Radioactivity Project Deployment

[RadioactivityProjectDeployment.htm - uqlpayne 22 Aug 2013]

Contents

- Requirements
- GlassFish Server Administration Console
- Deploy Radioactivity LabEquipment
- Deploy Radioactivity LabServer
- Deploy Radioactivity LabClient
- Deploy Radioactivity LabClient Rest
- Deploy Dummy ServiceBroker
- Launch Radioactivity LabEquipment
- Launch Radioactivity LabServer
- Launch Dummy ServiceBroker
- Launch Radioactivity LabClient
- Launch Radioactivity LabClient Rest

Requirements

- The *GlassFish Server Open Source Edition 4.0* is installed and running.
- The *UQ-iLab-BatchLabServer-Java* GitHub repository has been downloaded as a ZIP file from:

  `https://github.com/uqlpayne/UQ-iLab-BatchLabServer-Java`
- The *Radioactivity LabServer Database* has been created and configured (see RadioactivityLabServerDatabase.pdf).
- The *Dummy ServiceBroker Database* has been created and configured (see DummyServiceBrokerDatabase.pdf).
- The folder *D:\iLabs\Radioactivity* has been created for the Radioactivity project application files.
- The folder *D:\iLabs\Dummy* has been created for the Dummy ServiceBroker application files.

GlassFish Server Administration Console

- Run the *GlassFish Server Administration Console* by entering the following URL in a web browser.

  `http://localhost:4848/`

  If prompted, log in to the Administration Console.
- There are four web applications that need to be deployed to the GlassFish Server.

Radioactivity LabEquipment
  Packaged File: *UQ-iLab-BatchLabServer-Java/Builds/Radioactivity_LabEquipment.war*
  Local Folder: *D:\iLabs\Radioactivity\LabEquipment*
  Context Path: */RadioactivityLabEquipment*

Radioactivity LabServer
  Packaged File: *UQ-iLab-BatchLabServer-Java/Builds/Radioactivity_LabServer.war*
  Local Folder: *D:\iLabs\Radioactivity\LabServer*
  Context Path: */RadioactivityLabServer*

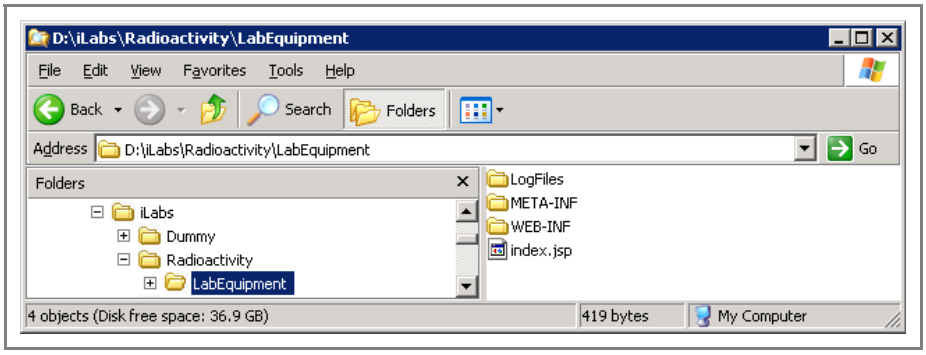
Radioactivity LabClient
  Packaged File: *UQ-iLab-BatchLabServer-Java/Builds/Radioactivity_LabClient.war*
  Local Folder: *D:\iLabs\Radioactivity\LabClient*
  Context Path: */RadioactivityLabClient*

Dummy ServiceBroker
  Packaged File: *UQ-iLab-BatchLabServer-Java/Builds/Dummy_ServiceBroker.war*
  Local Folder: *D:\iLabs\Dummy\ServiceBroker*
  Context Path: */DummyServiceBroker*

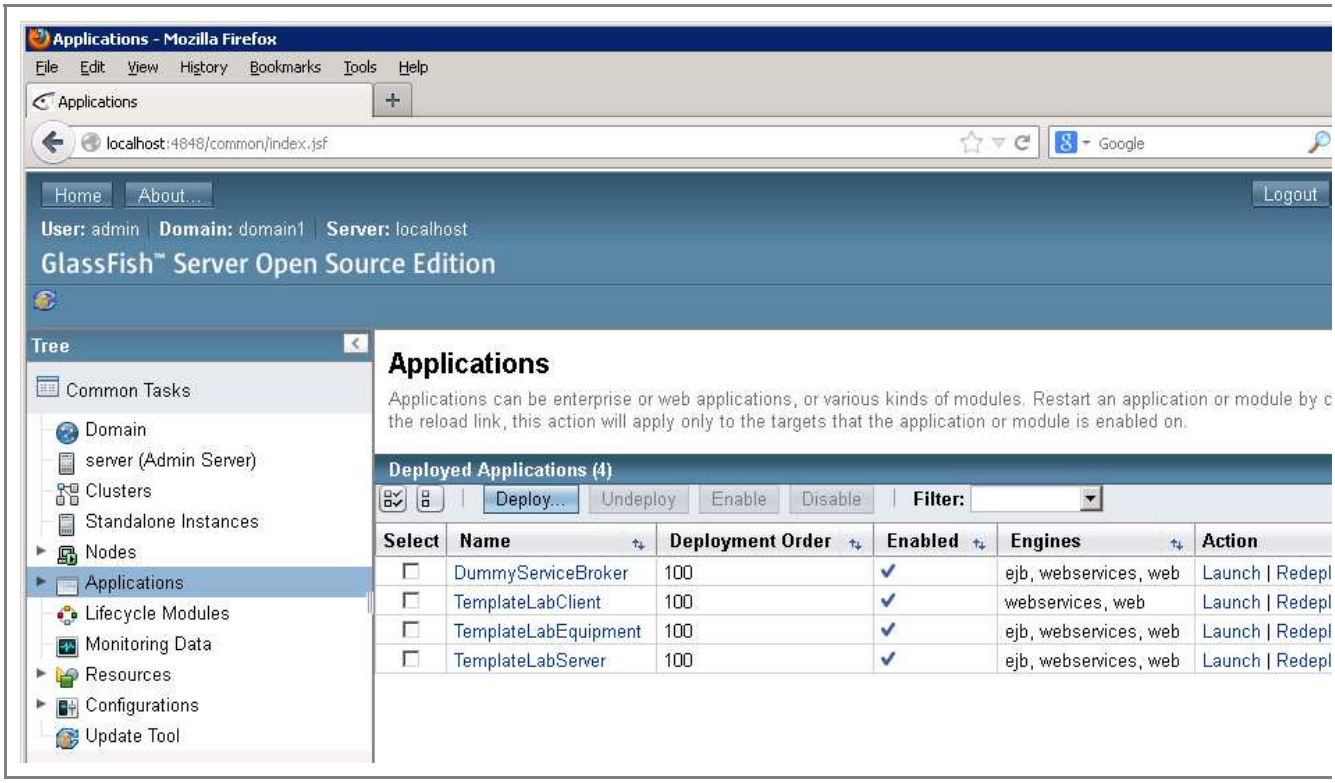
Deploy Radioactivity LabEquipment

- Create the folder *LabEquipment* in the folder *D:\iLabs\Radioactivity* so that the folder *D:\iLabs\Radioactivity\LabEquipment* exists.

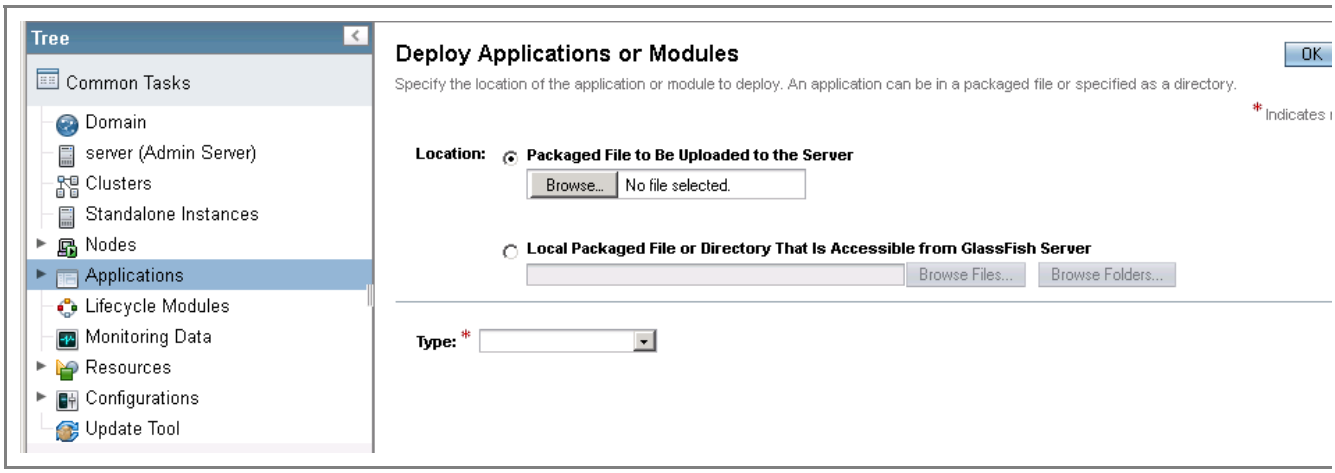
  Extract the web archive file *Builds/Radioactivity_LabEquipment.war* to the folder *D:\iLabs\Radioactivity\LabEquipment*.



