

Integrating with IIS

This page describes how to configure Microsoft's IIS web server and JIRA such that IIS forwards requests on to JIRA, and responses back to the user. This is useful if you already have IIS running serving web pages (e.g. <http://mycompany.com>), and wish to integrate JIRA as just another URL (e.g. <http://mycompany.com/jira>).

JIRA is written in Java, and needs a Java Application Server (servlet container) to run. As IIS does not provide services of a Java Application Server, it is not possible to deploy JIRA directly into IIS. It is possible, however, to configure IIS to proxy requests for JIRA to an application server where JIRA is deployed. Therefore, if your main website is running in IIS, it is possible to integrate JIRA into this website.

If you need to integrate JIRA with IIS, JIRA needs to be deployed into a Java Application Server that provides IIS integration capability. [Apache Tomcat](#) is one of these application servers. The Standalone distribution of JIRA ships with Apache Tomcat, so if you are using the Standalone distribution or have deployed JIRA WAR into your own Tomcat instance, please follow this document.

If you are not using the Standalone distribution or Apache Tomcat, please consult your application server's documentation to determine whether it is possible to integrate with IIS and how to achieve it.

To integrate JIRA Standalone with IIS you will need to:

1. Configure JIRA and test that it works on its own.
2. Configure Tomcat to accept proxied requests from IIS.
3. Configure IIS to forward JIRA requests to Tomcat.
4. (*Optional*) Configure IIS to forward Confluence requests to Tomcat (if you are using both Confluence and JIRA).

1. 1. Configure JIRA

1. Follow [the JIRA Standalone install guide](#) to install and configure the Standalone distribution of JIRA; or deploy the EAR-WAR distribution into Apache Tomcat. Note that JIRA can be installed on the same machine as IIS, but this is not necessary.
2. Change the context path of the JIRA web application:

To allow IIS to proxy requests to JIRA, JIRA web application must be deployed with a context path (e.g. the `/jira` in <http://localhost:8080/jira>) in Tomcat. The context path **must** be set to the path in the URL that IIS will use to proxy requests. For example, if your website is running with address `www.example.com` in IIS, and you would like to make JIRA available under `www.example.com/jira`, you will need to set JIRA's context path to `/jira` in Tomcat.

To do this, edit the `conf/server.xml` file (if you are using JIRA Standalone) or the `jira.xml` file (if you are using the EAR-WAR distribution of JIRA). Change the `path` attribute of the `Context` element to `/jira`.

For example, in JIRA Standalone 3.3 and later the `Context` element would look like:

```
<Context path="/jira" docBase="${catalina.home}/atlassian-jira"
swallowOutput="true" reloadable="false">
```

3. Restart JIRA after changing the context path.
4. Turn JIRA's [GZip compression](#) **OFF** (since there will be no benefit from GZip compression once proxying is implemented).

- Test that JIRA works correctly by pointing your web browser directly at Tomcat (e.g. <http://localhost:8080/jira>) and going through JIRA's Setup Wizard. If you have completed the Setup Wizard previously, try creating an issue or editing one. Please ensure that no errors occur.

2.2. Configure Tomcat to accept proxied requests

- Enable **AJP/1.3 Connector** in Tomcat:

To allow Tomcat to accept requests for JIRA from IIS, edit the `conf/server.xml` file and ensure that the **AJP/1.3 Connector** is enabled (i.e. *not* commented out).

To enable the AJP/1.3 Connector in JIRA Standalone, Tomcat 5.5.x or Tomcat 5.0.x, remove the comment symbols (`<!--` and `-->`) around the following section in the `conf/server.xml` file:

