

OpenShift Tools Reference Guide

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Introduction

OpenShift is a cloud solution for your application server requirements. OpenShift is a cloud-based application platform for Java, Perl, PHP, Python, and Ruby applications. JBoss Developer Studio supports OpenShift deployments and this guide will show you how to connect, create and deploy applications with OpenShift, from your workbench.

Creating an OpenShift Application

The **OpenShift Application** creation wizard is accessed through **JBoss Central** or by navigating to **File** → **New** → **Other**.

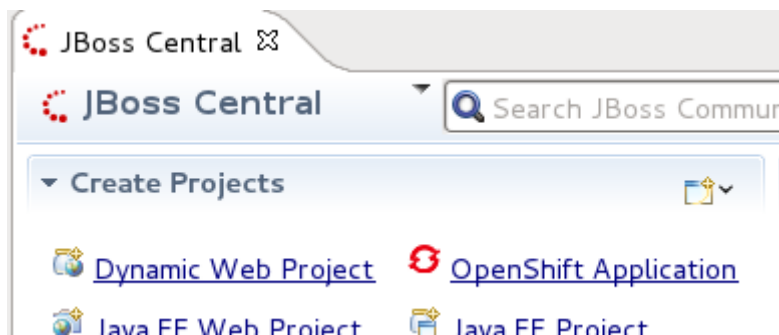


Figure 2.1. Selecting the OpenShift Application wizard

After clicking on the **OpenShift Application** link, the creation wizard will launch.

Sign in to OpenShift

Please provide your OpenShift credentials.



OPENSIFT

If you do not have an account on OpenShift, please sign up [here](#).

Username

Password

Save password (could trigger secure storage login)



< Back

Next >

Cancel

Finish

Figure 2.2. Input OpenShift credentials

If you have already signed up for an OpenShift account then you can input your **Username** and **Password** here and click the **Next** button. If validation is successful you will see the **Setup OpenShift Application** screen.

If you do not have an OpenShift account, you can create one through the link at the top of the wizard screen. This will open the OpenShift sign-up page within your workbench. Once you have created an account you will need to relaunch the **OpenShift Application** wizard and input your new username and password.

Domain Creation

Select an alphanumerical name and a type for the domain to edit.

Domain name *

SSH Public Key

Please make sure that your private key for the public key is listed in the [SSH2 Preferences](#)

Figure 2.3. Creating a domain

If you need to create a domain, type the name you wish to have into the **Domain name** field. You will also need to provide your public SSH key. Ensure that the paired private key is listed within the SSH2 Preferences. If you are unsure, click the **SSH2 Preferences** link. Click **Finish** to complete domain creation.

If you already have a domain name then you will not see the **Domain Creation** screen.



Note

If you ever wish to rename your domain, this can be done through the **OpenShift Explorer**.

Setup OpenShift Application

Select an alphanumeric name and a type for the application to create.



OPENSHIFT

Use existing application:

New application

Name: *

Type: *

Gear profile: Enable scaling

Embeddable Cartridges

<input type="checkbox"/> mongodb-2.0	<input type="button" value="Select All"/> <input type="button" value="Deselect All"/>
<input type="checkbox"/> cron-1.4	
<input type="checkbox"/> mysql-5.1	
<input type="checkbox"/> postgresql-8.4	
<input type="checkbox"/> haproxy-1.4	
<input type="checkbox"/> 10gen-mms-agent-0.1	
<input type="checkbox"/> phpmyadmin-3.4	
<input type="checkbox"/> metrics-0.1	

Figure 2.4. Creating a new OpenShift application

Now ready to create your OpenShift application, you will need to specify a name, the platform type to deploy for, from the **Type** drop-down list, and the **Gear profile** to be used.

The **Gear profile** option concerns the amount of physical space that will be allocated for use by the application. If you are running a trial version of OpenShift only the **small Gear profile** will be available to you.



Note

No underscores or special characters are allowed in the application name.

You can also select to embed cartridges into your applicaiton. By embedding a cartridge, you allow your application the ability to use the associated technology. For example, embedding the **mysql** cartridge will grant your application the capability to use a MySQL database.

Setup Project for OpenShift Application "jbossas"

Configure your project and server adapter settings, then click 'next' or 'finish'.



OPENSHIFT

Create a new project

Use existing project:

Browse...

Server Adapter

Create and setup a server for easy publishing



< Back

Next >

Cancel

Finish

Figure 2.5. Application setup

Since you are creating a new project, leave the **Create a new project** checkbox ticked.

For easy interaction with the OpenShift server and your domain it is recommended that you leave the **Create and setup a server for easy publishing** checkbox ticked. Doing so will create an OpenShift server instance in the **Servers** view, upon completing the wizard.

Click the **Next** button to progress in the wizard.

Import an existing OpenShift application



OPENSHIFT

Configure the cloning settings by specifying the clone destination if you create a new project, and the git remote name if you're using an existing project.

Cloning settings

Use default location

Location:

Use default remote name

Remote name:

Make sure your SSH key used with the domain is listed in [SSH2 Preferences](#).



< Back

Next >

Cancel

Finish

Figure 2.6. Cloning settings

The final screen of the **OpenShift application wizard** specifies **Cloning settings**. Here you can set the properties for creating a local copy of your application. The **Location** and **Remote name** options will be set automatically, however, you are able to change these by deselecting the default option and specifying custom settings in the fields provided.

Click the **Finish** to begin the cloning of the Git repository.

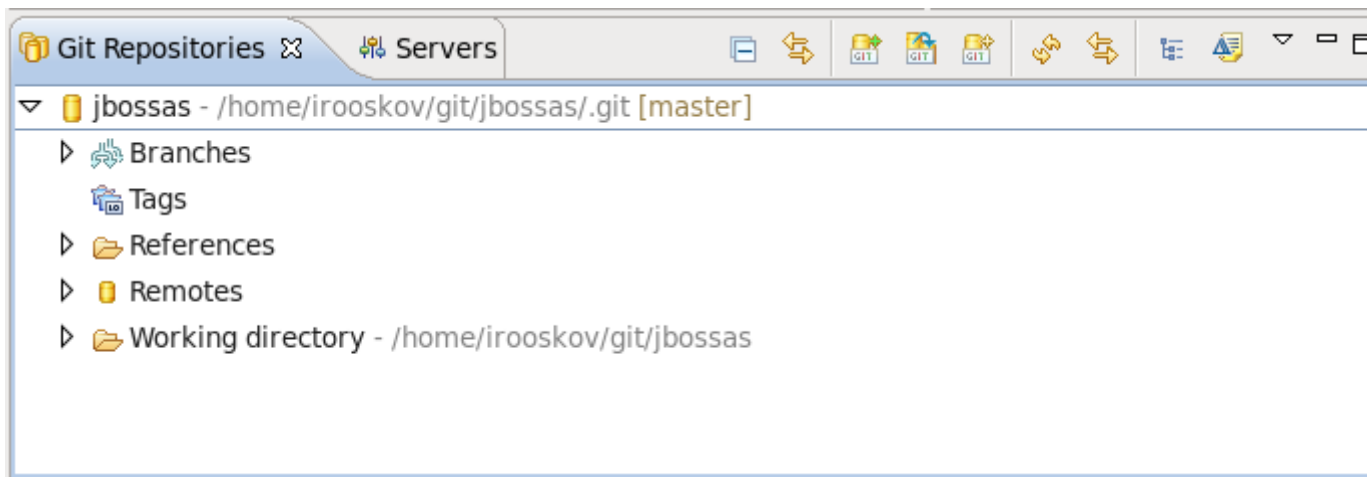


Figure 2.7. Project added to available Git repositories

After the Git repository has been cloned, it will be available through the **Git Repositories** view. You can open it by navigating to **Window** → **Show View** → **Other** → **Git** → **Git Repositories**. With the **Git Repositories** option selected, click **OK**.

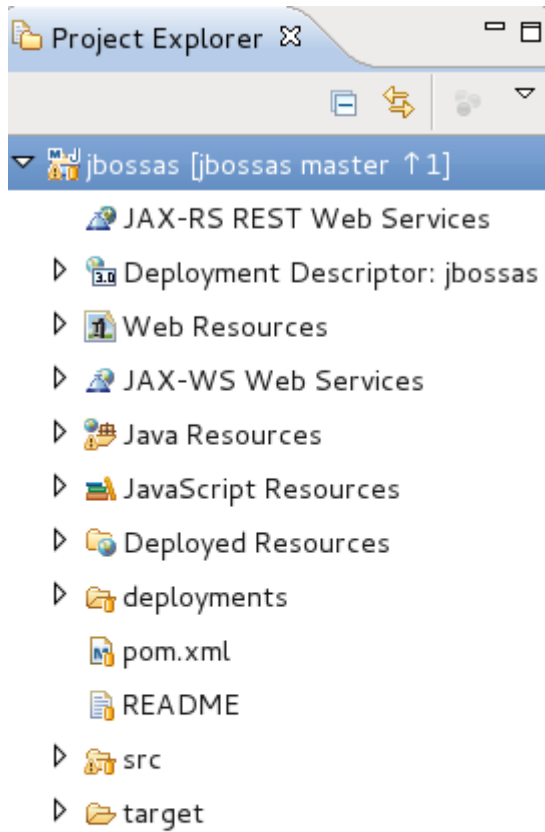


Figure 2.8. Project in Project Explorer

The OpenShift application that you created through the wizard, will appear in your **Project Explorer** tab.

