



IBM Software Group

IBM WebSphere CloudBurst

Setting up cloud environment



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This presentation covers the setting up the cloud environment, for WebSphere® CloudBurst.

Agenda

- Resource administration
 - ▶ IP groups
 - ▶ Hypervisors
 - ▶ Storage
 - ▶ Cloud groups



Here is the agenda for this presentation.

Section

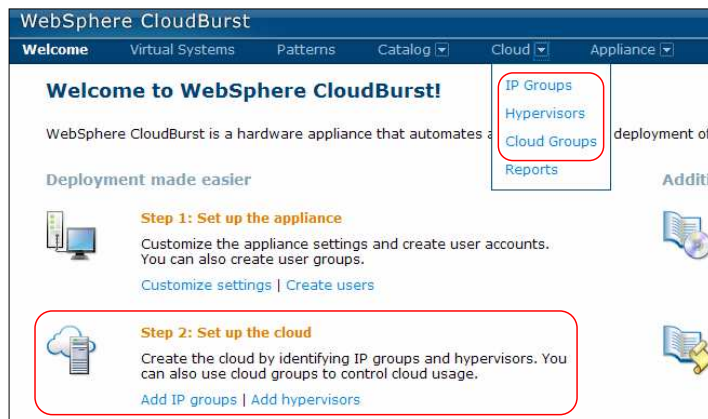
Resource administration



The next section will discuss working with cloud resources.

Setting up cloud resources

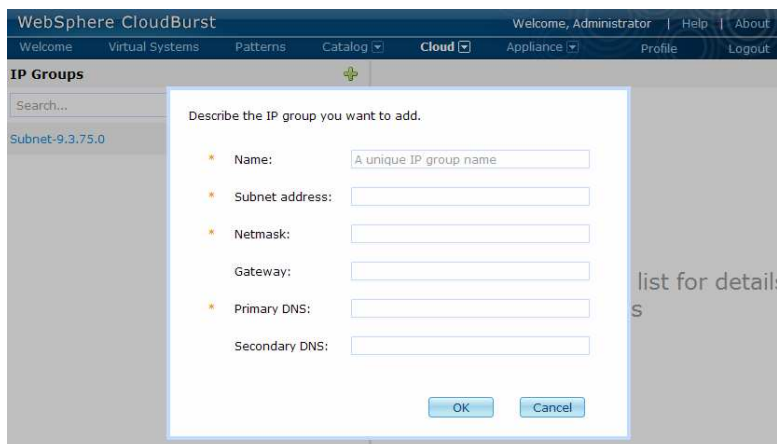
- IP groups
- Hypervisors
 - ▶ Storage
- Cloud groups



CloudBurst's view of the cloud is that it is made up of hypervisors, IP groups and storage. CloudBurst has a prerequisite that the cloud should already be in existence and started. What this means is that hypervisors should already be installed and started and there must be a pool of available IP addresses to work with.

Adding IP group

- This screen capture shows the creation of a IP group



An IP group is a pool of IP addresses. When CloudBurst deploys a pattern into the cloud it will use IP addresses from the IP group that you have defined. Located on the left of this screen capture you will find previously defined IP groups. The green plus icon is used to create a new IP group. Clicking on the plus icon will bring up a window in which you can enter initial values for your IP group.

The name of the IP group can be any unique value that you want CloudBurst to manage this IP group by. Subnet address, netmask, gateway, primary DNS and secondary DNS are standard networking concepts when defining a subnet.

Defining an IP group defines the total IP pool. In order to complete the setup you need to define a subset of IP addresses within this larger pool. The reason for this is multiple hypervisors can all share the same subnet, but each taking from different IP pool within the subnet.

