**Learning Plan for Devops:**

**Part 1: Basics and Primary skillset**

1. Linux

<https://www.edx.org/course/introduction-linux-linuxfoundationx-lfs101x-1>

<https://www.tecmint.com/useful-linux-commands-for-system-administrators/>

<https://www.tecmint.com/60-commands-of-linux-a-guide-from-newbies-to-system-administrator/>

<https://www.tecmint.com/understanding-shell-initialization-files-and-user-profiles-linux/>

<http://www.thegeekstuff.com/2011/02/Linux-boot-process/>

AWK and SED

<https://www.tecmint.com/use-linux-awk-command-to-filter-text-string-in-files/>

<https://www.tecmint.com/linux-sed-command-tips-tricks/>

Systemd management and Service file creation

<https://access.redhat.com/articles/systemd-cheat-sheet>

<http://0pointer.de/blog/projects/resources.html>

<https://access.redhat.com/documentation/enus/red_hat_enterprise_linux/7/html/system_administrators_guide/chap-managing_services_with_systemd>

<https://www.devdungeon.com/content/creating-systemd-service-files>

1. VMs

Setting up and configuring the Vagrant

<https://drupalize.me/videos/installing-vagrant-and-virtualbox?p=1526>

Virtual Machine Management

<https://www.vagrantup.com/>

<https://www.virtualbox.org/>

Package Management

<https://www.tecmint.com/20-linux-yum-yellowdog-updater-modified-commands-for-package-mangement/>

<https://www.tecmint.com/useful-basic-commands-of-apt-get-and-apt-cache-for-package-management/>

Vagrant

<https://www.sitepoint.com/getting-started-vagrant-windows/>

<https://www.vagrantup.com/docs/index.html>

Packer

<https://www.packer.io/docs/index.html>

1. Bash

<http://guide.bash.academy/>

<http://www.learnshell.org/>

<https://www.shellscript.sh/>

<http://tldp.org/LDP/Bash-Beginners-Guide/html/index.html>

<http://tldp.org/LDP/abs/html/>

#### Python

<https://app.pluralsight.com/library/courses/python-fundamentals/table-of-contents>  
<https://app.pluralsight.com/library/courses/python-getting-started/table-of-contents>  
<https://www.tutorialspoint.com/python/>  
<https://www.w3schools.in/python-tutorial/>

<https://app.pluralsight.com/library/courses/advanced-python/table-of-contents>

1. JAVA
2. HTTP/TCP/UDP/NAT/CIDR/LoadBalancing

What is protocol?

<https://www.computerhope.com/jargon/p/protocol.htm>

What is OSI model?

<https://en.wikipedia.org/wiki/OSI_model>

TCP/IP and UDP protocol

<https://www.bleepingcomputer.com/tutorials/tcp-and-udp-ports-explained/>

IPv4 Addressing (Unicast, Multicast, Broadcast)

<https://www.tutorialspoint.com/ipv4/ipv4_addressing.htm>

Internetworking - Routers, Hub, Switches, Gateway

<http://www.thegeekstuff.com/2013/09/hubs-switches-routers/>

<https://www.tecmint.com/20-netstat-commands-for-linux-network-management/>

HTTP

<http://blog.catchpoint.com/2010/09/17/anatomyhttp/>

<https://devhints.io/curl>

HTTPS (TLS SSL)

<http://www.cgisecurity.com/owasp/html/ch07s04.html>

SSH

<https://www.tecmint.com/ssh-interview-questions/>

DNS

<http://blog.catchpoint.com/2014/07/01/dns-lookup-domain-name-ip-address/>

Ability to use dig utility

<https://www.tecmint.com/10-linux-dig-domain-information-groper-commands-to-query-dns/>

IPSec or any of VPN protocols

<https://www.computerworld.com/article/2561149/security0/ipsec--how-it-works-and-why-we-need-it.html>

Iptables or any of the firewalls

<https://www.tecmint.com/linux-iptables-firewall-rules-examples-commands/>

**Part 2: Devops Skillset**

1. Ant

<https://www.tutorialspoint.com/ant/>

<https://www.javaworld.com/article/2076208/java-app-dev/automate-your-build-process-using-java-and-ant.html>