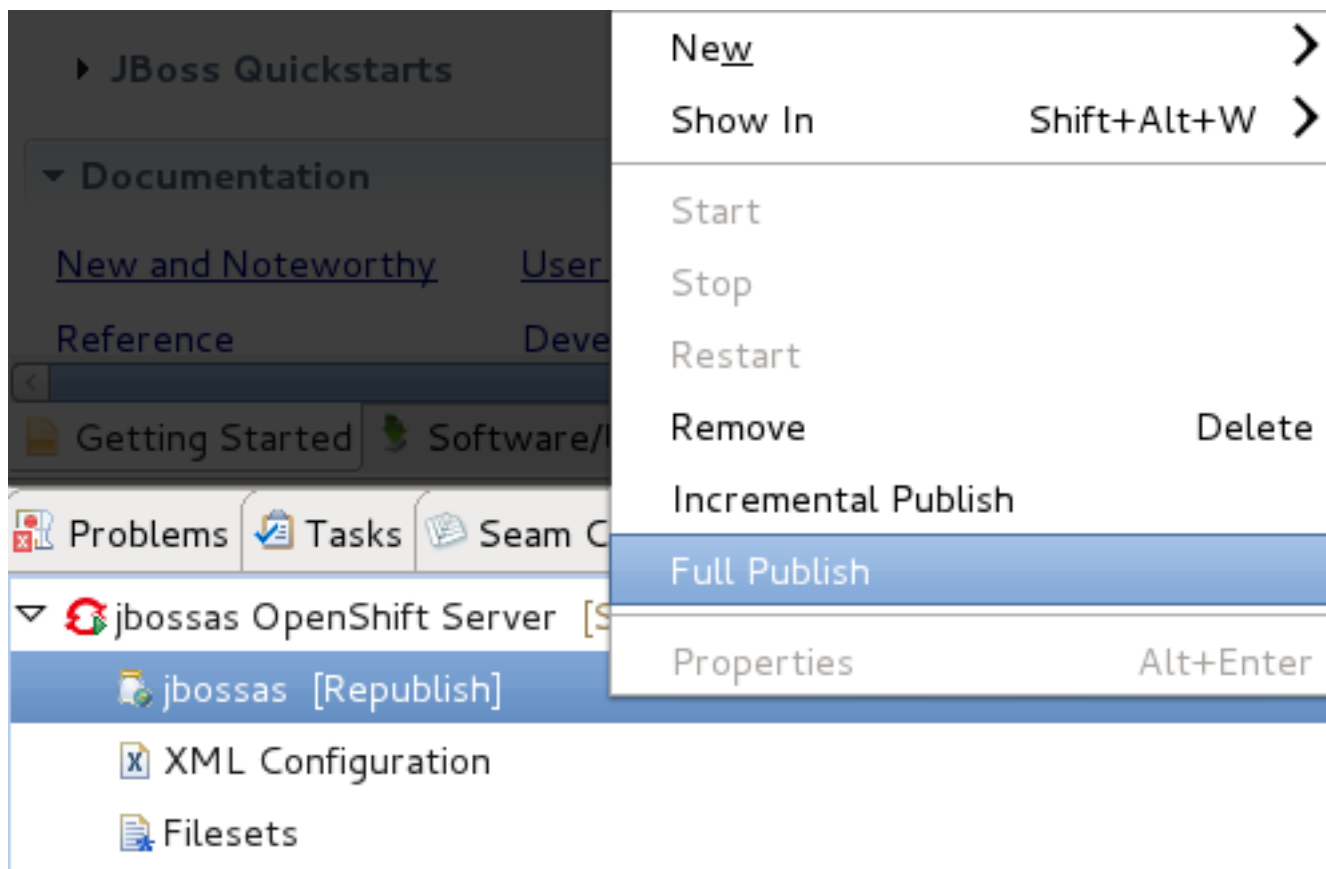


Figure 2.9. Publishing your project through the server adapter

The wizard has also created a server adapter that connects to your OpenShift service. In the **Servers** tab there will be an OpenShift server available that contains your application. Any changes you make locally to the application can be published to your OpenShift instance by right-clicking on the application under the server in the **Servers** view, and selecting **Full Publish**.

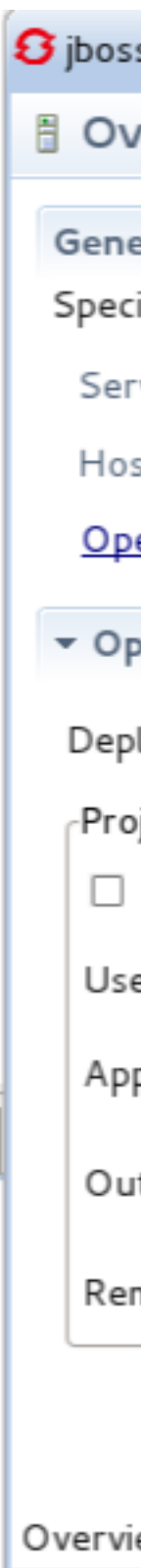
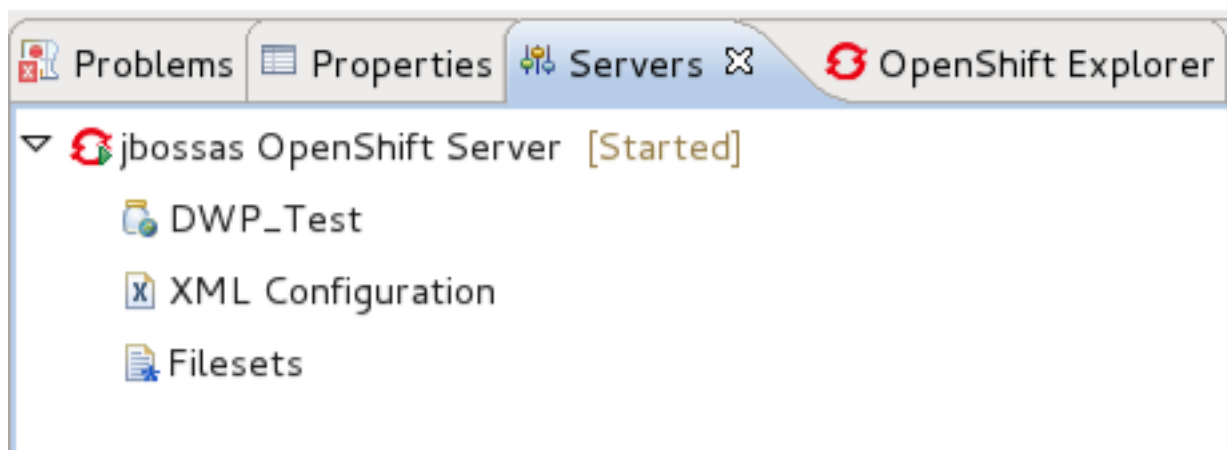


Figure 2.10. OpenShift server overview and settings

As with a local server, double-clicking on the OpenShift server instance in the **Servers** tab will open the server overview page in your workbench.

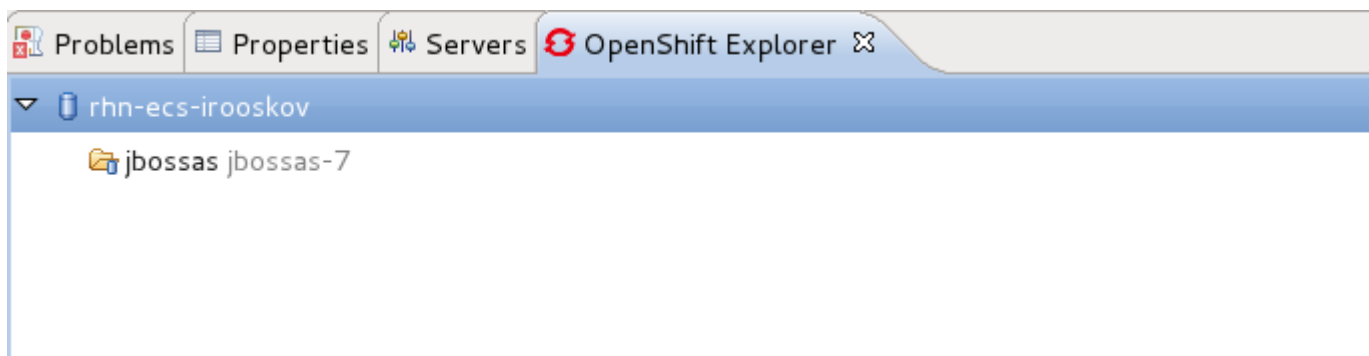


Figure 2.11. OpenShift Explorer view

The OpenShift application will also be available under your domain in the **OpenShift Explorer** view.

