

# How to set up a reverse proxy server for an IBM Rational Jazz Team Server

## Add another layer of security

Skill Level: Intermediate

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This brief article explains how to set up a reverse proxy server for an IBM® Rational® Jazz Team Server™ and the security effect of that change.

## How reverse proxy servers work with Jazz.net

A *proxy server* is a server (a computer system or a software application) that forwards requests to other servers. A *reverse proxy server* or *surrogate server* is a proxy server that is associated with one or more servers, such as in front of a group of Web servers. Typically, proxy servers are set up to route all connections coming from the Internet that are addressed to one of the Web servers, however the proxy server may either handle the request or pass it wholly or partially to the main Web servers.

The proxy server can provide an additional layer of defense by separating the type of server that is behind the reverse proxy. This configuration can protect the servers that are further up the chain, mainly through obfuscation.

The reverse proxy server enables the jazz.net name to serve content from the jazzdev server. However, Jazz.net's proxy does not allow total access to the jazzdev server through jazz.net. This adds a level of security that applies to non-IBM® users. The future plan is to enable caching for better performance.

### Why proxy?

Other than for security, proxy servers can provide load balancing between your Web servers, apply encryption, and streamline server-client transactions using a number of techniques, including caching of static content, compression, and "spoon-feeding" of dynamically-generated Web pages.

## System environment

The following applications were used in this example:

- IBM® HTTP Server Version 6.1
- IBM® WebSphere® Application Server Version 6.1, Fix Pack 13
- Mozilla Firefox® Version 3.0.1 or later

## Proxy server setup

1. Install IBM HTTP Server on the reverse proxy server.
2. Go to the IBM Key Management tool on the HTTP server (sometimes referred to as IKeyMan), create a personnel certificate, and extract it to this location (merely an example):  
D:\Program Files\HTTP Server
3. Modify the **httpd.conf** file by adding the lines shown in code Listing 1.

### Note:

Make sure that the **.so** file exists in D:\Program Files\HTTP Server \modules.

### Listing 1. Code to add to the httpd.conf file

```
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_connect_module modules/mod_proxy_connect.so
LoadModule proxy_ftp_module modules/mod_proxy_ftp.so
LoadModule proxy_http_module modules/mod_proxy_http.so

Listen 0.0.0.0:443 - This is for the server to listen in the default SSL Port
LoadModule ibm_ssl_module "D:\Program Files\IBM\HTTPServer\modules\mod_ibm_ssl.so"
ProxyRequests off
SSLProxyEngine on
ProxyPass / https://RTCAppserver:9443/

<Location />

    ProxyPassReverse /
</Location>

KeyFile "D:\Program Files\IBM\HTTPServer\key.kdb"
```

```
<virtualhost *:443>
SSLEnable
KeyFile "D:\Program Files\IBM\HTTPServer\key.kdb"

SSLCipherSpec 27
SSLCipherSpec 21
SSLCipherSpec 23
SSLCipherSpec 3A
SSLCipherSpec 34
SSLCipherSpec 35
</virtualhost>
```

