

# Run/Debug Configuration: Tomcat

Use this dialog to create or edit [run/debug configurations](#) for [Apache Tomcat](#).


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## Name field and Share option


Item	Description
Name	<p>Use this field to edit the name of the run/debug configuration.</p> <p>This field is not available when editing the run/debug configuration defaults.</p>
Share	<p>Select this check box to make the run/debug configuration available to other team members.</p> <p>If the <a href="#">directory-based project format</a> is used, the settings for a run/debug configuration are stored in a separate xml file in the <code>.idea\runConfigurations</code> folder if the run/debug configuration is shared and in the <code>.idea\workspace.xml</code> file otherwise.</p> <p>If the <a href="#">file-based format</a> is used, the settings are stored in the <code>.ipr</code> file for shared configurations or in the <code>.iws</code> file for the ones that are not shared.</p> <p>This check box is not available when editing the run/debug configuration defaults.</p>


## Server tab


Item	Local/Remote	Description
Application server	Both	<p>Select the server configuration to be used.</p> <p>If the run/debug configuration is intended for working with a remote server, the same server version should be configured locally and associated with the run/debug configuration.</p> <p>Click <b>Configure</b> to create a new server configuration or edit an existing one. (The <a href="#">Application Servers dialog</a> will open.)</p>
Start browser	Both	<p>Select this check box to run the default Web browser to study your application output there.</p>

Item	Local/Remote	Description
With JavaScript debugger	Both	<p>If this check box is selected, the Web browser is started with the JavaScript debugger enabled.</p> <div data-bbox="616 253 1398 452" style="border: 1px solid black; padding: 5px;"> <p>JavaScript debugging is available only for Firefox and Google Chrome. Note that when you debug your JavaScript in Firefox for the first time, the JetBrains Firefox extension will be installed.</p> </div>
Startup page	Both	<p>In this field, specify the URL the browser should go to when started. In most typical cases, this URL will correspond to the root of your Web application or its starting page.</p>
VM options	Local	<p>If necessary, specify the command-line options to be passed to the server JVM at the server start.</p> <p>If you need more room to type, click  next to the field to open the <b>VM Options</b> dialog where the text entry area is larger.</p> <p>When specifying the options, follow these rules:</p> <ul style="list-style-type: none"> <li>■ Use spaces to separate individual options, for example, <code>-client -ea -Xmx1024m</code>.</li> <li>■ If an option includes spaces, enclose the spaces or the argument that contains the spaces in double quotes, for example, <code>some" "arg</code> or <code>"some arg"</code>.</li> <li>■ If an option includes double quotes (e.g. as part of the argument), escape the double quotes by means of the backslashes, for example, <code>-Dmy.prop=\"quoted_value\"</code>.</li> </ul>

Item	Local/Remote	Description
On 'Update' action	Both	<p>Select the necessary option for the <a href="#">Update application</a> action.</p> <p>The update options are different for exploded and packed artifacts.</p> <p>For exploded artifacts, the available options are:</p> <ul style="list-style-type: none"> <li>■ <b>Update resources.</b> All changed resources (that is, all application components other than the classes) will be updated.</li> <li>■ <b>Update classes and resources.</b> All changed resources will be updated; changed classes will be recompiled.</li> </ul> <p>In the <a href="#">debug mode</a>, the updated classes will be hot-swapped. In the run mode, IntelliJ IDEA will just update the changed classes in the output folder. Whether such classes will actually be reloaded in the running application, depends on the capabilities of the runtime being used.</p> <ul style="list-style-type: none"> <li>■ <b>Redeploy.</b> The application will be updated and redeployed.</li> <li>■ <b>Restart server.</b> The server will be restarted. The updated version of the application will be deployed at the server startup.</li> </ul> <p>For packed artifacts, the available options are:</p> <ul style="list-style-type: none"> <li>■ <b>Hot swap classes.</b> Changed classes will be recompiled and reloaded at runtime. Note that this option will work only in the <a href="#">debug mode</a>.</li> <li>■ <b>Redeploy.</b> The overall application will be rebuilt and redeployed.</li> <li>■ <b>Restart server.</b> The server will be restarted. The application will be rebuilt and deployed at the server startup.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>In the run/debug configurations for remote servers, the available application update options are limited to those for packed artifacts. Also, the <b>Restart server</b> option is not available.</p> </div>
Show dialog	Both	<p>Select this check box if you want to see the <b>Update &lt;application name&gt;</b> dialog every time you perform the <a href="#">Update application</a> action.</p> <p>The <b>Update &lt;application name&gt;</b> dialog is used to view and change the current <a href="#">update option</a> prior to actually updating the application.</p>