Import an existing application

To import an existing OpenShift application to your workbench, from **JBoss Central** navigate to the **Create Projects** section and click on **OpenShift Application**.

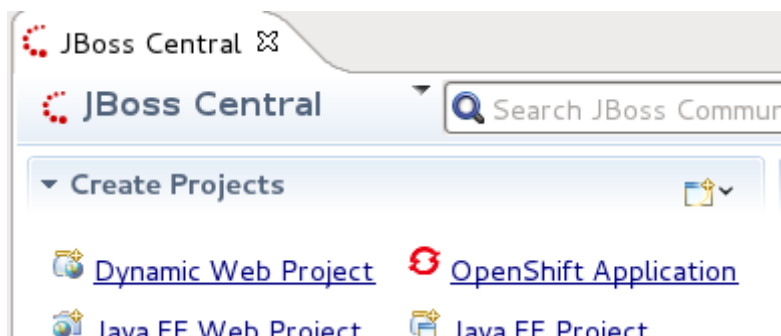



Figure 3.1. Selecting the OpenShift Application wizard

Enter your OpenShift credentials and click the **Next** button.

Sign in to OpenShift

Please provide your OpenShift credentials.



OPENSIFT

If you do not have an account on OpenShift, please sign up [here](#).

Username

Password

Save password (could trigger secure storage login)





Figure 3.2. Input OpenShift credentials

On the **Setup OpenShift Application** screen click the checkbox beside **Use existing application** and click the **Browse** button.

Setup OpenShift Application

Please select an existing OpenShift application



OPENSIFT

Use existing application:

New application

Name:

Type:

Gear profile: Enable scaling

Embeddable Cartridges

<input type="checkbox"/> 10gen-mms-agent-0.1	<input type="button" value="Select All"/> <input type="button" value="Deselect All"/>
<input type="checkbox"/> cron-1.4	
<input type="checkbox"/> haproxy-1.4	
<input type="checkbox"/> jenkins-client-1.4	
<input type="checkbox"/> metrics-0.1	
<input type="checkbox"/> mongodb-2.0	
<input type="checkbox"/> mysql-5.1	
<input type="checkbox"/> phpmyadmin-3.4	

Figure 3.3. Setup OpenShift Application screen

A dialog will open where you will see all your OpenShift applications listed, for the current domain.

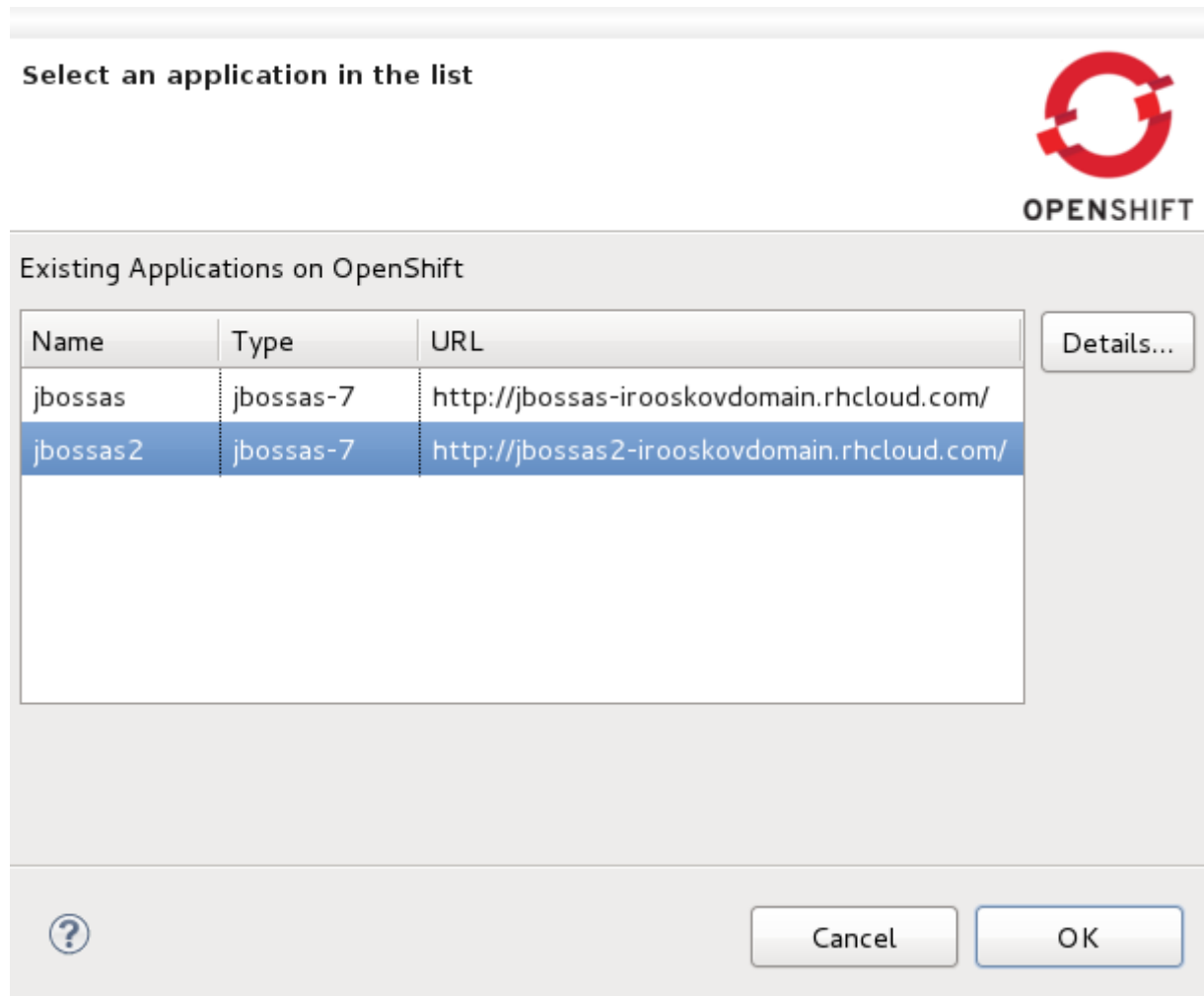


Figure 3.4. Existing applications on OpenShift

By selecting an application from the list and clicking the **Details** button you can see all relevant application information. Click the **OK** to return to the application selection screen.

