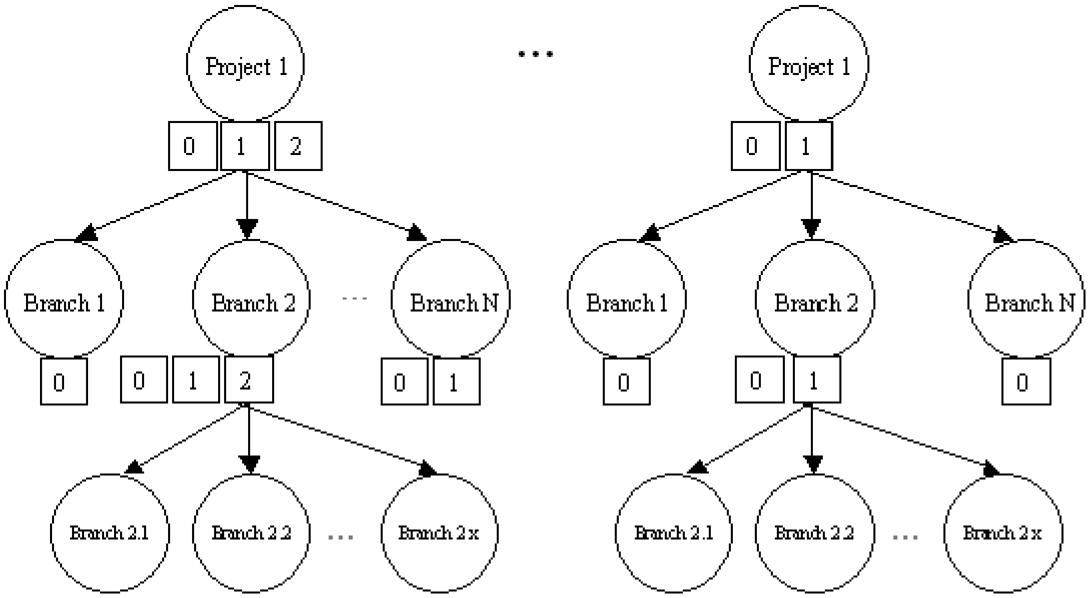

Figure 40 -- MagicDraw project repository structures

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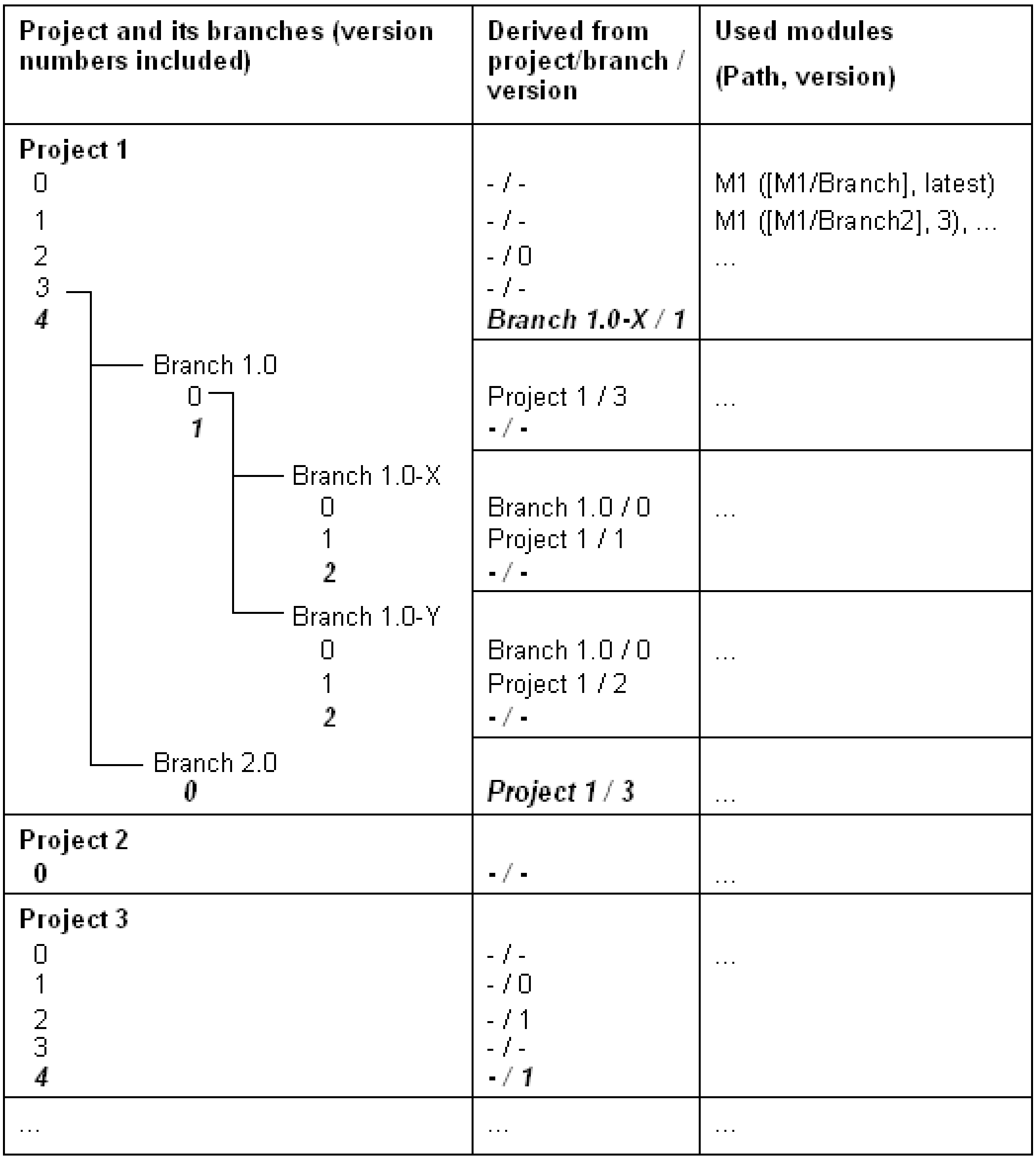
As shown above, a branch can be created from any project or branch version. Every project and branch has at least one version (version 0). In MagicDraw every project version also carries information of the version it was derived from. Project and branch versions are assigned by adding 1 (one) to the previous project or branch version number. A new version of a project can be derived from a previous project version or from any branch version of the project. A new branch version can also be derived from any project version it belongs to or from any branch version of that project. Every version can be tagged.

Modules are also projects. Therefore, they can also be branched. All features and rules that apply to projects and project branches apply to modules as well.

A version of a project or a branch stores information of the modules it uses: the module path or module branch and the version of that module or branch. A version may store the "latest" value. This means that it always uses the latest version of the module or module branch.

An example of a branched repository is shown in Figure 41 on page 83.



Project and its branches (version numbers included)	**Derived from project/branch / version**	**Used modules** **(Path, version)**
Project 1 0 1 2 3 ***4***	- / - - / - - / 0 - / - ***Branch 1.0-X / 1***	M1 ([M1/Branch], latest) M1 ([M1/Branch2], 3), ...
Branch 1.0 0 ***1***	Project 1 / 3 **- / -**	...
Branch 1.0-X 0 1 ***2***	Branch 1.0 / 0 Project 1 / 1 **- / -**	...
Branch 1.0-Y 0 1 **2**	Branch 1.0 / 0 Project 1 / 2 **- / -**	...
Branch 2.0 ***0***	***Project 1 / 3***	...
Project 2 **0**	**- / -**	...
Project 3 0 1 2 3 ***4***	- / - - / 0 - / 1 - / - **- / *1***	...
...	...	...

Figure 41 -- Project repository structure (active versions are in bold) in MagicDraw

MagicDraw supports two branching scenarios:

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1. Branching a project causes branching of all or part of used modules. This scenario is depicted in figure:

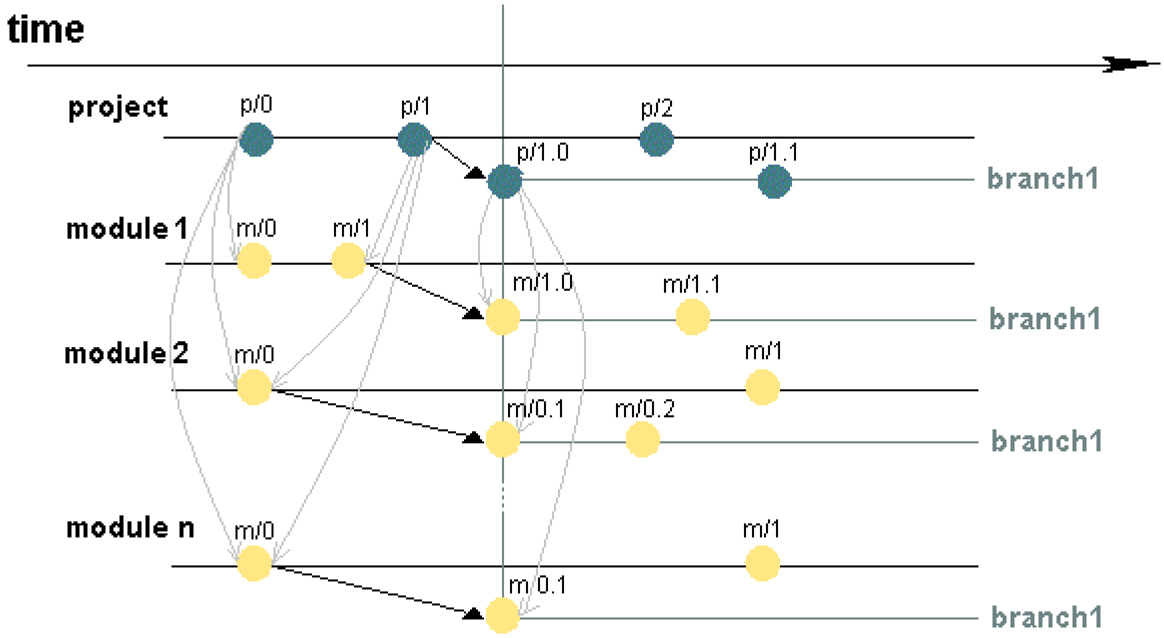

Figure 42 -- Branched project uses branched modules

The list of modules, which are used by a particular project version, is presented in the table below.

Project version	Used modules
p/0	● module 1 - version m/0; ● module 2 - version m/0, ... ● module n - version m/0.
p/1	● module 1 - version m/1; ● module 2 - version m/0, ... ● module n - version m/0.
p/1.0	● module1 m/1.0 ● module2 m/0.1 ● ... ● module n m/0.1

2. Branching a project does not cause branching of the modules it uses. The branch of a project uses the same versions of the modules are used by the project it is derived from (it can be the module "latest" version or some explicit version specified by the user). This scenario is depicted in Figure 43 on page 85.

