

Fundamentals of Cloud Computing

Exercises – Guide for Students

Version 2.1

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za zgodą IBM w ramach realizacji projektu „Cloud Computing - nowe technologie w ofercie
dydaktycznej Politechniki Wrocławskiej”

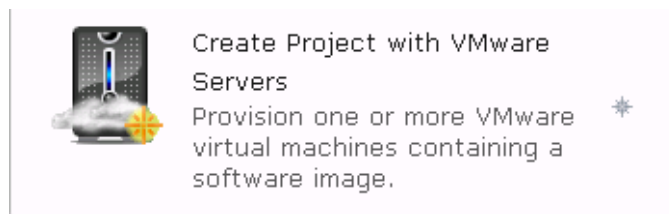
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Exercise 10: Creating a future reservation request

In this exercise, you create a future reservation for a new project with a single VMware virtual machine. The virtual machine is not provisioned now, but the resources are reserved so that the provisioning task can allocate them on the designated date.

___1. If you are not already logged in, log in to the Tivoli Service Automation Manager self- service UI as **cloudadmin** with password **object00**. Verify that you are working for the PMRDPCUST customer.

2. Click Request a New Service > Virtual Server Management > Create Project with VMware Servers.



___3. Enter the following information on the Project Details window:

- Project Name: **<your_initials>02**
- Team to Grant Access: **TEAM0**
- Start Date: [*select one week from today*]
- End Date: [*select three weeks from today*]



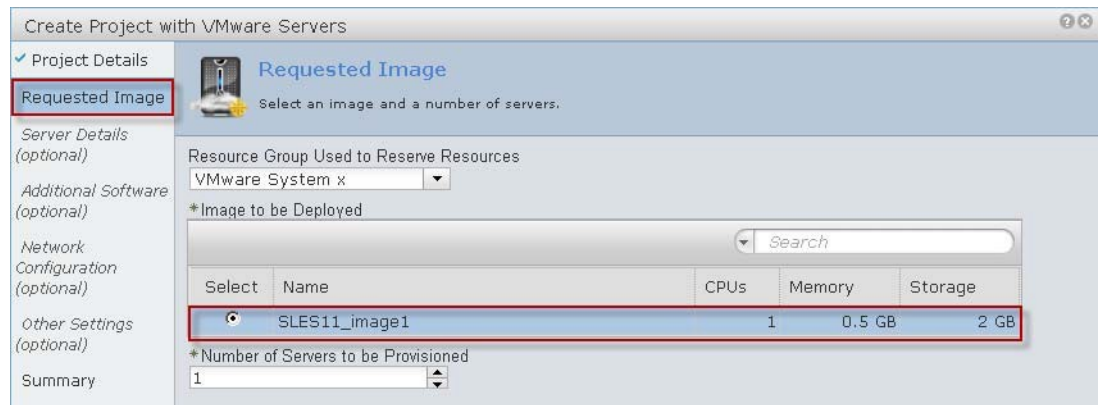
Tip: Change the end date before the start date because a project cannot end before it begins.

The screenshot shows a web-based interface for creating a project. The window title is "Create Project with VMware Servers". The "Project Details" tab is selected and highlighted with a red box. The interface includes a sidebar with navigation options: "Requested Image", "Server Details (optional)", "Additional Software (optional)", "Network Configuration (optional)", "Other Settings (optional)", and "Summary". The main content area is titled "Project Details" and contains the following fields:

- *Project Name: Demo02
- *Team to Grant Access: TEAM0
- Project Description: Project reservation example
- *Start Date: 6/24/2013 (highlighted with a red box)
- *Start Time: 12:44 PM
- *End Date: 7/8/2013
- *End Time: 12:44 PM

