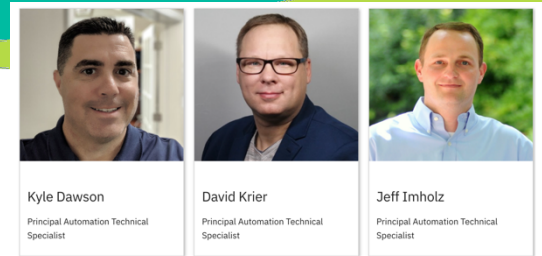


Skills Needed for Installation of Red Hat Openshift.

Applies to Openshift Version: 4.8.x - 4.11,x on virtual machines

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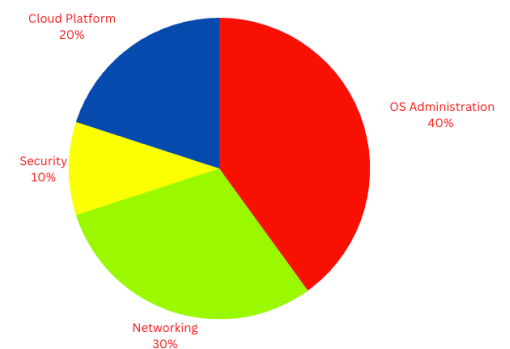


Intro

Deploying Red Hat OpenShift can be an intimidating task even for the highly skilled IT professional. That said, when you take the time to fully understand the process and identify all the necessary skills it can be quite easy to achieve success. Keep in mind that you may need to rely on various individuals with the necessary skills (and appropriate authority) to achieve your goal in deploying OpenShift. In fact, it's quite likely that not one individual will have all the appropriate access within an enterprise organization, so this very well may be a joint effort between multiple teams within your IT organization.

The areas where skill (and authority) is needed can be broken down into four main areas.

- OS Administration
- Networking Administration
- Security Administration
- Cloud Platform Administration



Below, we will break down each individual area of skill that is needed and address what types of activities each will be responsible for.

OS Administration



Deploying an OpenShift cluster will require a moderate level of OS administration skills. Below is a list of some of the basic tasks that you will need to perform.

- Edit Files
- SSH Key Generation
- Script Execution
- SFTP / File Transfer
- File Security
- Profile Administration
- Setting Environment Variables
- Software Installation and updating
- File System Management

Networking



Understanding of basic networking components is a must have skill to have for deployment of OpenShift. Below are some of the necessary skills you will need to have along with an explanation of why these skills are necessary.

- **DHCP (Dynamic Host Configuration Protocol)** - A solid understanding of how DHCP works is a **MUST HAVE** skill.



If you are performing a OpenShift IPI install, DHCP is a requirement. You must have a basic understanding of how to configure DHCP to ensure the virtual machines that are provisioned by the installer are assigned a valid IP address on the network. If you are performing a UPI install, you will have the option to set static IP addresses when you create the virtual machines; however, this brings more complexity to the install procedures and a disadvantage with your ability to quickly scale the environment.

- **DNS (Domain Name Service)** – DNS must be available on the network where you plan to target the deployment. You must have a basic understanding of what DNS is and the ability to verify that you have the appropriate number of available IP addresses in the pool.
- **Registered Domain Name** – OpenShift installation requires that you have full administration authority of the base domain and/or sub domain.

- **SSH Client** – You must be able to log into a Linux based machine using a SSH terminal.
- **VPC (Virtual Private Cloud)** – All public cloud providers allow you to build your own isolated private cloud. While using a VPC on your platform of choice is not a requirement to install OpenShift, it is often a requested configuration. To perform this type of install you must understand the networking components and how to configure the VPC.
- **VIP (Virtual IP Address)** – OpenShift utilizes multiple floating virtual IP addresses for the cluster. You will need to have two unused and available IP addresses.

Security



Enterprise level security is one of the primary differentiators for Red Hat OpenShift. Security is addressed at various layers and therefore it's very important to have a solid understanding of basic security concepts. Moderate level of skills related to security configuration and administration will be necessary to perform the install.

The Operating System – There are two flavors of Linux based operating systems that are supported for deployment of OpenShift.

- Red Hat CoreOS – REQUIRED for MASTER nodes
- RHEL / CoreOS – Either one of these can be used for WORKER nodes



Red Hat Enterprise Linux CoreOS (RHCOS) is the preferred operating system for all cluster nodes. This is an immutable operating system and will provide the highest level of security.

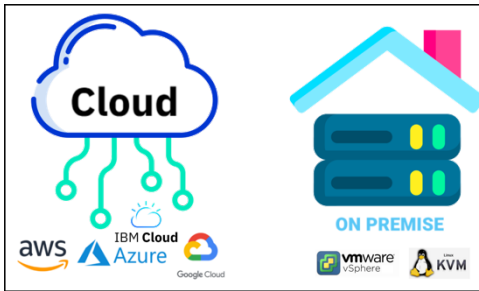
Below are some of the tasks you will need to perform during the install and configuration process.

- **SSL Cert configuration** – Configuration of SSL Certs is highly recommended, but not technically a requirement. That said, it's almost always something that the enterprise security teams request.
- **SSH Key Generation**
- **User Management** (LDAP, HTTPassword)

Reference Materials.

- [OpenShift Security Guide](#)

Target Platform



OpenShift can be deployed to all the major cloud providers such as GCP, Azure, AWS, or IBM as well as on-prem virtualization platforms such as Vsphere or KVM (Kernel-based Virtual Machines). You will need a level of skill with the target platform to locate and identify the necessary configuration details and setup the required pre-requisites. The level of detail does vary by platform, but all will require a fair amount of skill.

Below are the types of things you will need skills in to perform the install of OpenShift.

- **Network Administration**
- **VPC (Virtual Private Cloud) Administration**
- **Quota Administration**
- **Virtual Machine Administration**
- **Storage Administration**