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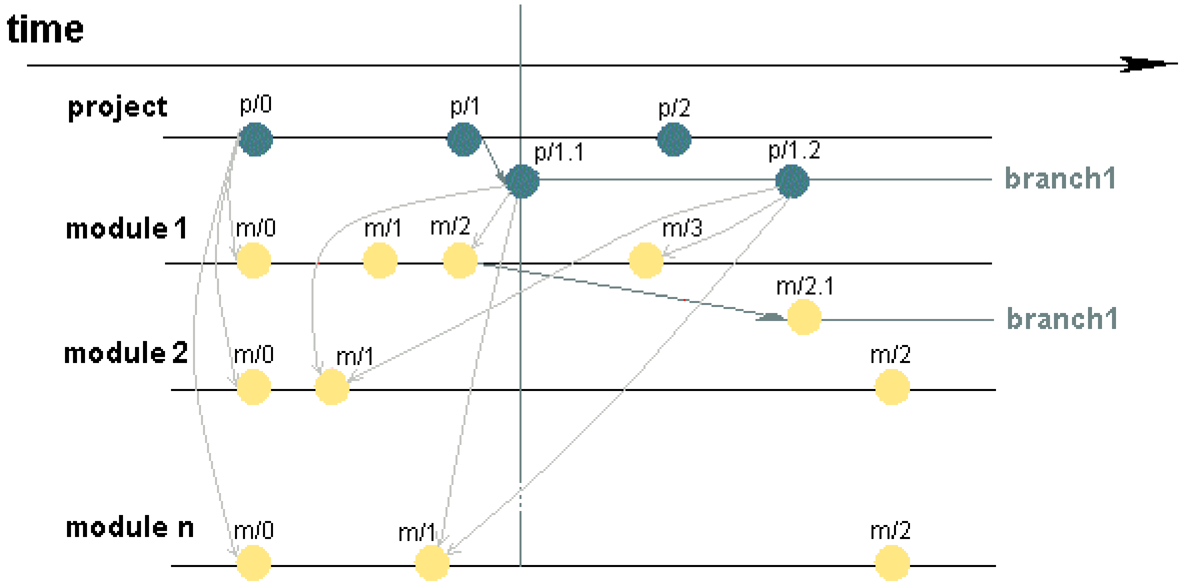

Figure 43 -- Branched project uses the same versions of modules that are used by the project

The list of modules, which are used by a project in a particular project version, is presented in the table below.

Project version	The list of modules, which project uses
p/0	• module 1 - version m/0; • module 2 - version m/0, • module n - version m/0.
p/1.1	• module 1 - version m/2; • module 2 - version m/1, • module n - version m/1.
p/1.2	• module 1 - version m/3; • module 2 - version m/1, • module n - version m/1.

Managing Branches

To create a project branch

1. From the **Collaborate** menu, select **Projects**. The **Edit Projects** dialog opens.
2. Select the project from which a branch will be created.

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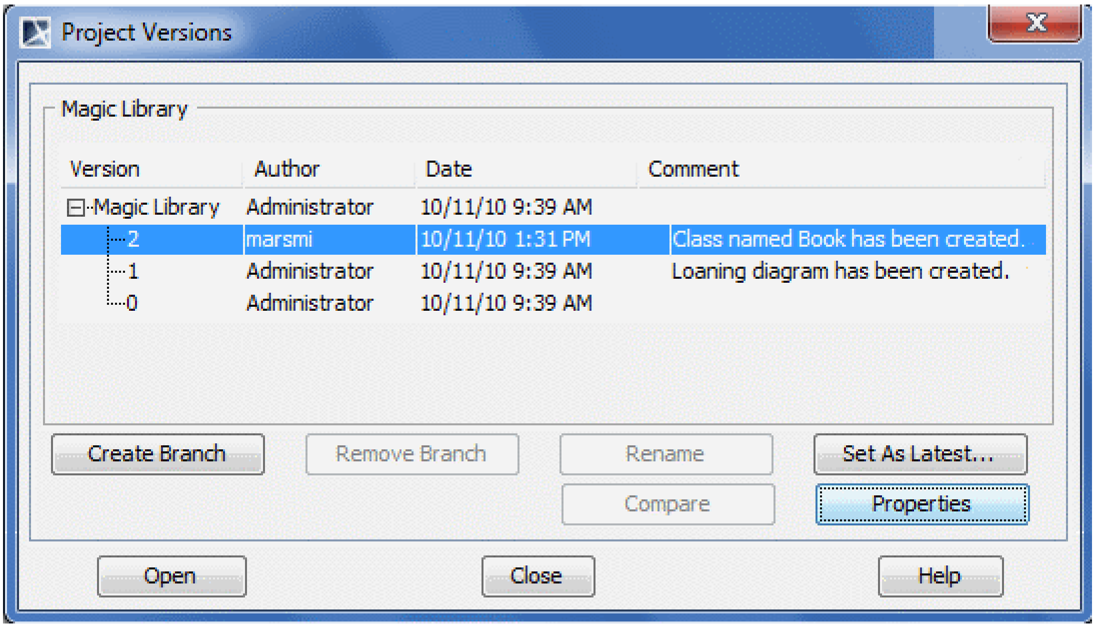
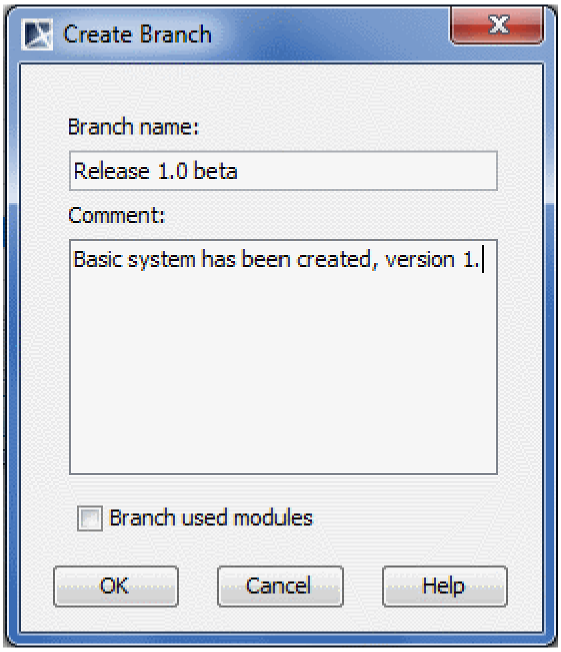
3. Click the **Versions** button. The **Project Versions** dialog opens.



Version	Author	Date	Comment
⊟ Magic Library	Administrator	10/11/10 9:39 AM	
2	marsmi	10/11/10 1:31 PM	Class named Book has been created.
1	Administrator	10/11/10 9:39 AM	Loaning diagram has been created.
0	Administrator	10/11/10 9:39 AM	

4. Select the project version from which a branch will be derived.
5. Click the **Create Branch** button.
6. In the **Create Branch** dialog, type the branch name and comment.



Branch name: Release 1.0 beta

Comment: Basic system has been created, version 1.

☐ Branch used modules

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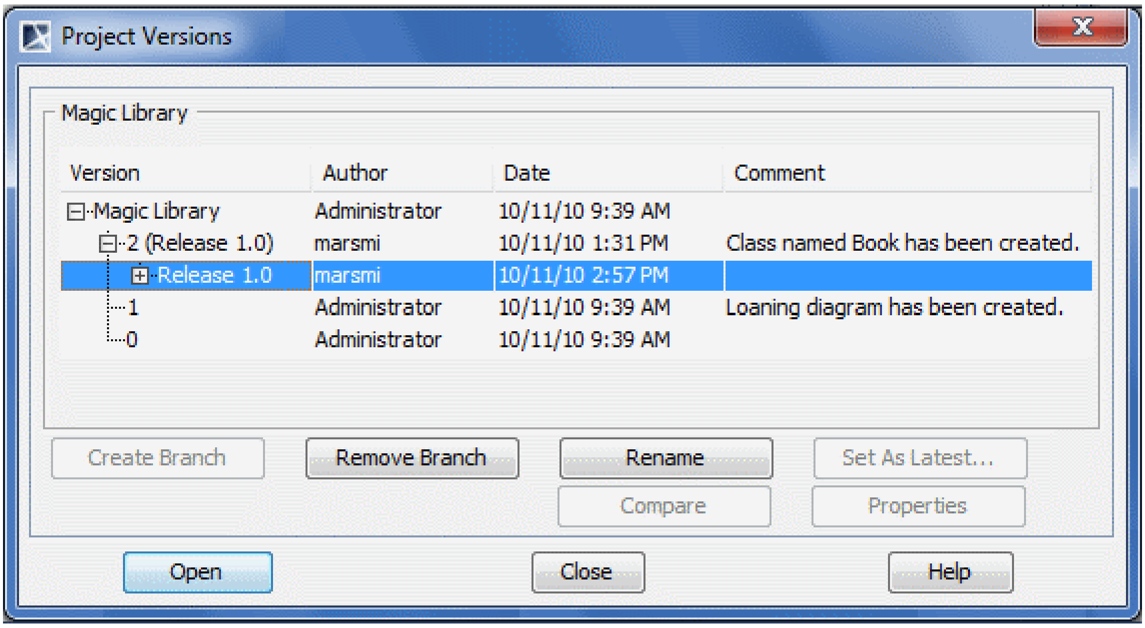
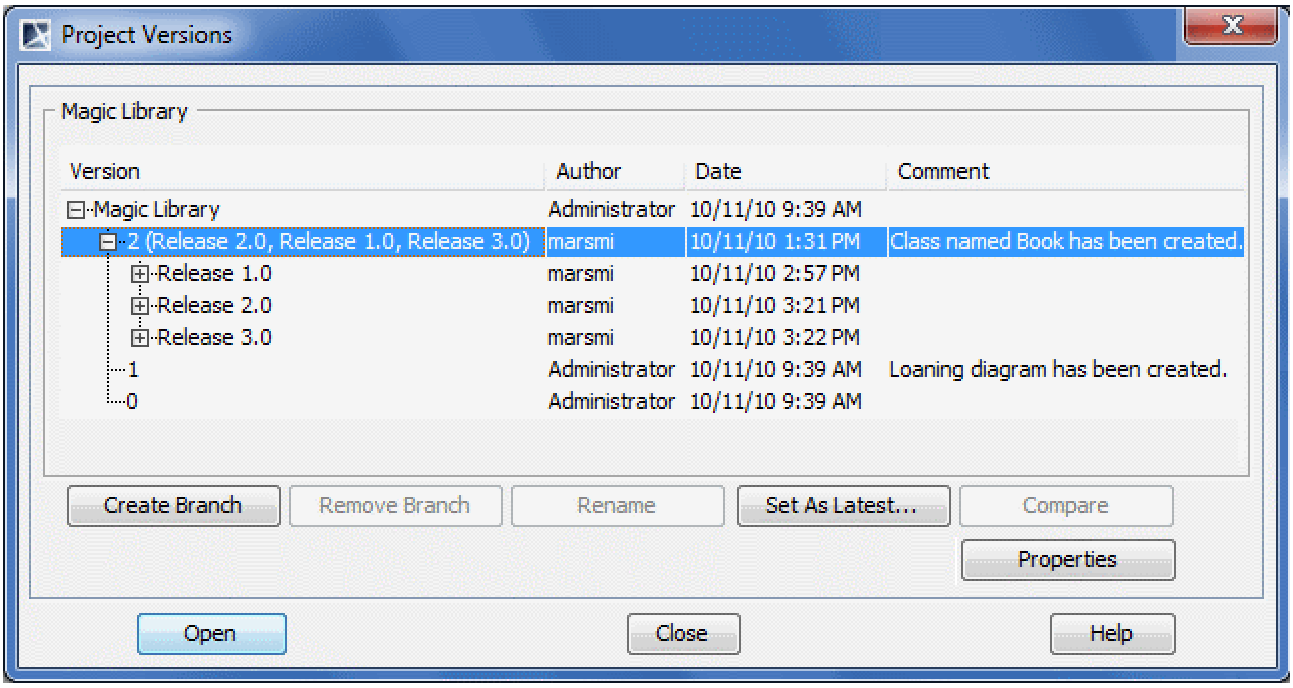
7. In the **Create Branch** dialog, click **OK**. A new project branch is created.



Version	Author	Date	Comment
⊟ Magic Library	Administrator	10/11/10 9:39 AM	
⊟ 2 (Release 1.0)	marsmi	10/11/10 1:31 PM	Class named Book has been created.
⊞ Release 1.0	marsmi	10/11/10 2:57 PM	
1	Administrator	10/11/10 9:39 AM	Loaning diagram has been created.
0	Administrator	10/11/10 9:39 AM	

Tips!