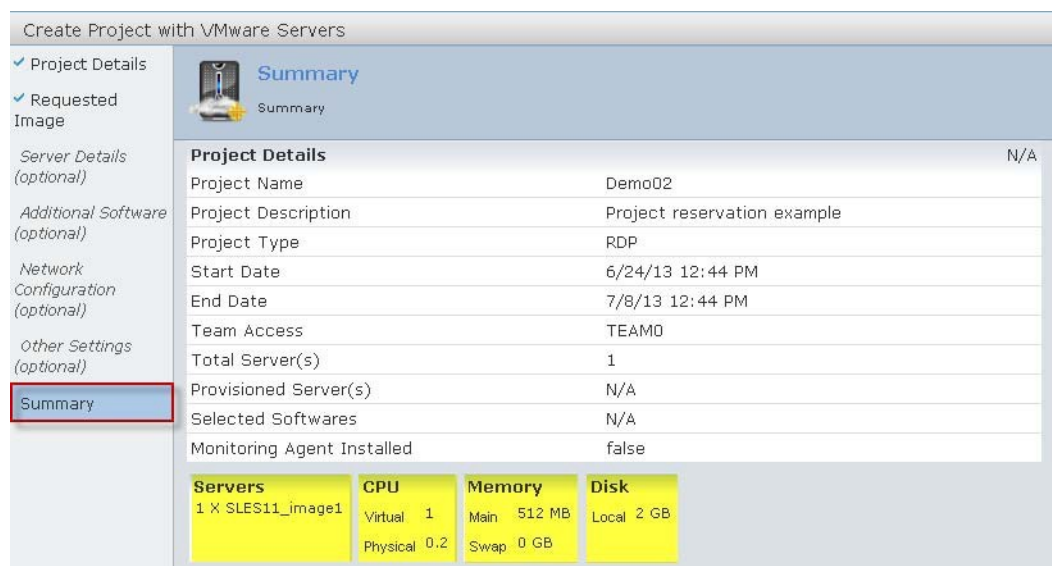
___4. Click **Next**.

- ___5. Enter the following information on the Requested Image window:
- Resource Group Used to Reserve Resources: **VMware System x**
 - Image to be Deployed: **SLES11_image1**
 - Number of Servers to be Provisioned: **1**



___6. Click **Finish** to accept the defaults for the remaining options.

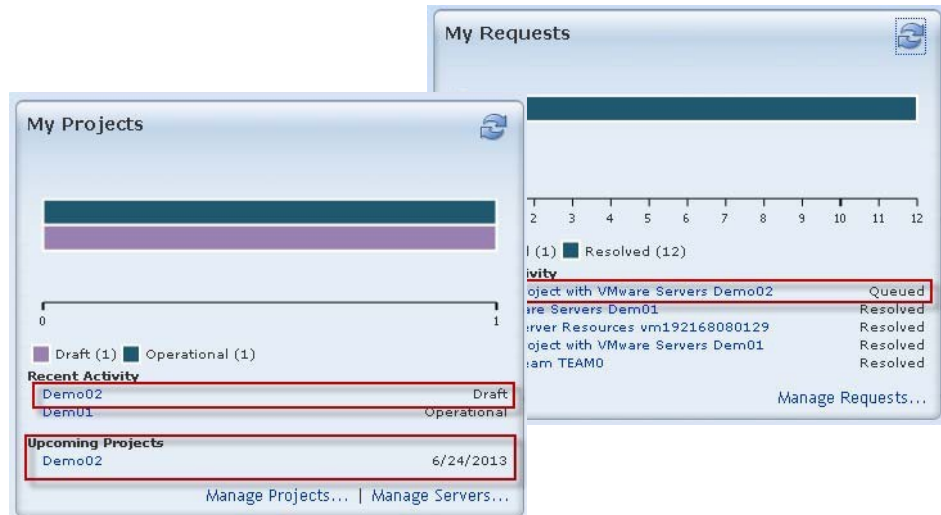
___7. Verify that the Summary section is similar to the following screen capture.



- ___8. Click **Finish** to submit your request.

- ___9. Verify that the request in the **My Requests** portlet listed first as **New** and then **Queued**. This request does not go to the In Progress status until the future date you specified. Your

project name is shown in the **My Projects** portlet with a **Draft** status. You also see an **Upcoming Project** with the same name and the future start date that you provided.



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Exercise 11: Displaying projects and servers in the self-service UI

- ___1. If you are not already logged in, log in to the self-service UI as **cloudadmin** with password **object00**. Verify that you are working for the PMRDPCUST customer.
- ___2. Verify that the state of the **<your_initials>01** project in the **My Projects** portlet is Operational.
- ___3. Click **<your_initials>01** project in the **My Projects** portlet to display the details for the project.

