Host Machine Details:

Operating System: Ubuntu 16.04.2 LTS

Memory: 24GB

CPU: Quad Core Intel Xeon

VM One Details (CLI Virtual Machine)

vCPUs: 2

**RAM: 4GB**

Storage: 40 GB

Operating System: CentOS Linux Release 7.4.1708 (Core)

Username: centos

IP: 192.168.122.165

VM Two Details (Manager Virtual machine)

vCPUs: 2

**RAM: 6GB**

Storage: 40 GB

Operating System: CentOS Linux Release 7.4.1708 (Core)

Username: centos

IP: 192.168.122.107

Common Setup steps on **both the VMs and the target VM node**

Added the entry “**centos ALL=(ALL) NOPASSWD: ALL**” to the **/etc/sudoers** file by first executing “su –“ followed by “visudo”

Setup setup on the target VM node

sudo firewall-cmd --zone=public --add-port=3000/tcp –permanent

sudo firewall-cmd --reload

Setup steps on the **CLI Virtual Machine**

1. Created PEM file for the Manager machine using the below steps (reference <https://www.therandombits.com/149/create-pem-file-for-your-linux-server/> )
   1. mkdir ~/cloudifykeys/
   2. ‘ssh-keygen’ and provided the ‘cloudify’ name when asked, skipped the passphrase
   3. ‘openssl rsa –in cloudify –outform pem > cloudify.pem’ to create a new PEM file
   4. ‘ssh-copy-id –i cloudify.pub centos@cloudifymachine\_ip
   5. ‘chmod 400 cloudify.pem’
2. Downloaded ‘**cloudify-cli-4.2ga.rpm**’ and installed it using command ‘**sudo rpm -i cloudify-cli-4.2ga.rpm’**
3. Edited the file **/opt/cfy/cloudify-manager-blueprints/ simple-manager-blueprint-inputs.yaml** with the below entries
   1. ‘public\_ip: 192.168.122.107’
   2. ‘private\_ip: 192.168.122.107’
   3. ‘ssh\_user: centos’
   4. ‘ssh\_key\_filename: ~/cloudifykeys/cloudify.pem’

Setup Steps on the **Manager Virtual machine**

1. sudo yum install -y python-backports-ssl\_match\_hostname python-setuptools python-backports
2. sudo firewall-cmd --zone=public --add-port=5671/tcp –permanent
3. sudo firewall-cmd --zone=public --add-port=53333/tcp –permanent
4. sudo firewall-cmd --zone=public --add-port=53229/tcp –permanent
5. sudo firewall-cmd --zone=public --add-port=80/tcp –permanent
6. sudo firewall-cmd --reload

**Exercise One: BootStrapping**

Kicking off bootstrap from the **CLI virtual machine**

1. cd to the **/opt/cfy/cloudify-manager-blueprints** directory and execute **cfy bootstrap simple-manager-blueprint.yaml -i simple-manager-blueprint-inputs.yaml**

End Result: SUCCESSFUL

**Exercise Two: Simple Blueprint**

Blueprint “helloworld.yaml” location:

<https://github.com/vishwanathj/technical/blob/master/cfyexercises/helloworld/helloworld.yaml>

Script Contents location:

<https://github.com/vishwanathj/technical/blob/master/cfyexercises/helloworld/scripts/helloworld.sh>

Inputs.yaml location:

<https://github.com/vishwanathj/technical/blob/master/cfyexercises/inputs.yaml>

Commands executed

1. cfy blueprints upload --validate helloworld/helloworld.yaml
2. cfy deployments create -b helloworld -i inputs.yaml helloworld --skip-plugins-validation
3. cfy executions start install -d helloworld

RESULT: SUCCESS

**Exercise Three: Advanced Blueprint**

**Blueprint location:** [**https://github.com/vishwanathj/technical/blob/master/cfyexercises/advanced/advanced.yaml**](https://github.com/vishwanathj/technical/blob/master/cfyexercises/advanced/advanced.yaml)

**Scripts location:** [**https://github.com/vishwanathj/technical/tree/master/cfyexercises/advanced/scripts**](https://github.com/vishwanathj/technical/tree/master/cfyexercises/advanced/scripts)

Inputs.yaml location:

<https://github.com/vishwanathj/technical/blob/master/cfyexercises/inputs.yaml>

Commands Executed:

1. cfy blueprint upload --validate advanced/advanced.yaml
2. cfy deployments create -b advanced -i inputs.yaml advanced --skip-plugins-validation
3. cfy executions start install -d advanced
4. Launched webrowser and entered URL http://<IP>:3000/mytomcat-helloworld/ that got redirected from nodejs to tomcat. NOTE: had issues running nodejs on port 80, hence ran nodejs on port 3000
5. cfy executions start uninstall -d advanced
6. cfy deployments delete advanced
7. cfy blueprints delete advanced

RESULT: SUCCESS

Exercise Four: Advanced Plugin : Result: See errors when plugin is getting installed