- You can branch multiple projects together with their modules. To branch multiple projects, in the **Versions** dialog select a few projects (use SHIFT or CTRL keys).
- It is possible that several branches are derived from a single project version. In this case a comma-separated list of branches is displayed next to the project version (see the following figure).



Version	Author	Date	Comment
⊟ Magic Library	Administrator	10/11/10 9:39 AM	
⊟ 2 (Release 2.0, Release 1.0, Release 3.0)	marsmi	10/11/10 1:31 PM	Class named Book has been created.
⊞ Release 1.0	marsmi	10/11/10 2:57 PM	
⊞ Release 2.0	marsmi	10/11/10 3:21 PM	
⊞ Release 3.0	marsmi	10/11/10 3:22 PM	
1	Administrator	10/11/10 9:39 AM	Loaning diagram has been created.
0	Administrator	10/11/10 9:39 AM	

Figure 44 -- The Project Versions dialog. Several branches are derived from a single project version

To open a branch

1. Open **Project Versions** dialog. See the procedure "To create a project branch" on page 85.

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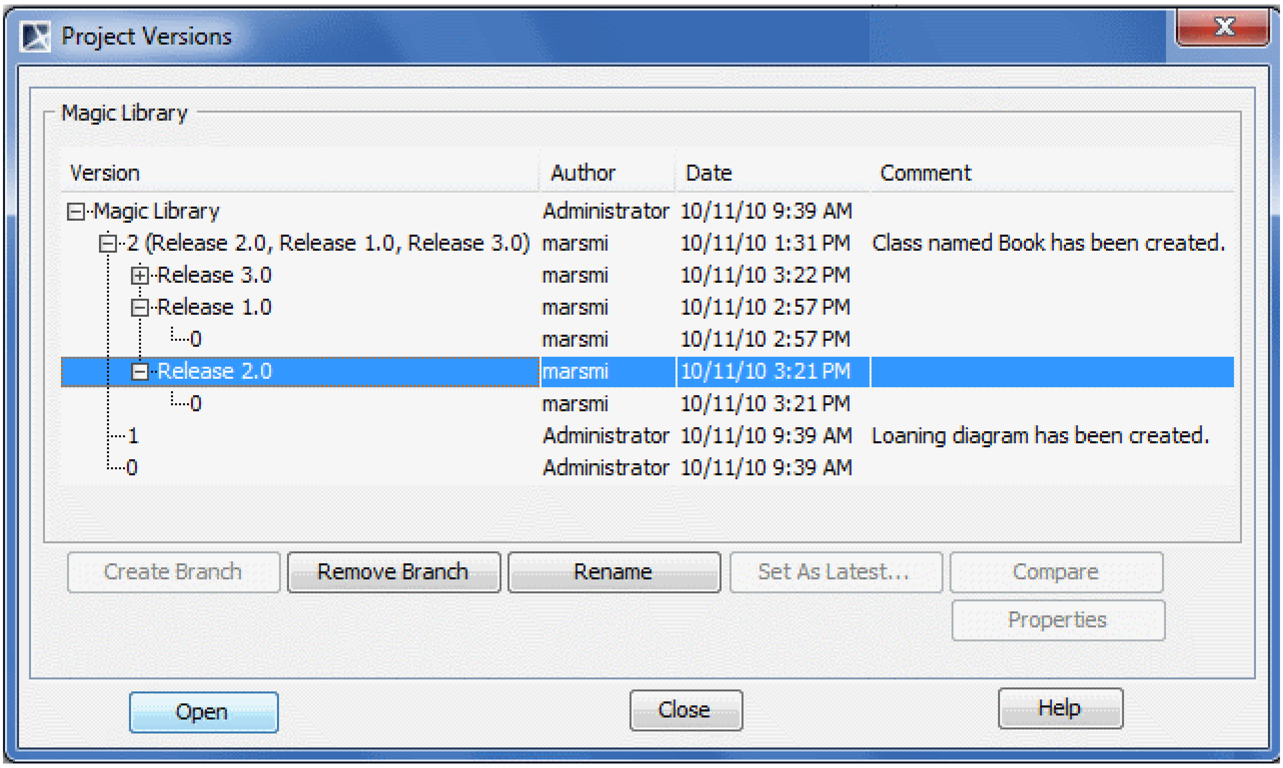
2. In the **Project Versions** dialog, select a branch to open.



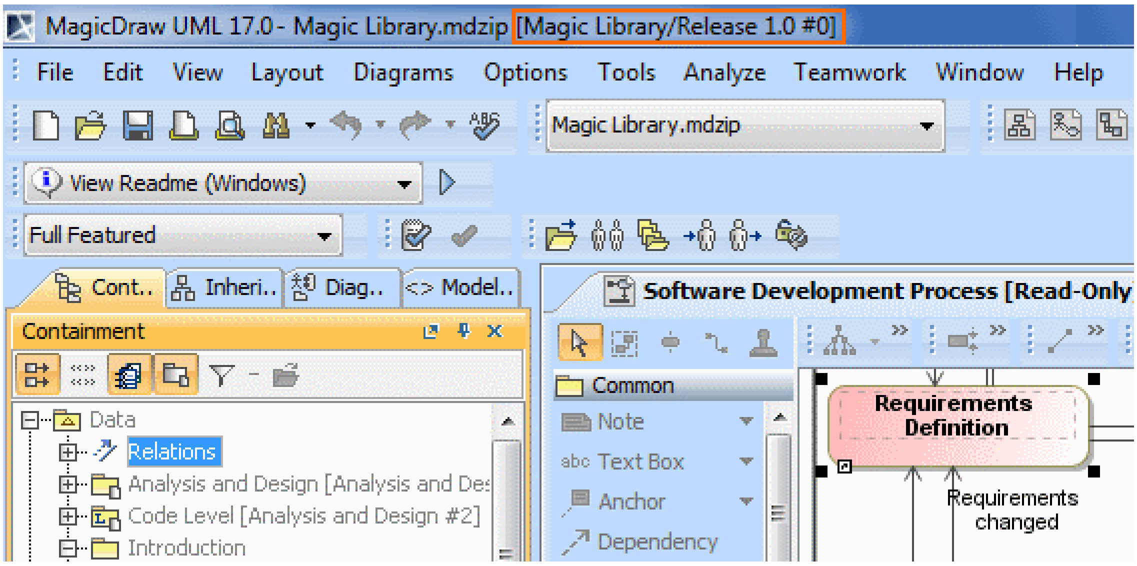
Project Versions

Magic Library

Version	Author	Date	Comment
⊟ Magic Library	Administrator	10/11/10 9:39 AM	
⊟ 2 (Release 2.0, Release 1.0, Release 3.0)	marsmi	10/11/10 1:31 PM	Class named Book has been created.
⊞ Release 3.0	marsmi	10/11/10 3:22 PM	
⊟ Release 1.0	marsmi	10/11/10 2:57 PM	
0	marsmi	10/11/10 2:57 PM	
⊟ Release 2.0	marsmi	10/11/10 3:21 PM	
0	marsmi	10/11/10 3:21 PM	
1	Administrator	10/11/10 9:39 AM	Loaning diagram has been created.
0	Administrator	10/11/10 9:39 AM	

3. Click the **Open** button to open the project branch.

Tip! It is easy to recognize whether you are working on a branch by looking at the title of the main window: the project name, branch names separated by slashes, and project version in the branch are shown (see the following figure).



MagicDraw UML 17.0 - Magic Library.mdzip [Magic Library/Release 1.0 #0]

Figure 45 -- The project title of the main window: project name, branch name, and project version notation

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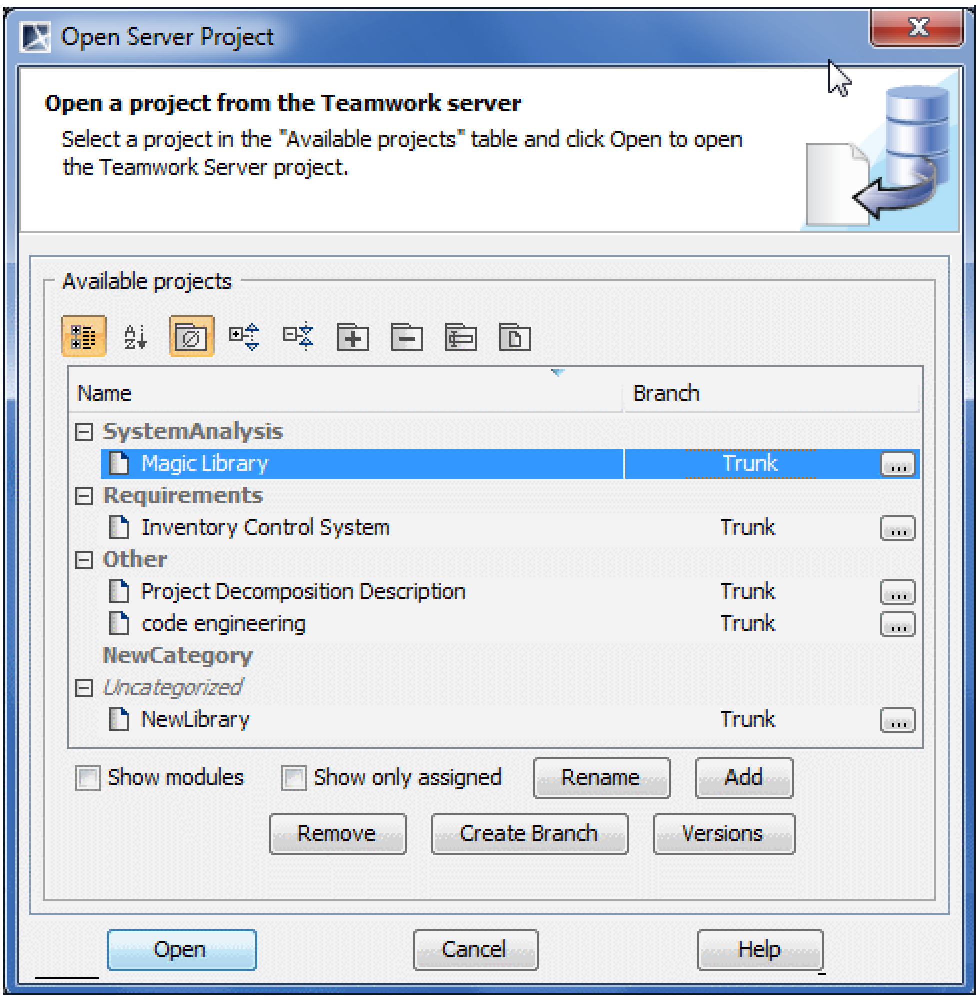
To quickly open the latest version of a branch using the **Open Server Project dialog**

1. From the **Collaborate** menu, select **Open Server Project**. The **Open Server Project** dialog opens.



Open a project from the Teamwork server

Select a project in the "Available projects" table and click Open to open the Teamwork Server project.