You see two servers. The first server was provisioned without the monitoring agent, and the second was provisioned with the monitoring agent. Because of integration between Tivoli Service Automation Manager and IBM Tivoli Monitoring, monitoring data is displayed in the self-service UI, as shown in this diagram.

Select	Server Name	Management Name	Hypervisor	CPU (%)	Memory (%)	Disk (%)
<input checked="" type="radio"/>	vm192168080130	vm192168080130	VMware	10.0	26.4	53
<input type="radio"/>	vm192168080129	vm192168080129	VMware	...	...	...

- ___4. Close the **Project** window.
- ___5. Click **Manage Servers** in the **My Projects** portlet.

Select	Server Name	Management Name	Hypervisor	CPU (%)	Memory (%)	Disk (%)	La
<input checked="" type="radio"/>	vm192168080130	vm192168080130	VMware	10.0	26.4	53	9/
<input type="radio"/>	vm192168080129	vm192168080129	VMware	...	...	...	9/
<input type="radio"/>	Future Reservation 3	...	VMware	...	...	...	9/

You see both servers here also, and you see monitoring data for the second server. Another entry is visible for the future reservation.

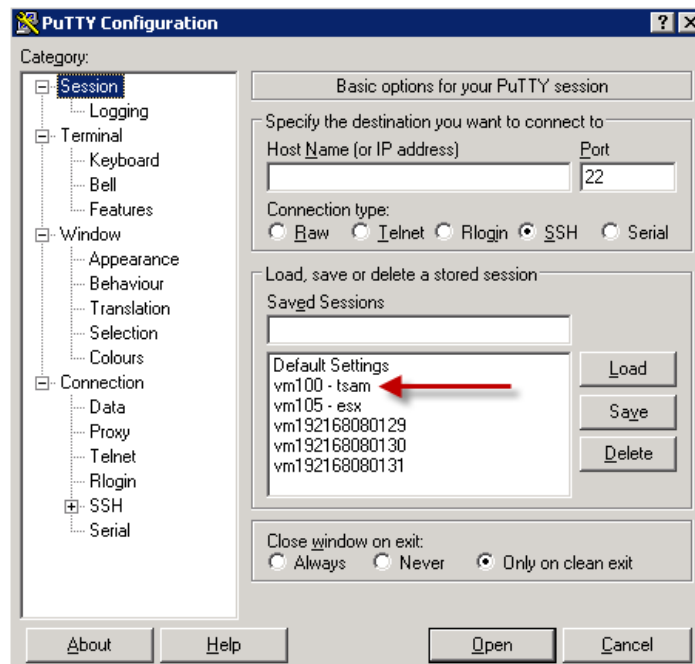
- ___6. Close the **Manage Servers** window.

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Exercise 12: Monitoring a virtual server in the IBM Tivoli Monitoring Tivoli Enterprise Portal (optional)

In this exercise, you log in to the Tivoli Enterprise Portal to view IBM Tivoli Monitoring application data for the virtual server.

- ___1. In order to save resources in this demonstration environment, the Tivoli Enterprise Portal Server database is not started. Start the database on vm100.
 - ___a. Start the PuTTY application from the **VM104** desktop and double-click the saved session named **vm100 - tsam**.



- ___b. If you receive a PuTTY security alert, click **Yes** to trust this host.
- ___c. At the login prompt, enter the user name **db2inst1** and **object00** as the password.
- ___d. Enter the command **db2start** to start the database.


```
db2inst1@vm100:~> db2start
09/21/2011 13:27:02      0  0  SQL1063N  DB2START  processing
was successful.  SQL1063N  DB2START  processing was successful.
```
- ___e. Enter the command **exit** to close the PuTTY session.

___2. Return to the Tivoli Service Automation Manager administrative UI (**Internet Explorer**)

and press **<CTRL>+T** to open a new tab.

