OpenQRM Enterprise Azure Howto

Your private Cloud on Azure

(openQRM Enterprise 5.2.9)
Infos

Create a cloud memory product which fits to the Azure Instances Sizes
   -> sizes are selected based on the memory size

Create disk sizes according to the AMI images sizes in Azure
   (e.g. 30G for a Ubuntu_30GB image)
   -> requested disk sizes are not used for Azure

Know issues: We are continuing with optimizing some parts regarding the scalability
   and performance.

HA for Azure instance is implemented, further testing is underway
First Installation

First install the required „libcloud“ and „azure“ api.
For this step you need a working internet connection. It is also automatically executed/checked when the hybrid-cloud plugin is enabled via the plugin-manager.
First Installation

Then install the openqrm-enterprise and openqrm-enterprise-plugin-hybrid-cloud packages.

Initialize the openQRM Enterprise Server
First Installation
First Installation
First Installation

Upload license files
First Installation

Ready installed openQRM Enterprise Server
First Installation

Install and start the hybrid-cloud plugin via the plugin-manager
First Installation
First Installation
First Installation

Goto Plugins → Cloud → Hybrid-Cloud → Actions and create a new Azure account
First Installation
To get access to the Azure Cloud you need to create a certificate public and private key.

The private key (here azure_cert.cer) needs to be uploaded to the Azure Account (via https://manage.windowsazure.com/) and attached to the Azure account.


The content of the public key (here azure_cert.pem) is then added to the Azure account on the openQRM Server.

Following are the commands to create a certificate with openssl.
First Installation

Commands to create a certificate with openssl.

```
root@cloud:/azurecerts# openssl req -new -nodes -days 365 -newkey rsa:2048 -outkey azure_cert.pem -out azure_cert.pem
```

You are about to be asked to enter information that will be incorporated into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank.
For some fields there will be a default value.
If you enter ".", the field will be left blank.

```
Country Name (2 letter code) [AU]:
State or Province Name (full name) [Some-State]:
Locality Name (eg, city) []:
Organization Name (eg, company) [Internet Widgits Pty Ltd]:
Organizational Unit Name (eg, section) []:
Common Name (e.g. server FQDN or YOUR name) []:
Email Address []:
```

```
root@cloud:/azurecerts# ls
azure_cert.pem
root@cloud:/azurecerts# openssl x509 -inform pem -in azure_cert.pem -outform der -out azure_cert.cer
root@cloud:/azurecerts# ls
azure_cert.cer azure_cert.pem
```
First Installation
Now browse the AMI/Image list on Azure
First Installation

Images are listed by a filter. Select 'u' for e.g. Ubuntu Images
First Installation

We select an Ubuntu Server 15.10 AMI and add it to openQRM as an openQRM image.
First Installation

Hint: Select 'w' in the list filter to get the Windows Images
First Installation
First Installation

In the Image list in openQRM the Ubuntu Azure AMI is now available.
First Installation

Now please go to the Instance list in the hybrid-cloud Actions
First Installation

Click on „Add Instance“
First Installation

Provide at least a name and a password for the „azureuser“.
Then click on Submit.
First Installation

Here the new created instance.
First Installation

Here the openQRM „resource“ of this instance
And here the server object of the created instance. Click on „start“
First Installation

Ready installed openQRM Enterprise Server
First Installation

Starting the server is now creating the instance on the Azure Cloud which may take some moments.
First Installation

This is the server list after starting the server.
First Installation

After a short while the monitoring sets the „resource“ of the server to active, which means the instance is now active and running on Azure.
First Installation

To re-check we can easily access the Azure Dashboard in the account actions.
First Installation

The just created Azure instance
When the instance is active/running openQRM will update the resource IP address in the server- and resource list. Pick it to login
First Installation

We can now ssh-login to the new created instance.
Now please stop the server object of the instance again.

**Please notice:**
If you go on with the Cloud part in this how-to, then stopping the server is important since otherwise it will keep the image object busy and not show the image in the openQRM Cloud.
First Installation
First Installation
First Installation

After stopping the server
First Installation

Now it is easy to turn this setup into a private Cloud by installing the openqrm-enterprise-cloud plugin.
First Installation

Install and enable the cloud plugin in the openQRM plugin manager.
First Installation

The openQRM Cloud automatically configures itself according to the existing setup, so we can directly go to the openQRM Cloud portal.
First Installation

Click on login and login as „openqrm“ with the password „openqrm“ (if you haven't changed it after the installation)
First Installation

Click on Instances
First Installation

Select 512 MB memory (this will result in an ExtraSmall Instance type)
First Installation

... and submit
First Installation

After a short while the new created openQRM Cloud instance is available in the Azure Cloud
First Installation

The openQRM Enterprise Cloud sends a mail to the Cloud user with the credentials to login the the instance. To login run:

```
ssh azureuser@[cloudinstance-name].cloudapp.net
```
First Installation

The Cloud User view of the active/running instance
First Installation

To terminate the instance click on the „terminate instance“ button
First Installation
First Installation

This will remove the instance and all its components from the Azure Cloud
Many thanks :-) Hope you enjoyed this openQRM Enterprise Howto.

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