

# Troubleshooting OpenStack

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# Objectives



**Spaces not TABS**

**Network Namespaces (ip netns)**

**Configuration Files**

**Service status**

**Logfiles**

# HOT Format

Heat templates written to the HOT format are in YAML format. Indentations should be with spaces and not tabs. Use `cat -vet <filename>` and look for tabs shown with `^I`



# Troubleshooting HOT Files

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# Floating IP Address

To be accessible, floating IP addresses need to be in the same address range as your existing physical network.

The allocation range should not be from the DHCP range to ensure addresses do not clash.

If you use the default public network it is unlikely to be correct for your physical subnet.



```
ip addr show
```

```
ip route show
```

```
ip netns show
```

```
ip netns exec <router-namespace> ping 192.168.1.xx
```

## Network Name Spaces

Using the `ip` command we can determine a lot about connectivity. Using the subcommand `netns` we can run commands from other networks on the system



# Working with Network Namespaces

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# Configuration Files

Most services will have configuration files located in `/etc/<servicename>`. Most have a setting `verbose=True` enabled by default. This increases logging but I would encourage that this is only set when required.





```
# grep -o '^#[^#]*' /etc/nova/nova.conf | less  
# ls -lh /var/log/nova/nova-api.log
```

verbose=True

**Verbose logging is useful in troubleshooting but adds to the size of the log file**



'openstack server list' verbose=True

```
# tail -n 0 -f /var/log/nova/nova-api.log
```

```
2017-06-14 09:21:29.018 13899 INFO  
nova.osapi_compute.wsgi.server [req-68320ff1-ba02-49f6-  
8bed-2db1bfdbf1af 3900fcb7276d4bca997a58d974f7a28d  
050e1beee4724e628d8ec3693ed9943e - - -] 172.16.0.9 "GET  
/v2/050e1beee4724e628d8ec3693ed9943e/servers/detail  
HTTP/1.1" status: 200 len: 211 time: 0.6281722
```



```
# vim /etc/nova/nova.conf  
  
verbose=False  
  
# systemctl restart openstack-nova-api-service
```

## Change Logging Level

With `verbose=False` and the service restarted only **WARNING** and higher events are logged, so the simple **openstack server list** does not record in your logs when successful.



```
# openstack server list --debug
```

```
# nova --debug list
```

## Command Level Verbosity

**The client can show more detail if required when the command is run, just add the --debug option**



# Configuration Log Level

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# Service Status

Of course, before we dive too much into troubleshooting, an issue we want to check is to make sure services are running



```
# openstack-status  
# nova service-list  
# neutron agent-list  
# cinder service-list  
# heat service-list
```

## Service Status

The `openstack-status` command is great to quickly see the status of both the OpenStack and supporting services. Most OpenStack services have their own mechanism to check their status



```
# mysqladmin -u root -p status
```

## MariaDB Status

A quick overview of the database server status can be gained with `mysqladmin`. The `questions` field show the number of SQL queries whilst it has been running. If you used my answer file then the root password is `Password1`. If you haven't secured the SQL server the Linux root user can login without the `-u` and `-p` switches.





# Server Status

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# Log Files

Log files can be located in `/var/log/<service>`. The `journalctl` command can also be used



```
# tail /var/log/nova/nova-api.log  
# tail -f /var/log/nova/nova-api.log  
# tail -n0 -f /var/log/nova/nova-api.log
```

## Tail

To read the end of a log we can use tail. To follow the end of a log use -f. To start with a clear screen and follow only new activity use -f -n0



```
# journalctl  
# journalctl -u openstack-nova-api  
# journalctl -u openstack-heat-engine
```

## journalctl

As part of systemd we also have the command journalctl. This can display logs as a unified entity. We can choose to display entries from a specific service with the -u option



# Working with Logs

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# HOT



**Spaces NOT TABS**

**cat -vet <file.yml>**



# Networking



**ip a s**

**ip r s**

**ip netns**

**ip netns exec <router-id> ping 192.168.1.2**



# Configuration



**/etc/<service>**

**verbose=True**

**--debug with commands**





# Service Status



**openstack-status**

**nova service-list**

**mysqladmin -u root -p status**



# Log Files



**`/var/log/<service>`**

**`tail -n0 -f <logfile>`**

**`journalctl -u <service unitname>`**