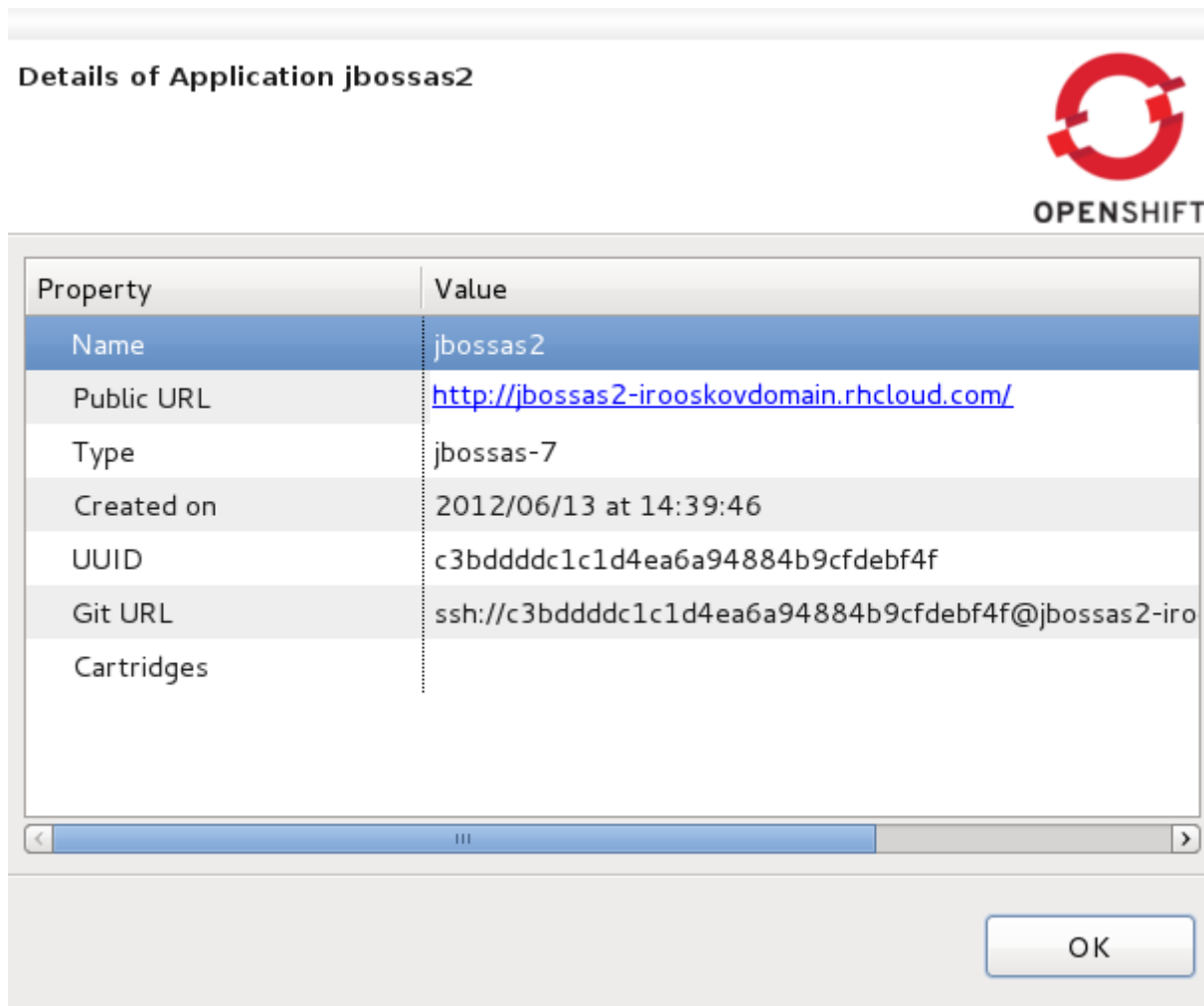


Figure 3.5. Details of OpenShift application

Select the application to import and click the **OK** button.

You will be returned to the **Setup OpenShift Application** screen and the **Use existing application** field will be populated with the name of the application you selected.

Setup OpenShift Application

Select an existing or create a new OpenShift Application.



OPENSIFT

Use existing application:

New application

Name:

Type:

Gear profile: Enable scaling

Embeddable Cartridges

- 10gen-mms-agent-0.1
- cron-1.4
- haproxy-1.4
- jenkins-client-1.4
- metrics-0.1
- mongodb-2.0
- mysql-5.1
- phpmyadmin-3.4

Figure 3.6. Setup OpenShift Application screen

Chapter 3. Import an existing...

To complete importing the application click the **Next** button and continue follow the instructions after the **Setup OpenShift Application** screen that are available in the *Creating an OpenShift Application* chapter: [Figure 2.6, “Cloning settings”](#).

Modifying your Maven Web Application to Deploy to OpenShift

Open the `pom.xml` file of your web application in the editor by double-clicking on the file in your **Project Explorer** and selecting the **pom.xml** tab in your workbench.

Create `profiles` tags within the `project` tags of the `pom.xml` file. Within the `profiles` tags, press **Ctrl** and Spacebar together to trigger auto-completion.

From the auto-completion menu, select **OpenShift profile**. The profile information to connect to OpenShift will be inserted.

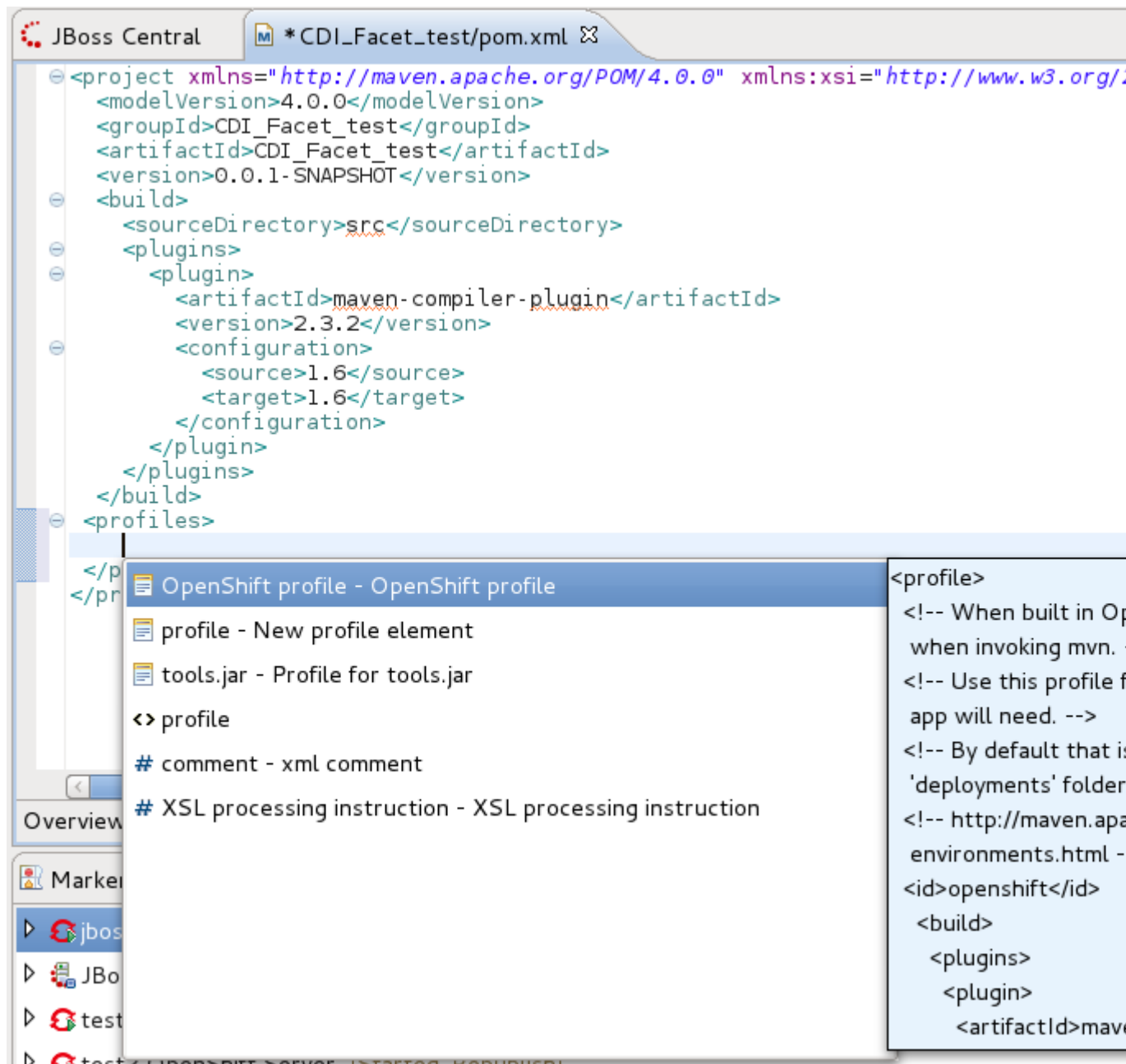


Figure 4.1. Selecting the OpenShift Profile

Port Forwarding

Port forwarding is available for each OpenShift application. To access port forwarding for an application right-click on an application in the **OpenShift Explorer** view tab and select **Port forwarding** from the context menu.