- Go to the *GlassFish Server Admininistration Console*. In the *Common Tasks* panel, click on *Applications*. If you have already completed the *Template Project Deployment* tutorial then there will be some deployed applications shown.



In the *Applications* panel, click the *Deploy...* button.



In the *Deploy Applications or Modules* panel, select *Local Packaged File or Directory That Is Accessible from GlassFish Server* and enter `D:\iLabs\Radioactivity\LabEquipment` in the field.

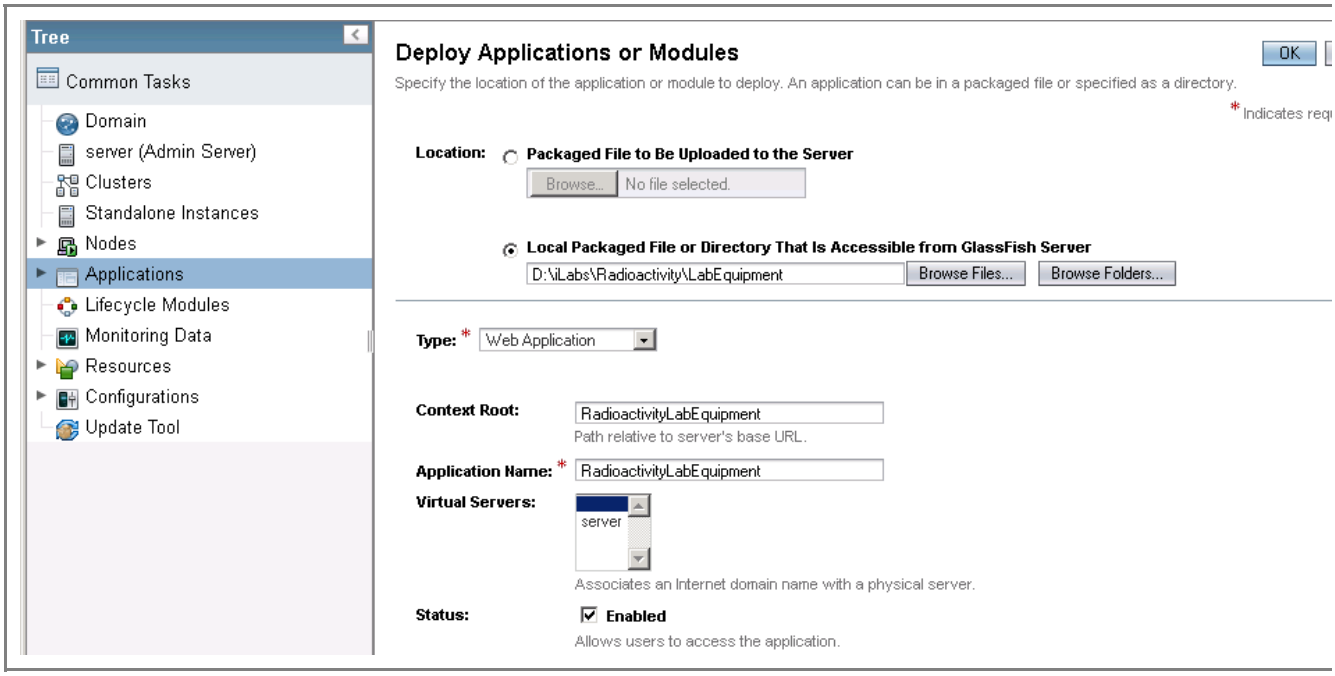
Alternatively, click the *Browse Folders...* button to select the folder.

For *Type:* select *Web Application* from the dropdown list. More fields are then displayed.

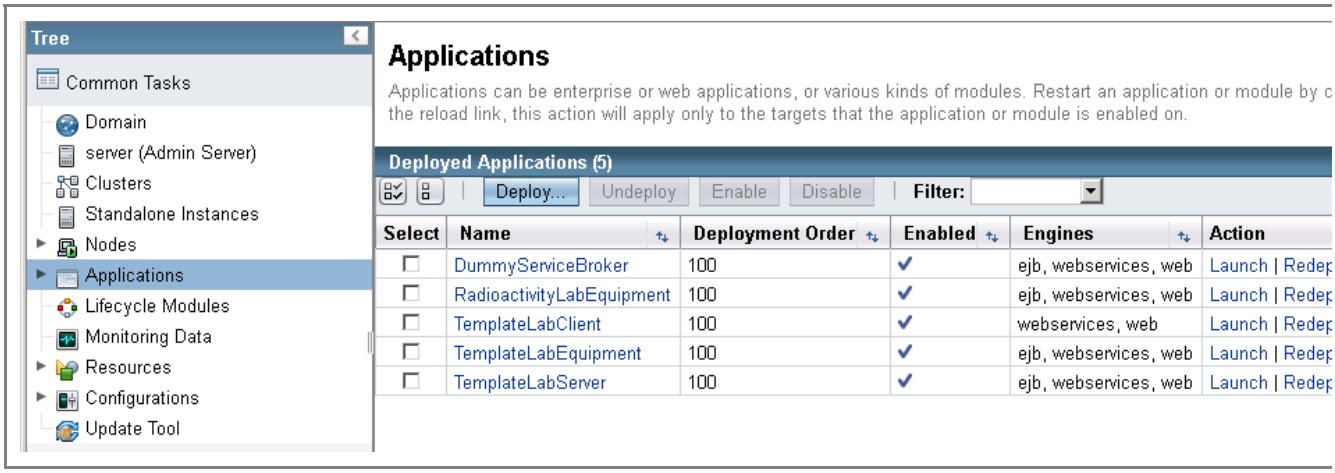
For *Context Root:* enter `RadioactivityLabEquipment` in the field.

Also for *Application Name:* enter `RadioactivityLabEquipment` in the field.

Leave the other fields with their default values.



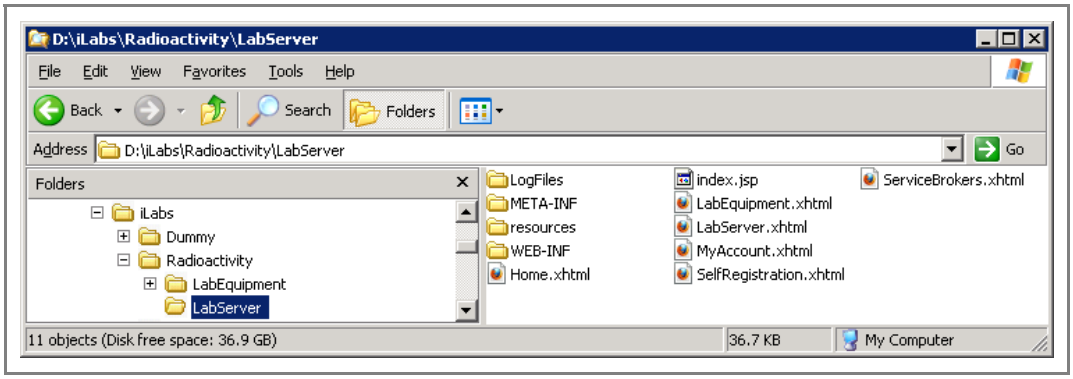
Click the *OK* button to deploy the application.



Deploy Radioactivity LabServer

- Create the folder *LabServer* in the folder *D:\iLabs\Radioactivity* so that the folder *D:\iLabs\Radioactivity\LabServer* exists.

  Extract the web archive file *Builds/Radioactivity_LabServer.war* to the folder *D:\iLabs\Radioactivity\LabServer*.



- Go to the *GlassFish Server Admininistration Console*. In the *Applications* panel, click the *Deploy...* button.

  In the *Deploy Applications or Modules* panel, select *Local Packaged File or Directory That Is Accessible from GlassFish Server* and enter `D:\iLabs\Radioactivity\LabServer` in the field.

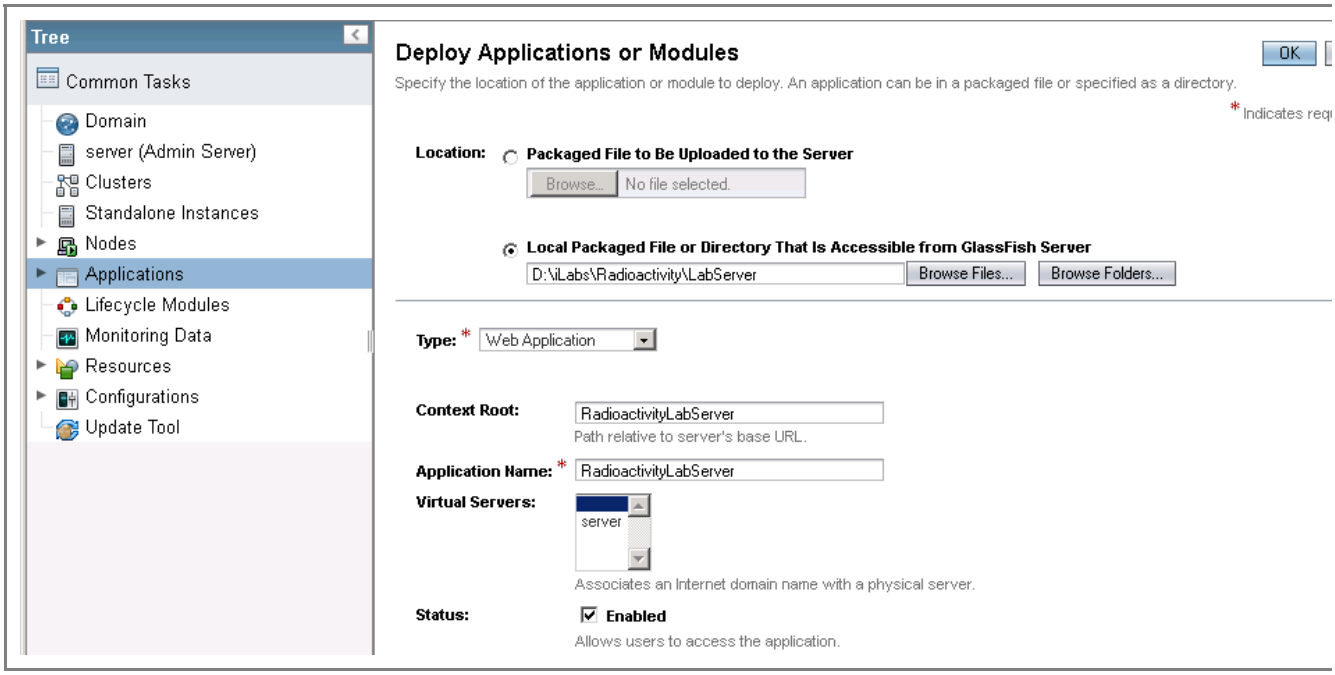
  Alternatively, click the *Browse Folders...* button to select the folder.

