Running Cloudify Manager on EC2 using the Cloudify shared AMI

Contents

If you are looking to experiment with Cloudify this is where you should begin!

This post will guide you how to start a Cloudify manager on EC2 using Cloudify Shared AMI and deploy hello world blueprint. Total execution time for this guide is **15 min**.

Why Cloudify shared AMI?

You may install and bootstrap Cloudify manager on any environment. This may take some time. The Cloudify Shared AMI will allow you to:

- Have a sandbox with unlimited resources to deploy blueprints that may span large number of nodes including multiple different regions world-wide.
- Benchmark and unit testing environment to measure Cloudify and your deployed applications ability to cope with large deployments/VMs. This is critical to have correct capacity planning for production environments.
- Have Cloudify manager available with (almost) Zero effort very quickly. No need to spend time installing and configuring it. If somehow you need another Cloudify manager machine, just hit the button and run another one on a brand new instance.

And…

- A great shared demo environment to brag about a new cool **open-source devops orchestration tool** you just learned about and showoff your TOSCA skills…

Prerequisites

Prior running a Cloudify shared AMI make sure you have:

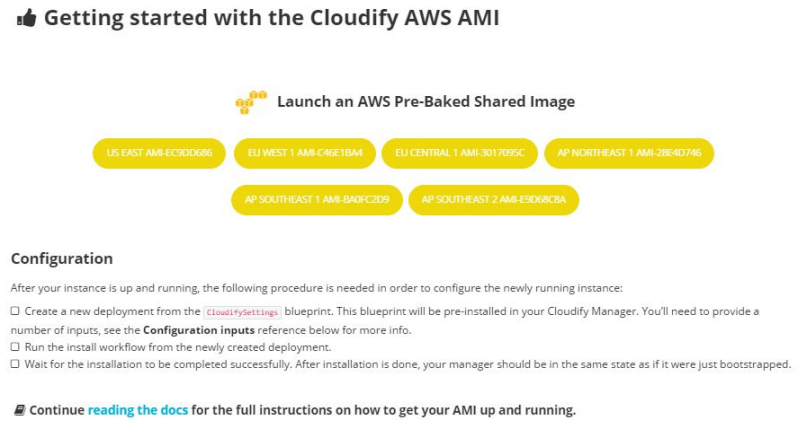
1. EC2 account
2. Your pem file (private key file) and ppk file for windows users
3. Your EC2 account AWS access key ID
4. Your EC2 account secret access key
5. Your EC2 user/password

See below how to get these:

- http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/get-set-up-for-amazon-ec2.html
- Getting your AWS Access and Secret Keys
- http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-key-pairs.html
- http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSGettingStartedGuide/AWSCredentials.html
- http://tecadmin.net/convert-pem-to-ppk-private-key/

Start Cloudify Shared AMI

Start Cloudify Shared AMI from here: http://getcloudify.org/thank_you_aws.htm
*Ensure that you choose the AMI matching your EC2 region.

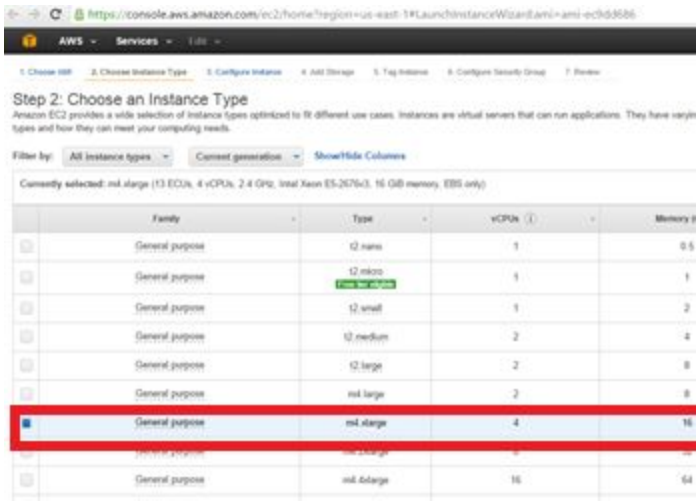


Select the AMI ID

Select the AMI ID (e.g. US EAST AMI-EC9DD686). This will take you to the EC2 console. You will have the log in if you haven't done so.