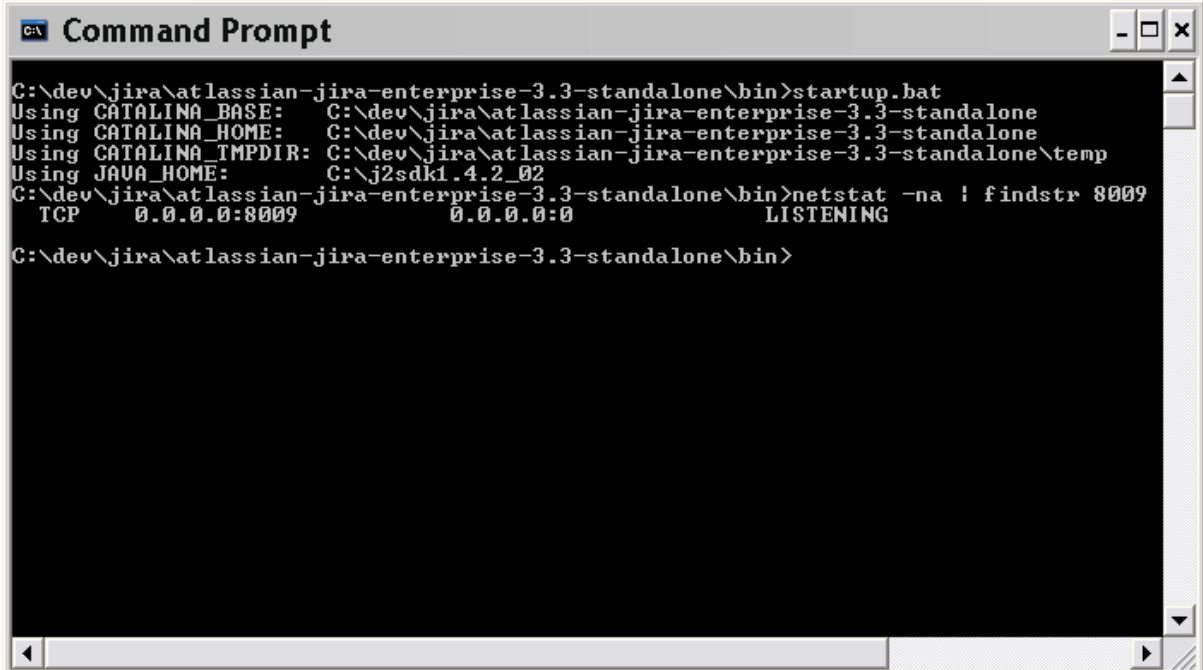
```
<Connector port="8009"
enableLookups="false" redirectPort="8443" protocol="AJP/1.3" />
```

If you are using JIRA Standalone 3.2 or earlier or running JIRA in Tomcat 4.1.x the AJP/1.3 Connector definition in the `conf/server.xml` file looks like:

```
<Connector className="org.apache.coyote.tomcat4.CoyoteConnector"
port="8009" minProcessors="5" maxProcessors="75"
enableLookups="true" redirectPort="8443"
acceptCount="10" debug="0" connectionTimeout="0"
useURIVValidationHack="false"
protocolHandlerClassName="org.apache.jk.server.JkCoyoteHandler"/>
```

The above example configures Tomcat to listen for proxied IIS requests on port 8009. If this port is already in use on the machine where JIRA is running, please change to another port.

- Restart Tomcat and ensure that no errors regarding used ports appear in the logs or in the Tomcat Console.
- Ensure that the AJP Connector is listening on the specified port (8009 by default). One way to do this is to use the `netstat -na` command in the command window and see if port 8009 is listed in the output:



```

C:\dev\jira\atlassian-jira-enterprise-3.3-standalone\bin>startup.bat
Using CATALINA_BASE: C:\dev\jira\atlassian-jira-enterprise-3.3-standalone
Using CATALINA_HOME: C:\dev\jira\atlassian-jira-enterprise-3.3-standalone
Using CATALINA_TMPDIR: C:\dev\jira\atlassian-jira-enterprise-3.3-standalone\temp
Using JAVA_HOME: C:\j2sdk1.4.2_02
C:\dev\jira\atlassian-jira-enterprise-3.3-standalone\bin>netstat -na | findstr 8009
TCP 0.0.0.0:8009 0.0.0.0:0 LISTENING
C:\dev\jira\atlassian-jira-enterprise-3.3-standalone\bin>

```

AJP Connector listening on port 8009

3.3. Configure IIS to forward requests to JIRA

On the machine where IIS is deployed:

1. Download the ISAPI Redirect DLL from the [apache site](#). When downloading, choose the version of Windows that IIS is running on (either win32 or win64), and then choose the latest available jk version. The file to download is called **isapi_redirect.dll**.
2. Place the DLL and the associated properties files in an installation directory. For the purpose of this document, we will assume the directory is `C:\tomcat_iis_connector`. Place the **isapi_redirect.dll** in this directory. Then download the [isapi_redirect.properties](#) file and place this in the same directory as the **isapi_redirect.dll** file.
3. Create a directory called 'conf' in your installation directory (`C:\tomcat_iis_connector\conf`). Download the files [uriworkermap.properties](#) and [workers.properties.minimal](#) and place them in the `C:\tomcat_iis_connector\conf` directory.
4. Create a directory called 'logs' (`C:\tomcat_iis_connector\logs`). This is where the logs associated with the **isapi_redirect.dll** execution will be placed.
5. In the "`C:\tomcat_iis_connector`" directory you may need to modify the `isapi_redirect.properties` file.