Item	Local/Remote	Description
On frame deactivation	Both	<p>Specify which application update actions should be performed when switching from IntelliJ IDEA to a different application (for example, a Web browser). (<i>Frame deactivation means switching to a different application.</i>)</p> <p>If no update actions are required, select <b>Do nothing</b>. Otherwise, select the necessary <a href="#">update option</a>. Note that the <b>Redeploy</b> and the <b>Restart server</b> options are not available.</p>
Deploy applications configured in Tomcat instance	Local	<p>The Tomcat configuration files, among other things, may list the applications that should be deployed at the server start. If this check box is selected, all the applications so listed will be deployed on the server in addition to the artifacts specified on the <a href="#">Deployment tab</a>.</p> <p>If the check box is not selected, only the artifacts and the external resources specified on the <b>Deployment</b> tab will be deployed.</p>
Preserve sessions across restarts	Local	Select this check box to preserve active HTTP sessions when restarting the server.
HTTP port	Local	Specify the HTTP port of Tomcat.
JNDI port	Remote	<p>Specify the port to be used for exchanging the JNDI information with the server.</p> <p>Note that this port is not used if no artifacts are deployed to the server.</p>
Remote staging	Remote	This section contains the settings related to <a href="#">staging</a>  . An <a href="#">example</a> of remote staging settings for a mounted folder is provided after this table.

Item	Local/Remote	Description
Type	Remote	<p>Select the way the staging environment or host is accessed for transferring the application artifact or artifacts from your local computer. (In the user interface of IntelliJ IDEA this setting is also referred to as the <i>connection type</i>.)</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>■ <b>Same file system.</b> Select this option if the target server is installed on your local computer. The artifacts in this case are deployed locally and, thus, don't need to be transferred to a remote host.</li> <li>■ <b>ftp.</b> The <a href="#">File Transfer Protocol</a> or <a href="#">Secure FTP</a> is used.</li> <li>■ <b>Local or mounted folder.</b> The staging environment is a local folder or is accessed as a <a href="#">mounted folder</a>.</li> </ul> <p>If the list is empty, you have to <a href="#">enable the Remote Hosts Access plugin</a> which supports the corresponding functionality.</p>
Host	Remote	<p>If <b>Same file system</b> is selected for <b>Type</b>, the only available option for <b>Host</b> is also <b>Same file system</b>.</p> <p>In all other cases, the list contains the existing configurations of the selected <b>type</b>. So each configuration corresponds to an individual (S)FTP connection, or a local or mounted folder.</p> <p>Select an existing configuration or create a new one.</p> <p>To create a new configuration:</p> <ol style="list-style-type: none"> <li>1. Click  to the right of the list.</li> <li>2. In the <a href="#">Deployment dialog</a>, click <b>+</b>.</li> <li>3. In the <b>Add Server</b> dialog, specify the configuration name, select the type, and click <b>OK</b>.</li> <li>4. On the <a href="#">Connection tab</a>, specify the settings in the <b>Upload/download project files</b> section.</li> </ol> <p>Note that the rest of the settings don't matter in the context of a remote Tomcat run/debug configuration.</p> <ol style="list-style-type: none"> <li>5. Click <b>OK</b> in the <b>Deployment</b> dialog.</li> </ol>
Staging	Remote	<p>When deploying to the remote host, the application artifact or artifacts are placed into a staging folder which should be accessible to Tomcat. The settings in this section define the location of this staging folder.</p> <p>Note that if <b>Same file system</b> is selected for <b>Type</b> and <b>Host</b>, no settings in this section need to be specified.</p>

Item	Local/Remote	Description
Path from root	Remote	The path to the staging folder relative to the local or mounted folder, or the root of the (S)FTP host. You can use  to select the folder in the <b>Choose target path</b> dialog.
Mapped as	Remote	The absolute path to the staging folder in the local file system of the remote host.
Remote connection settings	Remote	The settings for accessing deployed applications.
Host	Remote	The fully qualified domain name or the IP address of the Tomcat host.
Port	Remote	The HTTP port of Tomcat.

### An example of remote staging settings for a mounted folder

Assuming that:

- C:\shared is a shared folder on the remote host which is mounted to the local computer as the drive X:.
- The folder that you are going to use for staging is C:\shared\staging.