Select the Instance Type

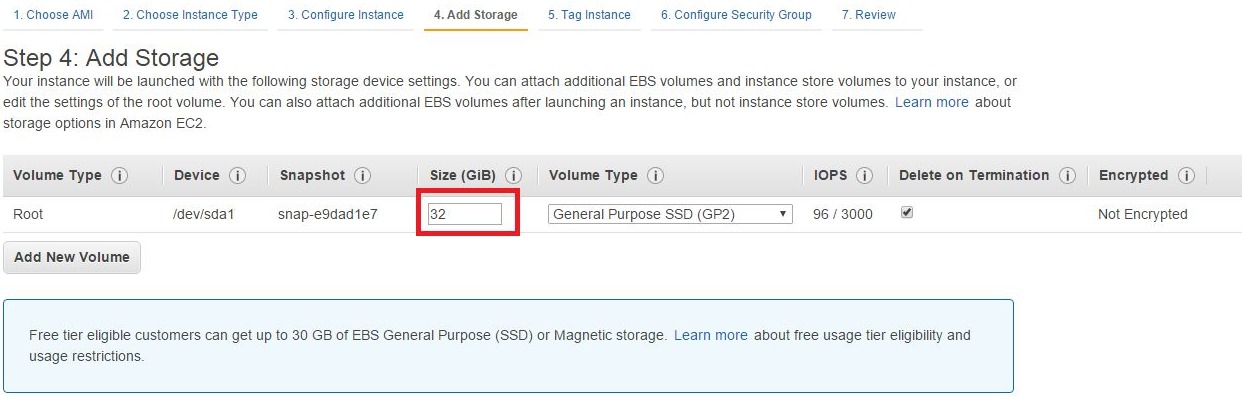
Select the Instance Type - **m4.large is minimal recommended instance type for the manager**. Smaller Instance type with less vCPUs and memory will not work.



Configure the Instance details as usual.

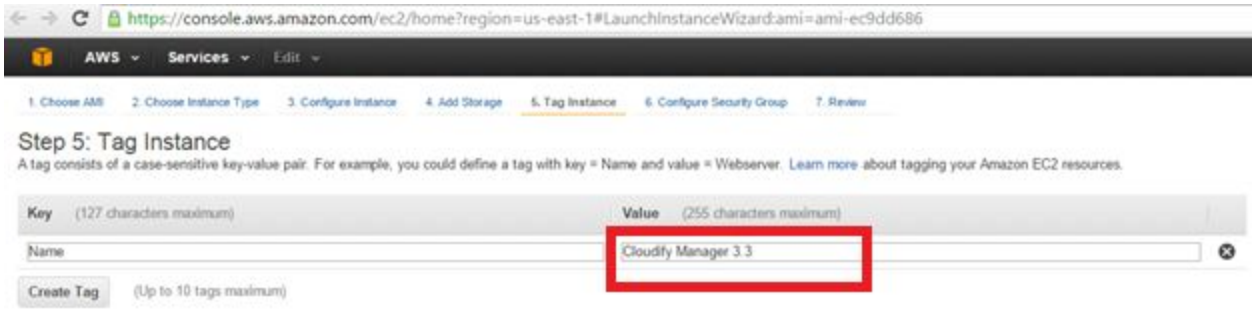
Set Storage Size

Set the Storage size to 32 GB or larger:



Tag Instance

Provide the instance reasonable value for the name key:



Configure Security Group

On the Configure Security Group step - Make sure you have the right security group with relevant permissions. Here is the one I used:

Type	Protocol	Port Range	Source
All traffic	All	All	sg-78022a1c (default)
All traffic	All	All	sg-f01a3294 (OpenVPN Access Server -HVM--2-0-17-AutogenByAWSMP-)

You will need SSH , HTTP access to the manager instance and other instances running the agent, so I suggest you have all ports available for all protocols available and later just the required ones. See below:

Type	Protocol	Port Range	Source	
All traffic	All	0 - 65535	Anywhere 0.0.0.0/0	

Launch the instance

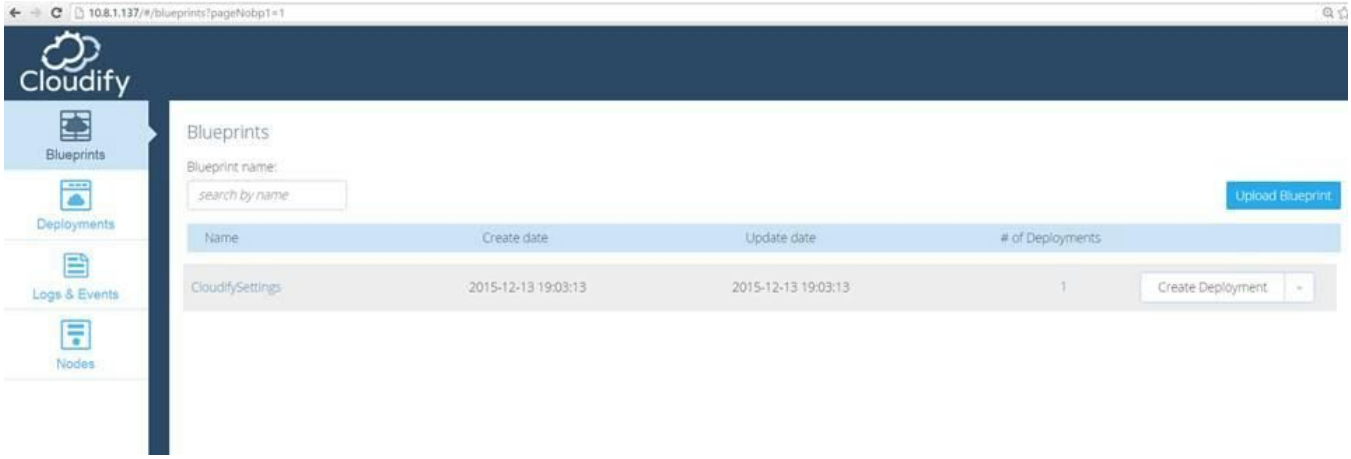
Before you launch the instance make sure you have the pem file (private key file) with you since you will need it later.

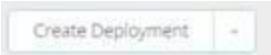
Once you are done Click the 

button and launch the instance.

Create Deployment for the CloudifySettings blueprint

Once the instance running the manager is fully started you can access the Cloudify Web Console directly:



You should **Create Deployment** for the *CloudifySettings* blueprint provided by clicking the 

button.

Once clicked - You will see this:

See example for values you should set for the *CloudifySettings* deployment:

Inputs:

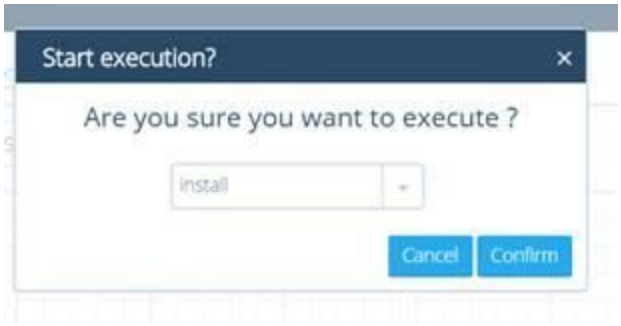
Input	Value
agent_keypair_name	shayCloudifySettings
agent_security_group_name	shayCloudifySettings-sg
agents_user	centos
aws_access_key_id	AKIAj3634G62
aws_secret_access_key	UAUyX6o9RqqzoOeymRxZxsP8fd1Ea

The aws_access_key_id and aws_secret_access_key values can be retrieved from the IAM console.

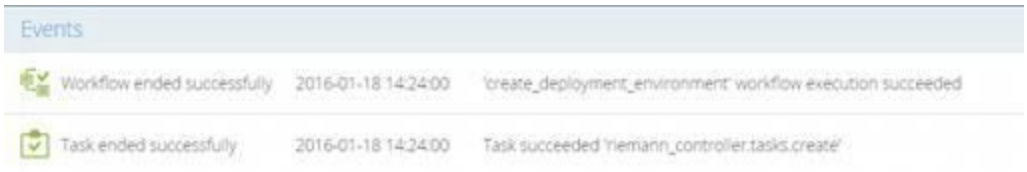
Make sure the agent_keypair_name agent_security_group_name you set **do not exists** as Cloudify will create these.