Available projects

Name	Branch
⊟ SystemAnalysis	
Magic Library	Trunk
⊟ Requirements	
Inventory Control System	Trunk
⊟ Other	
Project Decomposition Description	Trunk
code engineering	Trunk
NewCategory	
⊟ *Uncategorized*	
NewLibrary	Trunk

□ Show modules □ Show only assigned

2. Select a project.

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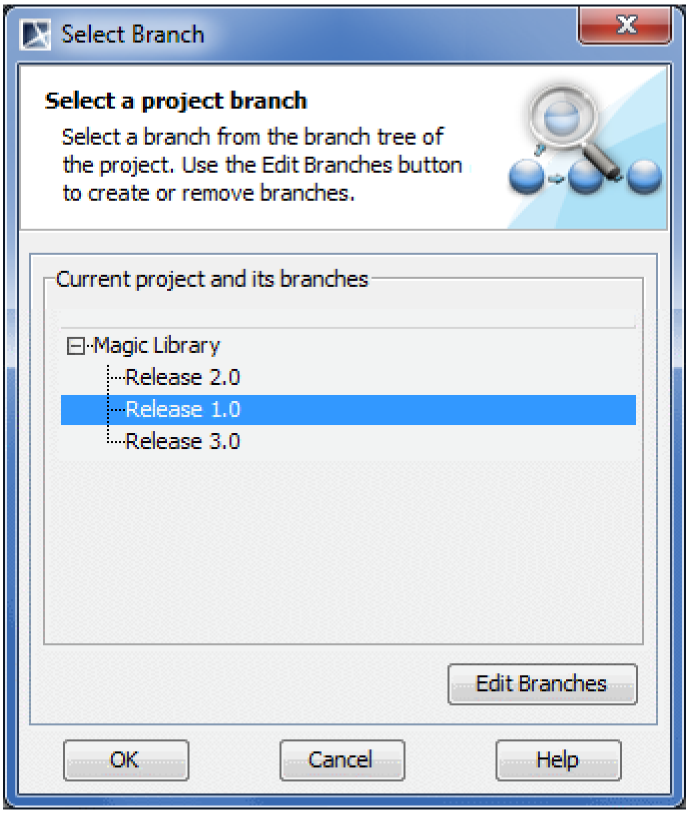
3. Press the **...** button. The **Select Branch** dialog opens.



Select Branch

Select a project branch

Select a branch from the branch tree of the project. Use the Edit Branches button to create or remove branches.

Current project and its branches

- Magic Library
  - Release 2.0
  - Release 1.0
  - Release 3.0

4. Select a project branch and click **OK.**
5. In the **Open Server Project** dialog, click **Open**. The project of the selected branch opens.

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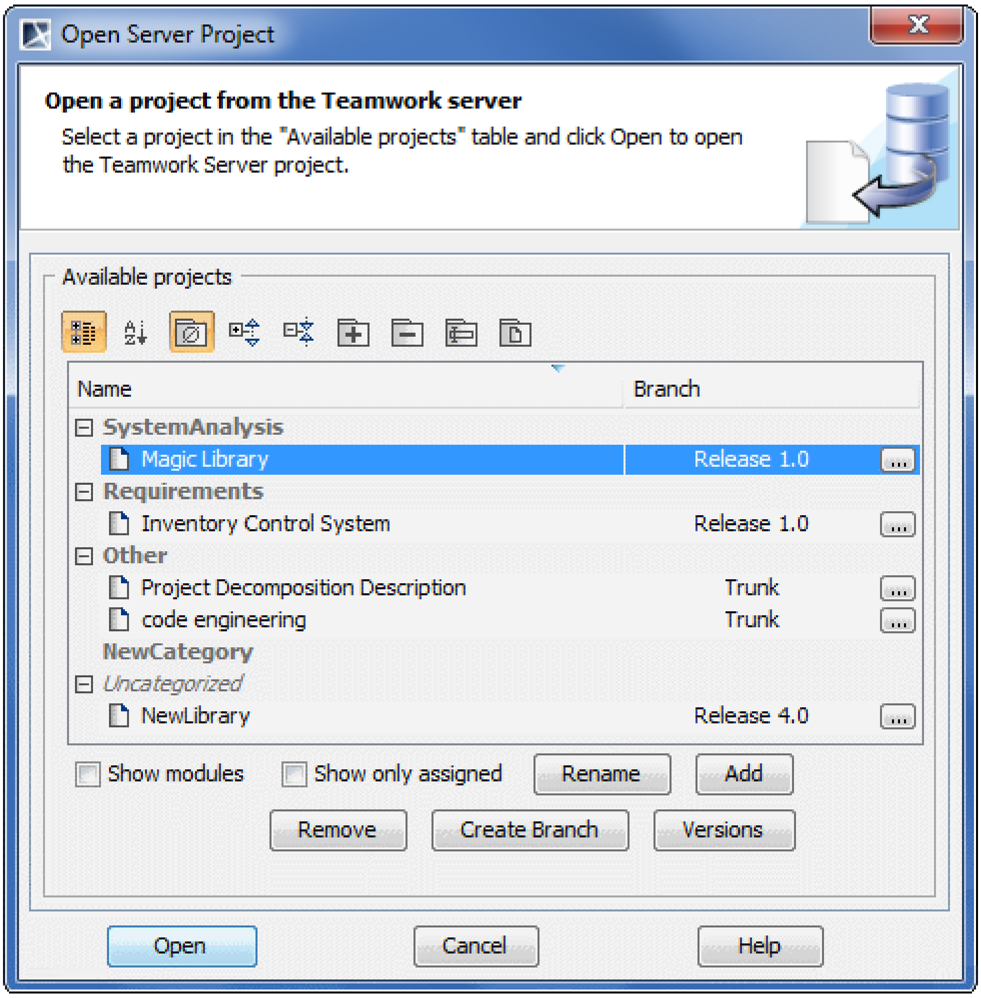
The branch opened at the latest is recorded in the **Open Server Project** dialog. You can see the branch name in the **Branch** column. The default branch value is Trunk.



Open a project from the Teamwork server

Select a project in the "Available projects" table and click Open to open the Teamwork Server project.

Available projects

Name	Branch
⊟ SystemAnalysis	
Magic Library	Release 1.0
⊟ Requirements	
Inventory Control System	Release 1.0
⊟ Other	
Project Decomposition Description	Trunk
code engineering	Trunk
NewCategory	
⊟ *Uncategorized*	
NewLibrary	Release 4.0

☐ Show modules ☐ Show only assigned

Figure 46 -- The project and its branch selected to open

To branch modules together with project

1. Open **Project Versions** dialog. See the procedure "To create a project branch" on page 85.
2. In the **Project Versions** dialog, select the project version and click the **Create Branch** button. The **Create Branch** dialog opens.

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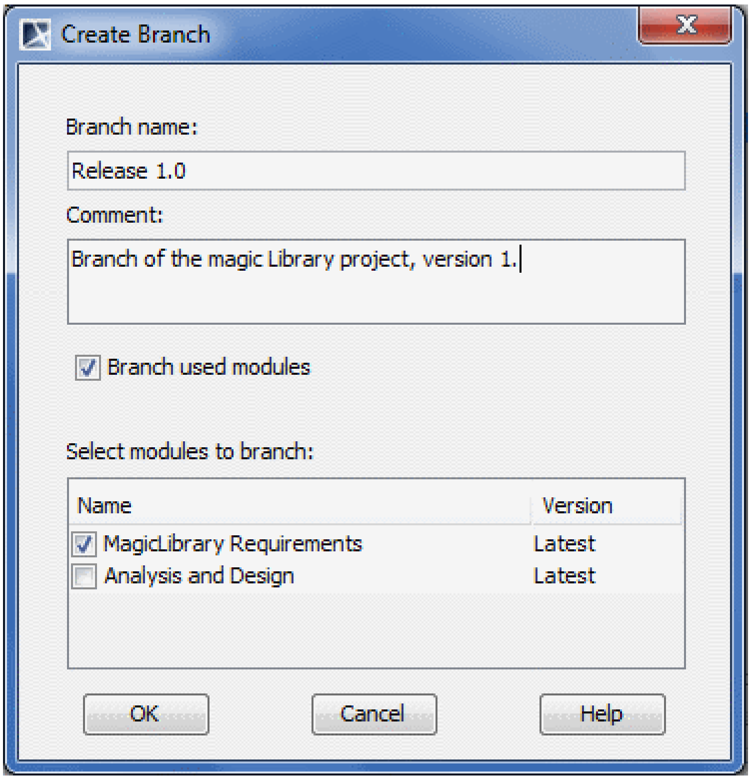
3. Select the **Branch Used Modules** check box. The **Select modules to branch** area appears in the dialog.



Branch name: Release 1.0

Comment: Branch of the magic Library project, version 1.

☑ Branch used modules

Select modules to branch:

Name	Version
☑ MagicLibrary Requirements	Latest
□ Analysis and Design	Latest

4. In the **Select modules to branch** list, select the module to be branched together with the project.
5. Click **OK** when you are done.

The workflow of project branching when modules are branched together with the project is depicted in Figure 42 on page 84.

LDAP Support

LDAP Integration allows Teamwork Server to authenticate its users against LDAP servers. LDAP Integration enables pass-through MagicDraw authentication against LDAP servers, by passing client's authentication information to LDAP servers.

LDAP Integration supports Simple User+Password and SASL authentication, SSL/TLS protocols, and several LDAP servers configured for a single integration.

Enabling LDAP Integration

To enable LDAP Integration

1. Start Teamwork Administrator's Console (see "Starting Teamwork Administrator’s Console" on page 48).
2. Click the **LDAP Integration** tab.
3. Click **Enable LDAP Integration**. LDAP integration settings become active (see the following figure).

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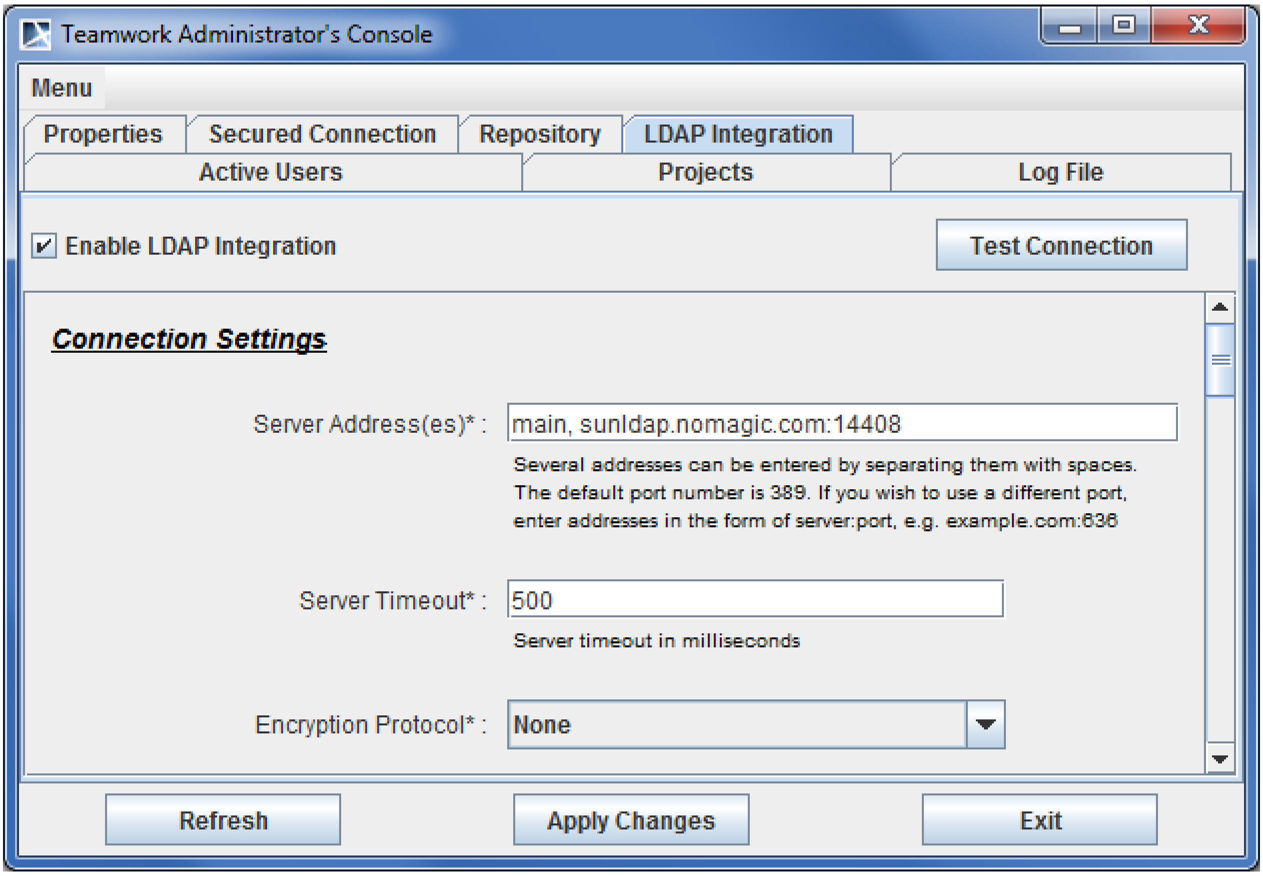
4. After enabling the integration, specify all mandatory setting values. Mandatory settings are marked with the star sign at the end of name. There are four groups of settings in the **LDAP Integration** tab:
   - Connection Settings (see on page 93)
   - Authentication Settings (see on page 94)
   - User Data Retrieval Settings (see on page 99)
5. Click **Apply Changes** when you are done. You will be required to test the connection against the LDAP server. For more information about the connection testing, see "Connection Testing" on page 101.