The `isapi_redirect.properties` file tells the connector where to find its configuration files and where the DLL can be found in relation to the IIS server. There are 5 properties in this file:

1. `extension_uri` — the path to the virtual directory that contains the **isapi_redirect.dll**
2. `log_file` — the path to write the log file to
3. `log_level` — the level at which the logs should be generated
4. `worker_file` — the path to your `workers.properties.minimal` file in your installation
5. `worker_mount_file` — the path to your `uriworkermap.properties1` file in your installation

If you are installing the connector in `C:\tomcat_iis_connector` and you follow the instructions below about setting up the virtual directory for the **isapi_redirect.dll**, then you should not have to change any properties in the provided file.

6. In the "`C:\tomcat_iis_connector\conf`" directory you may need to modify the `uriworkermap.properties` and the `workers.properties.minimal` files.

Note:

The provided files contain the changes mentioned here and should work if you completely follow this document. **If you have deviated from this document, then you will need to modify these files as described below.**

The `workers.properties.minimal` file tells IIS where (IP address and port) Tomcat is running. The `uriworkermap.properties` tells IIS what requests to proxy to Tomcat.

To edit these files:

1. Edit the `uriworkermap.properties` and ensure that it contains the following mapping for JIRA. You do not need any other mappings.

```
/jira/*=worker1
```

Note:

The mapping (e.g. `/jira/*`) **must** be the same as the context path that JIRA has been deployed with in Tomcat as described in the [Configure JIRA](#) section of this document.

2. Edit the `workers.properties.minimal` file and modify the `worker.ajp13w.host` property if necessary. This property should be set to the host name or the IP address of the machine where Tomcat (with JIRA) is running. If Tomcat is running on the same machine as IIS then you can leave the property set to `localhost`. If you have specified a host name as the value of this property, please ensure that the IIS machine can correctly resolve it to the appropriate IP address.
3. If you have modified the port for the AJP Connector you will need to modify the `worker.ajp13w.port` property. Here is an example of the file with Tomcat running on the same machine as IIS and using the default port (8009) for AJP:

```
worker.list=worker1

#
# Defining a worker named worker1 and of type ajp13.
# Note that the name and the type do not have to match.
#
worker.worker1.type=ajp13
worker.worker1.host=localhost
worker.worker1.port=8009
```

7. Open **Control Panel**, then **Administrative Tools** and open **Internet Information Services**.
8. Add an **ISAPI Filter** to IIS.
 1. Right-click on **Default Web Site** (or the Web Site that should be responsible for proxying requests to JIRA), and click on **Properties**.
 2. Click the **ISAPI Filters** tab.
 3. Check if there is a Filter that points to the `isapi_redirect.dll` file and that it is in the right location. If not, click **Add** and create one. Enter `tomcat` as the Filter Name and enter the location of the `isapi_redirect.dll` file for the executable.
 4. Click **Apply** and then **OK**.
9. Create a **virtual directory** for JIRA in IIS.
 1. Right-click on **Default Web Site** (or the Web Site that should be responsible for proxying requests to JIRA), choose **New** and then **Virtual Directory**.
 2. Go through the creation wizard. Set the `alias` as the value of the Context Path (without slashes) that was set in the [Configure JIRA](#) section of this document (see above). In our example this is `jira`.
 3. This can point to any directory.
 4. Complete the wizard.

Note:

The reason for creating a virtual directory is so that requests without the trailing slash still work. For example, if you are deploying JIRA under `http://www.example.com/jira/` without the virtual directory, then requests to `http://www.example.com/jira` will fail.

10. Create a **virtual directory** for access to the `isapi_redirect.dll` in IIS.
 1. Right-click on **Default Web Site** (or the Web Site that should be responsible for proxying requests to JIRA), choose **New** and then **Virtual Directory**.
 2. Go through the creation wizard. Set the `alias` to be `jakarta`.
 3. This must point to the directory in which the `isapi_redirect.dll` is installed. In our example this is `C:\tomcat_iis_connector`.
 4. Complete the wizard, making sure that you have checked the 'execute' checkbox for the **Virtual Directory**.

Note:

This Virtual Directory is needed for the connector to work. The alias that you give the directory needs to be the same as the path set in the `isapi_redirect.properties` file, `extension_uri` property. In our example this value is: `/jakarta/isapi_redirect.dll`.

11. If using IIS 6.0 you will also need to add the dll as a **Web Service Extension**, as follows:

1. Right-click on **Web Service Extensions** and choose **Add a new Web Service Extension...**
2. Enter `tomcat` for the **Extension Name** and then add the `isapi_redirect.dll` file to the required files.
3. Select the **Set extension status to Allowed** check-box, then click **OK**.
12. You will need to restart the IIS Service. To do this, browse to **Control Panel**, click **Administrative Tools**, click on **Services**, find the IIS Admin Service and click **restart**.
13. You are done! To test the configuration, point your web browser at IIS and append JIRA's context path to the URL. For example, if your website is running under the address of `http://www.example.com` and you have deployed JIRA with the context path of `jira`, point your browser at `http://www.example.com/jira`.