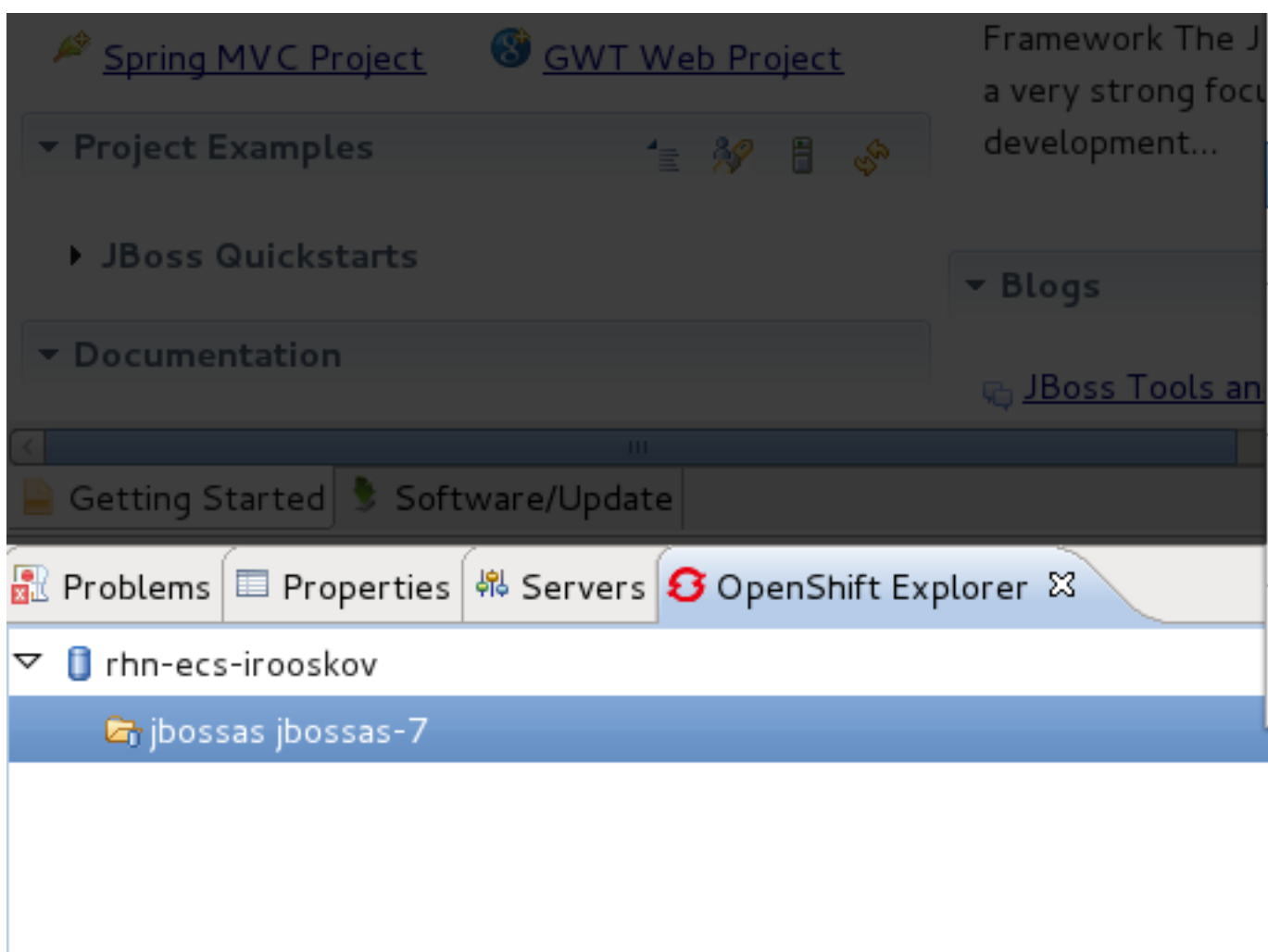


Figure 5.1. Port forwarding option

The **Application port forward** dialog will display ports that can be forwarded. To forward all ports click the **Start All** and the **Stop All** button will stop port forwarding for all listed ports.

If you do not wish to use the remote port numbers selected by default, click the checkbox beside the **Find free ports for all Services** option.

The default local address is set to 127.0.0.1 and if the remote port is not available a random one will be generated. If your operating system supports it, you can uncheck **Use 127.0.0.1 as the local address for all services** and the local address will become the same as the remote address.

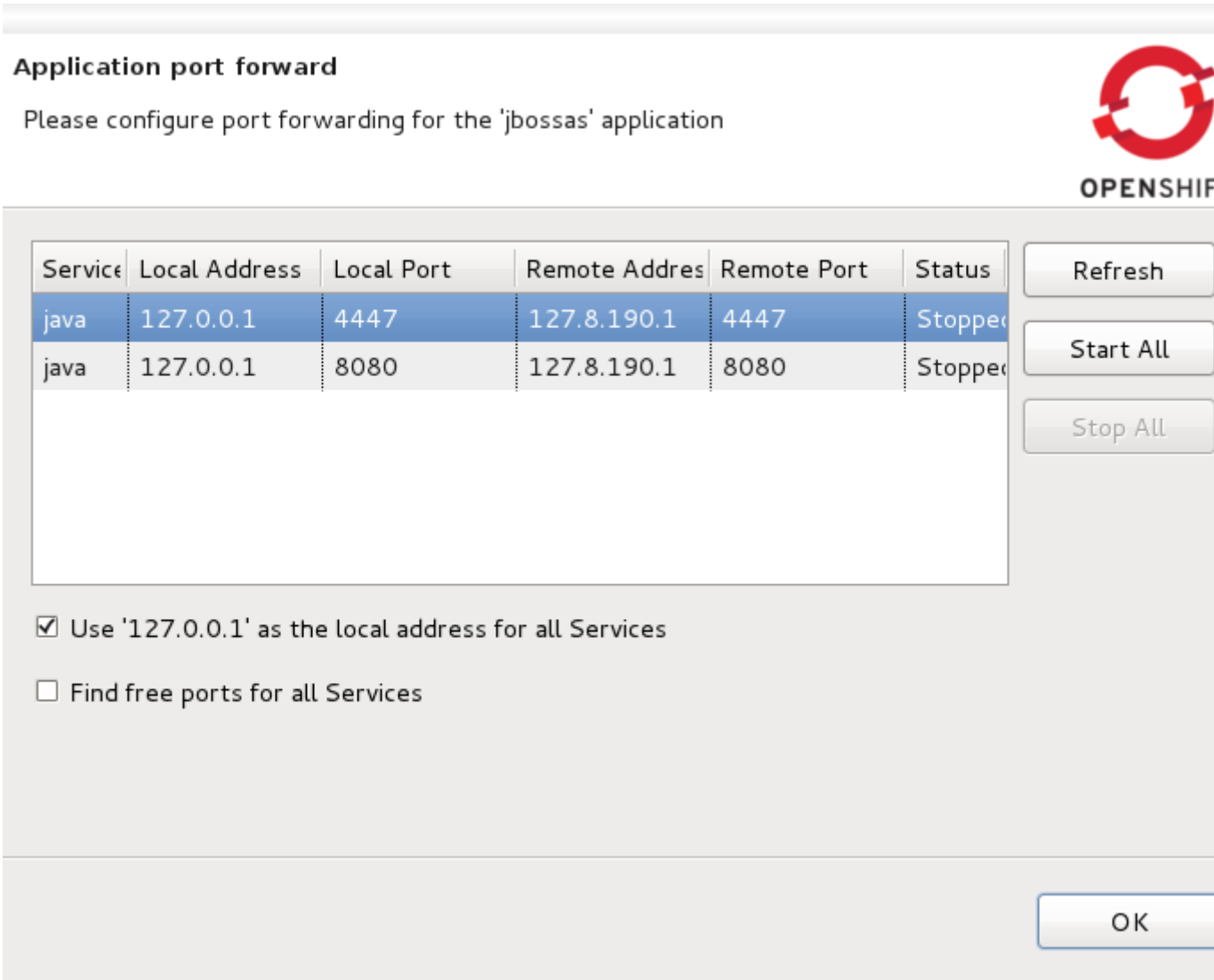


Figure 5.2. Port forwarding dialog

Debugging

This chapter covers useful tools for debugging OpenShift servers and applications.

6.1. Viewing the Remote Console

Similar to when you are running a server locally, you are also able to see console output for your remote OpenShift server. To have this output displayed to you, right-click on your OpenShift application in the **OpenShift** view tab, and select **Tail files**.