Execute CloudifySettings Install workflow

Once you deploy the CloudifySettings blueprint execute its **Install workflow**:



You should see this once installed successfully:



When this is completed successfully your manager is ready to use.

Deploy the Hello World Blueprint

To test the manager you can deploy the hello world blueprint:
https://github.com/cloudify-cosmo/cloudify-hello-world-example/tree/3.3

Make sure you create blueprint for the singlehost-blueprint.yaml.

Place the pem file on the Manager Instance

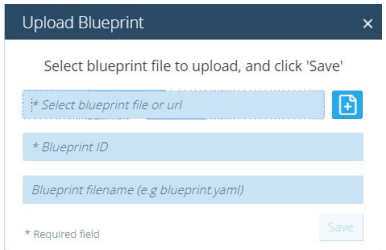
Access the Manager machine. Copy the pem file to the manager instance. With windows you can use WinSCP. With linux you can use rcp.

Upload the Hello World Blueprint

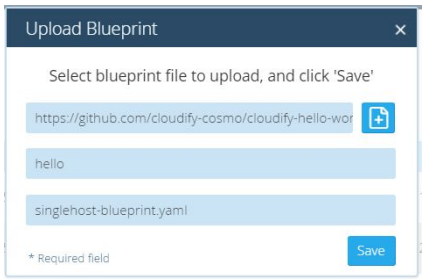
Uploading via the Web UI:

Click the 

button. The following dialog will be displayed.



Fill in the values. See below example:



Uploading via the CLI:

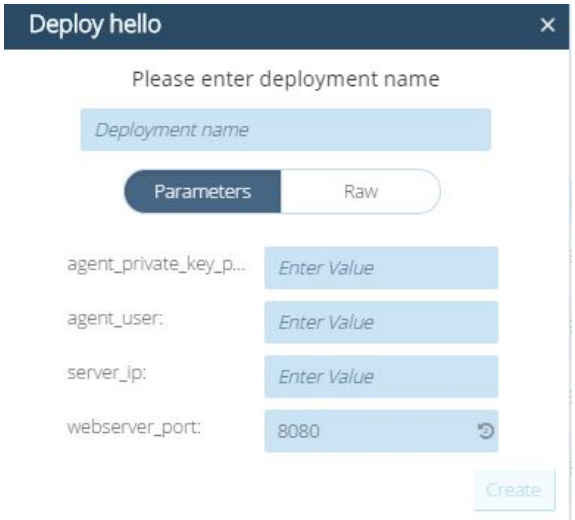
Prior running this step see below [how to install the Cloudify CLI](#).

The following commands will get the blueprint from github (place it on the manager instance) and upload it:
sudo yum install unzip
wget https://github.com/cloudify-cosmo/cloudify-hello-world-example/archive/3.3.zip
unzip 3.3.zip
cfy blueprints upload -p cloudify-hello-world-example-3.3/singlehost-blueprint.yaml -b hello

Create the Hello Deployment

Create the Hello deployment via the Web Console by clicking the 

for the **hello** blueprint. You will be prompt with the following:



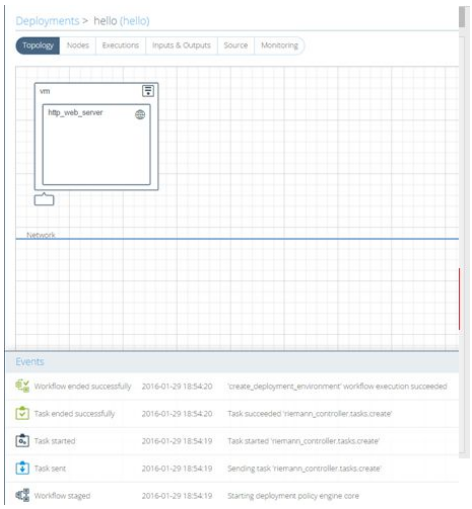
Here are examples for the values you should set:
Deployment name: hello
agent_private_key_path: /home/centos/mykeyfile.pem
agent_user: centos
server_ip: **Manager private IP**
webserver_port: 8080

The above assumes you have copied your mykeyfile.pem file into /home/centos/ on the manager instance.

