

# Dell Solution Admin Host Tempest Test Node Guide - Version 4.0



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## Notes, Cautions, and Warnings

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-  A **Note** indicates important information that helps you make better use of your system.
-  A **Caution** indicates potential damage to hardware or loss of data if instructions are not followed.
-  A **Warning** indicates a potential for property damage, personal injury, or death.

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## Overview

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This guide provides information necessary to deploy, configure, and operate the Tempest Test Node for the Dell Red Hat OpenStack Cloud Solution.

# Tempest Test Node Deployment

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The deployment of the Tempest Test Node is performed using the `deploy-tempest-vm.sh` script. This script creates a kickstart file and then executes the `virt-install` command to install the system.

The generated kickstart script performs the following steps:

- Partitions the system
- Sets SELinux to permissive mode
- Configures `iptables` to run on the system
- Disables `firewalld`, `NetworkManager`, and `chronyd` services
- Configures networking, including:
  - Static IP addresses
  - Gateway
  - Name resolution
  - NTP time service
- Registers the system using the Red Hat Subscription Manager

## Setup

To set up the Tempest Test Node deployment:

1. Log into the Dell Solution Admin Host (SAH) node as the `root` user.
2. Ensure that a copy of the **Red Hat Enterprise Linux Server 7 Installation DVD** ISO is in the `/store/data/iso` directory.



**Note:** Several steps in this document use files to configure the environment. These archive files are available from Dell's Red Hat Partner wiki site (<https://wiki.opencrowbar.org/display/RED/File+Lists>).

3. Download the **dell-mgmt-node** archive (.zip or .tgz) files and extract them into the `/root/pilot` directory:

```
# mkdir /root/pilot
# cd /root/pilot
# unzip /PATH/TO/FILE/dell-mgmt-node.zip or tar zxvf /PATH/TO/FILE/dell-
mgmt-node.tgz
```

## Configuration

To configure the Tempest Test Node deployment:

1. Create a configuration file named `tempest.cfg`, in the `/root/pilot` directory.

There should be a sample file provided which you can fill with information specific to your environment. The file should look similar to this:

```
rootpassword CHANGEME
timezone UTC
smuser CHANGEME
smpassword CHANGEME
smpool CHANGEME
hostname tempest.example.org
```

```

gateway 192.168.44.254
nameserver 192.168.44.11
ntpserver clock.redhat.com
# Iface      IP                NETMASK
eth0         192.168.44.67    255.255.255.0
eth1         192.168.190.67  255.255.255.0
eth2         192.168.140.67  255.255.255.0
# optional dependent on if you need a proxy
# smproxy proxy_hostname:proxy_port
smproxy ""
smproxyuser ""
smproxypassword ""

# specify tempest commit to clone
tempestcommit 1c9ec96f5f265ab779581f5a4f2a06af5003ea25

```

- Set the following variables in the `tempest.cfg` file:

**Table 1: Tempest Test Node Configuration Variables**

Parameter	Description
<i>hostname</i>	The FQDN of the Tempest Test Node.
<i>rootpassword</i>	The root user password for the Tempest Test Node.
<i>timezone</i>	The timezone in which the Tempest Test Node is located.
<i>smuser</i>	The user credential when registering with Subscription Manager.
<i>smpassword</i>	The user password when registering with Subscription Manager. The password must be enclosed in single quotes if it contains certain special characters.
<i>smpool</i>	The pool ID used when attaching the Tempest Test Node to an entitlement.
<i>gateway</i>	The default gateway for the Tempest Test Node.
<i>nameserver</i>	A comma-separated list of nameserver IP addresses.
<i>ntpserver</i>	A comma-separated list of time servers. This can consist of IP addresses or FQDNs.
<i>tempestcommit</i>	The GIT commit-ID of the Tempest version being deployed. This will already be set by default to that of the OpenStack Kilo Tempest release.

- Set the following variables **after** all the previous variables above are set:

**Table 2: Additional Tempest Test Node Configuration Variables**

Parameter	Description
<i>eth0</i>	This line specifies the interface, IP address, and network mask for the <i>public</i> interface.

Parameter	Description
<i>eth1</i>	This line specifies the interface, IP address, and network mask for the <i>external</i> interface.
<i>eth2</i>	This line specifies the interface, IP address, and network mask for the <i>private API</i> interface.

## Installing the Tempest Test Node

To install the Tempest Test Node:

1. In the `/root/pilot` directory, invoke the `deploy-tempest-vm.sh` script.
  - a. Pass ***tempest.cfg*** as the first parameter.
  - b. Pass the **full path to the Red Hat Enterprise Linux Server 7 Installation media** as the second option.

```
# ./deploy-tempest-vm.sh tempest.cfg /store/data/iso/rhel-server-7.1-x86_64-dvd.iso
```

The installation begins, but no console is displayed.