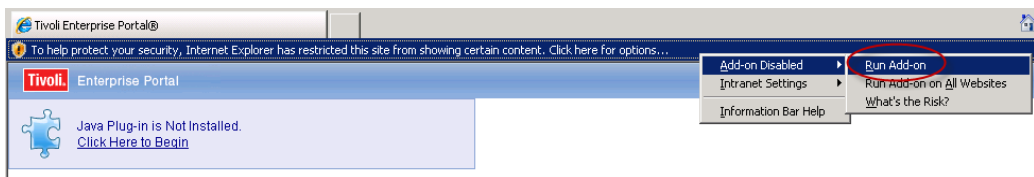
___3. Browse to **http://vm100.tivoli.edu:1920///cnp/client**.



Note:

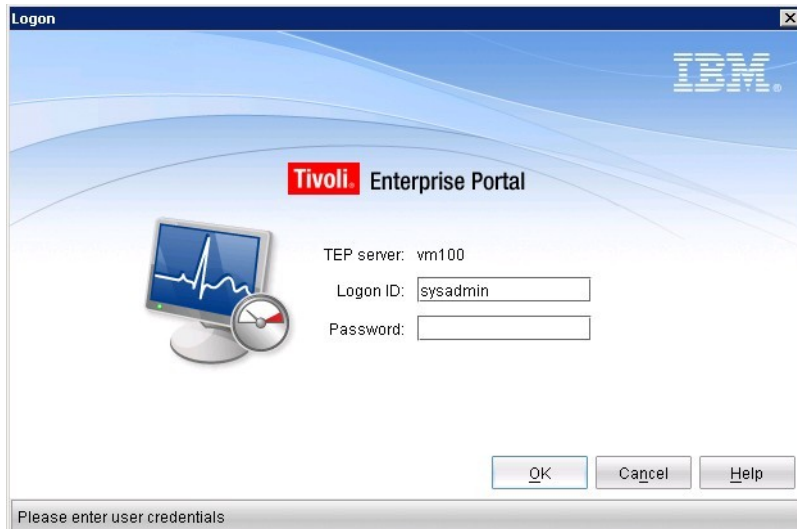
___a. If you are prompted to run certain restricted content, click **the yellow banner**, click

Add-on Disabled, and click **Run Add-on**. Click **Run**. Click **Continue**.



___b. If you see message KFWITM474E, click **Continue**.

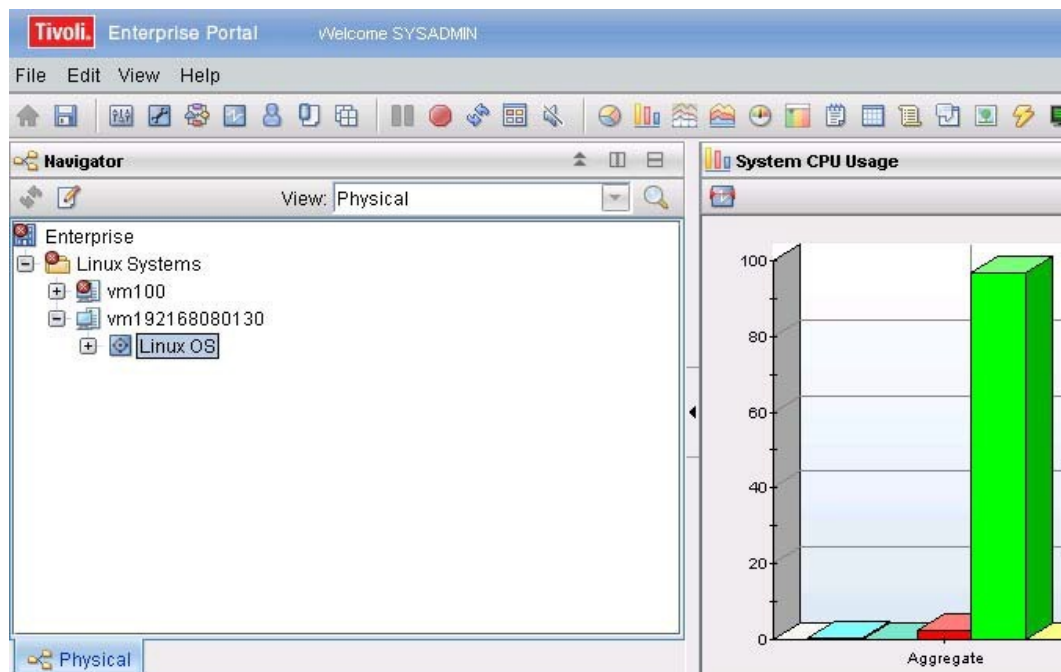
___4. When the Tivoli Enterprise Portal logon page opens, enter **sysadmin** for the logon ID and leave the password field empty. Click **OK**. If you are prompted with a security alert, click **OK**.