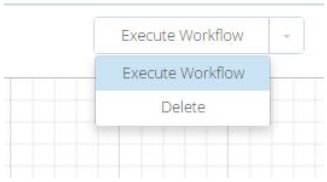
Please make sure you have the pem file in the right location on the manager machine as specified with the agent agent_private_key_path input property. Check the pem file permissions. It should have **read** permissions:
chmod 400 mykeyfile.pem

To access the manager instance follow the instructions at the Accessing the Instance on EC2 section.

When you click the **Create button** the deployment process will start. Once completed you should see this:

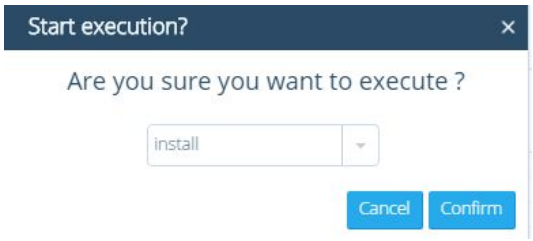


To install the blueprint click the **Execute Workflow** for the **hello** deployment:



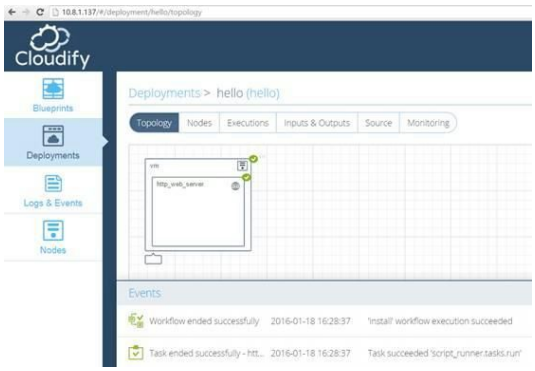
Install the Hello Deployment

Select install:



And Click **Confirm**.

Once it is successfully installed you should see this:



Test the Hello Deployment

If you have used the defaults you should see this when pointing your browser to the right URL:

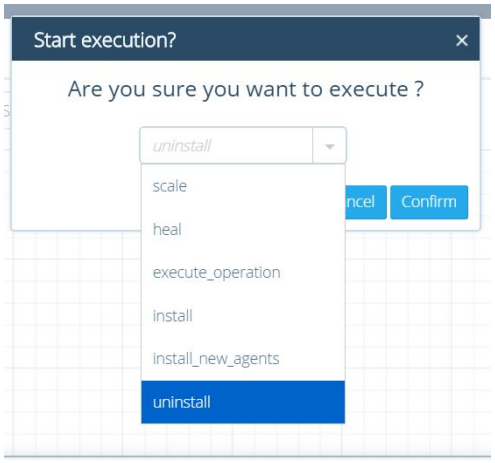
Congratulations: You have the Cloudify manager and a blueprint running!

Shutdown and Restart

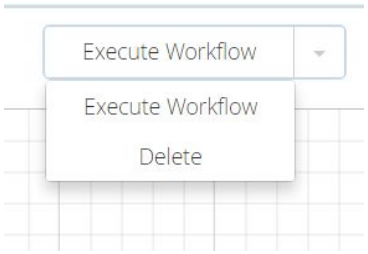
Terminating the running Blueprint

To terminate the running blueprint deployment:

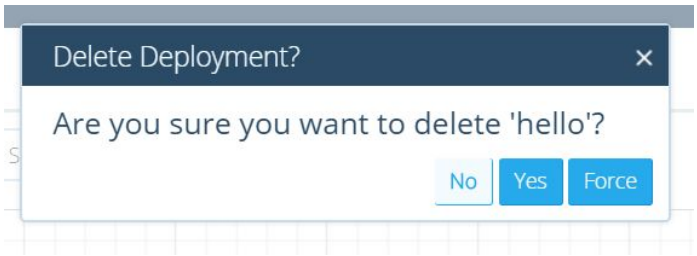
Select the Uninstall workflow for the Hello deployment:



Select the Delete the hello deployment:

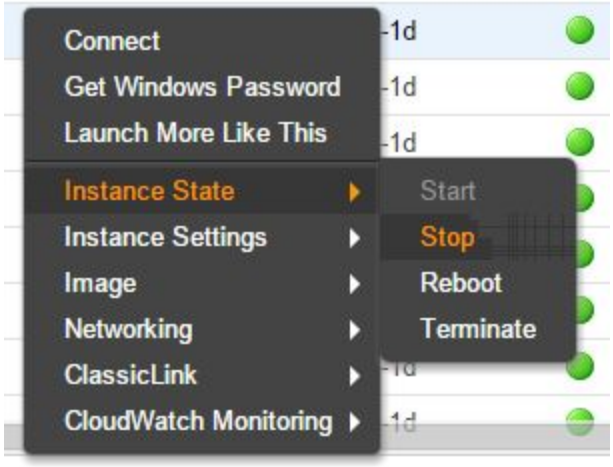


Delete the hello deployment:

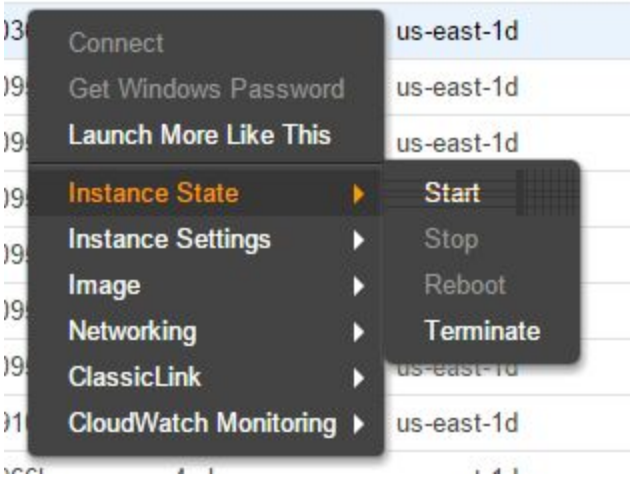


Stopping and Starting the Cloudify Manager AMI instance

In this point you can stop the AMI instance running the Cloudify Manager- You can do this directly from EC2 console:



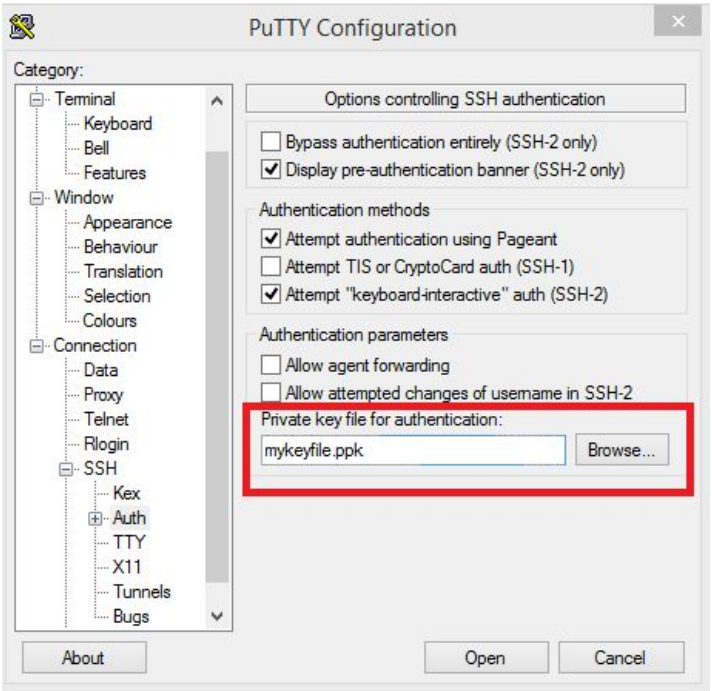
This will allow you later to start the instance and continue your work. To start the instance running the Cloudify manager:


Connect
Get Windows Password
Launch More Like This
Instance State
Instance Settings
Image
Networking
ClassicLink
CloudWatch Monitoring
Start
Stop
Reboot
Terminate
us-east-1d
us-east-1d
us-east-1d
us-east-1d

Accessing the Instance on EC2

On Windows

Make sure you set the private key file:



You will need to generate the ppk file using PuTTY Key Generator from the pem file.