Here are the corresponding remote staging settings:

- **Type:** Local or mounted folder.
- **Host:** The configuration should be selected in which the value in the **Folder** field is X:\ (the **Upload/download project files** section on the **Connection** tab of the **Deployment** dialog).
- **Staging/Path from root:** staging
- **Staging/Mapped as:** C:\shared\staging

### Deployment tab

Use this tab to specify which [artifacts](#) and/or external resources should be deployed onto the server. (An external resource means a deployable Web component such as a .war file which is not represented by a project artifact. Usually, such components are stored outside of the project scope.)





To add items to the deployment list (shown under **Deploy at the server startup**), use **+**. To edit the settings for an artifact or external resource, select the corresponding item in the list and use the controls in the right-hand part of the tab. For more information, see the table below.

Note that deployment to a remote server is supported only for Tomcat 5 or later versions. Also note that to be able to deploy applications to a remote Tomcat server with IntelliJ IDEA 12, you should enable the JMX support on the server. To do that, you should pass the following VM options to the server Java process:

```
-Dcom.sun.management.jmxremote=
-Dcom.sun.management.jmxremote.port=1099
-Dcom.sun.management.jmxremote.ssl=false
-Dcom.sun.management.jmxremote.authenticate=false
-Djava.rmi.server.hostname=<host>
```


where <host> is the server hostname (domain name) or IP address.





If `catalina.bat` or `catalina.sh` is used to start the server, these options may be passed to the server using the `CATALINA_OPTS` environment variable.

Item	Tooltip and Shortcut	Description
	Add Alt+Insert	Use this icon or shortcut to add an artifact or an external resource to the list. <ul style="list-style-type: none"><li>■ To add an artifact, select <b>Artifact</b> and choose the desired artifact in the dialog that opens.</li><li>■ To add an external resource, select <b>External Source</b> and choose the location of the desired resource in the <a href="#">dialog that opens</a>.</li></ul>
	Remove Alt+Delete	Use this icon or shortcut to remove the selected artifacts and external resources from the list.
	Edit Artifact F4	Use this icon or shortcut to configure the selected artifact. (The <a href="#">Artifacts page</a> of the <a href="#">Project Structure dialog</a> will open.)
Application context		Specify the <a href="#">context root</a>  for an artifact or external resource: select the artifact or the resource, and type or select the context root.

## Logs tab

Use this tab to specify which log files generated while running or debugging should be displayed in the console, that is, on the dedicated tabs of the [Run](#) or [Debug tool window](#).




Item	Description
Is Active	Select check boxes in this column to have the log entries displayed in the corresponding tabs in the <a href="#">Run tool window</a> or <a href="#">Debug tool window</a> .
Log File Entry	The read-only fields in this column list the log files to show. The list can contain: <ul style="list-style-type: none"><li>■ Full paths to specific files.</li><li>■ <a href="#">Ant patterns</a>  that define the range of files to be displayed.</li><li>■ Aliases to substitute for full paths or patterns. These aliases are also displayed in the headers of the tabs where the corresponding log files are shown.</li></ul> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;">If a log entry pattern defines more than one file, the tab header shows the name of the file instead of the log entry alias.</div>
Skip Content	Select this check box to have the previous content of the selected log skipped.

Item	Description
Save console output to file	Select this check box to save the console output to the specified location. Type the path manually, or click the browse button and point to the desired location in the <a href="#">dialog that opens</a> .
Show console when standard out changes	Select this check box to activate output console and bring it forward, if associated process writes to Standard.out.
Show console when standard error changes	Select this check box to activate output console and bring it forward, if associated process writes to Standard.err.
	Click this button to open the <a href="#">Edit Log Files Aliases dialog</a> where you can select a new log entry and specify an alias for it.
	Click this button to edit the properties of the selected log file entry in the <a href="#">Edit Log Files Aliases dialog</a> .
	Click this button to remove the selected log entry from the list.
	Click this button to edit the select log file entry. <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;">The button is available only when an entry is selected.</div>

### Code Coverage tab

Use this tab to configure [code coverage](#) monitoring options.







Note that this tab is not available for remote servers.






Item	Description
Choose code coverage runner	Select the desired code coverage runner.
Sampling	Select this option to measure code coverage with minimal slow-down.
Tracing	Select this option to collect accurate branch coverage. This mode is available for the IntelliJ IDEA code coverage runner only.
Track per test coverage	Select this check box to detect lines covered by one test and all tests covering line.
Packages and classes to record code coverage data	If necessary, specify the classes and packages to be measured. Use  or  to add classes or packages to the list. To remove the classes or packages from the list, select the corresponding list items and click  .