**Note:**

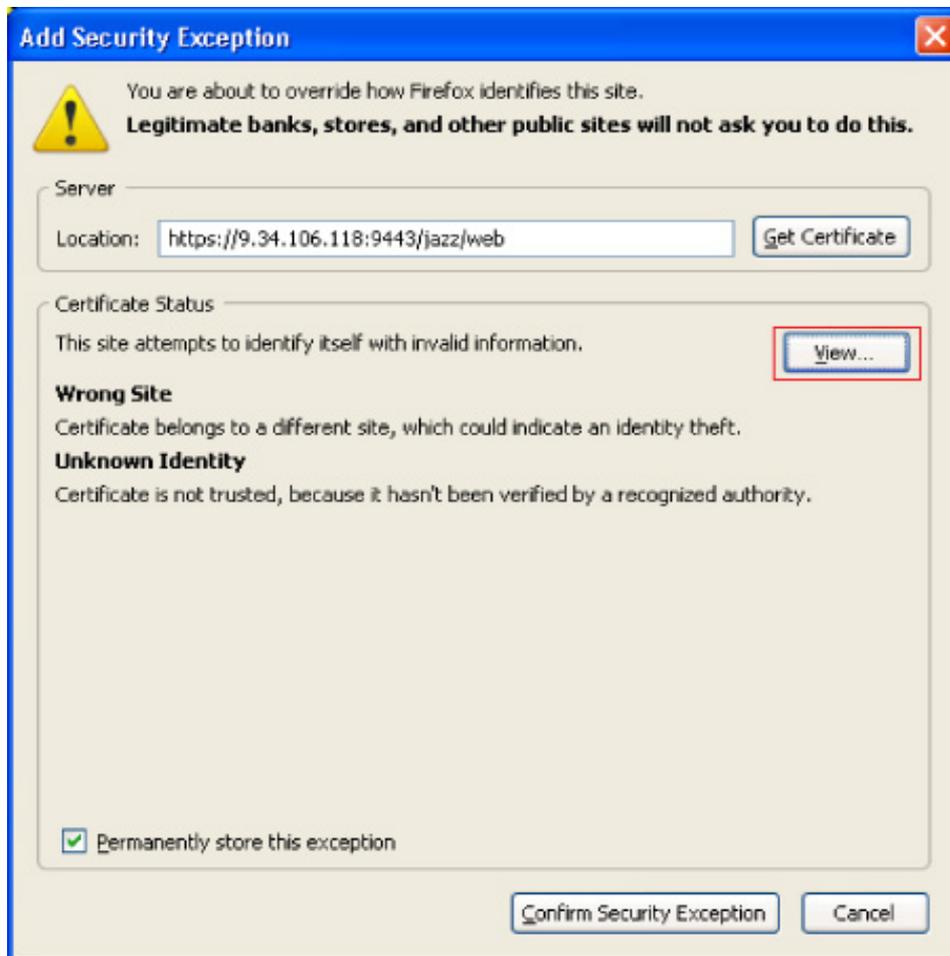
- **SSLDisable** is to disable for the rest. We have it enabled for the virtual hosts that connect
  - **SSL CipherSpec** refers to specific SSL codes.
4. Stop and restart the HTTP server.
  5. In the Web browser, type this URL:  
`https://rtcserver:9443/jazz/web`

## Server certificate setup

Extract the server certificate by following these steps:

1. Start Mozilla Firefox® Version 3.0.1 or later.
2. Click **Tools > Options**.
3. On the **Advanced** panel of the Options dialog box, click the **Encryption** tab, and click **View Certificates**.
4. On the **Servers** tab of the Certificate Manager dialog box, click **Add Exception**.
5. In the Add Security Exception dialog, under **Location**, enter the URL of your Web server (in this example, `https://9.34.106.118:9443/jazz/web`), and click **Get Certificate** (see Figure 1).