On Linux

ssh -i mykeyfile.pem **Manager public IP**

The user name to access the instance is **centos**.

Install the Cloudify CLI

To install the Cloudify CLI on the manager instance first access the instance using ssh / putty into.

Once you access the manager instance run the following:

sudo yum install wget
sudo wget
http://repository.cloudifysource.org/org/cloudify3/3.3.0/ga-RELEASE/cloudify-centos-Core-cli-3.3.0-ga_b300.x86_64.rpm
sudo rpm -Uvh cloudify-centos-Core-cli-3.3.0-ga_b300.x86_64.rpm
source /opt/cfy/env/bin/activate
cfy use -t <Manager private IP>

The last step should include the Manager private IP.

To verify the manager is running correctly run this:
cfy status

You should see this:

```
(env)[root@cloudify centos]# cfy status
Getting management services status... [ip=10.8.1.137]

Services:
+--------------------------------+---------+
|            service             |  status |
+--------------------------------+---------+
| InfluxDB                       | running |
| Celery Management              | running |
| Logstash                       | running |
| RabbitMQ                       | running |
| AMQP InfluxDB                  | running |
| Manager Rest-Service           | running |
| Cloudify UI                    | running |
| Webserver                      | running |
| Riemann                        | running |
| Elasticsearch                  | running |
+--------------------------------+---------+
```

Problems?

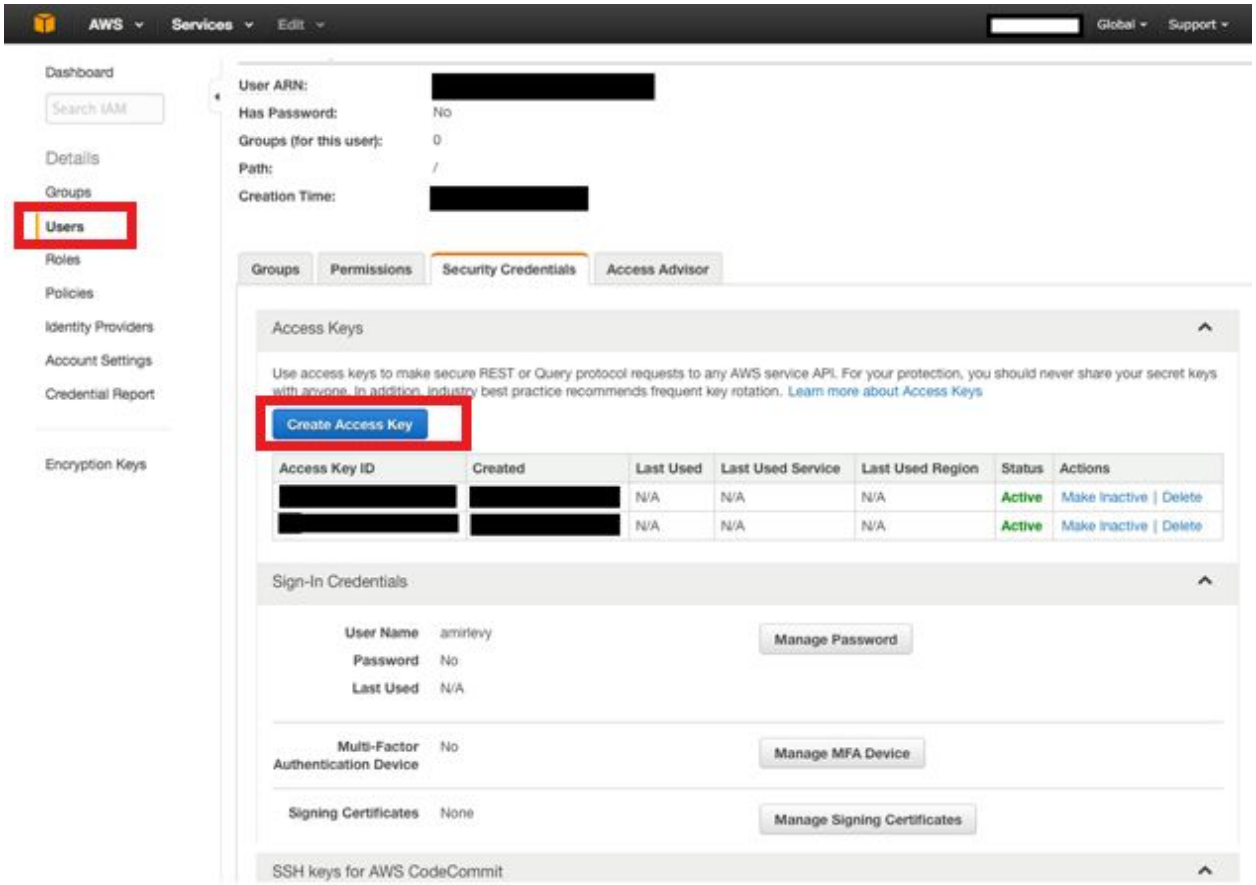
If you have problems you probably have the wrong security group settings. Make sure all **Inbound** and **Outbound** traffic for all protocols and ports are available. Later you can limit this for open only relevant required protocols and ports. See:
http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-network-security.html