Item	Description
Enable coverage in test folders.	Select this check box to include the test source folders in code coverage analysis.

### Startup/Connection tab

Item	Local/Remote	Description
 Run  Debug	Both	Select <b>Run</b> or <b>Debug</b> to show settings either for the run or the debug mode.
 Run with Coverage	Local	Select <b>Run with Coverage</b> to show settings for run with coverage mode.
Startup script	Local	<p>Specify the script to be used to start the server.</p> <p><b>Use default:</b></p> <ul style="list-style-type: none"> <li>■ If this check box is selected, the default script is used.             <ul style="list-style-type: none"> <li> in this case opens the <b>Default Startup Script</b> dialog which shows the contents of the <b>Startup script</b> field (readonly).</li> </ul> </li> <li>■ Clear this check box to change the parameters passed to the script or to specify a different script:             <ul style="list-style-type: none"> <li>■ To specify the script, click  and select the desired script in the <a href="#">dialog that opens</a>.</li> <li>■ To specify the parameters, click  and specify the script parameters and VM options in the <b>Configure VM and Program Parameters</b> dialog.</li> </ul> <p>When specifying the parameters and options, follow these rules:</p> <ul style="list-style-type: none"> <li>■ Use spaces to separate individual parameters and options, for example, <code>-client -ea -Xmx1024m</code>.</li> <li>■ If a parameter or an option includes spaces, enclose the spaces or the argument that contains the spaces in double quotes, for example, <code>some "arg" OR "some arg"</code>.</li> <li>■ If a parameter or an option includes double quotes (e.g. as part of the argument), escape the double quotes by means of the backslashes, for example, <code>-Dmy.prop=\"quoted_value\"</code>.</li> </ul> </li> </ul>




Item	Local/Remote	Description
Shutdown script	Local	<p>Specify the script to be used to stop the server.</p> <p><b>Use default:</b></p> <ul style="list-style-type: none"> <li>■ If this check box is selected, the default script is used.  in this case opens the <b>Default Shutdown Script</b> dialog which shows the contents of the <b>Shutdown script</b> field (readonly).</li> <li>■ Clear this check box to change the parameters passed to the script or to specify a different script: <ul style="list-style-type: none"> <li>■ To specify the script, click  and select the desired script in the <a href="#">dialog that opens</a>.</li> <li>■ To specify the parameters, click  and specify the script parameters and VM options in the <b>Configure VM and Program Parameters</b> dialog.</li> </ul> <p>When specifying the parameters and options, follow these rules:</p> <ul style="list-style-type: none"> <li>■ Use spaces to separate individual parameters and options, for example, <code>-client -ea -Xmx1024m</code>.</li> <li>■ If a parameter or an option includes spaces, enclose the spaces or the argument that contains the spaces in double quotes, for example, <code>some "arg" or "some arg"</code>.</li> <li>■ If a parameter or an option includes double quotes (e.g. as part of the argument), escape the double quotes by means of the backslashes, for example, <code>-Dmy.prop=\"quoted_value\"</code>.</li> </ul> </li> </ul>
Pass environment variables	Local	<p>To pass specific variables to the server environment, select this check box and specify the variables:</p> <ul style="list-style-type: none"> <li>■ To add a variable, click  and specify the variable name and value in the <b>Name</b> and <b>Value</b> fields respectively.</li> <li>■ To remove a variable from the list, select the variable and click .</li> </ul>
Port	Local	Use this field to change the debugger port (if necessary).
Debugger Settings	Local	Click this button to edit the debugger options on the <a href="#">Debugger</a> page of the <a href="#">Settings</a> dialog.


Item	Local/Remote	Description
Transport	Remote	<p>Specify the "transport" settings for the connection with the debugger. In technical terms, these are the parameters for the <code>-Xrunjdpw</code> command-line option:</p> <ul style="list-style-type: none"> <li>■ <b>Socket.</b> Specify the debugger port in the <b>Port</b> field. The combination of these two settings translates into <code>-Xrunjdpw:transport=dt_socket,address=&lt;port&gt;,suspend=n,server=y</code></li> <li>■ <b>Shared memory.</b> Specify the shared memory address in the corresponding field. The combination of these two settings translates into <code>-Xrunjdpw:transport=dt_shmem,address=&lt;address&gt;,suspend=n,server=y</code></li> </ul> <p>Note that as you change the transport settings, what follows <code>transport=</code> within <code>-Xrunjdpw</code> in the area above also changes. In this way you control the corresponding command-line debugger parameters which you cannot edit directly.</p>

#### Before Launch options








Specify which tasks should be carried out before starting the run/debug configuration. The specified tasks are performed in the order that they appear in the list.