  For *Type:* select *Web Application* from the dropdown list. More fields are then displayed.

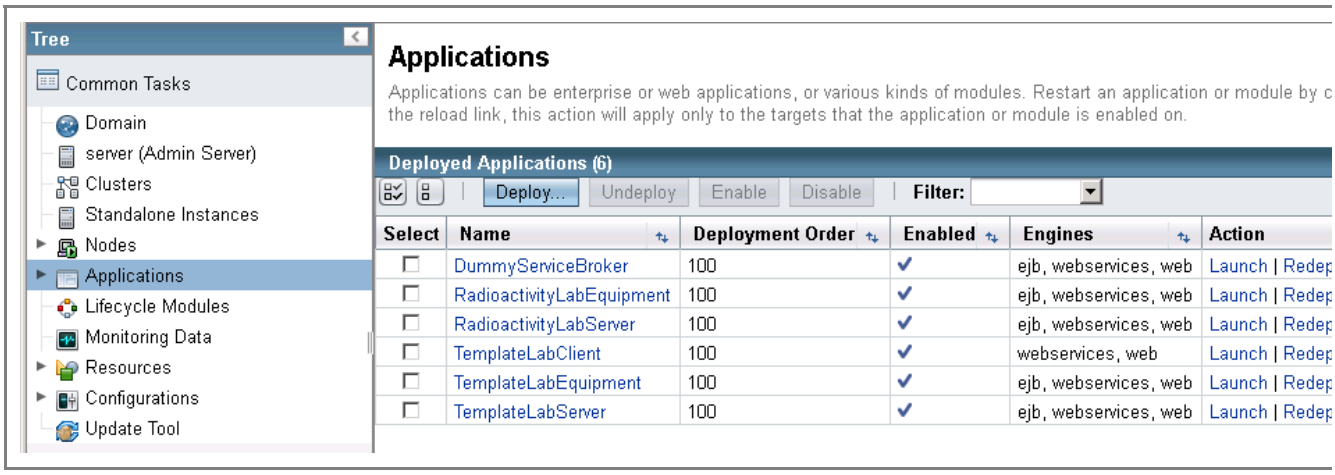
  For *Context Root:* enter `RadioactivityLabServer` in the field.

  Also for *Application Name:* enter `RadioactivityLabServer` in the field.

Leave the other fields with their default values.



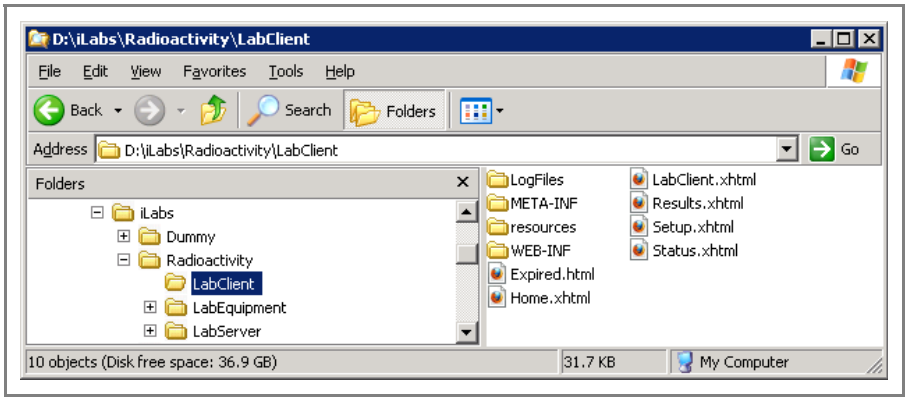
Click the *OK* button to deploy the application.



Deploy Radioactivity LabClient

- Create the folder *LabClient* in the folder *D:\iLabs\Radioactivity* so that the folder *D:\iLabs\Radioactivity\LabClient* exists.

  Extract the web archive file *Builds/Radioactivity_LabClient.war* to the folder *D:\iLabs\Radioactivity\LabClient*.



- Go to the *GlassFish Server Admininistration Console*. In the *Applications* panel, click the *Deploy...* button.

  In the *Deploy Applications or Modules* panel, select *Local Packaged File or Directory That Is Accessible from GlassFish Server* and enter `D:\iLabs\Radioactivity\LabClient` in the field.

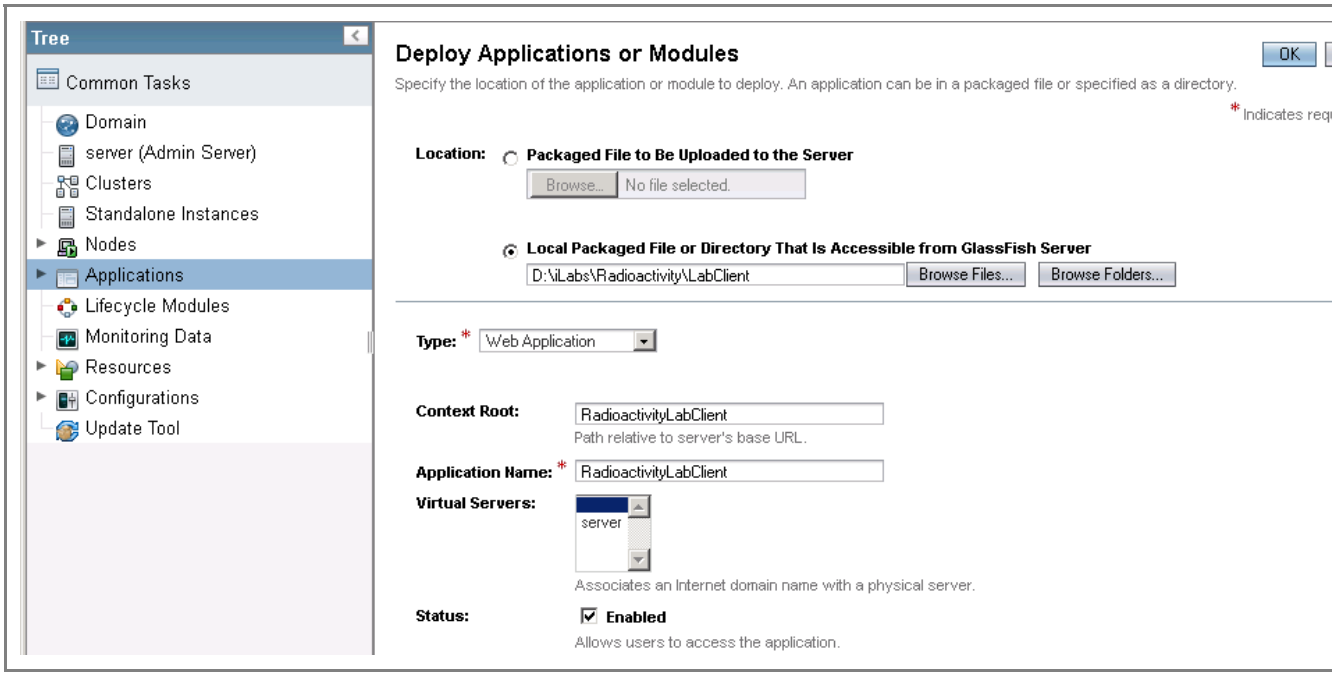
  Alternatively, click the *Browse Folders...* button to select the folder.

  For *Type:* select *Web Application* from the dropdown list. More fields are then displayed.

