

# Surround SCM Jenkins Integration

Surround SCM supports integration with Jenkins.

This article includes information about the integration [requirements](#), [installing the plug-in](#), [configuring projects to use Surround SCM](#), [modifying the executable path for nodes](#), [syncing workspaces](#), and [troubleshooting](#) for the current plug-in version.

## Requirements

- Make sure you are using Jenkins 1.580.1 or later on a [supported platform](#).
- The Surround SCM command line interface (CLI), `sscm.exe`, must be installed on the same computer as Jenkins.
- You must have permission to log in to the Surround SCM CLI and to view and get files.

## Installing the plug-in

1. Click **Manage Jenkins** on the Dashboard page and then click **Manage Plugins**. The Jenkins Plugin Manager page opens.
2. Click the **Available** tab and enter 'Surround SCM' in the **Filter** field.
3. Select the **Surround SCM Plug-in** and click **Install without restart**. The Installing Plugins/Upgrades page opens and displays the installation progress.
4. When installation completes, click **Go back to the top page** to return to the dashboard or select **Restart Jenkins when installation is complete and no jobs are running** to restart Jenkins.

## Configuring projects to use Surround SCM

You can configure Jenkins freestyle projects and pipelines to retrieve files from Surround SCM when builds start.

## Freestyle project

1. Click **New Item** on the Dashboard page.
2. Enter a project name, select **Freestyle project**, and click **OK**. The project Config page opens.
3. In the Source Code Management area, select **Surround SCM**.
4. Enter the Surround SCM **Server name** and **Server port**. If you use RSA key exchange to connect to Surround SCM, [select the RSA key file to use](#) instead of entering the server information.
5. Enter the **Branch** name and **Repository** path to sync with your workspace.
6. Select the **Credentials** for logging in to Surround SCM or click **Add** to [add new credentials](#).
7. Set any additional build options.
8. Click **Save**. The project is added to the dashboard.

## Pipeline

1. Click **New Item** on the Dashboard page.
2. Enter a project name, select **Pipeline**, and click **OK**. The pipeline Config page opens.
3. In the Pipeline area, select **Pipeline script** as the Definition.
4. Enter the pipeline **Script**.

5. To generate a command to add to the script that checks out files from Surround SCM during a build, click **Pipeline Syntax**. The Snippet Generator page opens.
6. In the **Steps** area, select a **Sample Step** to generate an sscm or checkout command to add to the script.
  - ◆ To generate a simple Surround SCM command that requires minimal parameters and lets you copy a repository address from Surround SCM to use in the URL parameter, select **sscm: Surround SCM**. Enter or copy the **Repository URL** for the repository to sync with the workspace and select your login credentials. Only select an RSA key file if you use RSA key exchange to connect to Surround SCM.
  - ◆ To generate a general checkout command for all plug-ins that support pipelines that requires more restrictive parameters, select **checkout: General SCM**. Select **Surround SCM** in the **SCM** field, enter the connection information, and specify the branch and repository to sync with the workspace. Depending on the Jenkins and Surround SCM configurations, you may need to select an RSA key file and add login credentials.
7. Click **Generate Pipeline Script**.
8. Copy the generated command and paste it in the appropriate script line on the pipeline Config page.
9. Set any additional build and project options.
10. Click **Save**. The project is added to the Jenkins dashboard.

## Using RSA key files

If you use RSA key exchange to connect to Surround SCM, you must configure projects to use the server settings XML file from your Surround SCM administrator. You can specify the path to the key file on the build computer in each project configuration. You can also add the key file to Jenkins to use it with multiple projects and make it available to build computers.

To specify the key file path for a project:

1. Select **Path to RSA key file** in the **RSA key file** field when configuring a freestyle project or generating a pipeline script step.
2. Enter the full **Path** to the XML file.
3. Save the project.  
When the project builds, the file is used to connect to Surround SCM. If the file is not found, the build fails.