___5. In the **Navigator** portlet on the left, click the plus icon (+) next to **Linux Systems** to expand the monitoring group.

___6. Click the plus icon (+) next to host name **vm192168080130** to show the Linux OS agent.

___7. Click **Linux OS** to see an overview of monitoring data for this virtual machine.



___8. Log out and close the browser window.

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Exercise 13: Creating a backup image of the virtual machine

If you want to be able to restore a virtual machine to a specific time, you can take a backup image.

___1. If you are not already logged in, log in to the self-service UI as **cloudadmin** with password **object00**. Verify that you are working for the PMRDPCUST customer.

2. Click Request a New Service > Virtual Server Management > Backup and Restore Server Image > Create Server Image.



___3. Enter the following information:

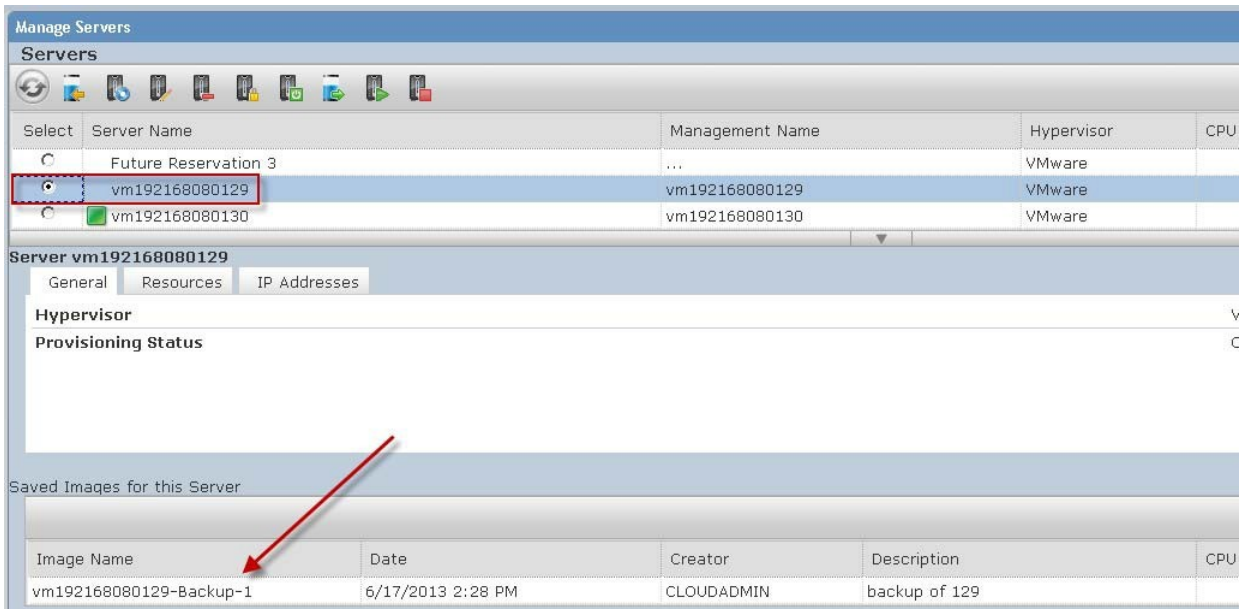
- Name of Virtual Server Image: **vm192168080129-Backup-1**
- Description of Virtual Server Image: [*enter something meaningful*]
- Select Project Name: **<your_initials>01**
- Select Server Name: **vm192168080129**

___4. Click **OK** to submit the request.

The request in the **My Requests** portlet listed first as **New**, **Queued**, and then **In Progress**. Wait for the request to reach a **Resolved** status.

___5. When the request completes, click **Manage Servers** in the **My Projects** portlet.

- ___6. Click the button next to vm192168080129 to view the details for that server. The name of the backup that you just made is listed under **Saved Images for this Server**.



- ___7. Close the Manage Servers window.