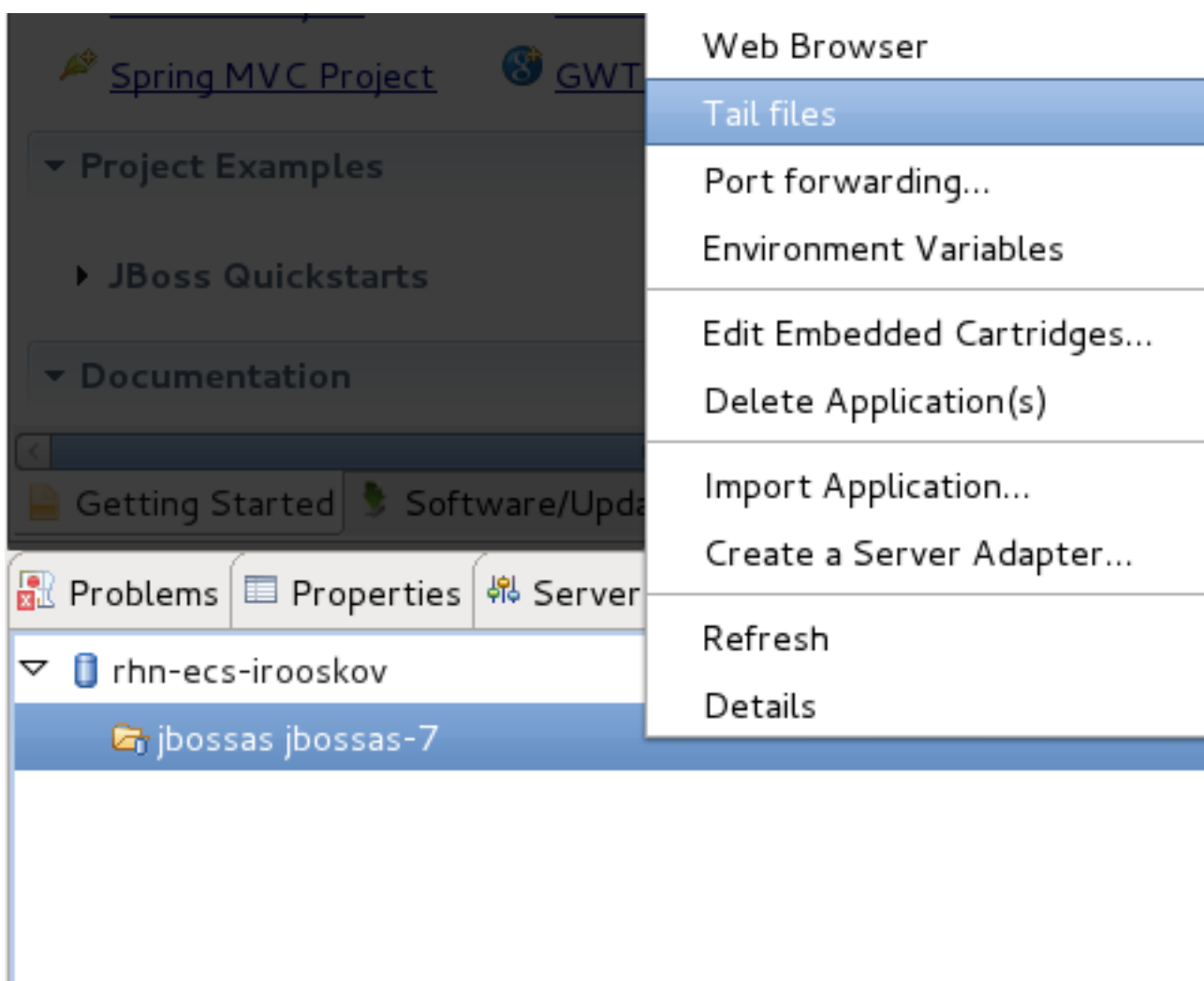


Figure 6.1. Tailing OpenShift server files option

A new tab will open called **Console** and display the last 100 lines of the servers `boot.log` and `server.log` files. This **Console** tab will now tail the content of these files on the server, outputting any updates to you, as they occur.

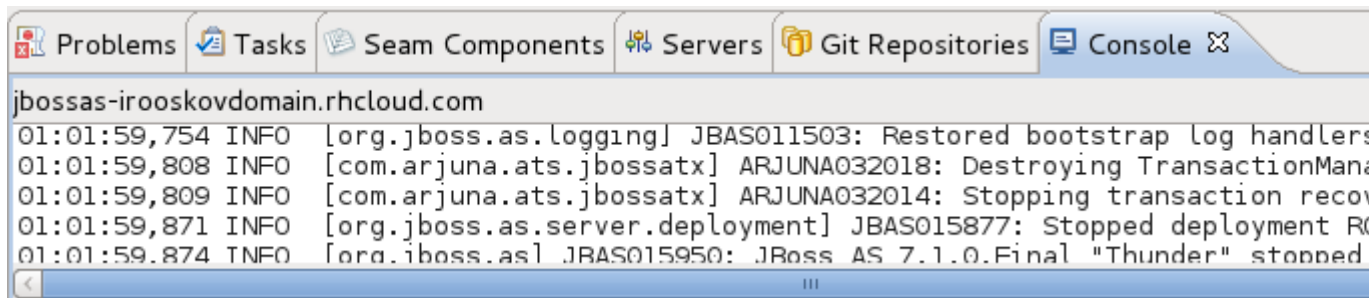


Figure 6.2. Viewing OpenShift server console output

This information can be useful in ensuring processes are executing as expected.

6.2. Viewing Environment Variables

You are able to view the environment variables that an OpenShift application is utilizing and the current content of each variable. To have this output displayed to you right-click on your OpenShift server in the **OpenShift** view tab, and select **Environment Variables**.

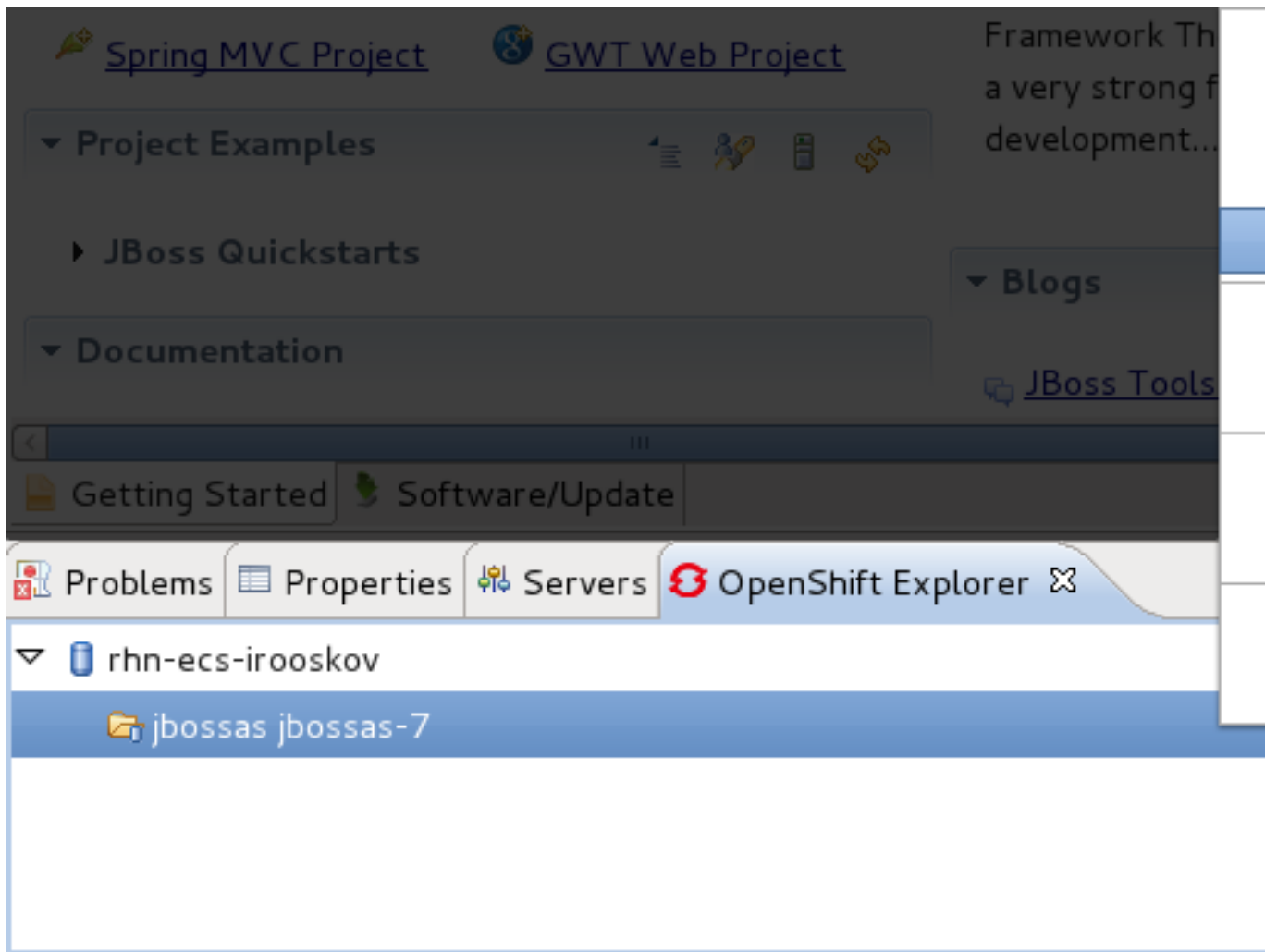


Figure 6.3. Selecting the Environment Variables menu item

The output will appear in the **Console** view tab.