Connection Settings

Connection Settings specifies network and security settings for connecting to LDAP servers..



☑ Enable LDAP Integration

Connection Settings

Server Address(es)* : main, sunldap.nomagic.com:14408

Several addresses can be entered by separating them with spaces. The default port number is 389. If you wish to use a different port, enter addresses in the form of server:port, e.g. example.com:636

Server Timeout* : 500

Server timeout in milliseconds

Encryption Protocol* : None

Figure 47 -- Teamwork Administrator's Console, LDAP Integration tab. Connection Settings

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Connection Settings are described in the following table.

Setting Name	Description
Server Address(es)	A list of servers separated by spaces where each entry holds server address and server port. If unspecified, the 389 port is used. At least one server address must be specified. Usually a master server and its slaves (replicas) are specified for round-robin authentication. Teamwork Server authenticats against servers in the order they are listed in the **Server Adress(es)**. If authentication does not succeed to the first server in the list, the second server is used, and so on until authentication is successful. Authentication failure for the whole integration is considered as an inability to authenticate against any of the specified servers. A single server in the specified list is queried within the period of time specified in the **Server Timeout** setting.
Server Timeout	A time duration that specifies maximum period of time in milliseconds to successfully authenticate to a single server. If authentication is unsuccessful within this period of time, the next server in the server list is queried. The default value for this option is 500 milliseconds.
Encryption protocol	A list of protocols. You can use SSL or TLS protocols for the encription. Select **None**, if you do not need to use an encryption protocol. The selected protocol applies to every server specified in the LDAP server list. For example, if the SSL encryption is specified, communications to all the servers specified in the **Server Address(es)** list will be encrypted using the SSL protocol. If the encrypted connection is used, Server Root CA certificate and password may be required. Server Root CA certificate should be stored in Java Key Store (JKS) format. For more information about converting certificates to JKS format, see "Converting Certificates to JKS Format" on page 101.

Authentication Settings

LDAP Integration supports two most popular LDAP authentication methods. They are as follows:

- Simple User+Password (see "Authentication settings for the Simple User+Password authentication type" on page 95).
- SASL (see "Authentication settings for the SASL authentication type" on page 98)

Teamwork Server transforms user credentials entered in MagicDraw to LDAP authentication credentials by using the templates in authentication settings. After successful authentication to LDAP, a special user for each authenticated LDAP user is created in Teamwork Server. They differ from ordinary users as they have no passwords (in order to complete authentication, authentication to LDAP server(s) is used). You can perform various actions for these users, otherwise. It is possible to setup permissions, remove users, and do other common actions with users.

NEW! You can automatically create a proxy user account for Teamwork Server. Select **Auto-add unknown users if they login successfully** checkbox and authenticated user credentials without password will be stored in Teamwork Server on successful login.

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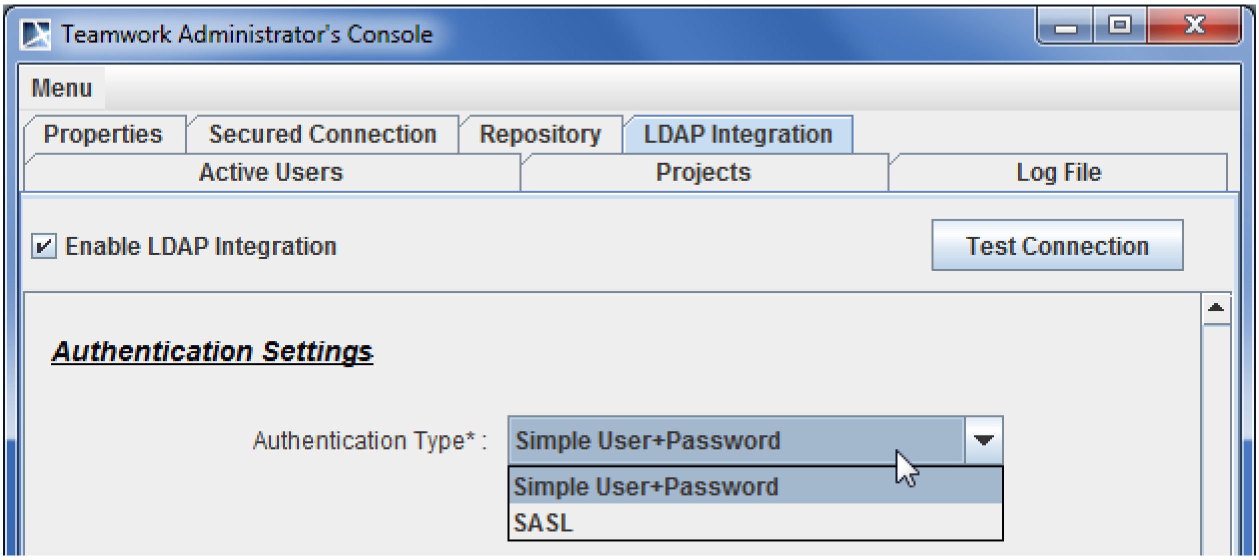
To select an authentication type for LDAP integration

- In the **Authentication Type** list, select a desired protocol.



☑ Enable LDAP Integration

Authentication Type* : Simple User+Password

Figure 48 -- Teamwork Administrator’s Console, LDAP Integration tab. Selecting Authentication Type

Authentication settings for the Simple User+Password authentication type

Using the **Simple User+Password** authentication type, you can select the following options:

- **Use User DN template**
- **Retrieve User DN by using an LDAP query**

Authentication using a user DN template has the following characteristics:

- A hard-coded template is filled-in with the user login supplied on the login process to Teamwork Server.
- User DN is used to login to LDAP server.

Authentication using retrieved user DN performs in the following order:

1. A query template is filled-in with the login name entered by the user.
2. An anonymous bind or specific User DN and password is used to connect to the LDAP server.
3. The LDAP server is queried for User DN by using the query produced in the step #1, **Search Base**, and **Search Scope** settings’ values.
4. The LDAP server returns User DN by the query.
5. Teamwork disconnects from the LDAP server.
6. Teamwork tries to login to LDAP using returned User DN and password supplied by the user during the login process.

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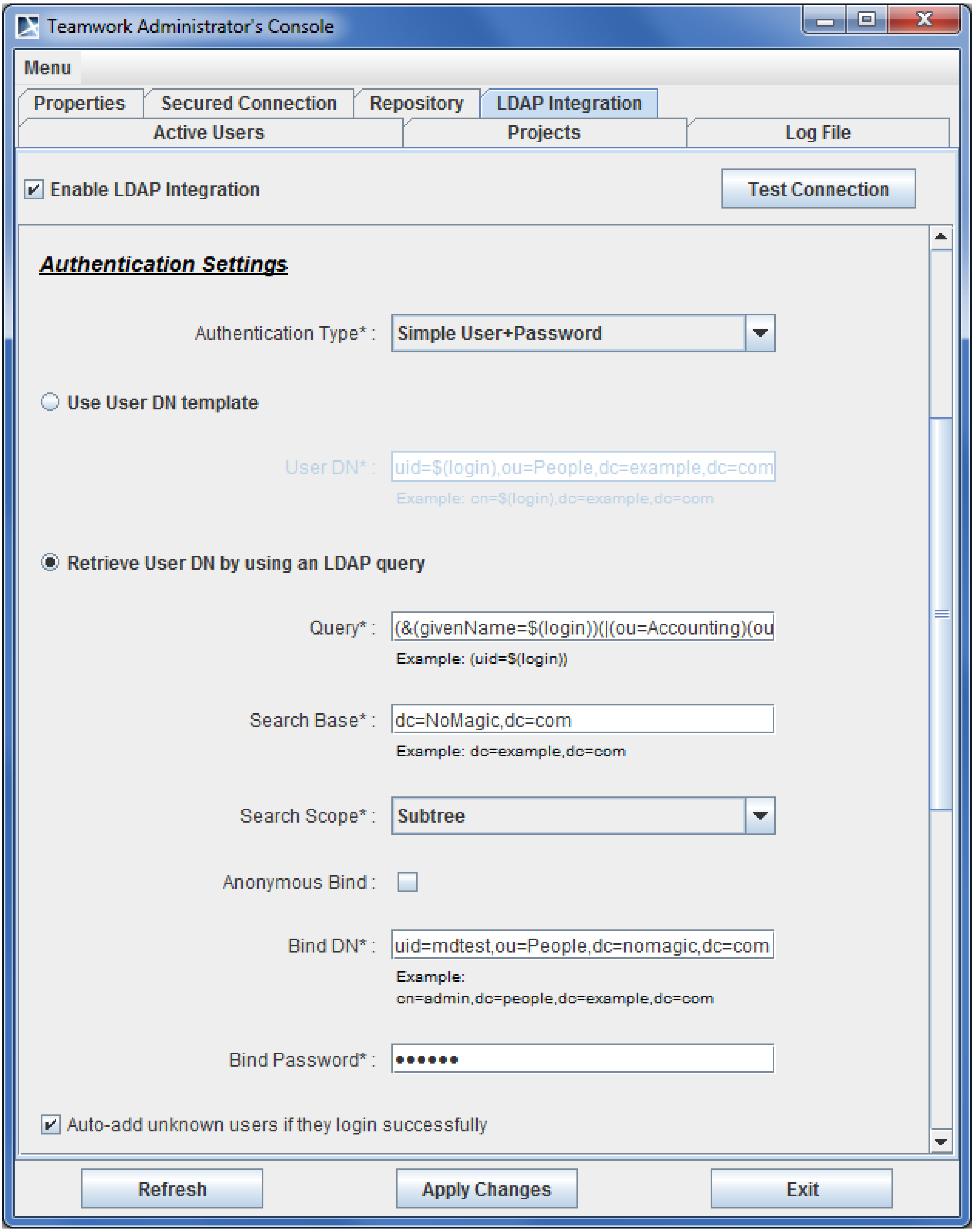

☑ Enable LDAP Integration

Authentication Settings

Authentication Type* : Simple User+Password

○ Use User DN template

User DN* : uid=$(login),ou=People,dc=example,dc=com
Example: cn=$(login),dc=example,dc=com

● Retrieve User DN by using an LDAP query

Query* : (&(givenName=$(login))(|(ou=Accounting)(ou
Example: (uid=$(login))

Search Base* : dc=NoMagic,dc=com
Example: dc=example,dc=com

Search Scope* : Subtree

Anonymous Bind : □

Bind DN* : uid=mdtest,ou=People,dc=nomagic,dc=com
Example:
cn=admin,dc=people,dc=example,dc=com

Bind Password* : ••••••

☑ Auto-add unknown users if they login successfully

Figure 49 -- Teamwork Administrator's Console, LDAP Integration tab. Authentication Settings (Simple User+Password)

Authentication Settings are described in the following table.