Item	Shortcut	Description
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Item	Shortcut	Description
	Alt+Insert	<p>Click this icon to add a task to the list. Select the task to be added:</p> <ul style="list-style-type: none"> <li>■ <b>Run External tool.</b> Select this option to run an application which is external to IntelliJ IDEA. In the dialog that opens, select the application or applications that should be run. If the necessary application is not defined in IntelliJ IDEA yet, add its definition. For more information, see <a href="#">Configuring Third-Party Tools</a> and <a href="#">External Tools</a>.</li> <li>■ <b>Make.</b> Select this option to have the project or module compiled. The <a href="#">Make Module command</a> will be carried out if a particular module is specified in the run/debug configuration, and the <a href="#">Make Project command</a> otherwise.  If an error occurs during the compilation, IntelliJ IDEA won't attempt to start the run/debug configuration.</li> <li>■ <b>Make, no error check.</b> The same as the <b>Make</b> option but IntelliJ IDEA will try to start the run/debug configuration irrespective of the compilation result.</li> <li>■ <b>Build Artifacts.</b> Select this option to have an <a href="#">artifact</a> or artifacts built. In the dialog that opens, select the artifact or artifacts that should be built.  See also, <a href="#">Configuring Artifacts</a>.</li> <li>■ <b>Run Another Configuration.</b> Select this option to have another run/debug configuration executed. In the dialog that opens, select the configuration to be run.</li> <li>■ <b>Run Ant target.</b> Select this option to have an Ant target run. In the dialog that opens, select the target to be run. For more information, see <a href="#">Ant</a>.</li> <li>■ <b>Generate CoffeeScript Source Maps.</b> Select this option to have the source maps for your CoffeeScript sources generated. In the dialog that opens, specify where your CoffeeScript source files are located.  For more information, see <a href="#">CoffeeScript Support</a>.</li> <li>■ <b>Run Maven Goal.</b> Select this option to have a Maven goal run. In the dialog that opens, select the goal to be run.  For more information, see <a href="#">Maven</a>.</li> <li>■ <b>Run Remote External Tool.</b> Select this option to run a remote application which is external to IntelliJ IDEA. In the dialog that opens, select one or more remote applications to be run. If the necessary applications are not defined in IntelliJ IDEA yet, add definitions. For more information, see <a href="#">Configuring Third-Party Tools</a> and <a href="#">External Tools</a>.</li> </ul>
	Alt+Delete	Click this icon to remove the selected task from the list.
	Enter	Click this icon to edit the selected task. Make the necessary changes in the dialog that opens.

Item	Shortcut	Description
	Alt+Up/Alt+Down	Click these icons to move the selected task one line up or down in the list.
Show this page		Select this check box to have the run/debug configuration settings shown prior to actually starting the run/debug configuration.

## Toolbar

Item	Shortcut	Description
	Alt+Insert	Use this icon or shortcut to create a new run/debug configuration.
	Alt+Delete	Use this icon or shortcut to delete the selected run/debug configuration.
	Ctrl+D	Use this icon or shortcut to create a copy of the selected run/debug configuration.
		Click this button to edit the default settings of the selected run/debug configuration. This button is disabled for defaults.
	Alt+Up/Alt+Down	Use these buttons to move the selected run/debug configuration up and down in the list.  The order of configurations in the list defines the order in which the configurations appear in the corresponding list on the main toolbar.  These buttons are disabled for defaults.
		Use this button to <a href="#">create a new folder</a> .  If one or more run/debug configurations have the focus, then the selected run/debug configurations are automatically moved to the newly created folder. If only a category has the focus, then an empty folder is created.  Move run/debug configurations to a folder using drag-and-drop, or  buttons.

## See Also

### Concepts:

- [Run/Debug Configuration](#)

### Procedures:

- [Creating and Editing Run/Debug Configurations](#)

### Reference:

- [Debugger](#)

### External Links:

- [Creating a simple Web application and deploying it to Tomcat](#) 

**Web Resources:**

- [Developer Community](#) 