### Figure 1. Add a security exception to the Firefox browser



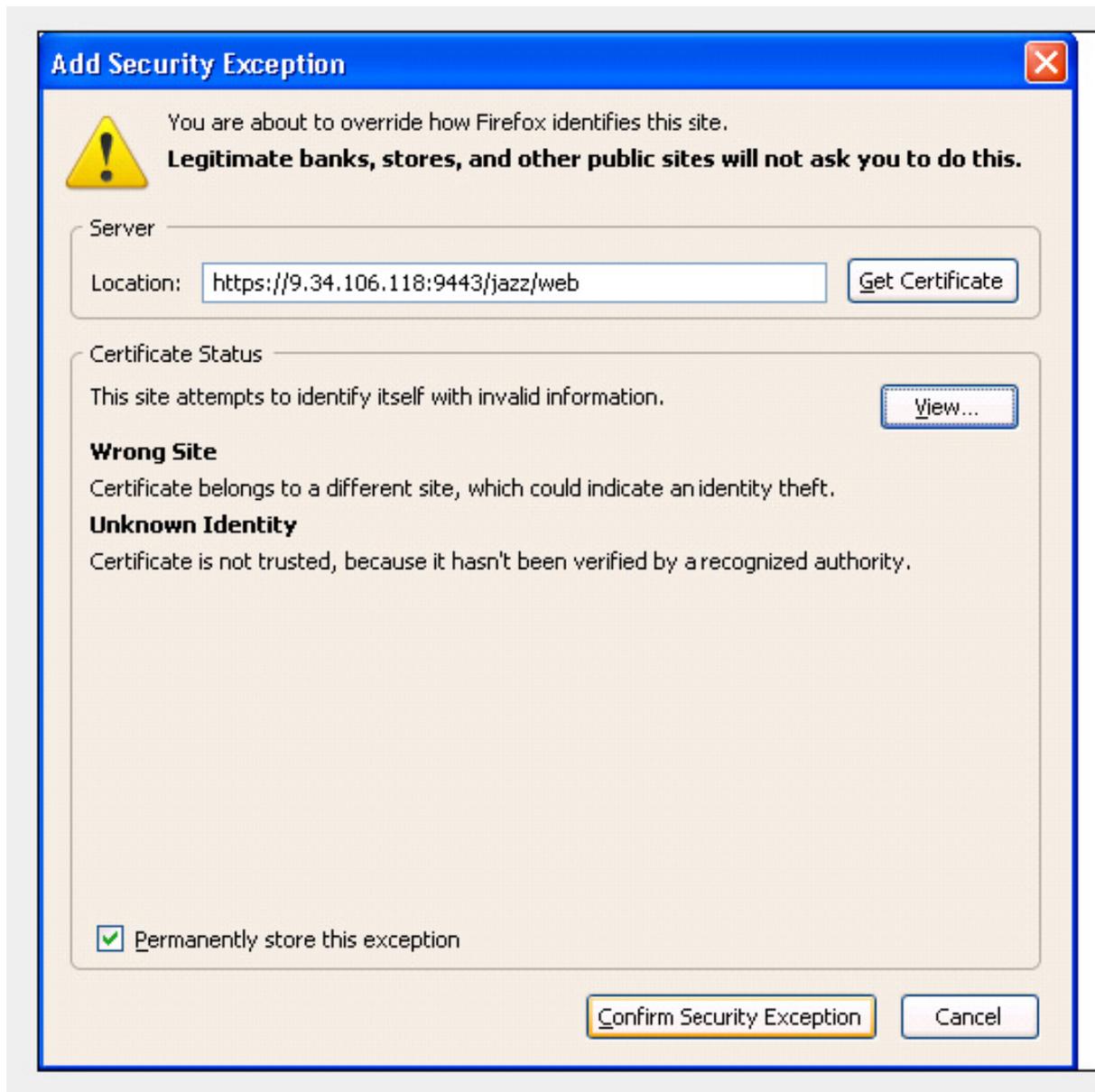
6. Click **View**, and in the Certificate Viewer dialog box, click the **Details** tab, and then click **Export** (Figure 2).