Setting Name	Description
Settings that are active when the **Use User DN template** is selected	

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Setting Name	Description
User DN	User DN stores a template, which is used for mapping the user's authenticating against Teamwork Server to LDAP distinguished names when authenticating. The template recognizes a single keyword $(login). An example of the template: `cn=$(login), dc=example, dc=com`
Settings that are active when the **Retrieve User DN by using an LDAP query** is selected	
Query	The LDAP query for retrieving User DN, for example: `uid=$(login)`
Search Base	DN, from which a search should begin, for example: `dc=example,dc=com`
Search Scope	Search scope specifies whether the search must be restricted to the directly owned DNs only or it must be performed in the whole subtree. Choose one of the following: ● One level ● Subtree
Anonymous Bind	A mode of bind, specifying, whether the user connects to LDAP server with a specific user or anonymously for being able to find the User DN which corresponds to the user who is trying to login to Teamwork. **IMPORTANT!** You must have such a user if you do not have anonymous access.
Bind DN	Specific User DN for connecting to the LDAP server and perform queries. **NOTE:** This element is active, when **Anonymous Bind** is not selected.
Bind Password	A specific password to connect to the LDAP server and perform queries (you must to have such a user if you do not have anonymous access!) **NOTE:** This element is active, when the **Anonymous Bind** is not selected.

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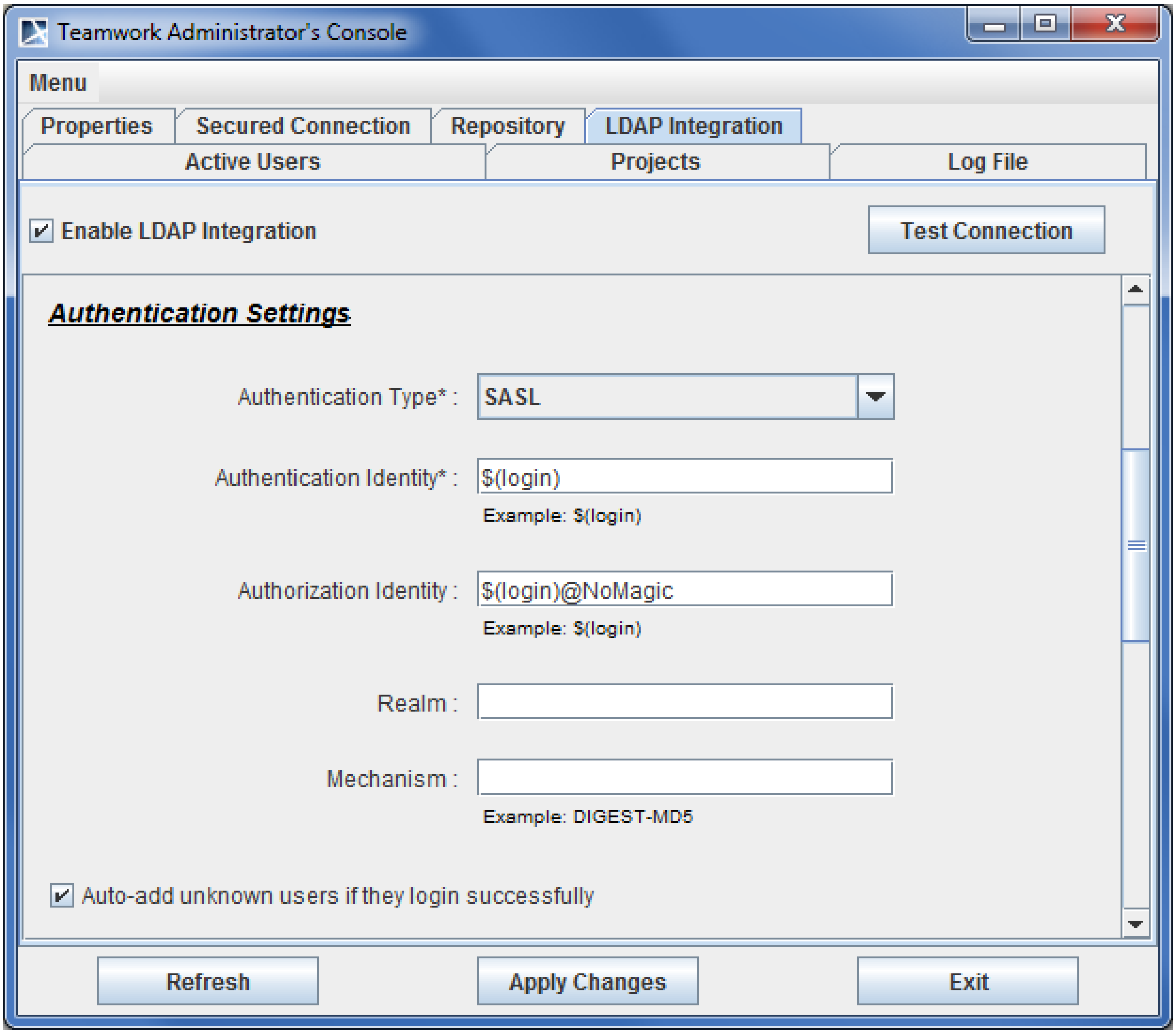
Authentication settings for the SASL authentication type



☑ Enable LDAP Integration

Authentication Settings

Authentication Type* : SASL

Authentication Identity* : $(login)
Example: $(login)

Authorization Identity : $(login)@NoMagic
Example: $(login)

Realm :

Mechanism :
Example: DIGEST-MD5

☑ Auto-add unknown users if they login successfully

Figure 50 -- Teamwork Administrator's Console, LDAP Integration tab. Authentication Settings (SASL)

Authentication Settings are described in the following table.

Setting Name	Description
Authentication Identity	Login name supplied by the user is transformed to an authentication identity when authenticating. The authentication Identity is a mandatory template. The template recognizes a single keyword $(login). An example of a template: `$(login)`

Authorization Identity	Login name supplied by the user is transformed to an authorization identity when authenticating if the **Authorization Identity** template is specified. The template recognizes a single keyword $(login).
	An example of a template:
	`$(login)`
	or
	`$(login)@example`

Realm	Specifies the realm of an authentication identity for the SASL bind.

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Setting Name	Description
Mechanism	Specifies the SASL mechanism to be used for authentication. An example: `DIGEST-MD5`

User Data Retrieval Settings

Authenticated users usually have an access to User DN attributes in the LDAP database. If the user information retrieval is enabled, and User DN attributes are accessible to the authenticated user, Teamwork Server retrieves their values and sets them for the corresponding external users.

User DN is retrieved in the same way as it is done if the **Simple User+Password** authentication type is enabled (either by using a static User DN template or by querying the LDAP server(s) for User DN). When the user logs in to the LDAP server, this connection is further reused for retrieving user information.

If the user information retrieval is disabled or User DN attributes are not accessible to the authenticated user, Teamwork Server creates an external user with the login name that was specified by the user on the authentication.

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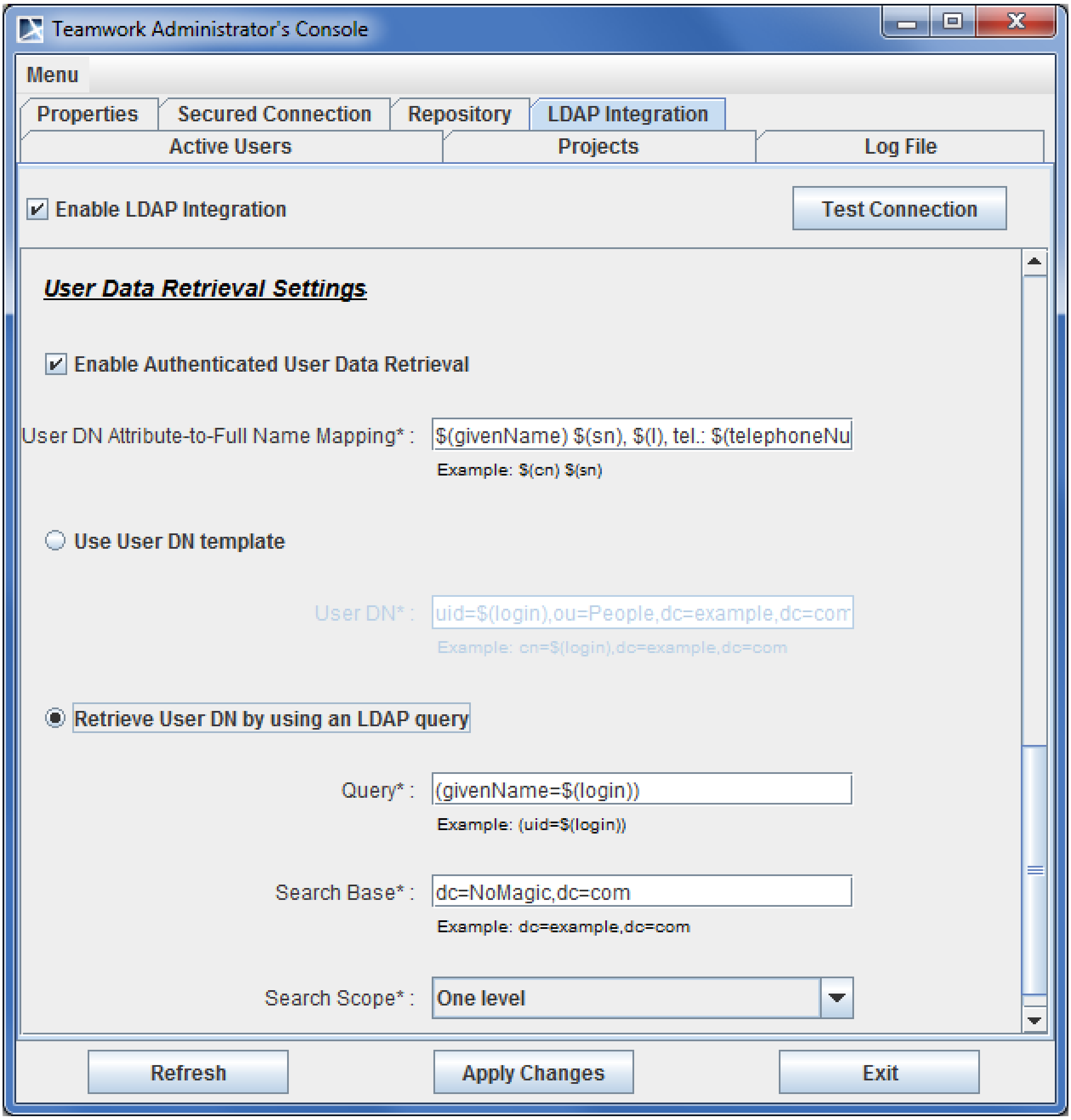

☑ Enable LDAP Integration

User Data Retrieval Settings

☑ Enable Authenticated User Data Retrieval

User DN Attribute-to-Full Name Mapping* : $(givenName) $(sn), $(l), tel.: $(telephoneNu
Example: $(cn) $(sn)

○ Use User DN template

User DN* : uid=$(login),ou=People,dc=example,dc=com
Example: cn=$(login),dc=example,dc=com

● Retrieve User DN by using an LDAP query

Query* : (givenName=$(login))
Example: (uid=$(login))

Search Base* : dc=NoMagic,dc=com
Example: dc=example,dc=com

Search Scope* : One level

Figure 51 -- Teamwork Administrator's Console, LDAP Integration tab. User Data Retrieval Settings

User Data Retrieval Settings are described in the following table:

Setting Name	Description
User DN Attribute-to-Full Name Mapping	After a specific User DN is found, the name of a local user which is created on the authentication is created by using the Full Name Mapping template for this User DN. The Full Name Mapping template supports placeholders in the form of *$(attribute)*, where *attribute* is an attribute of DN. An example: `$(cn) $(sn)` This will form the Name of the created user out of two LDAP attributes - *cn* and *sn*.

