**WHAT IS DEVOPS AND HOW DEVOPS CAME IN THE INDUSTRY**

IT Industry changes quickly. Adopting changes and implementation is the key factor of IT industry growth followed by IT professionals' career upskilling.

A System Administrator career journey started with System Admin and Engineering job where all works used

to happen manually for different system or servers.

For few servers it was fine but where more than 10000 servers were running, think how it was difficult to manage the infrastructure and applications.

Lot of manpower, time, cost, efforts involved.

Then scripting works came in the industry to automate the repetitive System or Server related tasks.

It saved lot of time, cost, efforts followed by manpower.

However, few problems persisted.

Example - Now a days, everyone uses paytm. Once upon a time, the company was trying launch an offer - if a customer purchase Book My Show ticket through paytm,

he will get 5% cash back in his paytm wallet.

All the codes tested in paytm lab and it was working fine.

However, post pilot launch it was malfunctioning in user end. People stopped purchasing, huge negative feedback etc. A big loss within few hours.

Now to roll back the software in previous state, it took huge time and not easy because it was written in scripting language which is a procedural one.

It was really difficult to find the error and debug more than thousand lines of codes.

And different case statements needed to mention for different environment for Dev, UAT, Prod and the code became huge.

Testing with different environment with different conditional statements were really challenging.

Generally, Operation team implement the code on infrastructure.

In earlier days, there was communication gap between code Development team and Operation team.

Because Development team developed the whole code in Dev environment and while implantation done by Operation team in production, it started malfunctioning.

Then DevOps came to bridge the gap between Development and Operation.

DevOps is methodology where multiple tools involved and software development divide into multiple software chunks development as per functionality.

And software delivery happens continuously with continuous unit and integration testing for different software chunks.

No communication gap between developers and operation team as codes are managed in Centralized shared repository.

DevOps have different phases where multiple tools involved -

1. Source Code Management (SCM) - It is code management repository - Example Git, SDN

2. Pipeline creation - Example Jenkins, CI Circle tools

Different sub stages involved through Pipeline ->

Build & Compile the codes - Example Maven, Gradle

Unit Testing - Example J Unit Test

Functional or Integration testing or End user test - Example Selenium

3. Software Packaging or Containerization - Docker Container

4. Continuous Deployment - We can use Jenkins pipeline, however as the environments are different [Dev, UAT, Prod], we use Puppet, Chef, Ansible, Saltstack

Configuration Management tools. Here procedural language replaced with declarative language.

5. Continuous Monitoring - Example Nagios, Splunk tools.

Different tools are used as per application requirements.

The entire process from requirement gathering to software end to end delivery followed by Agile process. And we generally use JIRA ticketing tool for

project planning and management.

In next article, we will deep dive different phases of DevOps.

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