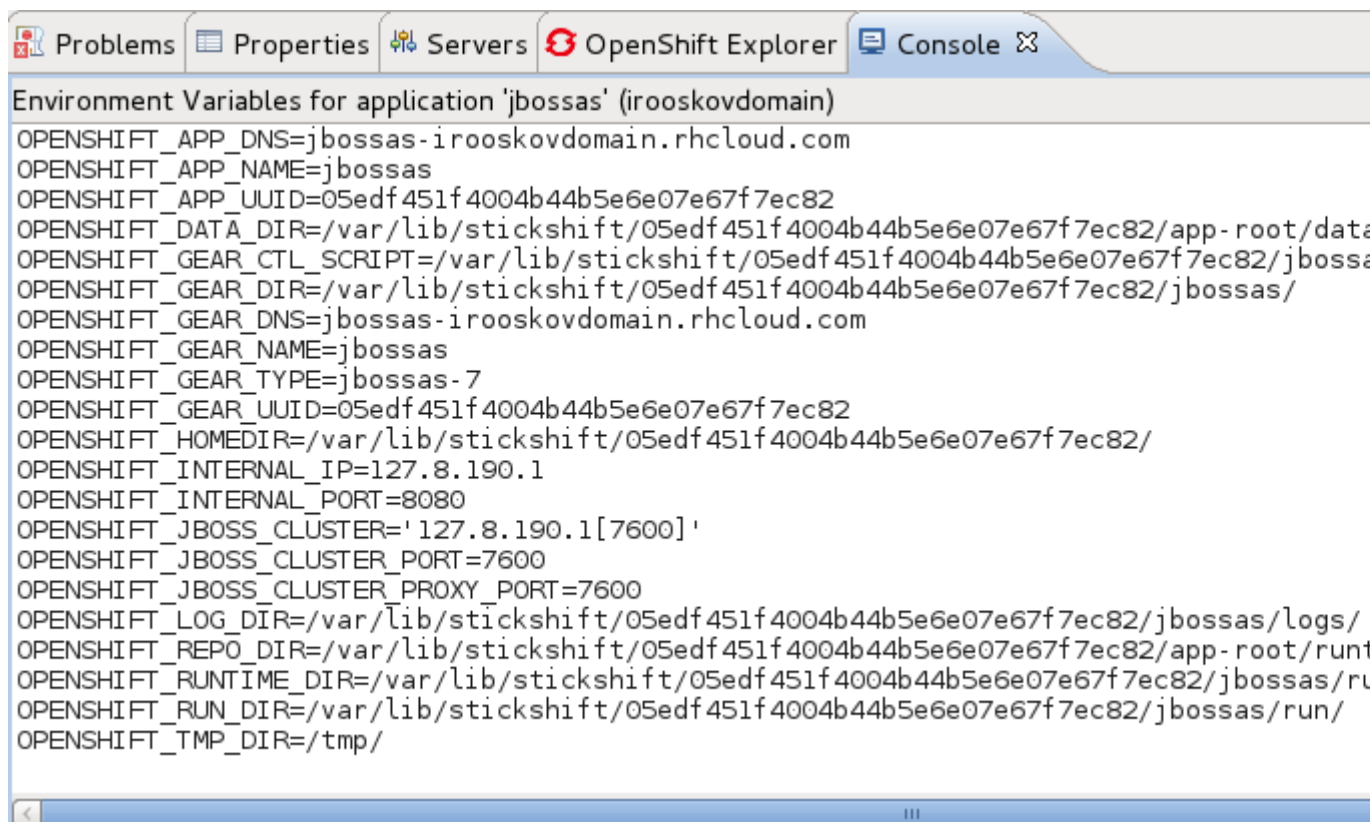


Figure 6.4. Viewing OpenShift application environment variables

This information can be useful in ensuring an application is receiving the correct environment variable values.

Deleting applications and domains

This chapter explains how to remove applications and domains from OpenShift.

7.1. Deleting an application

Deleting an application will only remove it from the OpenShift server. The application and OpenShift server adapter will remain in your workbench.

To remove an application right-click on it in the **OpenShift Explorer** view tab and select **Delete Application(s)** from the context menu.

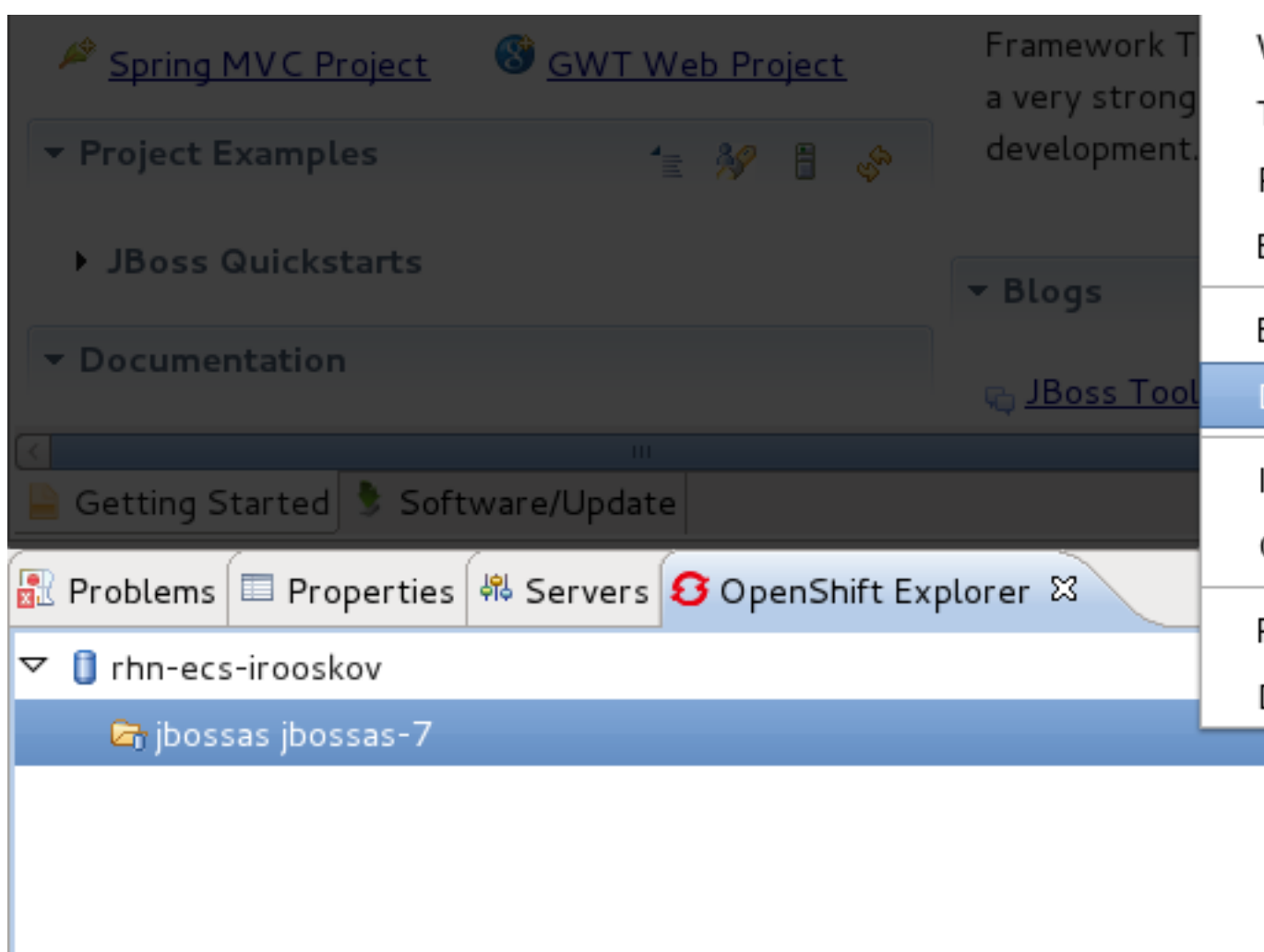


Figure 7.1. Delete Application(s) menu item

A dialog window will display asking you to confirm the action and alerting you that you will not be able to recover the application once it has been deleted. Click the **OK** button to delete the application.

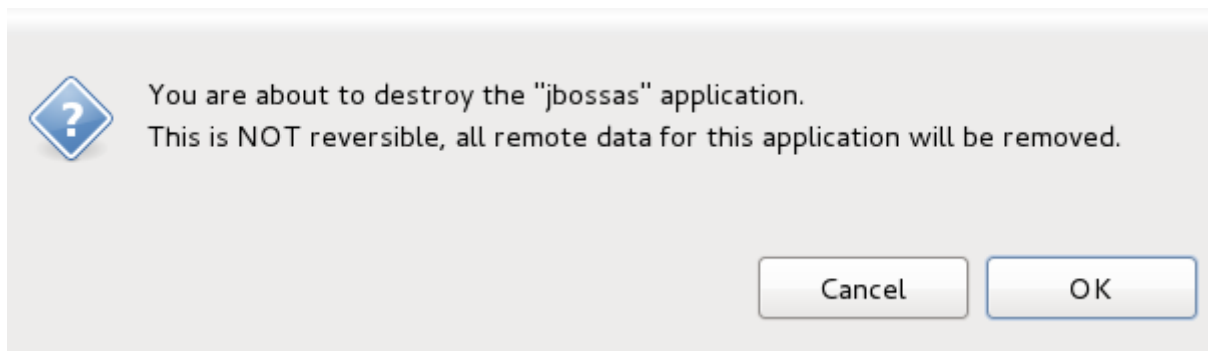


Figure 7.2. Confirming application deletion

Once the application has been deleted you will notice that it has been removed from the list of applications available on your OpenShift server.