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Setting Name	Description
Settings that are active when the **Use User DN templat**en is selected:	
User DN	User DN specifies a template used to search for specific DN by the supplied login name. An example: `cn=$(login), dc=example, dc=com`
Settings that are active when the **Retrieve User DN by using an LDAP query** is selected:	
Query	An LDAP query for retrieving User DN, for example: `uid=$(login)`
Search Base	DN from which the searching should begin, for example: `dc=example,dc=com`
Search Scope	Specifies, whether the search must be restricted to the directly owned DNs only or it must be performed in the whole subtree. Choose one of the following options: • One level • Subtree

Connection Testing

After you have specified the LDAP Integration setting values, you can test the connection to LDAP server.

To test a LDAP Integration configuration

1. In the **LDAP Integration** tab of Teamwork Administrator’s Console, click **Test Connection.** The **Test Connection** dialog opens.
2. Type user’s login name, password, and click **OK**.
3. The message with connection results appears.

Subversion and LDAP Integration Working at the Same Time

If Teamwork Server uses Subversion for storing projects and LDAP Integration for authentication, Subversion must recognize (or authenticate) the same users and passwords that are used to authenticate against the LDAP server. Administrator is the user specified in he LDAP Integration configuration.

When Teamwork is integrated with Subversion only, client's authentication information is passed to the Subversion server. When Teamwork Server is integrated with Subversion and LDAP, client's authentication information is passed for both Subversion server(s) and LDAP server(s), but only successful authentication to LDAP server(s) successfully logs the user into Teamwork Server.

Converting Certificates to JKS Format

Teamwork Server recognizes certificates stored in *Java KeyStore (JKS)* format. If certificates are in *PEM* format, they have to be converted to *JKS* format. *OpenSSL* (http://www.openssl.org/) and *Sun Java KeyTool* (included into every Java distribution) can be used for this purpose. For example, if we a certificate in a file called *cert.pem*, then the following commands will covert it to *JKS* format:

```
openssl x509 -in cert.pem -out cert.der -outform der
keytool -importcert -alias mycert -file cert.der -keystore truststore.jks
```

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Integrating Teamwork Server with SSL-Enabled Active Directory

You can integrate Teamwork Server with SSL-enabled Microsoft Windows 2000 and Microsoft Windows 2003 Active Directory.

To complete this integration successfully, the following requirements should be passed:

- Windows Server Active Directory should have SSL enabled. This includes a valid Certificate Authority (CA) and a valid certificate for Active Directory (AD) server certificate (for more information on installing and configuring Certificate Services for Windows Server, see Microsoft documentation).
- Any SSL-aware LDAP client should be able to connect to your AD server port 636 with SSL enabled and should have access to its contents (for more information on setting SSL-enabled connections to AD, refer to the specific LDAP client documentation).

To create a Java KeyStore with the included CA and AD server certificates

1. Export the CA and AD server certificates to the DER encoded binary .cer files using the Microsoft Management Console, the Certificates Snap-in.

   IMPORTANT! Do not include private keys while exporting.

2. Import the CA and AD server certificates (.cer files) to Java KeyStore (.jks file), using the KeyTool IUI. Do the following steps:
   2.1. Run the KeyTool IUI.
   2.2. Double-click **Create** on the tree, and then click **Keystore** to create a new keystore file.
   2.3. Choose the JKS format and save a new keystore file.

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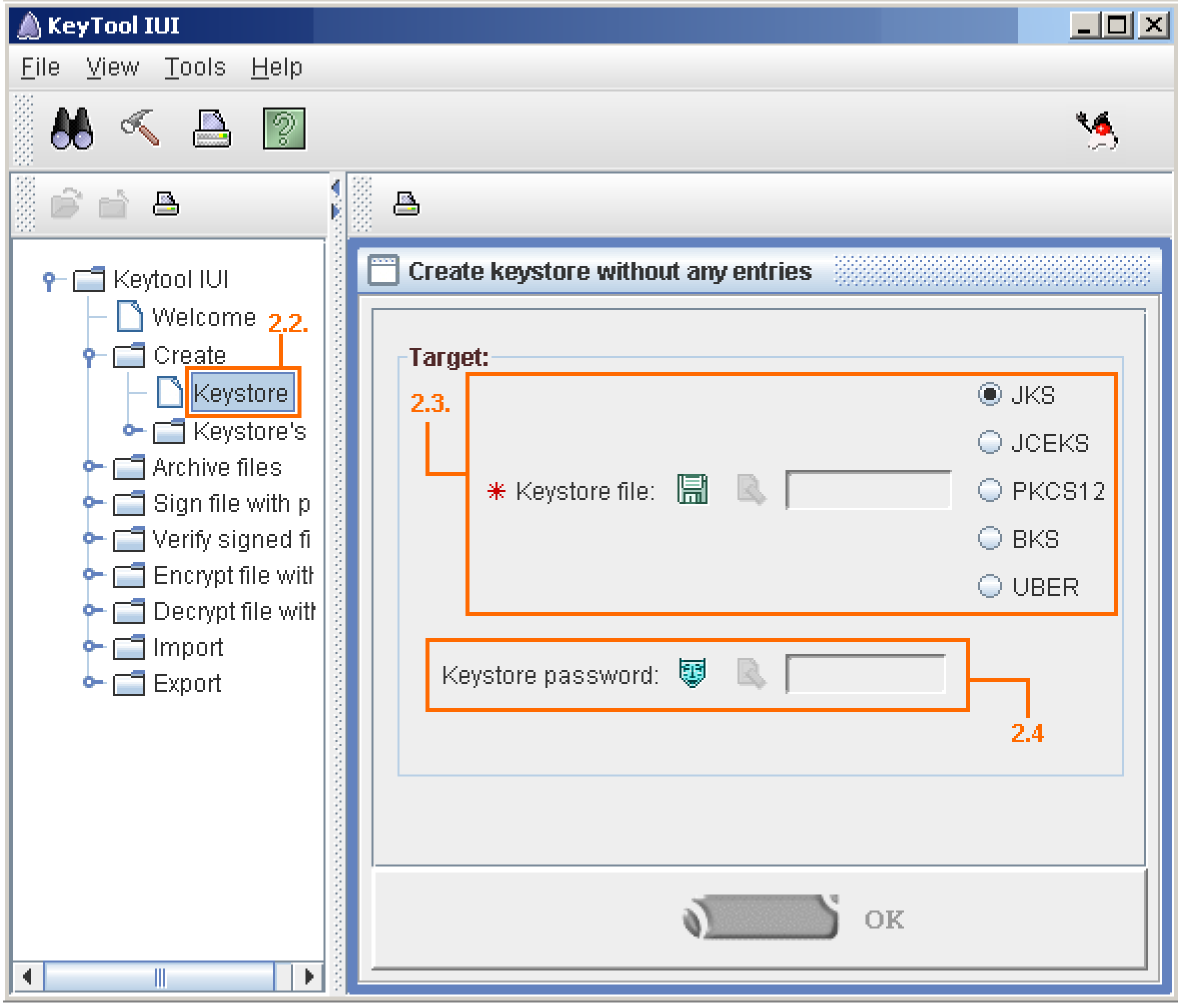
2.4. Set the password for the keystore.



Create keystore without any entries

Target:

* Keystore file:

● JKS
○ JCEKS
○ PKCS12
○ BKS
○ UBER

Keystore password:

Figure 52 -- Creating a new keystore file with the KeyTool IUI (steps 2.2, 2.3, and 2.4)

2.5. On the tree, double-click **Import**, **Keystore's Entry**, and **Trusted Certificate**, and then click **Regular Certificate** to import the .cer files into Java KeyStore.

2.6. Select the created keystore file as the target.

2.7. Select the exported CA certificate file (.cer) as the source. Enter the keystore password and click **OK**. Enter "CAAlias" as the alias for the CA certificate and click **OK**.

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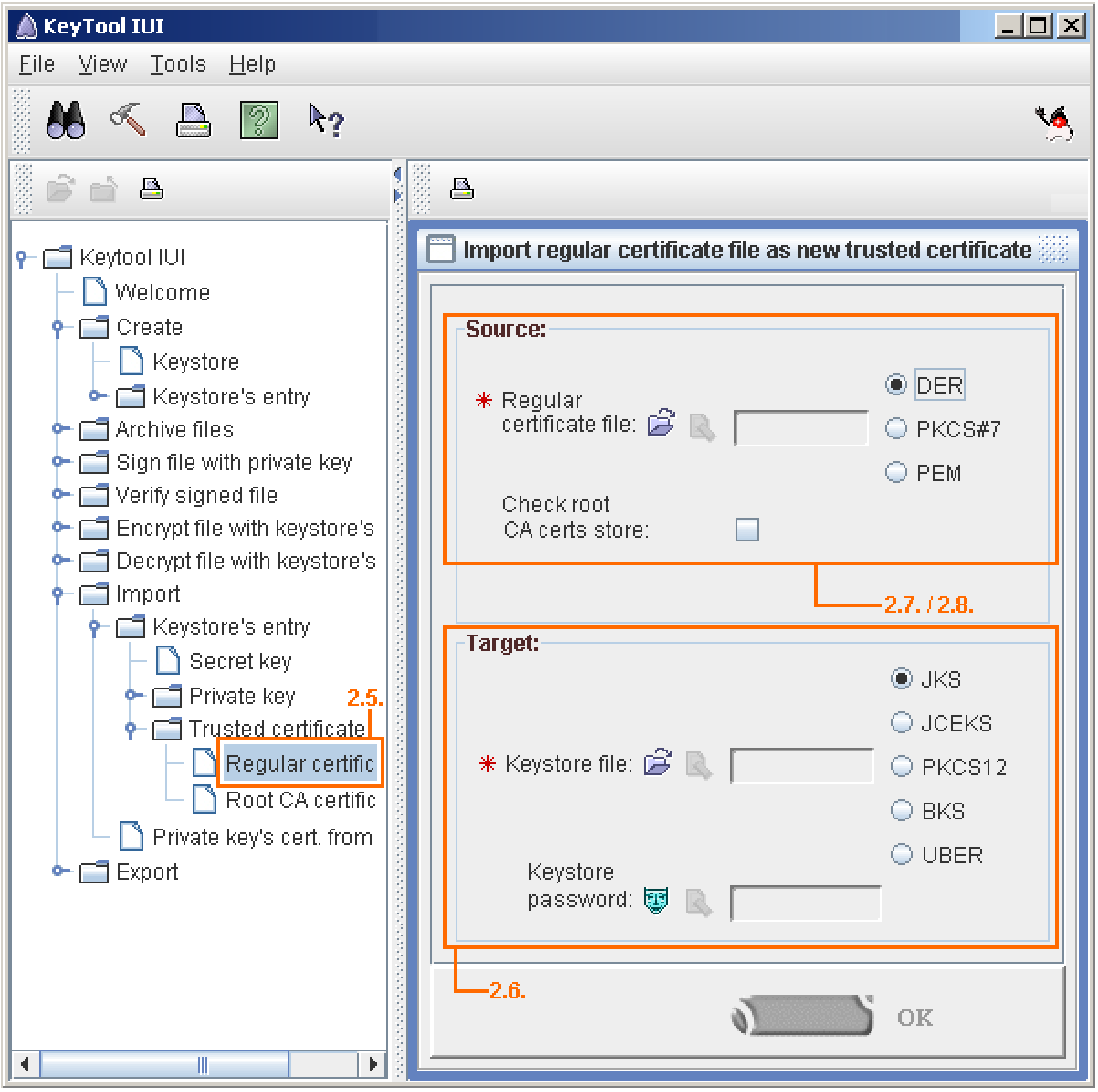
2.8. Select the exported AD server certificate file (.cer) as the source. Enter the keystore password and click **OK**. Enter the full name of the AD server as the alias for the AD certificate and click **OK**.