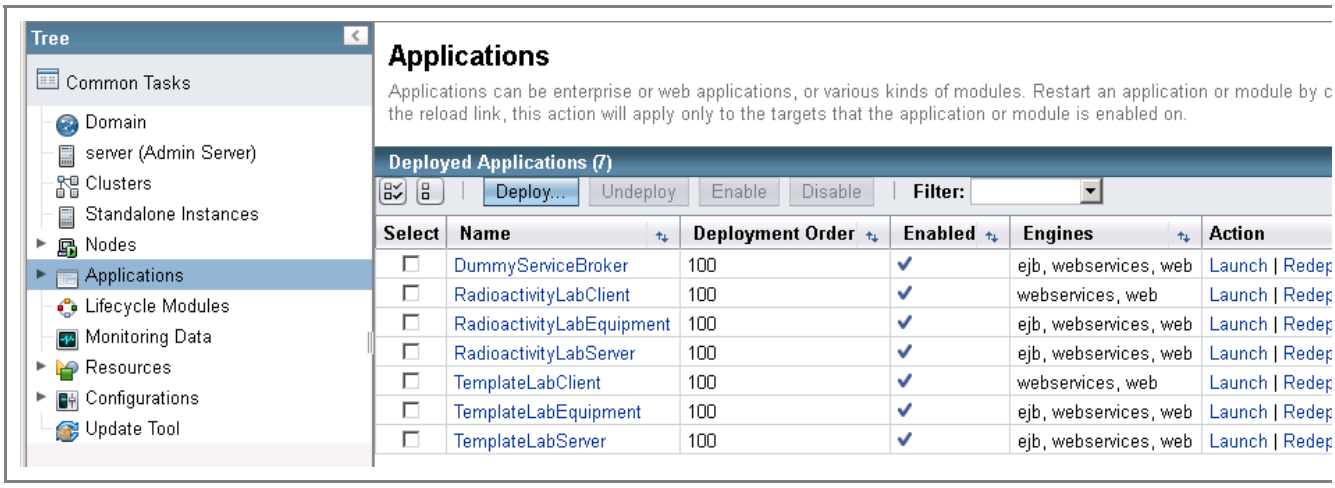
  For *Context Root:* enter `RadioactivityLabClient` in the field.

Also for *Application Name:* enter `RadioactivityLabClient` in the field.

Leave the other fields with their default values.



Click the *OK* button to deploy the application.

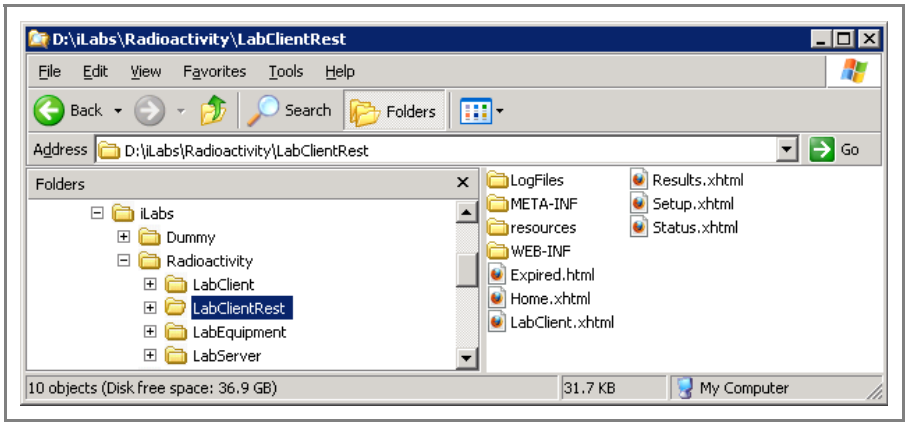


Deploy Radioactivity LabClient Rest

This LabClient uses the *RESTful* services of the Dummy ServiceBroker to communicate.

- Create the folder *LabClientRest* in the folder *D:\iLabs\Radioactivity* so that the folder *D:\iLabs\Radioactivity\LabClientRest* exists.

  Extract the web archive file *Builds/Radioactivity_LabClient.war* to the folder *D:\iLabs\Radioactivity\LabClientRest*.



- Go to the *D:\iLabs\Radioactivity\LabClientRest\WEB-INF* folder and replace the *ConfigProperties.xml* file with the *ConfigProperties_Rest.xml* file. There are two entries in the file that are different: *ServiceUrl* and *ServiceType*.
- Go to the *GlassFish Server Admininistration Console*. In the *Applications* panel, click the *Deploy...* button.

In the *Deploy Applications or Modules* panel, select *Local Packaged File or Directory That Is Accessible from GlassFish Server* and enter `D:\iLabs\Radioactivity\LabClientRest` in the field.

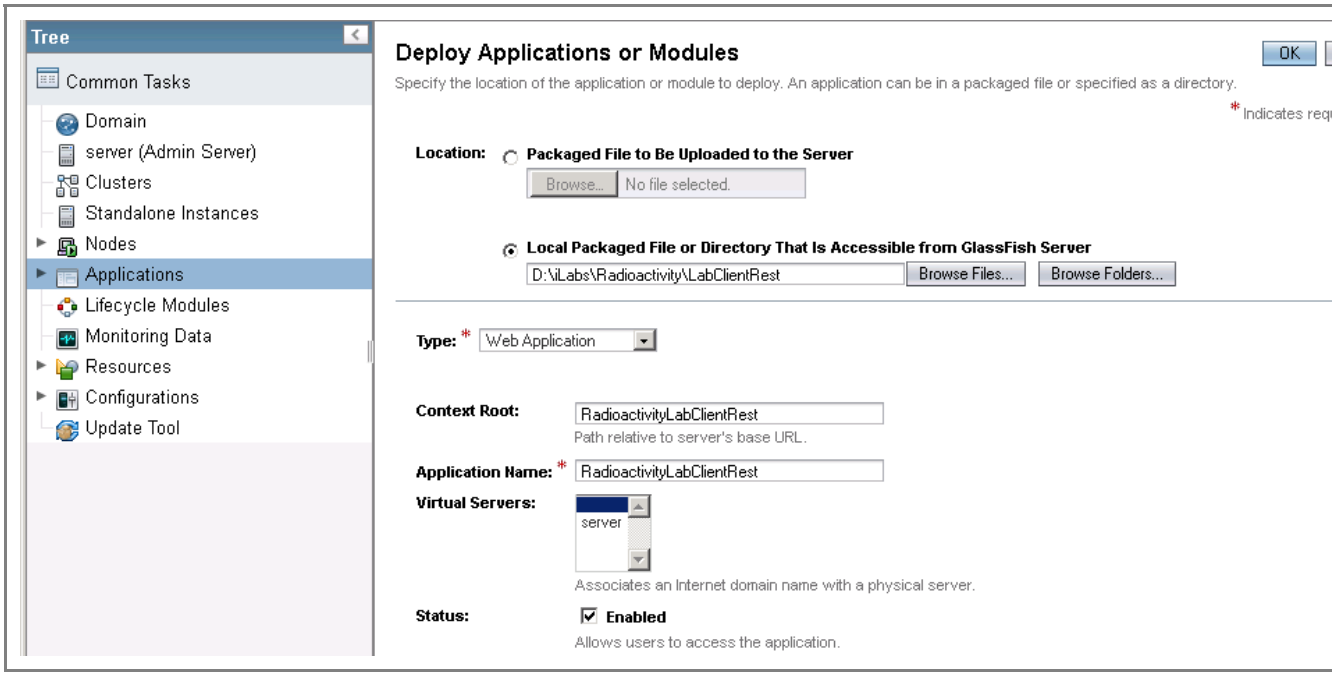
Alternatively, click the *Browse Folders...* button to select the folder.

For *Type:* select *Web Application* from the dropdown list. More fields are then displayed.

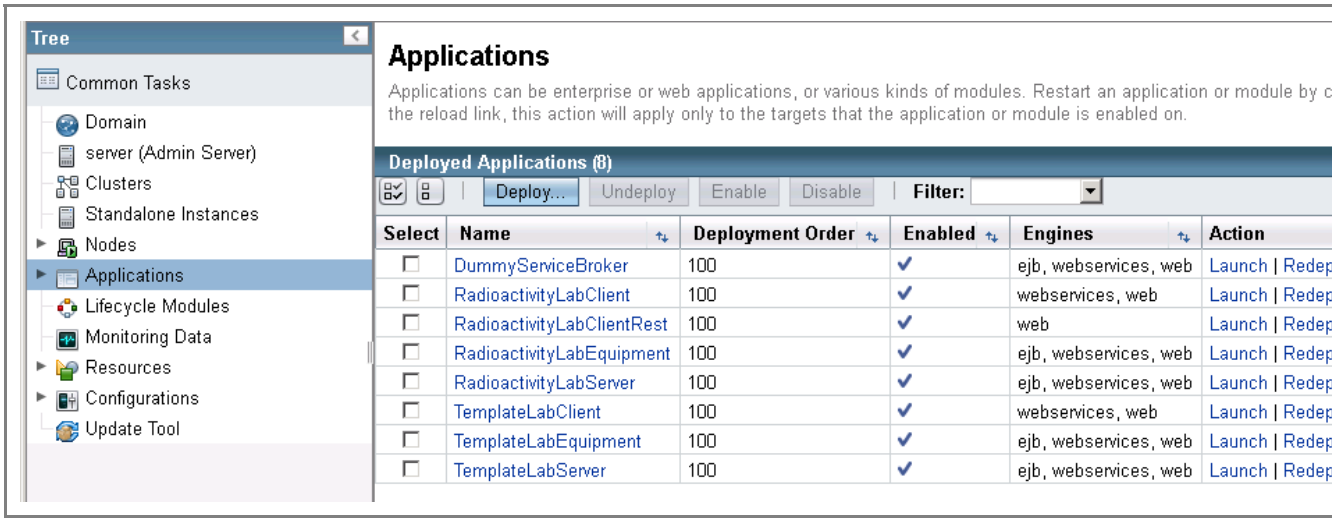
For *Context Root:* enter `RadioactivityLabClientRest` in the field.