To add a key file to share with multiple projects:

1. Select **RSA key file** in the **RSA key file** field when configuring a freestyle project or generating a pipeline script step.
2. Click **Add** and choose **Jenkins**. The Jenkins Credentials Provider dialog box opens.
3. Specify the following information.
  - ◆ Domainâ Select **Global credentials (unrestricted)**.
  - ◆ Kindâ Select **Secret file**.
  - ◆ Scopeâ Select **Global (Jenkins, nodes, items, all child items, etc)**.
  - ◆ Fileâ Click **Choose File** to locate the server settings file to add.
  - ◆ IDâ Enter an ID to identify the Surround SCM connection associated with the file.
  - ◆ Descriptionâ Enter a description to explain what the file is used for.
4. Click **Add**. The file is saved in the global credentials.
5. Save the project.  
When the project builds, the saved credentials file is used to connect to Surround SCM.

## Adding Surround SCM login credentials

When configuring new projects to use Surround SCM, you must add your Surround SCM username and password in Jenkins. You may also need to update credentials if you modify an existing project configuration that uses an earlier version of the Surround SCM plug-in. Saving credentials lets you share login information between projects without needing to manually enter them in plain text for each project.

1. Click **Add** next to the **Credentials** field and choose **Jenkins**. The Jenkins Credentials Provider dialog box opens.
2. Specify the following information.
  - ◆ Domainâ Select **Global credentials (unrestricted)**.
  - ◆ Kindâ Select **Username with password**.
  - ◆ Scopeâ Select **Global (Jenkins, nodes, items, all child items, etc)**.
  - ◆ Usernameâ Enter your Surround SCM username.
  - ◆ Passwordâ Enter your Surround SCM password.
  - ◆ IDâ Enter an ID to identify the credentials.
  - ◆ Descriptionâ Enter a description to explain what the credentials are used for.
3. Click **Add**. The information is saved in the global credentials.

## Modifying the Surround SCM executable path

When the plug-in is installed, a default Surround SCM tool is automatically added to the Jenkins global tool configuration. Jenkins uses this to locate the Surround SCM CLI executable in the system PATH variable when builds run. The executable path is set based on the operating system running on the master node, which is the default build computer. If the master node is running Unix, the path is `sscm`. If the master node is running Windows, the path is `sscm.exe`.

If the CLI executable is not available in the system PATH variable, you can specify the full path to it in the default tool configuration.

1. Click **Manage Jenkins** on the Dashboard page and then click **Global Tool Configuration**. The Global Tool Configuration page opens.
2. In the Surround SCM area, click **Surround SCM Installations**.
3. Enter the full **Path to sscm executable** (e.g., `C:\Program Files\Perforce\Surround SCM\sscm.exe` on Windows, `/usr/bin/sscm` on Linux, or `/usr/local/bin/sscm` on Mac).
4. Click **Save** to save the changes.

If you run builds on multiple nodes, you may need to override the executable path for each node if it is different than the path in the default Surround SCM tool configuration.

1. Click **Build Executor Status** on the Dashboard page. The Nodes page opens.
2. Click the node name to override the executable path for and then click **Configure**. The Node Configuration page opens.
3. In the Node Properties area, change the **Home** value for the Surround SCM tool to the full path to the Surround SCM CLI executable on the build computer.
4. Click **Save** to save the changes.

## Syncing workspaces with Surround SCM

The plug-in supports polling, syncing, and browsing latest changes. If polling is enabled, Jenkins automatically checks Surround SCM for updated files and starts a build if changes are found. When a build starts, files are recursively retrieved from the Surround SCM repository to the workspace build directory. After the build completes, you can use the Changes and Console Output options to view the changelog and output.

## Troubleshooting

### Specified server settings file not found

This error can occur on Linux when the user running Jenkins does not have read access to the specified RSA key file or the directory it is stored in on the build computer.

Add the RSA key file to the Jenkins credentials and update the project to use the saved credentials file.

If you cannot add the RSA key file to Jenkins for security purposes, make sure it is stored in a shared location on the build computer and that all Jenkins users can access it.

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