Source: ● DER ○ PKCS#7 ○ PEM

Check root CA certs store: □

Target: ● JKS ○ JCEKS ○ PKCS12 ○ BKS ○ UBER

Figure 53 -- Importing certificate files into the keystore file (steps 2.5, 2.6, 2.7, and 2.8)

Now you have a Java KeyStore containing both certificates.

The subsequent steps for the Teamwork Server integration with SSL-enabled Active Directory are the same as for the integration with any other LDAP server. This procedure is described in section “Enabling LDAP Integration” on page 92.

Code Engineering in Teamwork Project

For more information about general code engineering functionality, see the *MagicDraw Code&DatabaseEngineering UserGuide,* which is placed in <MagicDraw home>/manual directory.

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To generate code in the teamwork project

1. From the Code engineering sets shortcut menu in the Browser, select **New** and then select a code engineering language. Type a name for new set.
2. Add elements from the Data branch to the newly created set. All elements (locked and unlocked) can be added to set for code generation. Drag & drop them from the Browser tree.
3. Select the code engineering set, containing elements in the Browser and from the shortcut menu, select **Generate.** The code is generated for all elements.

To reverse code in the teamwork project

1. From the created code engineering set shortcut menu, select **Edit**.
2. Specify the Working Directory and Working Package, to where reversed elements will be placed in the model.

NOTE	Reversing the whole set to a defined package is allowed only if the package is locked.

3. In the **Add File** tab from the **Round Trip Set** dialog, add code files from the **All Files** list to the **Set** list. Click **OK**.
4. From the modified code engineering set shortcut menu, select **Reverse**. Define options in the **Reverse Options** dialog. Click **OK**.

When performing a round-trip code engineering, code cannot be reversed for unlocked elements - the **Reverse** command will be disabled in shortcut menu.

Connecting Teamwork server via SSH encrypted tunnel

In this section you will find the description for SSH-encrypted MagicDraw UML and Teamwork Server connectivity.

Requirements on both server and client are as following:

1. Windows 2000/XP/Vista or Windows Server family OS.
2. Local administrative rights to create local user for tunnelling and to run SSH service.
3. OpenSSH server and client binary installation files. You may obtain it from http://sourceforge.net/project/showfiles.php?group_id=103886&package_id=111688#.

The OpenSSH software is free of charge.

Configure the Teamwork Server side

1. Login to the Teamwork Server with administrator privileges.
2. Install OpenSSH with default settings. This will install OpenSSH server and client on your Teamwork Server machine. The warning about editing password and group file appears while installing. Click **OK**.
3. Create a local user for SSH tunnel. To do this right click on **My Computer**, then select **Manage**. In the **Local Users and Groups** section right-click on **Users** and choose **New User**. The **New User** dialog opens (see Figure 54 on page 106).
   3.1. Enter a new username which you will use to login into SSH service to establish tunnelling. For example, *tunnel*.
   3.2. Enter the user password according to your local system policy.
   3.3. Clear the **User must change password at next logon** check box.

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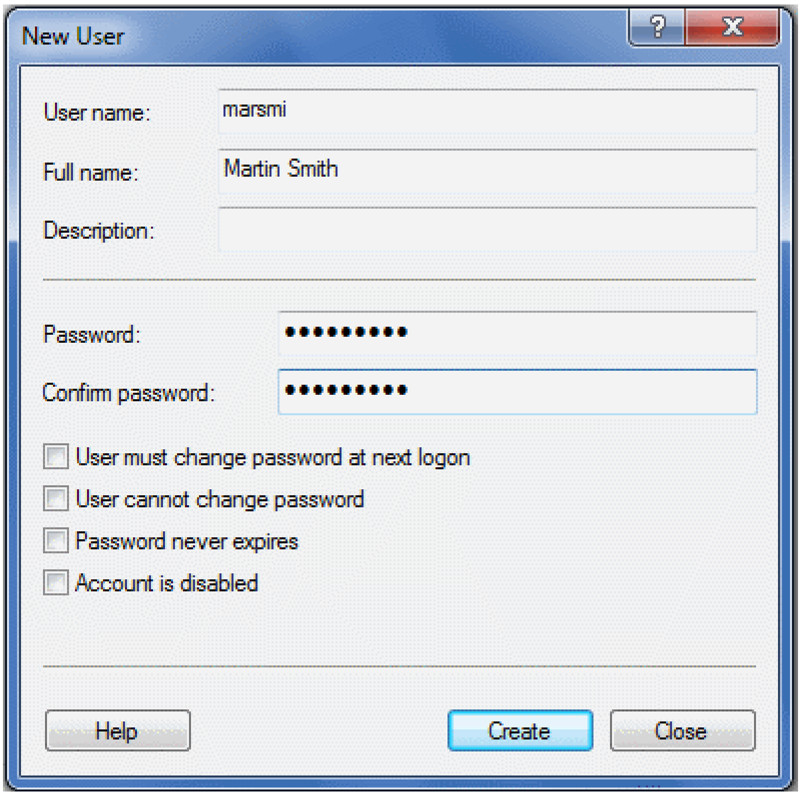
3.4. Click **Create**. The local user will be created.

NOTE This is not the same as MagicDraw Teamwork Server user used to checkout and commit UML models from/to the server. Use Teamwork Administrator to manage Teamwork users.



User name: marsmi

Full name: Martin Smith

Description:

Password: ••••••••••

Confirm password: ••••••••••

□ User must change password at next logon

□ User cannot change password

□ Password never expires

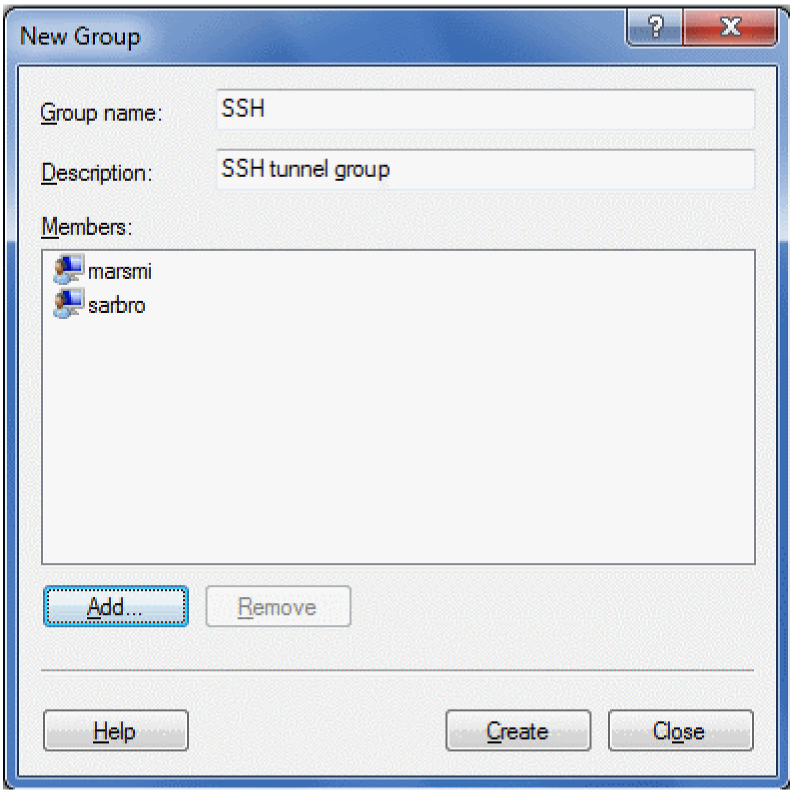
□ Account is disabled

Figure 54 -- The New User dialog

4. Create a local group for SSH tunnel users. To do this right-click on **My Computer** and then select **Manage**. In the **Local Users and Groups** section right-click on **Group** and choose **New Group**. The **New Group** dialog opens (see Figure 55 on page 107).

   4.1. Enter a new groupname, for example, *SSH*.

   4.2. Add the “tunnel” user to the SSH group.



Group name: SSH

Description: SSH tunnel group

Members:
- marsmi
- sarbro

Figure 55 -- The New Group dialog

5. Create SSH-aware local password file with 'tunnel' user entry. Any users in this password file will be able to log on with SSH. To create SSH-aware local password file run command prompt (click "Start"-> "Run", then type "cmd" and click Enter) and then type the following commands:

```
cd C:\Program Files\OpenSSH\bin
mkgroup -l >> ..\etc\group
mkpasswd -l -u tunnel >> ..\etc\passwd
```

6. Start OpenSSH Server service from your control panel. To do this right-click on **My Computer** and then select **Manage**. In the **Services and Application** section, the **Services** item right-click on the **OpenSSH Server** service and choose **Start**.
7. Test the SSH server.
   - 7.1. Type “*ssh tunnel@localhost*” from your command prompt.

The following warning appears:

```
The authenticity of host 'localhost (127.0.0.1)' can't be established.
RSA key fingerprint is xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx.
Are you sure you want to continue connecting (yes/no)?
```

   - 7.2. Type **yes** and press Enter. NOTE: type the full word “yes”, not only “y”.
   - 7.3. Enter the password you created at step 3.
   - 7.4. Warning about nonexisting home directory appears. Please ignore it.
   - 7.5. Now you are logged in into localhost via SSH service and you can see the shell prompt.
   - 7.6. After the SSH server testing exit from the server by typing *exit*.

NOTE: Other way to test if the SSH port (port 22) is opened on the server.

In the command prompt go to the C:\Program Files\OpenSSH\bin and type the 'netstat -na' command. You will get the list of all connections. The state of the port should be "LISTENING" while the SSH server is running.

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Client Side Configuration

1. Install OpenSSH client from the same installation file you downloaded. Uncheck "Server" option when asked

The SSH client package is installed to "C:\Program Files\OpenSSH" by default and added into your PATH variable.

2. Establish an SSH tunnel by logging into Teamwork server SSH service from the command prompt:

ssh - L localport:teamworkserver:teamworkserverport username@teamworkserver

For example, the following command will establish an SSH encrypted tunnel from client port 1100 to server port 1100. When connecting to localhost:1100, the packets get encrypted and sent to twserver:1100, where actual Teamwork server resides:

```
  ssh -L 1100:twserver:1100 tunnel@twserver
```

localport may be any unused port on your workstation.

Teamwork server port is the port the Teamwork server is running (usually 1100)

You are logged as user "tunnel" to the SSH service on Teamwork server machine. Leave the session opened, as killing it also kills the SSH tunnel used for the MagicDraw Client.

3. Open MagicDraw Client. Use localhost:localport when connecting to the Teamwork server. Localport is 1100 in this case as we used it when created the tunnel.

NOTE Using any other value than "localhost" or "127.0.0.1" will fail, even if connected to the actual machine name, resolved by DNS. This is because tunnel starts on loopback interface of your workstation only for security reason.