

Section 1 :- Summary [1 hrs] :-

Devops consists of Developers and IT operations in which developer manages coding, testing tasks and IT Operations manages databases, deployment, management, maintenance of the project and software. It is basically a cultural b/w development and operations to achieve the same goals at an end. Here, devops manager focuses on the principles & practices whereas devops engineer focuses on continuous build, continuous integration, automated provisioning & Incremental testing. To implement this, we need tools for source code management, Build automation, Test automation, Infrastructure & provisioning, deployment & Monitoring.

- Basic devops principles are Iterative, Incremental, automated, Continuous, collaborative, Self-service and Holistic.
- Continuous build and continuous testing makes the continuous integration, the release process is continuous delivery, not only release but also deploy application is known as continuous deployment, After that continuous monitoring helps to monitor the system. (designing) →
- Devops pipeline consists of cycle starts from → Coding → Building → Testing → Configuration provisioning → deployment → Monitoring
- Git helps to manage the source code and automate the process. Also called as version control system which tracks the changes done by whom, when & what, which.
- Generally, we have central Repository system and Distributed Repository system to make the backup of the repository.
- Various services similar to Git like GitHub, Bitbucket, GitLab, AWS codeCommit.
- Hence, in this way, we use the applications of Git in the Devops like Tracking changes, Git branches, merging Git branches, understanding Index and local repositories.

## Course content

### Section 1: DevOps Fundamentals

8 / 15 | 1hr 49min

- 1. Introduction to DevOps

3min

- 2. DevOps Principles

5min

- 3. Devops Terminology

7min

- 4. DevOps Pipeline

4min

- 5. Introduction to Git

6min

- 6. Git installation and repository setup

13min

- 7. Git- Tracking your changes

5min

- 8. Git understanding index area and local repositories

8min

- 9. Git branches

12min

- 10. Merging branches in Git

13min

## Section 2 : Summary [ 1 hrs ] approx :-

Jenkins in the devops is one of the CI/CD tools i.e continuous integration and continuous delivery. It helps to automate the parts of software development related to building, testing, deployment, facilitating continuous integration and continuous delivery. It is also called as service-based system that runs in servlet containers such as Apache Tomcat.

- Jenkins is basically used for fetch source code, compile, DB integration, Unit-Testing, Functional Testing, Deploy, Configuration Tools, Reports, Notify and tag label.
- It is open source, easy to use, Extensible, generate instant Reports, distributed build, Email Notification and customizable.
- It uses Git for coding, maven for building, JUnit for Testing, chef for configuration provisioning and docker for deployment
- Chef in detail is an Automation tool or called as Configuration management tool that helps to automate processes and tasks across numerous servers and other devices in an organisation.
- Virtual machine is a software that creates isolated environments as if we are working on dedicated system. For this we can VMware to create the virtual environment on our physical machine
- Containers is a virtual environment that run on top of a single OS kernel and emulates an operating system rather than the underlying hardware. It is portable & more scalable.
- The different containers are kubernetes, mesosphere and docker etc.
- The features of these containers are Scalable, Isolation, Accurate Testing, Replicable environment, Resource optimization, Performance and high Availability
- In this way Jenkins, Git, chef is very useful in the DevOps.



...



## Course content



### 5. Introduction to Git

▶ 6min

### 6. Git installation and repository setup

▶ 13min

### 7. Git- Tracking your changes

▶ 5min

### 8. Git understanding index area and local repositories

▶ 8min

### 9. Git branches

▶ 12min

### 10. Merging branches in Git

▶ 13min

### 11. Introduction to Jenkins

▶ 6min

### 12. Jenkins Installation

▶ 4min

### 13. DevOps pipeline using Jenkins

▶ 14min

Resources ▾

### 14. Introduction to Chef

▶ 5min

### 15. Introduction to Containers

▶ 5min

### Section 3 : Final Summary of Devops Fundamentals [ 2 hrs ]

As we know, Devops is a culture between Development & operations team in which development team manages the coding, testing tasks whereas the operations team manages the database, maintenance and deployment of the product or software at the customer end. But both works to achieve the same goals at an end. Also source-code management, Build automation, Test automation, infrastructure & provisioning, deployment & monitoring are parts of the Devops activities.

Devops pipeline consists of the cycle which starts from designing → coding → Building → Testing → Configuration provisioning → deployment → Monitoring.

Here, continuous build & testing makes the continuous integration process, the release process is called continuous delivery, deploy application is known as continuous deployment, finally continuous monitoring helps to monitor the system.

- If we talk about Git, it helps to manage the source code and automate the process and called as version control system which tracks the changes done in code. Also we have central repository system and distributed repository system to make backup of repository.
  - Also Jenkins is basically a CI/CD tools used for fetching source code, compile, DB integration, unit-testing, functional testing, Deploy, configuration tools as it is an open-source tool.
  - Jenkins uses Git for coding, maven for building, JUnit for testing, chef for configuration management and docker for deployment.
  - Also virtual machine is a software that creates isolated environment, used to create virtual environment on our physical machine and container is a virtual environment that runs on the top of a single OS Kernel & emulates an OS rather than the underlying hardware.
  - There are different containers like Mesosphere, docker & Kubernetes which can be scaled, provide performance & high availability, accurate testing & isolation environment.
- Hence, These are the fundamentals of the Devops.



## DevOps Fundamentals

EdYoda Digital University, Visit us  
at [www.edyoda.com](http://www.edyoda.com)

---

100% Complete



Your rating

# *Certificate of Completion*

*This is to certify that Vikas Dhiman successfully completed 2 total hours of DevOps Fundamentals online course on April 21, 2021*

*EdYoda Digital University*

EdYoda Digital University, Instructor

*Ashish Pandey*

Ashish Pandey, Instructor

&



Certificate no: UC-a39e8fcf-bc91-4d84-9f78-b8b7ac6f676b  
Certificate url: ude.my/UC-a39e8fcf-bc91-4d84-9f78-b8b7ac6f676b  
Version 3

#BeAble