IP group attributes


- IP group attribute view
 - ▶ View hypervisors currently using this IP group
 - ▶ Add and remove IP addresses to the available pool

Subnet-9.3.75.0	
Subnet address:	9.3.75.0
Netmask:	255.255.255.0
Gateway:	9.3.75.1
Primary DNS:	9.0.7.1
Secondary DNS:	9.0.6.11
Hypervisors:	HV-aimcp059 [remove] HV-aimcp061 [remove]
IP Addresses:	<input checked="" type="checkbox"/> 9.3.75.148 (aimcp148.austin.ibm.com) [remove] <input checked="" type="checkbox"/> 9.3.75.149 (aimcp149.austin.ibm.com) [remove] <input checked="" type="checkbox"/> 9.3.75.150 (aimcp150.austin.ibm.com) [remove] <input checked="" type="checkbox"/> 9.3.75.151 (aimcp151.austin.ibm.com) [remove] [show more]
Add range <input type="text" value="start"/> to <input type="text" value="end"/> Add	

This view shows the information that was entered during the initial creation of the IP group. It displays the hypervisors that are currently making use of this IP group and the IP addresses that are available for use by CloudBurst. Defining a subnet is not complete in CloudBurst until you define the IP addresses available for use by CloudBurst during the deployment process. You can define IP addresses one by one or define a range of IP addresses.

Adding hypervisors

- Adding a hypervisor allows CloudBurst to dispense virtual images to it and manage it
- It is required that the hypervisor already be installed and running out in the cloud before this step



The screenshot shows the WebSphere CloudBurst administrative console. The main window displays the 'Hypervisors' section with a search bar and a list of existing hypervisors: HV-aimcp059 and HV-aimcp061. A modal dialog box is open in the center, titled 'Describe the hypervisor you want to add.' The dialog contains the following fields:

- Name: A unique hypervisor name
- Type: ESX or ESXi (selected)
- Host name: Remote location of the hypervisor
- User name: Remote user name
- Password: (empty)

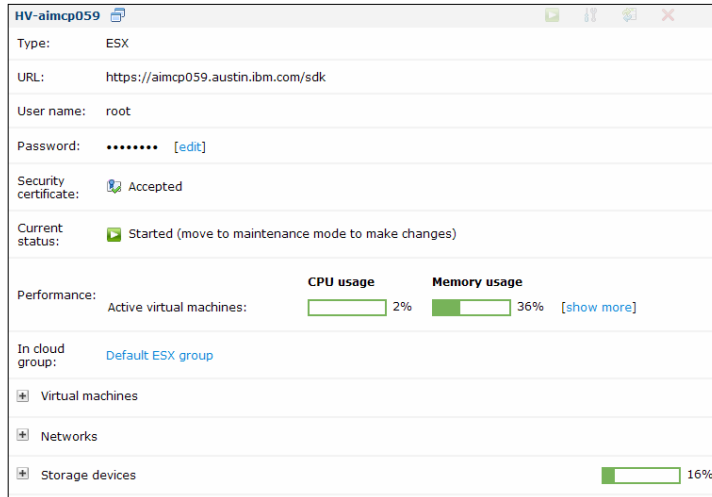
At the bottom of the dialog are 'OK' and 'Cancel' buttons.

CloudBurst has a prerequisite that the hypervisors already be installed and operational before adding them to CloudBurst. To allow CloudBurst to manage an existing hypervisor you need to add the hypervisor in the CloudBurst administrative console. To start the process of adding a hypervisor you give it a name which can be any unique name. You specify the type of hypervisor; an example of which is ESX or ESXi. The last step is to define the URL of the physical machine hosting the hypervisor and the user name and password of the hypervisor so that CloudBurst can log in and administer the hypervisor. This URL must end in "/sdk".

Once you click the "OK" button you are presented with a security certificate of the hypervisor. This certificate exchange allows CloudBurst to trust the hypervisor and thus allows for secure communications between the two.

Hypervisor attributes

- This screen capture shows the available hypervisor attributes



The hypervisor attributes page has two modes CloudBurst's view and maintenance mode. In CloudBurst's view of the hypervisor it is running and accepts requests. In maintenance mode you can update the attributes.

There are a few attributes worth discussing. Security certificate allows you to either accept a certificate or remove an existing certificate. If you remove the certificate then secure communications between CloudBurst and the hypervisor can not occur.