Also for *Application Name:* enter `RadioactivityLabClientRest` in the field.

Leave the other fields with their default values.



Click the *OK* button to deploy the application.



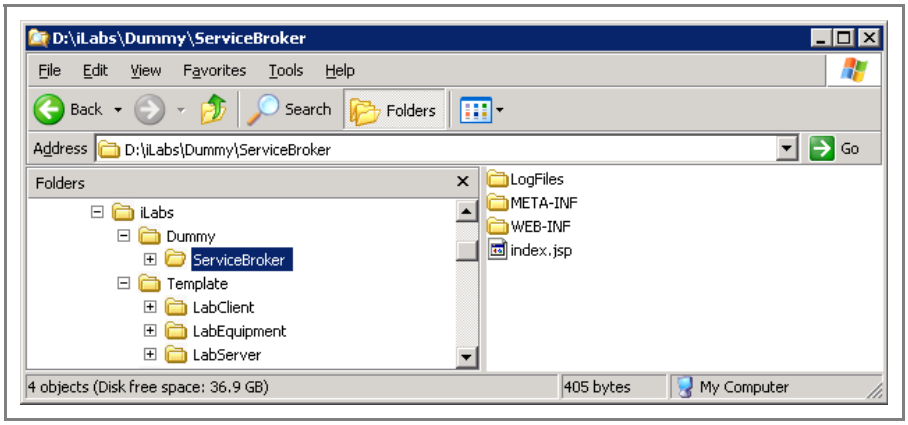
Deploy Dummy ServiceBroker

If you have already completed the *Template Project Deployment* tutorial then you will have already deployed the Dummy ServiceBroker and can skip this section.

The relevant section from the *Template Project Deployment* tutorial has been reproduced here.

- Create the folder *ServiceBroker* in the folder *D:\iLabs\Dummy* so that the folder *D:\iLabs\Dummy\ServiceBroker* exists.

  Extract the web archive file *Builds/Dummy_ServiceBroker.war* to the folder *D:\iLabs\Dummy\ServiceBroker*.



- Go to the *GlassFish Server Admininistration Console*. In the *Applications* panel, click the *Deploy...* button.

  In the *Deploy Applications or Modules* panel, select *Local Packaged File or Directory That Is Accessible from GlassFish Server* and enter `D:\iLabs\Dummy\ServiceBroker` in the field.

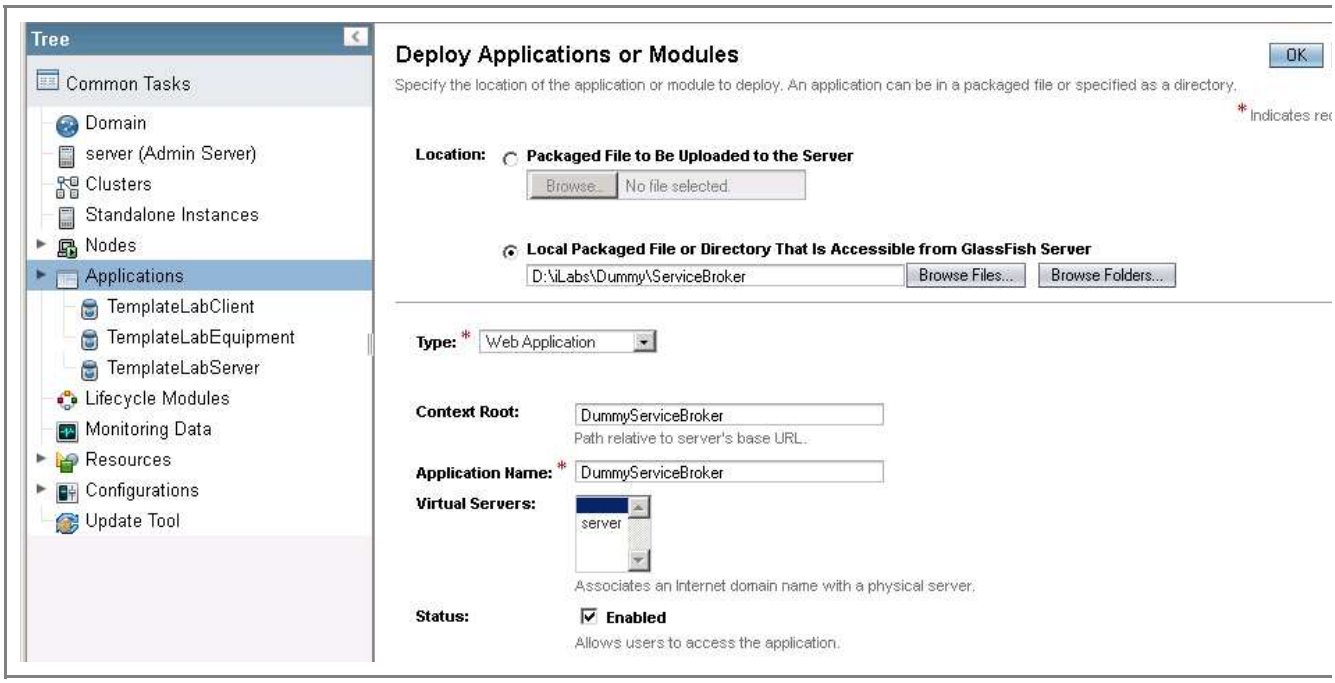
  Alternatively, click the *Browse Folders...* button to select the folder.

  For *Type:* select *Web Application* from the dropdown list. More fields are then displayed.

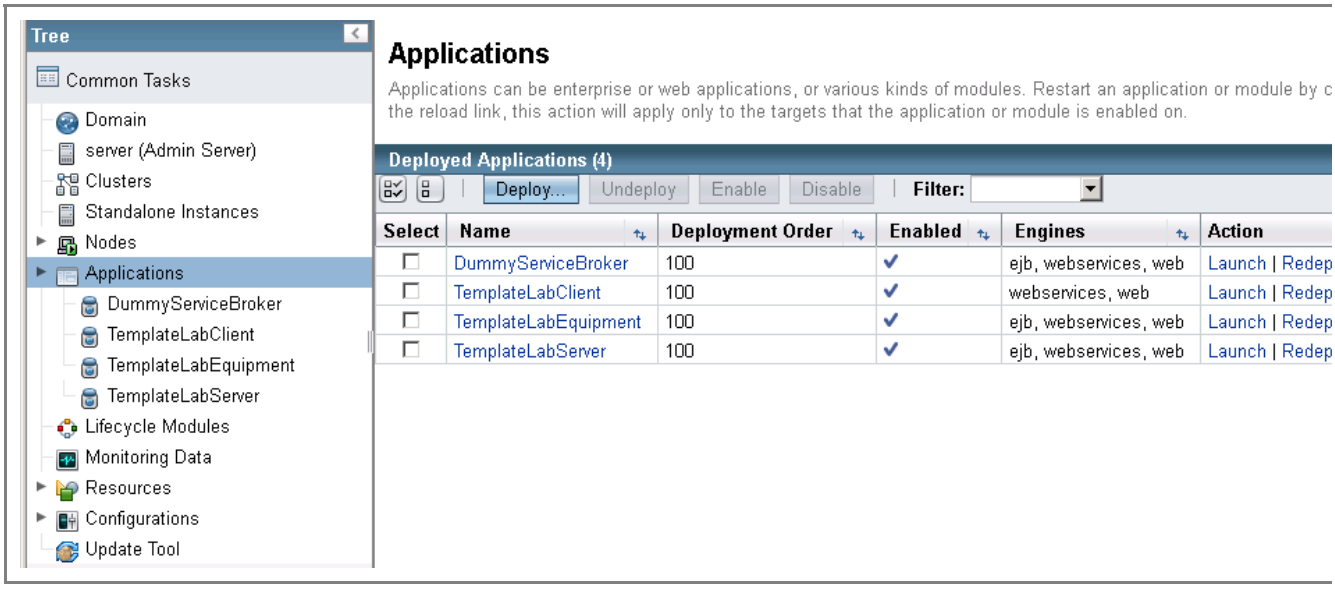
  For *Context Root:* enter `DummyServiceBroker` in the field.

  Also for *Application Name:* enter `DummyServiceBroker` in the field.

  Leave the other fields with their default values.



  Click the *OK* button to deploy the application.

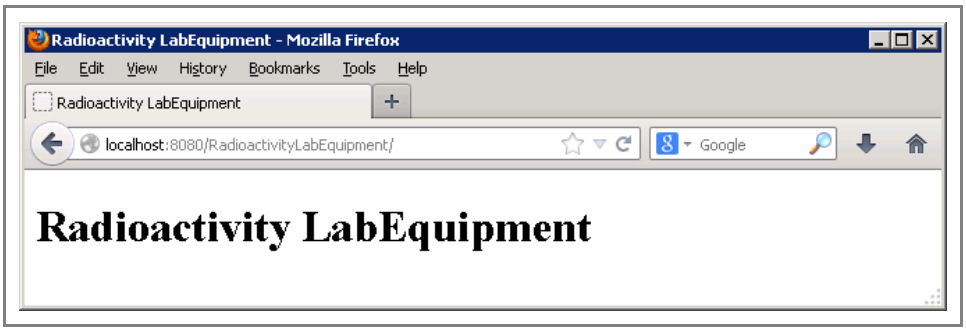


Launch Radioactivity LabEquipment

- Launch the Radioactivity LabEquipment client by entering the following URL in a web browser:

  `http://localhost:8080/RadioactivityLabEquipment/`

  The web page simply displays *Radioactivity LabEquipment*. This is sufficent to show that the Radioactivity LabEquipment application has been deployed correctly. At this point in time, the Radioactivity LabEquipment service has not been invoked.