1. MAVEN

<https://maven.apache.org/what-is-maven.html>

<https://www.tutorialspoint.com/maven/maven_overview.htm>

1. Git

<https://dzone.com/refcardz/getting-started-git>

1. Jenkins
2. JIRA
3. Ansible

Installation and Configuration - Ansible

<http://docs.ansible.com/ansible/latest/intro_installation.html>

Ability to use advance concepts like Ansible roles and Ansbile Pull. Abili

http://ansible-docs.readthedocs.io/zh/stable-2.0/rst/playbooks\_roles.html

https://docs.ansible.com/ansible/2.4/ansible-pull.html

Ability to do rolling updates

http://docs.ansible.com/ansible/latest/guide\_rolling\_upgrade.html

Ability to handle secrets using ansible vault

https://docs.ansible.com/ansible/2.4/vault.html

1. Docker

Installing Docker

<https://docs.docker.com/engine/installation/>

<https://docs.docker.com/engine/reference/commandline/build/>

<https://docs.docker.com/engine/userguide/eng-image/multistage-build/>

<https://docs.docker.com/engine/reference/run/>

Ability to write Dockerfile

<https://docs.docker.com/engine/reference/builder/>

1. Chef

Install Chef Server and SDK

<https://docs.chef.io/install_server.html>

<https://docs.chef.io/install_dk.html>

<https://isplahd.sharepoint.com/Shared%20Documents/Chef%20Session/Demo-%20Chef%20Infrastructure%20Automation-20161123%200835-1.arf>

https://learn.chef.io/

Ability to write cookbook and invoke it with chef,knife and cron utility

<https://docs.chef.io/quick_start.html>

Ability to use advance concepts like Chef roles and environments

Ability to setup Chef server with in-built security

https://docs.chef.io/environments.html

https://docs.chef.io/roles.html

Ability to handle secrets in chef using databag

https://docs.chef.io/data\_bags.html

1. Sonarqube
2. IBMUdeploy
3. Aws
4. Terraform

<https://dzone.com/articles/bliki-infrastructure-as-code>

<https://dzone.com/articles/infrastructure-as-code-the-benefits>

<https://www.terraform.io/docs/index.html>

CloudFormation

<https://aws.amazon.com/documentation/cloudformation/>

Kubernetes Manifests File

<https://kubernetes.io/docs/reference/kubectl/cheatsheet/>

Docker Compose/Stack File

<https://docs.docker.com/compose/compose-file/>

**Part 3: Advance Concepts**

What is proxy server?

<https://en.wikipedia.org/wiki/Proxy_server>

 Ability to install Nginx/Apache2 HTTPD/Kong

<https://www.digitalocean.com/community/tutorials/how-to-install-nginx-on-ubuntu-16-04>

<https://getkong.org/install/ubuntu/>

<https://www.digitalocean.com/community/tutorials/how-to-install-linux-apache-mysql-php-lamp-stack-on-ubuntu-16-04>

Ability to configure simple proxy from webserver to application server

<https://devtidbits.com/2015/12/08/nginx-as-a-reverse-proxy-to-apache-tomcat/>

 Ability to configure SSL on webserver

<https://www.digitalocean.com/community/tutorials/how-to-create-an-ssl-certificate-on-nginx-for-ubuntu-14-04>

 Ability to implement basic plugins for on premise API GW – Basic Authentication,  ACL, CORS, Rate Limiting, IP restriction

<https://konghq.com/plugins/>

 Ability to use proxy with container orchestration platform for service management

<https://github.com/containous/traefik>

<https://dzone.com/articles/introduction-to-container-orchestration>

<https://containerd.io/>

<https://www.digitalocean.com/community/tutorials/the-docker-ecosystem-scheduling-and-orchestration>

 Swarm

<https://docs.docker.com/engine/swarm/>

 AWS ECS

<https://www.slideshare.net/AmazonWebServices/continuous-delivery-to-amazon-ecs-august-webinar-series?qid=80e7ac04-de73-4247-a3c2-76149fe27b02&v=&b=&from_search=4>

<https://www.slideshare.net/AnshulPatel5/aws-ecs-meetup-talentica>

 Service Mesh

[**https://buoyant.io/2017/04/25/whats-a-service-mesh-and-why-do-i-need-one/**](https://buoyant.io/2017/04/25/whats-a-service-mesh-and-why-do-i-need-one/)

[**https://docs.traefik.io/**](https://docs.traefik.io/)

[**https://vamp.io/documentation/**](https://vamp.io/documentation/)

[**https://www.envoyproxy.io/docs/envoy/latest/**](https://www.envoyproxy.io/docs/envoy/latest/)

Kubernetes

<https://www.edx.org/course/introduction-to-kubernetes>

<https://kubernetes.io/docs/concepts/>

 Mesos

<http://mesos.apache.org/documentation/latest/>

**Edureka videos for Devops course are good for reference.**