Lec-01

COMPLETE DEVOPS TUTORIALS

Myths about Devops

* Programming Knowledge is required.
* Linux experience is must.
* Prior IT experience is required.
* Non-IT Background people Cannot do.

Note: Require above points:

Why Organisation needs Devops specialist?

* Fast Delivery
* Higher quality
* Less Capex+Opex
* Reduced outages.

Developers

Build .exe

Test

Lec-02: What is Devops, Devops stage and Agile:

Software Development Life Cycle: Example

Development Team:

Developer->Build->Test->QA

Operations Team:

Deploy->Maintenance->Monitoring.

Jenkins: Maven:

Selenium: Selenium is an open-source framework that is used to automate the testing process over web applications. The interface allows writing test scripts in various programming languages on web applications spread across several platforms and browsers.

Development tools: Chef: Ansible /Docker/Kubernetes/Puppet

Monitoring: CloudWatch

AWS tools: Code commit, Code pipeline, Code star or code deploy etc

Azure Devops: Repos, Artifact etc.

Devops: Implementing Automation at each and every stage:

Devops Stages:

|  |  |  |  |
| --- | --- | --- | --- |
| Version Control:  Maintain different version of code | Continuous Integration: Compile, Validate Code Review, Unit Testing, Integration Testing | Continuous Delivery: Deploying the build app to test servers, | Continuous Deployment:  Deploying the test app on the production server for release |

Tools Use of Above stages:

CI/CD:continuous integration and continuous delivery/continuous deployment

1.Version control: IT

2.Continous Integration: Jenkins

3.Continuous Delivery: Maven

4.Continuous deployment: Code commit, Code pipeline, Code star or code deploy etc

Waterfall Methodology: The Waterfall methodology — also known as the Waterfall model — is a sequential development process that flows like a waterfall through all phases of a project (analysis, design, development, and testing, for example), with each phase completely wrapping up before the next phase begins

Agile Methodology: The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, teams’ cycle through a process of planning, executing, and evaluating.

Scrum: Agile scrum methodology is a project management system that relies on incremental development. Each iteration consists of two- to four-week sprints, where the goal of each sprint is to build the most important features first and come out with a Potentially Shippable Product.

Silos Issue: A silo mentality is the unwillingness to share information or knowledge between employees or across different departments within a company. The silo mentality usually begins with competition among senior managers. Successful firms encourage and facilitate a free flow of information.

Devops Methodology: DevOps is a methodology meant to improve work throughout the software development lifecycle. You can visualize a DevOps process as an infinite loop, comprising these steps: plan, code, build, test, release, deploy, operate, monitor and -- through feedback -- plan, which resets the loop.

The term Devops is a combination of two words i.e., development and operations.

* Devops is a Methodology that allows a single team to manage the entire application development life cycle, that is development, testing, deployment and operations.
* The Objective of Devops is to shorten the system’s development life cycle.
* Devops is a software development approach through which superior quality software can be developed quickly and with more reliability.

Agile: Build Short, Build Often

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project Starts: | Sprint1  Login  Logout | Sprint 2:  Products Images  Catalogue  Price | Sprint3:  Dashboard  My Account  Settings | Sprint 4:  Cart  Payments  Delivery status |

Project End

Develop: - Build:-Test:-Deploy

Deploy

Plan

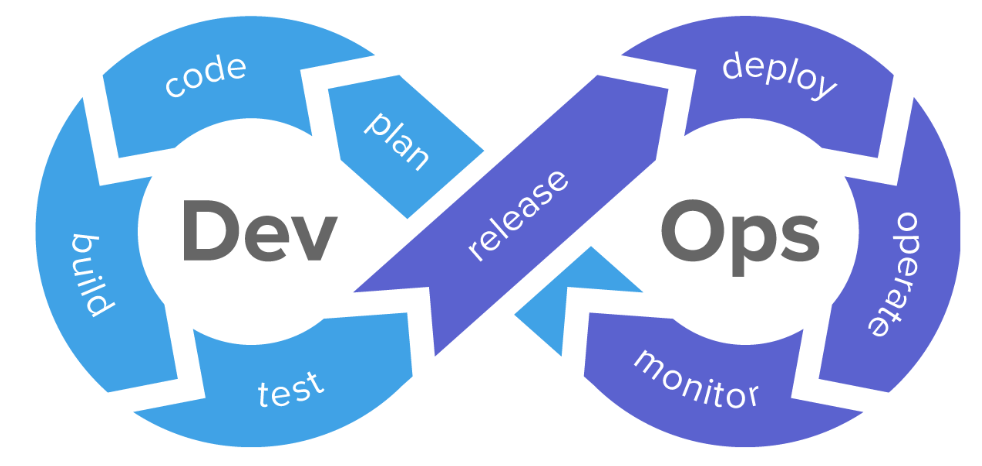
Monitor

Operate

Build

Test

Code



Lec-03: Basics of AWS Cloud required for Devops:

AWS is a public cloud:

IAAS: infrastructure as a service

Paas: Platform as a service.

SAAS: Software as a service.

AWS Details: <https://aws.amazon.com/about-aws/global-infrastructure>

31 Launched regions

* 99 Availability zone
* 450 +points of presence Regional Edge Caches

Let create the EC2 (Linux)

EC2Name:LinuxEC2:

Keypair: Devops

SG Name: DevopsSG