



Devops Introduction

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What is Devops ?

What exactly DevOps is ?

- Is it a role?
- Is it a team?
- Is it a product ?

Let's try to decode what exactly Devops is together.

Introduction to Devops

▼ Pain points without structured mechanism like DevOps

Many companies who not really following DevOps practise may go-thorough below pain points.

- **Outages** : Panic when system goes offline and Slow recovery from outages

- **Lack of innovation** : results in doing things manually.
- **Infrastructure is not updated** : They don't really try to do it as because it might break things.
- **Wasting knowledge base of employees** : Since no innovation they tend to do monotonous tasks often and losing talented people because of bad culture.
- **Uneven processing** : Like developer team has completed the code fast and waiting for it to deploy in production for a month.
Example : Waiting for environment or approvals before deploying.
- **Over processing** : Doing things without understanding the requirement of developer. [Providing very less computing or over allocating resources which is not related at all to the application]
- **Motion waste** : Trying to meet lot more people to get the tasks done and being busy with many meetings for achieving single objective.

▼ When you follow Devops practise.

- You are Increasing the value given to customer.
- Respect your people and make them more valuable by allowing them to do innovation [which may result in avoiding all the wastes which we talked about]
- Faster recovery time from incidents.
- Frequent & quicker code deployments to production.
- Reduces the manual intervention a lot.

▼ Devops tools

There are different stages when you implement devops, we shall see one by one.



▼ Planning

Through this you can plan your project flow [This also famously known as sprint planning], There are many tools available in this segment.

Tools used :

- Trello
- GitLab
- Pivotal Tracker
- Azure boards

▼ Issue Tracking

Recording the issues and working on it.

- Jira
- Zendesk

▼ Source control

Your code repository.

- GitHub
- Bitbucket

- Subversion

▼ Build

Convert your code into an application.

- Maven
- Jfrog
- MSbuild

▼ Testing

Testing the built code, before final deployment.

- Junit
- Selenium

▼ Continuous Integration & Deployment

Integrating and deploying the huge number codes committed from many people to production.

- Jenkins
- AWS code pipelines
- Azure code pipelines
- TravisCI
- Spinnaker
- Buildkite

▼ Configuration Management

Helps to create and manage your infrastructure.

- Terraform
- Ansible
- Chef
- Puppet

▼ Cloud Platforms

Where your application would be hosted.

| Public

- AWS

- AZURE

- GCP

- Digital Ocean

- Alibaba

- Heroku

Private

- VMware VRA

- Openstack

▼ Monitoring and Logging

Monitoring your infrastructure and flow

- ELK

- Prometheus

- Splunk

▼ Knowledge sharing

After all you might need tools to share the things among team with certain tools.

- Confluence

- GitHub pages

- Google Sites

▼ Platform

Where all your build will be residing,

- Docker

▼ Platform Manager

Manage your platforms efficiently

- Kubernetes

- Open shift

Basic skill set required

- **Linux fundamentals**

- Perform basic command line operations with Linux machine.
- Know about SSH

- **Network fundamentals**

- TCP/UDP
- Firewall Ports
- IP address
- DNS names

- **Infrastructure fundamentals**

- On-premise infrastructure
- Cloud infrastructure

Who can become DevOps engineer

Cloud Engineers [Already might be familiar with cloud operations]

Focus

More on operating system

More on Devops tools

System Engineers & System administrators (Linux/Windows) [Already might be familiar with operating systems]

Focus

More on cloud

More on Devops tools

Database engineers [Already might be familiar operating systems]

Focus

More on operating system

More on cloud

More on Devops tools

Network engineers [Already might be familiar with networking concepts]

Focus

More on operating system

More on Devops tools

More on cloud

Developers [Already might be familiar with coding concepts]

Focus

More on operating system

More on Devops tools

More on cloud

Scope for Freshers

- For freshers who aspire to become devops engineer may not be possible immediately without any prior exposure.
- Instead they can start their carrier as Junior Devops engineer or Cloud engineer and then gradually move towards full fledged Devops engineer.
- Overall growth would be like