Launch Radioactivity LabServer

- Launch the Radioactivity LabServer client by entering the following URL in a web browser:

  `http://localhost:8080/RadioactivityLabServer/`

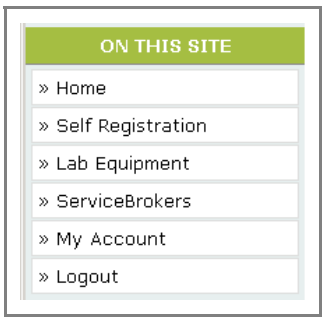
  The web page displays the *Radioactivity LabServer* login. This is sufficent to show that the Radioactivity LabServer application has been deployed correctly. At this point in time, the Radioactivity LabServer service has not been invoked.

- Log in to the Radioactivity LabServer with the following username and password:

  Username: **`manager`**
  Password: **`ilab`**

  The menu provides a number of items to configure the LabServer.

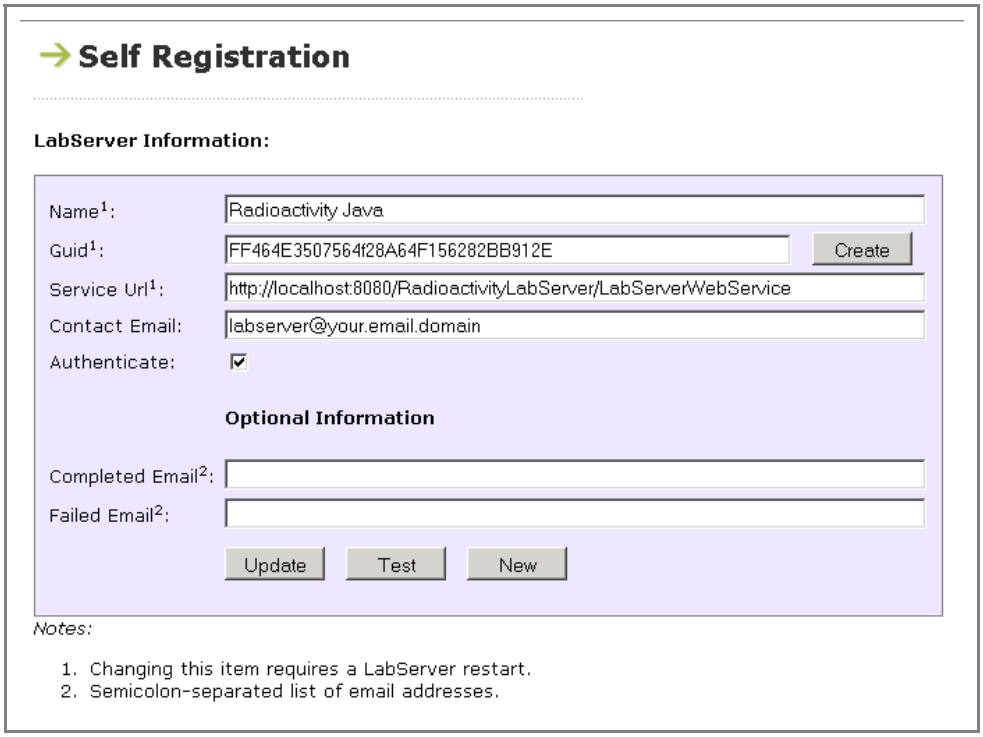
  - Self Registration - Configure the LabServer by specifying the name, guid, service URL and email address.
  - Lab Equipment - Configure one or more LabEquipment services by specifying the service URL and passkey.
  - ServiceBrokers - Specify the details of one or more ServiceBrokers that are permitted to access the LabServer.
  - My Account - Specify the LabServer manager's account information.
  - Logout - Log out of the LabServer.



- Select the *My Account* menu item.

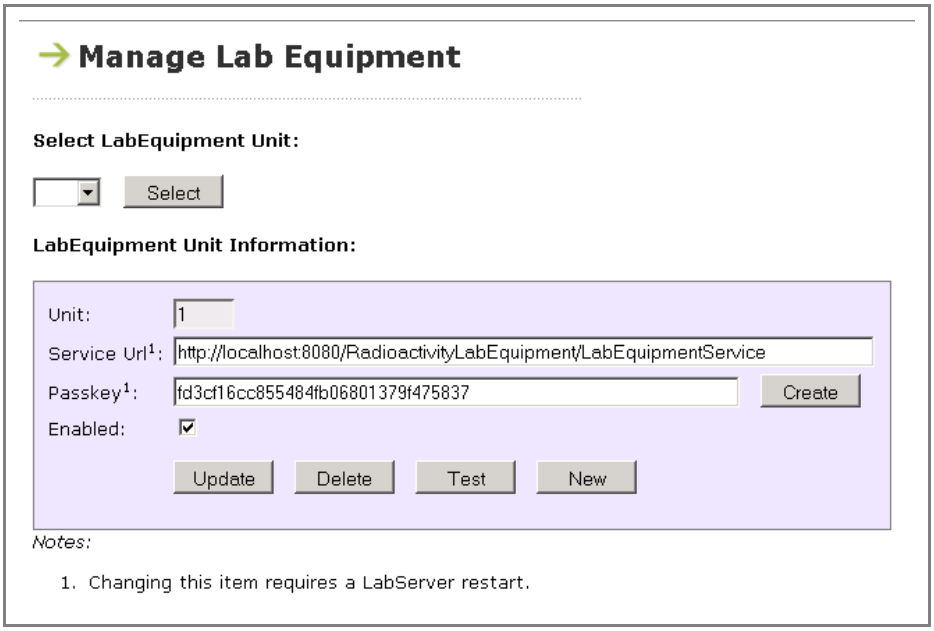
- Change the *Contact Email* to your email address or some other appropriate email address.
- Change the *Password* to something else especially if the LabServer is deployed on a networked server.
- Click the *Update* button to save the changes.

- Select the *Self Registration* menu item.



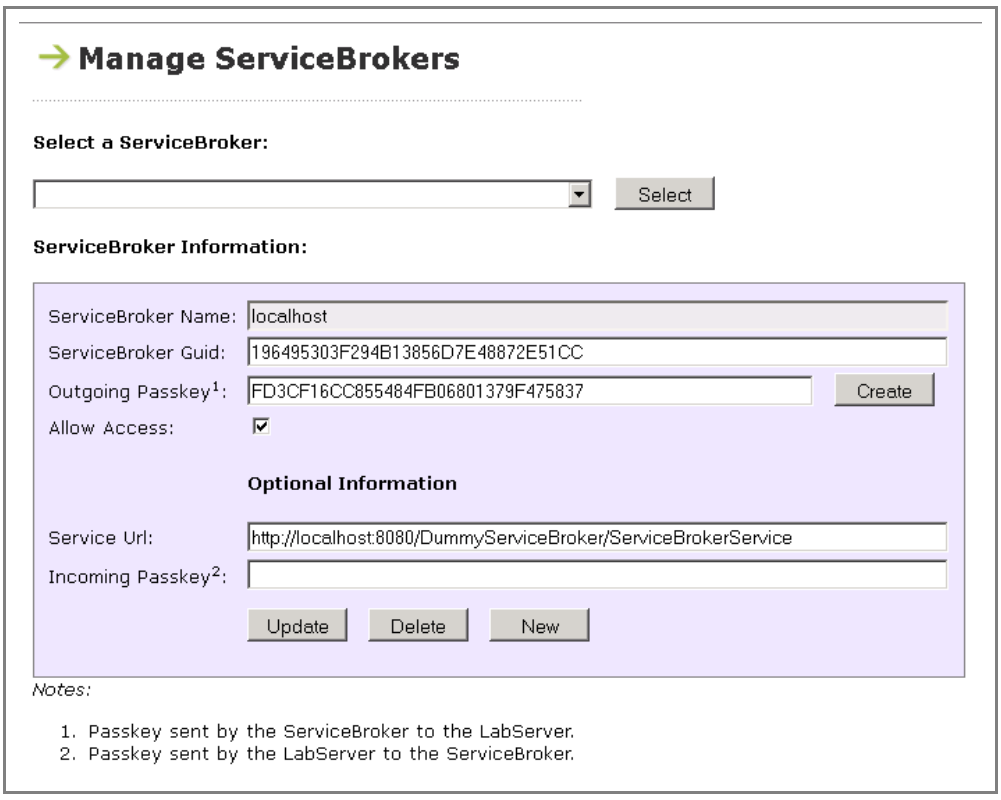
- Change the *Contact Email* to your email address or some other appropriate email address. This is the LabServer's email address and not the LabServer Manager's email address although they could be the same.
- If you require the LabServer to send an email when an experiment completes, enter an email address in the *Completed Email* field.
- If you require the LabServer to send an email when an experiment fails, enter an email address in the *Failed Email* field.
- Leave the *Name*, *Guid* and *Service Url* fields with their default values.
- Click the *Update* button to save the changes.