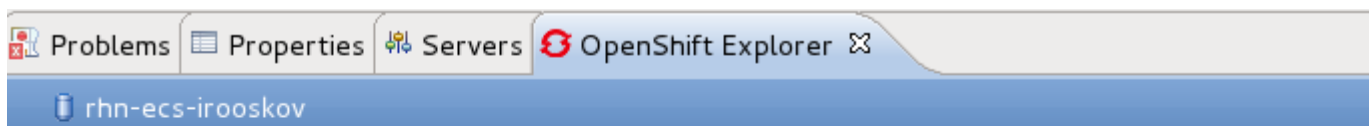


Figure 7.3. Application removed

7.2. Deleting a domain

To delete a domain right-click on your server connection in the **OpenShift Explorer** view tab and select **Delete Domain** from the context menu.

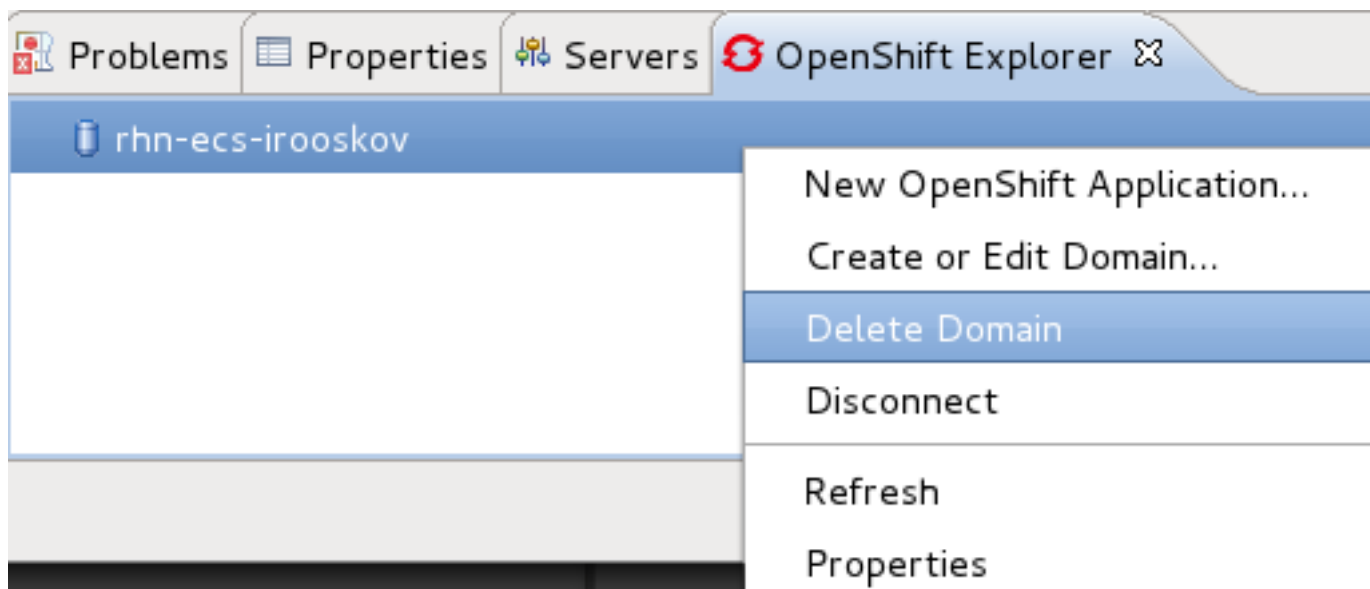



Figure 7.4. Delete Domain menu item

A dialog box will be displayed asking you to confirm domain deletion. As a domain can only be deleted if it has no applications associated with it, an option is available to **Force applications deletion**. By selecting this checkbox any applications still associated with the domain will be deleted and unrecoverable.

**Warning**

It is recommended that you remove applications individually before deleting a domain to ensure you have created a copy of any application data you wish to keep.

If you do not select the **Force applications deletion** option and the domain to be removed still has an application associated with it, domain deletion will fail.

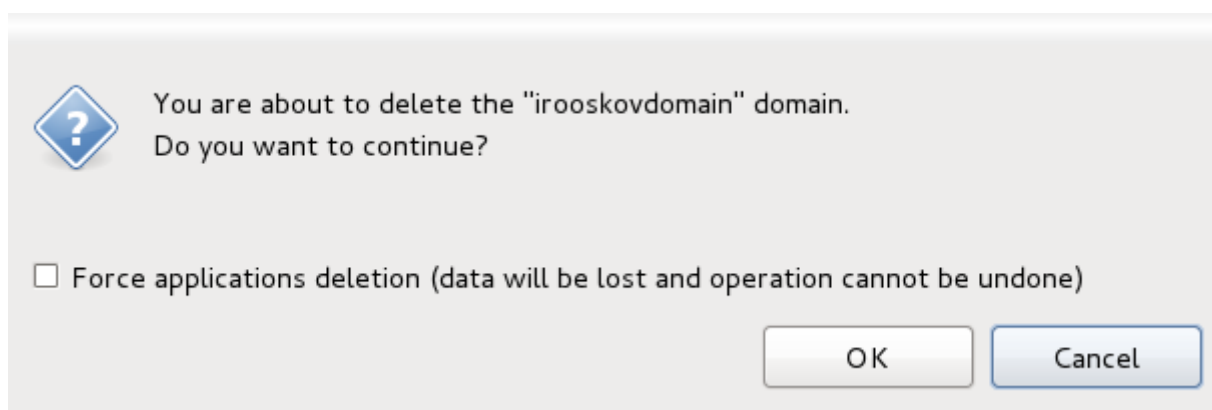


Figure 7.5. Confirming domain deletion

Once the domain has been deleted the connection to OpenShift will remain, however the **Delete Domain** option will not be available from the context menu.

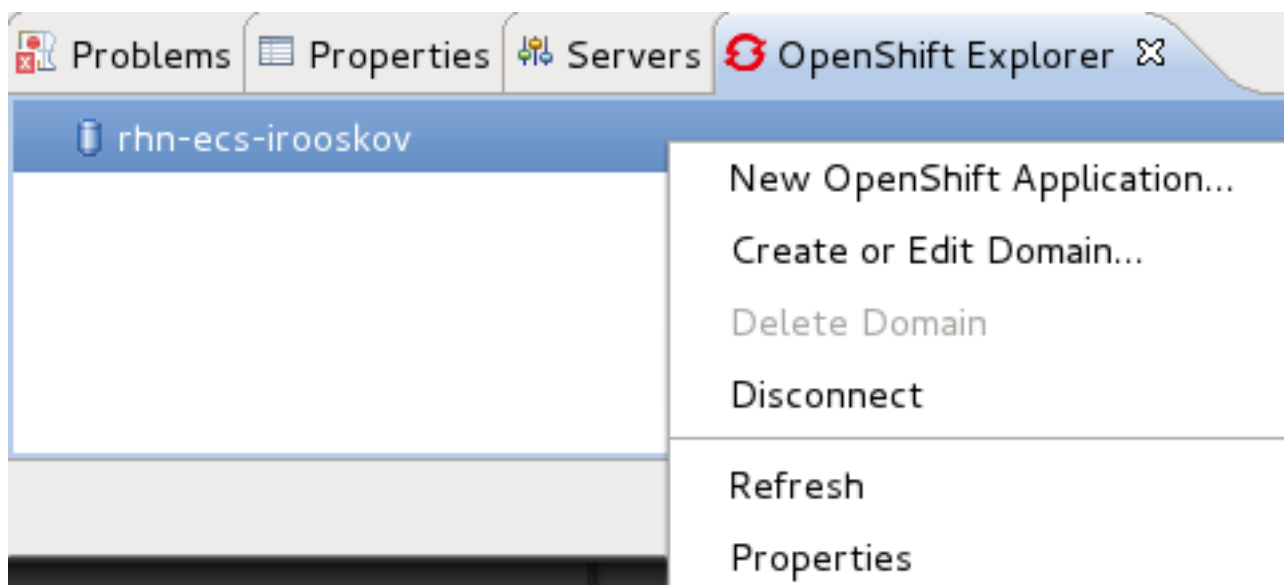


Figure 7.6. Delete Domain option not available