Getting your AWS Access and Secret Keys

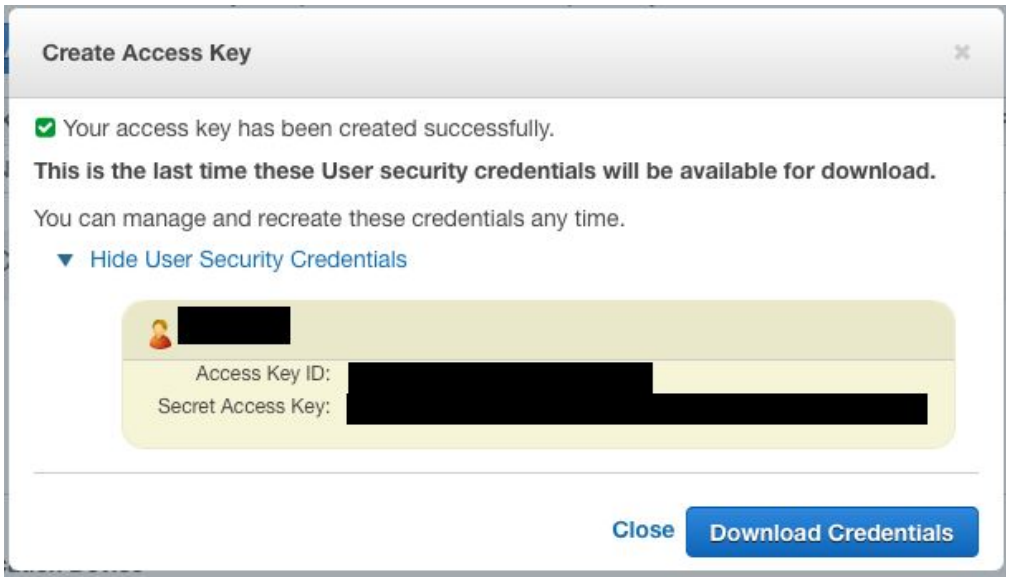
To get your EC2 account AWS access key ID and your EC2 account secret access key access the IAM section under the Services within your EC2 console:

Click the Users Option on the left , Click the 

button:



The Create Access Key will be displayed. IT will show you your EC2 account AWS **access key ID** and your EC2 **account secret access key:**


Create Access Key
Your access key has been created successfully.
This is the last time these User security credentials will be available for download.
You can manage and recreate these credentials any time.
Hide User Security Credentials
[redacted]
Access Key ID: [redacted]
Secret Access Key: [redacted]
Close
Download Credentials