- Select the *Lab Equipment* menu item. Select LabEquipment Unit *1* from the dropdown list and click the *Select* button.



- Leave the fields with their default values.
- Click the *Test* button. This makes a web service call to the LabEquipment to retrieve the LabEquipment status. A message is displayed showing the status of the LabEquipment.
- If the message indicates that the LabEquipment is *Offline*, wait a few seconds for the LabEquipment web service to initialise and start and then click the *Test* button again.
- Open the logfile for the LabEquipment located at *D:\iLabs\Radioactivity\LabEquipment\LogFiles\LabEquipment.log* to view the activity of the LabEquipment service.

- Select the *Self Registration* menu item again.
  - Click the *Test* button. This makes a web service call to the LabServer to retrieve the LabServer status as well as the status of the LabEquipment services that are enabled. It may take a few seconds for the LabServer web service to initialise and start.
  - Open the logfile for the LabServer located at *D:\iLabs\Radioactivity\LabServer\LogFiles\LabServer.log* to view the activity of the LabServer service.
- Select the *ServiceBrokers* menu item. Select the ServiceBroker *localhost* from the dropdown list and click the *Select* button.



- Leave the fields with their default values.

  If a *Service Url* is specified then the LabServer will notify the ServiceBroker that an experiment has completed successfully or failed.

- Log out of the Radioactivity LabServer.

Launch Dummy ServiceBroker

- Launch the Dummy ServiceBroker client by entering the following URL in a web browser:

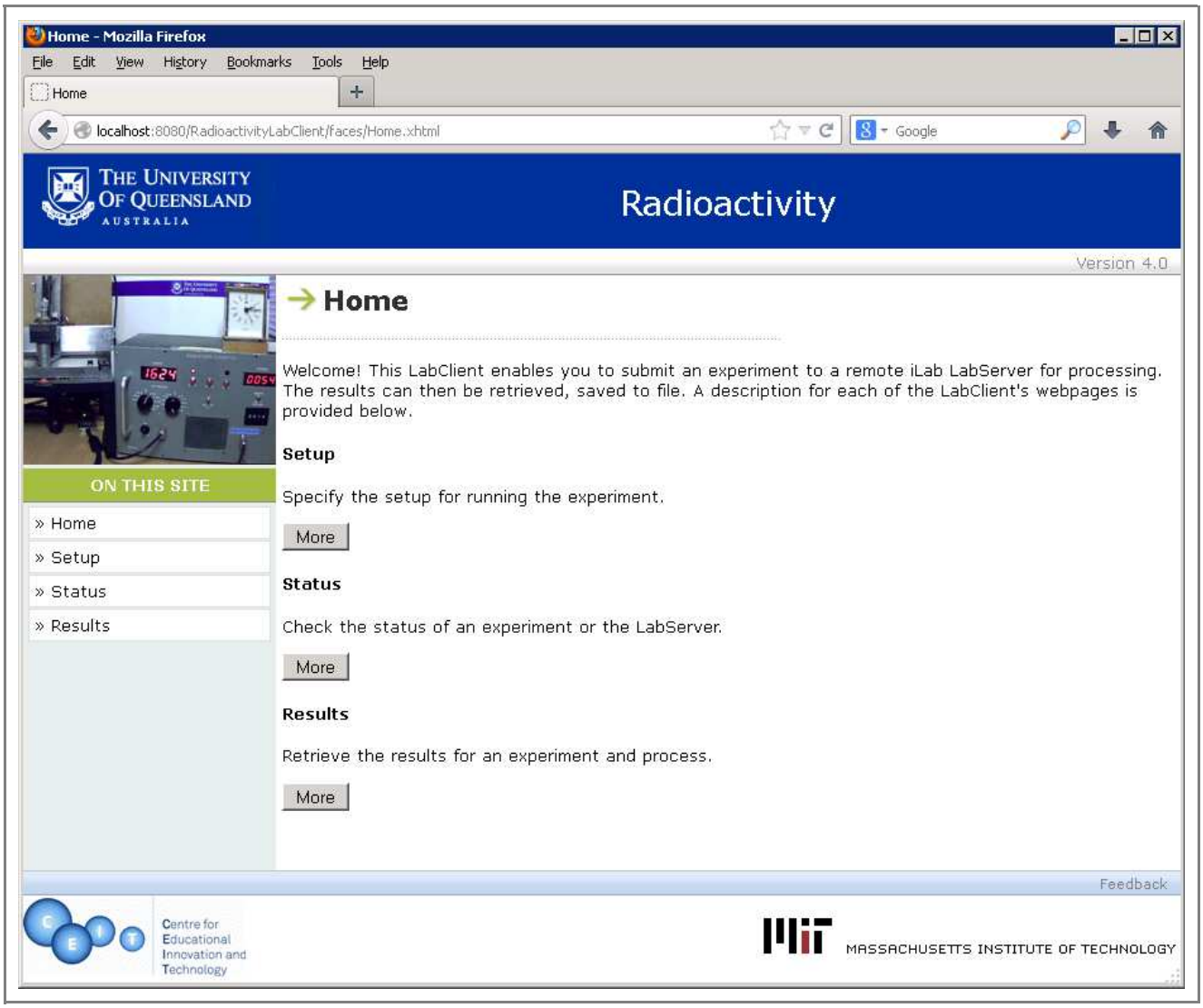
  `http://localhost:8080/DummyServiceBroker/`

  The web page simply displays *Dummy ServiceBroker*. This is sufficent to show that the Dummy ServiceBroker application has been deployed correctly. At this point in time, the Dummy ServiceBroker service has not been invoked.

Launch Radioactivity LabClient

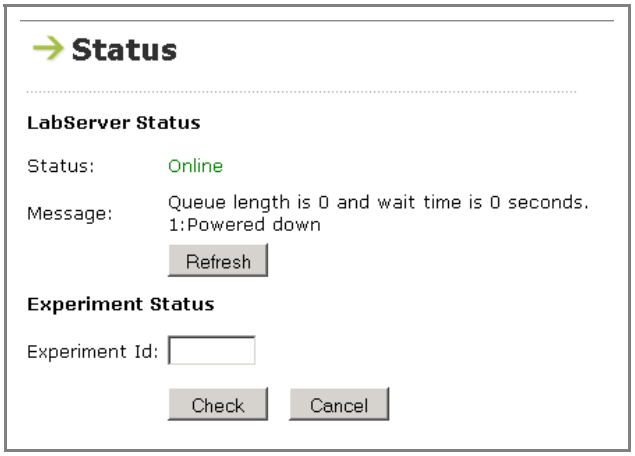
- Launch the Radioactivity LabClient by entering the following URL in a web browser:

  `http://localhost:8080/RadioactivityLabClient/LabClient.do?CouponId=12345&Passkey=qwerty`



  The title *Radioactivity* should be displayed at the top of the web page and a version number near the top-right of the page.

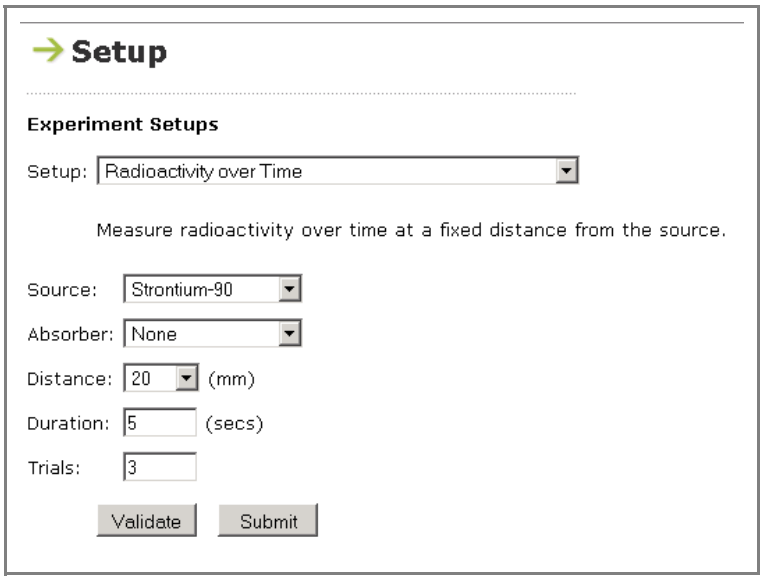
- Select the *Status* menu item.



The LabServer status should be *Online*

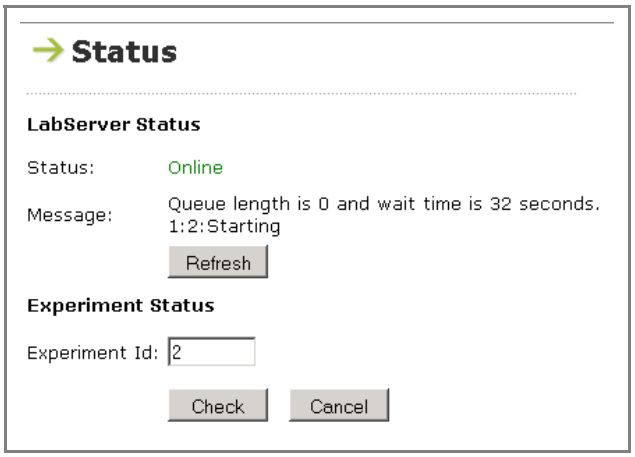
Open the logfile for the LabClient located at *D:\iLabs\Radioactivity\LabClient\LogFiles\LabClient.log* to view the activity of the LabClient application.