2. To display the console (optional):
  - a. Ensure you are logged into a GUI environment.
  - b. Open a terminal.
  - c. Enter the following command:

```
# virt-viewer tempest
```

 **Note:** If you are connected to the OpenStack Foreman Installer Node using a Windows system, you need to install **Xwin Server** before executing `virt-viewer tempest`.

A console for the Tempest Test Node will open. After the Tempest Test Node completes the installation, it will power itself off.

3. You can view the power state of the Tempest Test Node during installation by entering the following command:

```
# watch virsh list --all
```

You will see output similar to the following:

Id	Name	State
2	tempest	running

The state will eventually progress to *shut off*, which signals completion of the installation.

4. Press **[Control-c]** to exit the `watch` command.
5. You can then start the Tempest Test Node by entering the following command:

```
# virsh start tempest
```

## Tempest Testing Configuration

After the Tempest Test Node is installed:

1. Create OpenStack networks for use by Tempest by:
  - a. Logging into one of the OpenStack Controller nodes as the *root* user.
  - b. Executing the *Creating the Networks* section of Appendix C in the *Dell Red Hat Cloud Solutions Deployment Guide*.
2. Log on to the Tempest node as the **root** user via one of the interfaces configured above, using *ssh* or *putty*. Change directory to the tempest install directory:

```
cd /root/tempest
```

3. Configure the Tempest instance for the environment.
  - a. The following Tempest configuration script (*/root/tempest/tools/config\_tempest.py*) can be used to generate the required *tempest.conf* file.

 **Note:** Be sure to use the Virtual IP address (VIP) of the Keystone endpoint

```
tools/config_tempest.py --create identity.uri [keystone_endpoint]
identity.admin_username [os_admin_username] identity.admin_password
[os_admin_password] identity.admin_tenant_name [admin_tenant_name]
object-storage-feature-enabled.discoverability False
auth.allow_tenant_isolation False
```

For example:

```
tools/config_tempest.py --create identity.uri http://10.148.44.200:5000/
v2.0 identity.admin_username admin identity.admin_password
mypassword identity.admin_tenant_name admin object-storage-feature-
enabled.discoverability False auth.allow_tenant_isolation False
```

4. Initialize the Tempest cleanup utility by executing the following command.

 **Note:** Prior to running Tempest you must initialize the cleanup utility, which will capture the existing state of your OpenStack deployment prior to running any tests. This will allow the cleanup utility restore your deployment to where it was prior to running Tempest should any failed tests leave data behind.

```
cd /root/tempest
python -m tempest.cmd.cleanup --init-saved-state
```

This will create a file named *saved\_state.json*. You may edit the file and remove the admin, demo, and alt\_demo tenants and users as the cleanup utility has logic that handles these particular users and tenants.

## Running Tempest Tests

To run Tempest tests:

1. Navigate to the Tempest install directory:

```
cd /root/tempest/
```

2. Execute the following command to run standard API, scenario and CLI tests:

```
screen -L ./tools/pretty_tox_serial.sh '(?!.*\[*.*\bslow\b.*\])(^tempest\.
(api|scenario|cli))'
```



**Note:** Screen output is piped and appended to a file named *screenlog.0*, and *tempest.log* will contain granular logging information for the Tempest run. Both logs append; each time Tempest runs the new results are appended to the end of the files.

3. Once the Tempest run is complete you can use the cleanup utility to delete any objects left over by Tempest.
  - a. Execute the cleanup utility in *dry-run* mode, which creates a file named *dry\_run.json*. This file contains all of the objects that will be deleted when you run the cleanup utility in *standard mode*.

```
cd /root/tempest
python -m tempest.cmd.cleanup --dry-run
```

- b. Review this file and be sure that you intend on deleting all the objects listed prior to running the tool in *standard mode*.
- c. Execute the cleanup utility in *standard mode* to permanently delete the objects contained in *dry\_run.json*:

```
cd /root/tempest
python -m tempest.cmd.cleanup
```

At this point your deployment should have deleted any objects left behind by Tempest.



**Note:** Full documentation for the cleanup utility can be found at <http://docs.openstack.org/developer/tempest/cleanup.html>.

Please refer to `/usr/share/openstack-tempest-kilo/README.rpm` on your tempest node for additional information about the Tempest installation package

Complete documentation for Tempest can be found at <http://docs.openstack.org/developer/tempest/>.

Tempest source code and additional technical information can be found on Github at <https://github.com/redhat-openstack/tempest>.

## References

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Additional information can be obtained at <http://www.dell.com/openstack> or by e-mailing [openstack@dell.com](mailto:openstack@dell.com)

If you need additional services or implementation help, please contact your Dell sales representative.

### To Learn More

For more information on the Dell Red Hat OpenStack Cloud Solution with Red Hat Enterprise Linux™ OpenStack Platform visit <http://www.dell.com/openstack>.

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