1. Artifacts related to the exercise are at <https://github.com/vishwanathj/technical/tree/master/cfyexercises/pluginexercise>
2. Commands executed from parent directory of ‘pluginexercise’
   1. cfy blueprint package --validate pluginexercise/pluginexercise.yaml
   2. cfy blueprint upload pluginexercise.tar.gz -n pluginexercise.yaml
   3. cfy deployments create -b pluginexercise.pluginexercise -i inputs.yaml pluginexercise --skip-plugins-validation
   4. cfy executions start install -d pluginexercise

Logs during execution

2017-12-11 22:09:46.691 CFY <pluginexercise> [web\_j2fqqr.install\_plugins] Sending task 'cloudify\_agent.operations.install\_plugins'

2017-12-11 22:09:46.691 CFY <pluginexercise> [web\_j2fqqr.install\_plugins] Task started 'cloudify\_agent.operations.install\_plugins'

2017-12-11 22:09:47.678 LOG <pluginexercise> [web\_j2fqqr.install\_plugins] INFO: Installing plugin: rtcustomplug

2017-12-11 22:09:47.678 LOG <pluginexercise> [web\_j2fqqr.install\_plugins] INFO: Downloaded plugins/rtpropsetplugin.zip to /tmp/HATCI/rtpropsetplugin.zip

2017-12-11 22:09:48.369 CFY <pluginexercise> [web\_j2fqqr.install\_plugins] Task failed 'cloudify\_agent.operations.install\_plugins' -> Failed running pip install. (Traceback (most recent call last):

File "/home/centos/web\_j2fqqr/env/lib/python2.7/site-packages/cloudify\_agent/api/plugins/extract\_package\_name.py", line 47, in <module>

import setup # NOQA

ImportError: No module named setup)

2017-12-11 22:09:48.694 LOG <pluginexercise> [web\_j2fqqr.install\_plugins] INFO: Installing plugin from source

2017-12-11 22:09:48.369 CFY <pluginexercise> [web\_j2fqqr.install\_plugins] Task failed 'cloudify\_agent.operations.install\_plugins' -> Failed running pip install. (Traceback (most recent call last):

File "/home/centos/web\_j2fqqr/env/lib/python2.7/site-packages/cloudify\_agent/api/plugins/extract\_package\_name.py", line 47, in <module>

import setup # NOQA

ImportError: No module named setup)

2017-12-11 22:09:48.711 CFY <pluginexercise> 'install' workflow execution failed: RuntimeError: Workflow failed: Task failed 'cloudify\_agent.operations.install\_plugins' -> Failed running pip install. (Traceback (most recent call last):

File "/home/centos/web\_j2fqqr/env/lib/python2.7/site-packages/cloudify\_agent/api/plugins/extract\_package\_name.py", line 47, in <module>

import setup # NOQA

ImportError: No module named setup)

Execution of workflow install for deployment pluginexercise failed. [error=Traceback (most recent call last):

File "/tmp/pip-build-lFJJFJ/cloudify-plugins-common/cloudify/dispatch.py", line 513, in \_remote\_workflow\_child\_thread

File "/tmp/pip-build-lFJJFJ/cloudify-plugins-common/cloudify/dispatch.py", line 544, in \_execute\_workflow\_function

File "/opt/mgmtworker/env/lib/python2.7/site-packages/cloudify/plugins/workflows.py", line 27, in install

node\_instances=set(ctx.node\_instances))

File "/opt/mgmtworker/env/lib/python2.7/site-packages/cloudify/plugins/lifecycle.py", line 28, in install\_node\_instances

processor.install()

File "/opt/mgmtworker/env/lib/python2.7/site-packages/cloudify/plugins/lifecycle.py", line 93, in install

graph\_finisher\_func=self.\_finish\_install)

File "/opt/mgmtworker/env/lib/python2.7/site-packages/cloudify/plugins/lifecycle.py", line 114, in \_process\_node\_instances

self.graph.execute()

File "/opt/mgmtworker/env/lib/python2.7/site-packages/cloudify/workflows/tasks\_graph.py", line 133, in execute

self.\_handle\_terminated\_task(task)

File "/opt/mgmtworker/env/lib/python2.7/site-packages/cloudify/workflows/tasks\_graph.py", line 207, in \_handle\_terminated\_task

raise RuntimeError(message)

RuntimeError: Workflow failed: Task failed 'cloudify\_agent.operations.install\_plugins' -> Failed running pip install. (Traceback (most recent call last):

File "/home/centos/web\_j2fqqr/env/lib/python2.7/site-packages/cloudify\_agent/api/plugins/extract\_package\_name.py", line 47, in <module>

import setup # NOQA

ImportError: No module named setup)

]

\* Run 'cfy events list -e d2f1d0ae-8207-4ecb-83fd-22db03b41aa1' to retrieve the execution's events/logs

Exercise Five: Cloudify & Python exercise: Incomplete

1. sudo yum -y install epel-release
2. sudo yum –y install python-pip
3. sudo pip install cloudify-rest-client==4.1