- Select the *Setup* menu item.



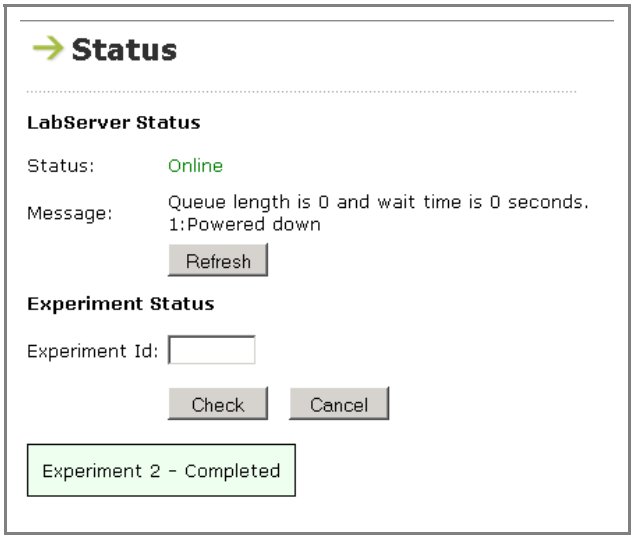
To run an experiment, select the *Radioactivity over Time* experiment setup from the *Setup* dropdown list. Leave the fields with their default values and then click the *Submit* button. The experiment setup should be successfully submitted and an experiment number presented.

- Select the *Status* menu item.

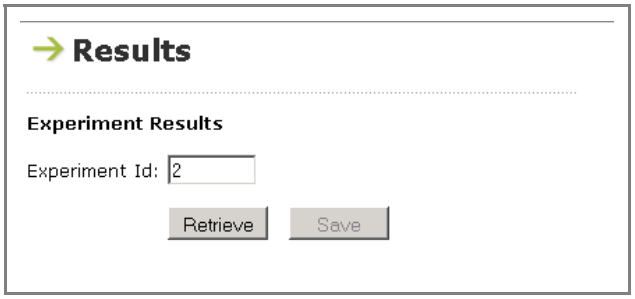


The experiment number should automatically appear in the *Experiment Id* field.

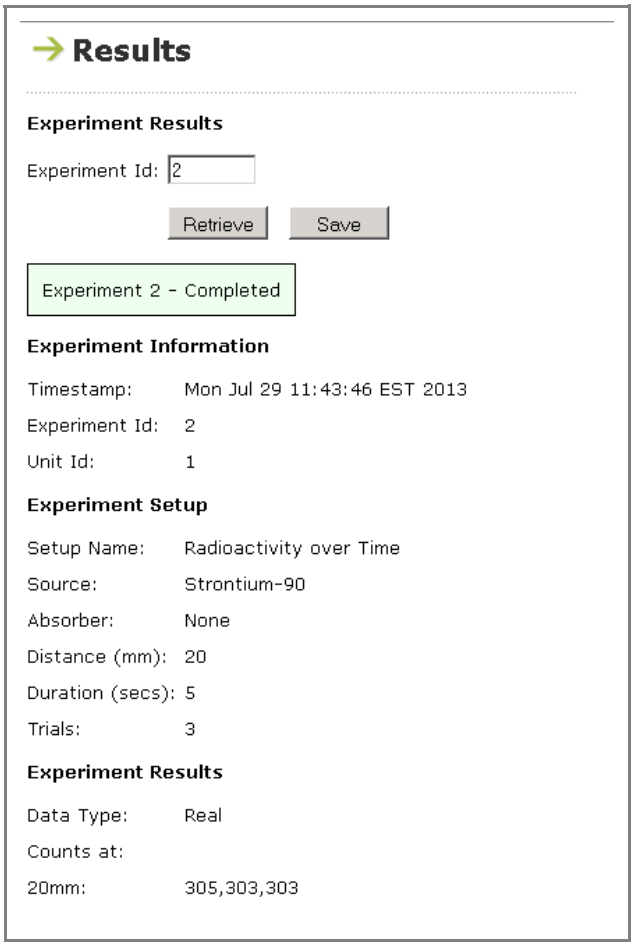
Click the *Check* button to check the status of the experiment repeatedly until the experiment completes.



- Select the *Results* menu item.



When the experiment completes, the experiment number should automatically appear in the *Experiment Id* field. Click the *Retrieve* button to retrieve the experiment results.



Save the results to a comma-separated-value (CSV) file by clicking the *Save button*.

- Select the *Setup* menu item again.
    - Run another experiment but this time, select the *Radioactivity versus Distance* experiment setup from the *Setup* dropdown list. Leave

the fields with their default values and then click the *Submit* button. The experiment setup should be successfully submitted and an experiment number presented.

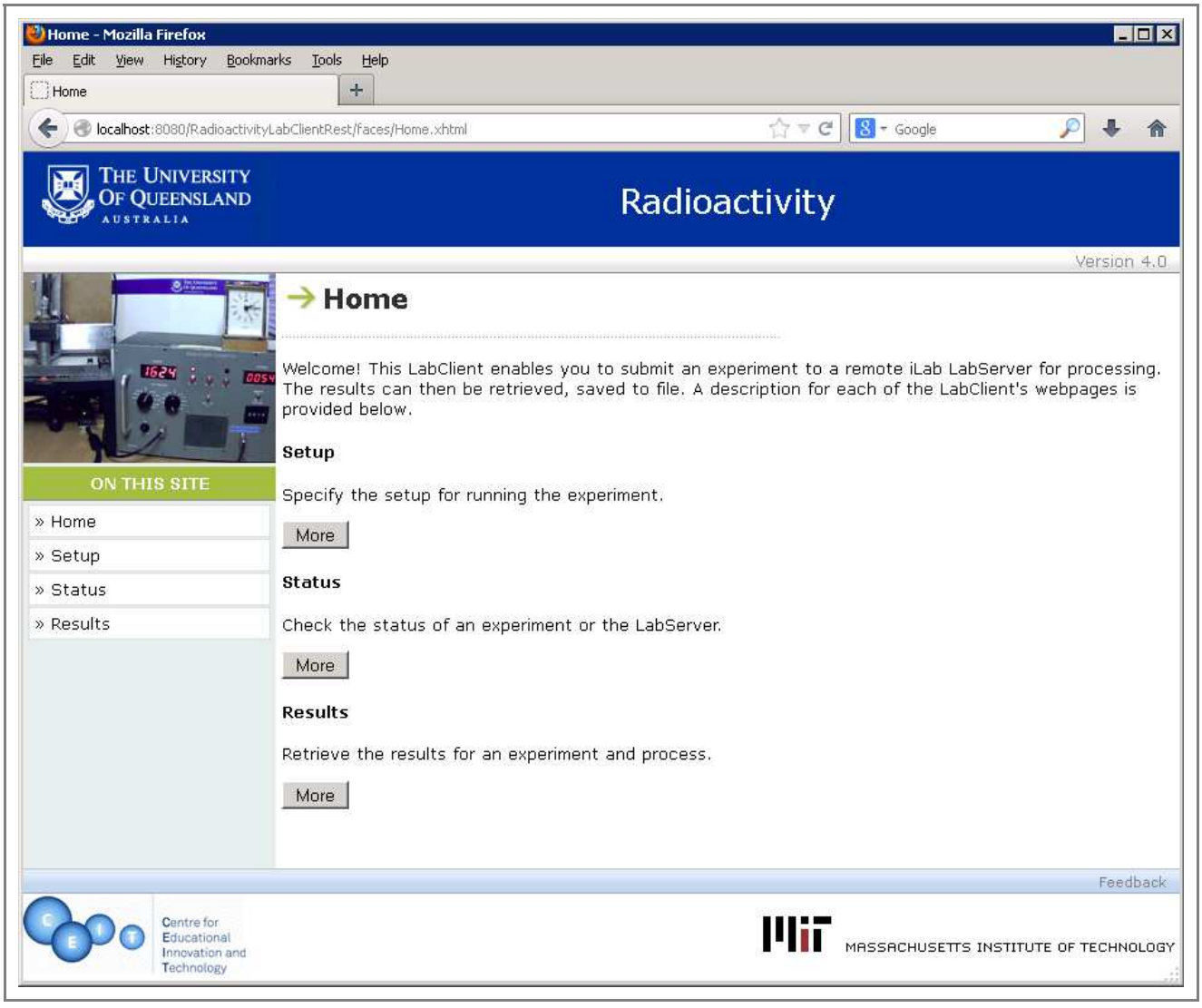
- Check the status of the experiment repeatedly until the experiment completes.
- Retrieve the experiment results.

Launch Radioactivity LabClient Rest

This LabClient uses the *REST* services interface of the Dummy ServiceBroker whereas the LabClient in the previous section *Launch Radioactivity LabClient* uses the SOAP web services interface. The only difference that can be seen is the URL in the web browser.

- Launch the Radioactivity LabClient Rest by entering the following URL in a web browser:

  `http://localhost:8080/RadioactivityLabClientRest/LabClient.do?CouponId=12345&Passkey=qwerty`



  The title *Radioactivity* should be displayed at the top of the web page and a version number near the top-right of the page.

- Continue as in the previous section *Launch Radioactivity LabClient*.

That's it.