4. 4. Configure IIS to forward requests to Confluence as well as JIRA

You can configure IIS so that it forwards requests to both JIRA and Confluence.

The following instructions describe how to forward from IIS to separate instances of JIRA and Confluence, running in separate Tomcat servers. The instructions assume that you have already set up IIS to forward to JIRA as described in section 3 above. The instructions also assume that you have already installed Confluence as per the [Confluence Installation Guide](#).

The instructions describe how to make JIRA available under `www.example.com/jira` as described above, and Confluence available under `www.example.com/confluence`.

1. If JIRA and Confluence are running on the same machine, ensure that Confluence is listening on a different port to JIRA:

Edit the `conf/server.xml` file (if you are using Confluence Standalone) or the `jira.xml` file (if you are using the EAR-WAR distribution of Confluence). At the top of the file, change the `port` attribute of the `Server` element to a different port to the value for JIRA. For example, change it from `8005` to `8006`.

Still in the `Server` element, Change the `port` attribute of the `Connector` sub-element to a different port to the value for JIRA. For example, change it from `8080` to `8090`.

2. Change the Confluence context path:

Edit the `conf/server.xml` file (if you are using Confluence Standalone) or the `jira.xml` file (if you are using the EAR-WAR distribution of Confluence). Change the `path` attribute of the `Context` element to `"/confluence"`.

3. Restart Confluence after changing the ports and the context path, and test that Confluence works correctly by pointing your web browser at <http://localhost:8090/confluence>.
4. Configure Confluence to accept proxied requests:

Remove the comments around the AJP/1.3 Connector section in the Confluence `conf/server.xml` or `jira.xml` file and change the `port` attribute to a value different to the value for JIRA. For example, change it from `8009` to `8010`.

5. Restart Confluence and ensure that no errors regarding used ports appear in the logs or in the Tomcat console.
6. Edit the `uriworkermap.properties` file and add the following mapping:

```
/confluence/*=worker2
```

The file should now contain the following mappings:

```
/jira/*=worker1  
/confluence/*=worker2
```

7. Edit the `workers.properties.minimal` file:

Change the line starting with `worker.list` to the following:

```
worker.list=worker1,worker2
```

Add the following lines to the end of the file (assuming the host is on the same machine as IIS and you changed the AJP/1.3 Connector port for Confluence to 8010):

```
worker.worker2.type=ajp13
worker.worker2.host=localhost
worker.worker2.port=8010
```

The `workers.properties.minimal` file should now look like the following:

```
worker.list=worker1,worker2

#
# Defining a worker named worker1 and of type ajp13.
# Note that the name and the type do not have to match.
#
worker.worker1.type=ajp13
worker.worker1.host=localhost
worker.worker1.port=8009

worker.worker2.type=ajp13
worker.worker2.host=localhost
worker.worker2.port=8010
```

8. Create a **virtual directory** for Confluence in IIS. Set the `alias` to `confluence`. It can point to any directory.
9. Restart the IIS Service.
10. You are done! Confluence should now be available under `www.example.com/confluence`, and JIRA should still be available under `www.example.com/jira`.

5. Troubleshooting

- *Whenever I go to JIRA in my browser, a login panel pops up. I enter a valid username and password for JIRA, but the panel pops up again.*

Make sure that you have **Anonymous Access** set on the `jira` virtual directory in IIS. It will be set to that if you have followed the above instructions.

To check this:

1. In **Internet Information Services**, right click on the `jira` virtual directory and choose **Properties**.
 2. Click on the **Directory Security** tab.
 3. Click on the **Edit...** button in the **Anonymous access and authentication control** section.
 4. Make sure that the **Anonymous access** tick box is selected, and make sure that nothing is selected in the **Authenticated access** section. Do not select **Basic authentication**. Do not select **Integrated Windows authentication**.
- *Whenever I go to JIRA in Internet Explorer, a login panel pops up. I enter a valid username and password for JIRA, but the panel pops up again. This doesn't happen, however, in another browser such as Firefox or Safari. I can successfully log in to JIRA in those browsers.*

Make sure that you have Internet Explorer's **User Authentication** set to **Anonymous login**.

To check this:

1. In Internet Explorer, click on the **Tools** menu and select **Internet Options**.
2. Click on the **Security** tab.
3. Select the security zone that the JIRA server is in.
4. Click on the **Custom level...** button.
5. Scroll right down to the bottom to the **User Authentication** section.
6. Select **Anonymous logon** (if it is not already selected).
7. Click on the **OK** button on this screen, and again on the next screen.
8. Restart Internet Explorer.