Current Status shows you CloudBurst's current view of the hypervisor. This is not the actual state of the hypervisor out in the cloud. To solidify this point, the hypervisor can be operational out in the cloud and serving up requests, but CloudBurst views it as stopped.

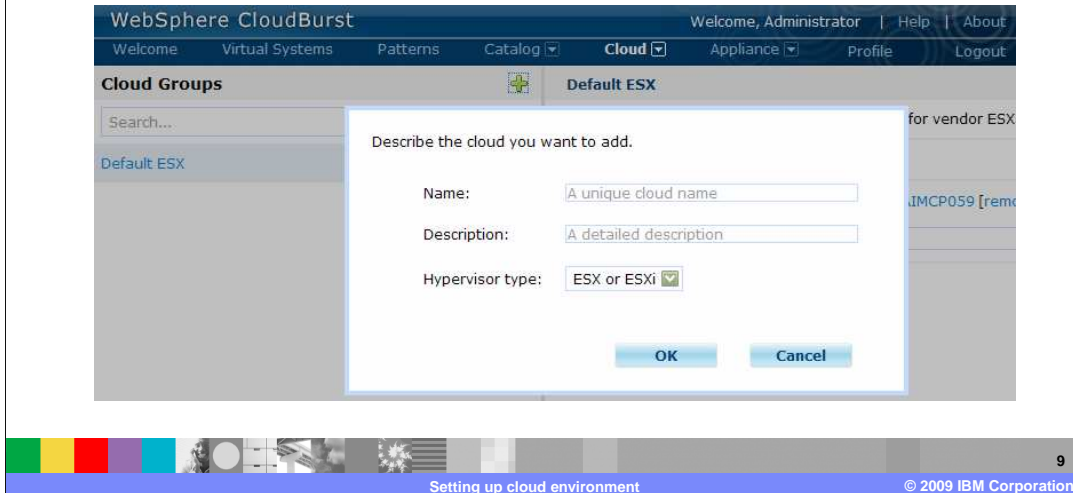
Cloud group shows which cloud group this hypervisor belongs to. By default all ESX or ESXi hypervisors belong to the "Default ESX" cloud group.

Networks allows you to view and update which subnet or IP pool CloudBurst will choose from when deploying virtual machines to this hypervisor.

Storage devices gives you a view on the existing storage attached to the hypervisor. When you add a new hypervisor CloudBurst automatically detects the available storage and adds it to the list.

Adding cloud groups

- Three fields are required to start the process of creating a cloud group
- Cloud groups are used to logically group hypervisors based on some defined criteria



Cloud groups are used to group hypervisors with similar capabilities. You can group hypervisors by capability or any grouping logic you choose. For example you can create two groups, one for your ESX hypervisors and another for my zVM hypervisors or you can create one group for your hypervisors that have one processor and another that has ten processors. The only restriction is that you cannot mix hypervisor types.

Cloud group attributes

- Cloud group attributes view
 - ▶ View hypervisor type that this group supports
 - ▶ View, add and remove hypervisors from the group

Default ESX ✕	
Description:	Default cloud for vendor ESX
Hypervisor type:	ESX or ESXi
Hypervisors:	Hypervisor - AIMCP059 [remove]
	<input type="text" value="Add more..."/>

This view allows you to add or remove hypervisors from the group based on some predefined logic.

Summary

- CloudBurst is a bring your own cloud product
- You have walked through the setup of each of the resources
 - ▶ IP groups
 - ▶ Hypervisors
 - ▶ Storage
 - ▶ Cloud groups



CloudBurst is a bring your own cloud product. Once that cloud is in place and operational you need to set up CloudBurst to interact with the cloud so that it can manage the cloud. CloudBurst views the cloud as a set of IP groups, hypervisors, storage and cloud groups.

CloudBurst is successfully communicating with the cloud at this point. The next steps are for you to create users and start developing virtual images, script packages, patterns and then deploying them into the cloud you just set up.

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