

System Requirements

Before starting, ensure your system meets these minimum requirements:

- **OS:** Ubuntu 20.04 LTS (Preferred) or later / Debian-based system
- **RAM:** At least **8GB** (Recommended: 16GB)
- **CPU:** Minimum **4 vCPUs**
- **Disk Space:** At least **30GB Free Space**
- **User Account:** Non-root user with sudo privileges
- **Internet Connection:** Required for downloading dependencies

1. Update the System

Before installing anything, update your system packages:-

- `sudo apt update && sudo apt upgrade -y`

2. Install Dependencies

DevStack requires some essential dependencies. Install them using:-

- `sudo apt install -y git curl wget vim python3 python3-dev python3-pip net-tools`

3. Create a Non-Root User (stack)

For security reasons, DevStack does not run as the root user. Create a new user called stack:-

- `sudo useradd -s /bin/bash -d /opt/stack -m stack`

Give the stack user sudo privileges:-

- `echo "stack ALL=(ALL) NOPASSWD: ALL" | sudo tee /etc/sudoers.d/stack`

Switch to the stack user:-

- `sudo su - stack`

4. Clone the DevStack Repository

Once inside the stack user, clone the DevStack Git repository:-

- `git clone https://opendev.org/openstack/devstack.git`
- `cd devstack`

5. Create the local.conf Configuration File

Inside the devstack directory, create a local.conf file:-

- `vi local.conf`

Copy and paste the following configuration:-

```
[[local|localrc]]  
  
ADMIN_PASSWORD=secret  
  
DATABASE_PASSWORD=$ADMIN_PASSWORD  
  
RABBIT_PASSWORD=$ADMIN_PASSWORD  
  
SERVICE_PASSWORD=$ADMIN_PASSWORD  
  
(# Network Configuration)  
  
HOST_IP=192.168.1.100 ( # Change this to your machine's IP )  
  
(# Enable Basic Services)  
  
ENABLED_SERVICES+=q-svc,q-agt,q-dhcp,q-l3,q-meta  
  
ENABLED_SERVICES+=c-api,c-vol,c-sch,c-bak  
  
ENABLED_SERVICES+=n-api,n-crt,n-obj,n-cpu,n-cond,n-sch,n-novnc  
  
ENABLED_SERVICES+=g-api,g-reg  
  
(Save & Exit)
```

6. Run DevStack Installation Script

Run the installation script to install OpenStack:-

- `./stack.sh`

(🕒 **This process may take 20-60 minutes**, depending on your system and internet speed.)

7. Access the OpenStack Dashboard

Once the installation completes, DevStack provides login details:-

Open a browser and visit:

- `http://your-ip/dashboard`
(Replace your-ip with the HOST_IP from local.conf)

Default login credentials:

- **Username:** admin
- **Password:** secret (or what you set in local.conf)

8. Use OpenStack CLI

To interact with OpenStack via CLI, load the credentials:-

- `source openrc`

Test OpenStack services:

- `openstack service list`

Reinstalling

Reinstalling? If you need to reinstall DevStack, remove everything using:-

- `./unstack.sh`
- `./clean.sh`

Stopping DevStack:-

- `./unstack.sh`

Starting DevStack again:-

- `./rejoin-stack.sh`