**Figure 2. Certificate Viewer**

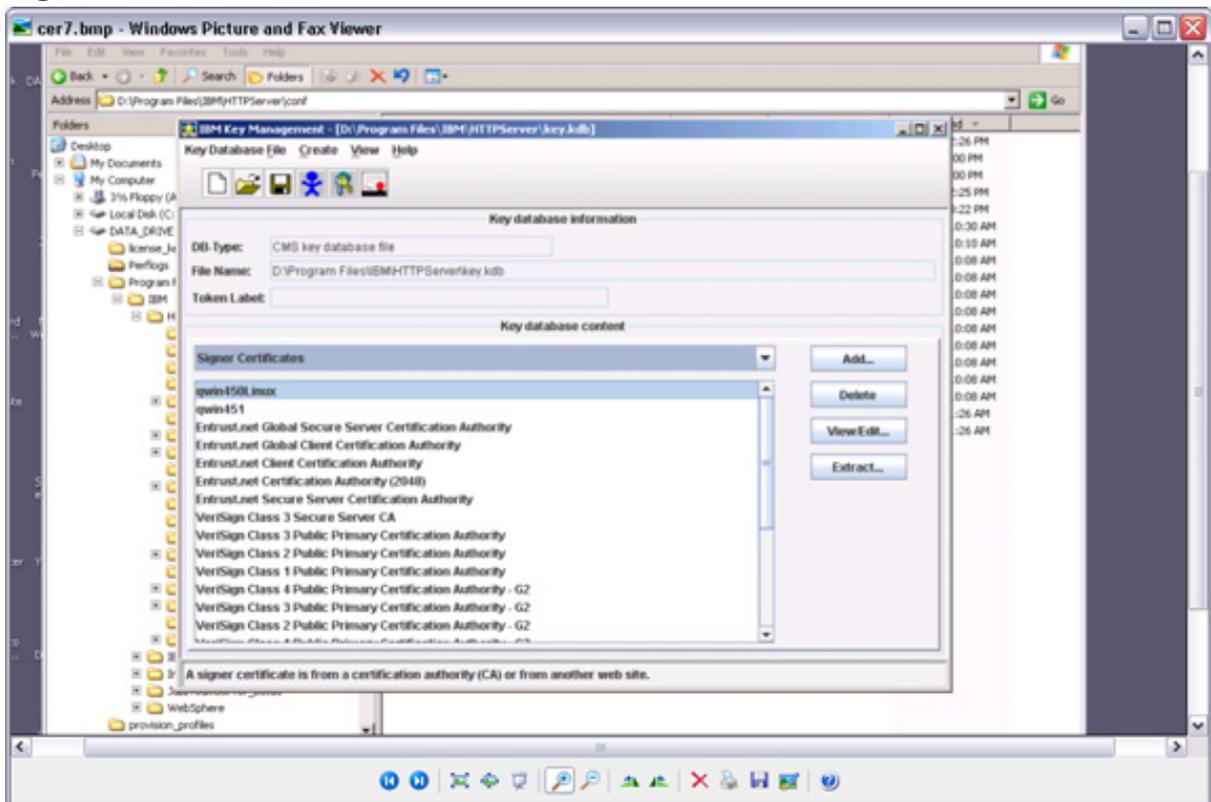


7. In the Save Certificate To File dialog, under **File name**, enter a name for the certificate.
8. Under **Save as type**, select **X509 Certificate (DER)** and click **Save**.
9. In the Certificate Viewer dialog, click **Close**.
10. In the Add Security Exception dialog, click **Confirm Security Exception**, as shown in Figure 3.

**Figure 3. Confirm the certificate**



11. In the Certificate Manager dialog, click **OK**, and then click **OK** again in the Firefox Options dialog box.
12. Copy the \*.der certificate to the proxy server.
13. Go back to the HTTP server and add the certificate to the trusted site by using the IBM Key Management tool.
14. Select the personnel certificate, add signer certificates (Figure 4), and then add the server certificate from the copied location.

**Figure 4. Add certificates**

[Click here to view a larger version of this image.](#)

- Restart the HTTP server.

## Setup Jazz server authentication

Convert the IBM® Rational® Jazz Team Server™ to support Basic authentication by modifying the **web.xml** file and adding the code in Listing 2.

### Listing 2. Code to add to the web.xml file

```
<login-config>
<realm-name>Default Realm</realm-name>
<auth-method>BASIC</auth-method>
</login-config>
```

```
D:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\config\cells\
qwin451Node01Cell\applications\jazz_war.ear\deployments\jazz_war\jazz.war\WEB-INF
```

```
D:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\
installedApps\qwin451Node01Cell\jazz_war.ear\jazz.war\WEB-INF (this one is optional)
```

- Comment out "Form" in web.xml, save and close the file.

2. Restart the application server.

You should now be able to access your IBM Rational Team Concert server through the reverse proxy server:

<https://proxyserver/jazz/web>

# Resources

## Learn

- For more information, read [TN0013: Jazz Team Server Authentication Explained](#). This tech note on the Jazz.net site (registration required) explains the authentication mechanism used by IBM Rational Jazz Team Server and the rationale for the design. It also describes how to change the configuration to use alternate authentication methods and to unsecure feed URLs for a custom deployment, along with the tradeoffs associated with each configuration. .
- Read [TN0014: Updating the Deployment Descriptor for a Previously-Deployed Java EE Web Application Archive](#). This article on the Jazz.net site explains how to modify the Rational Jazz Team Server Java™ Enterprise Edition Web Application Archive (WAR file) after it has been deployed. Instructions cover both the Apache Tomcat and IBM® WebSphere® Application Server environments.
- Get Jazz and Rational Team Concert downloads and updates and participate in the forum discussions at [Jazz.net](#). Registration required (free). This is also where you can enter and review enhancement requests and bug reports.
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Tivoli®, and WebSphere®.

## Discuss

- Join a [Jazz Forum](#) where you can ask specific questions related to the platform.
- Check out [developerWorks blogs](#) and get involved in the [developerWorks community](#).

## About the author

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Anu Ramamoorthy is a Staff Software Engineer working on the Rational System and Integration Test Team. She has been working in the software industry for close to 10 years, and has been a part of IBM Rational for the past 5 years. She has worked on a number of test automation and performance projects for IBM Rational Software including being a lead of ClearCase Remote Client performance testing. Currently she is the lead for the RTC SVT Performance testing efforts..