DevOps-19th Sept

##

Ravi

Intro

DevOps

Linux
Programing language (java, python,golang)

Adithya:
 Tablu

Sql,python, linux, aws

→ DevOps

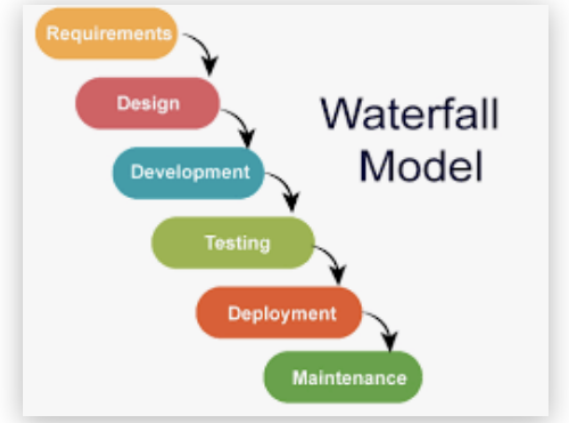
##
Overview DevOps

sdlc:

- Requirement gathering
- Analysis
- Design
- Impl (code, test, deploy)
- Maintenance

- Methodologies
- **Waterfall**
- **Agile**
- Lean
- Vgraph

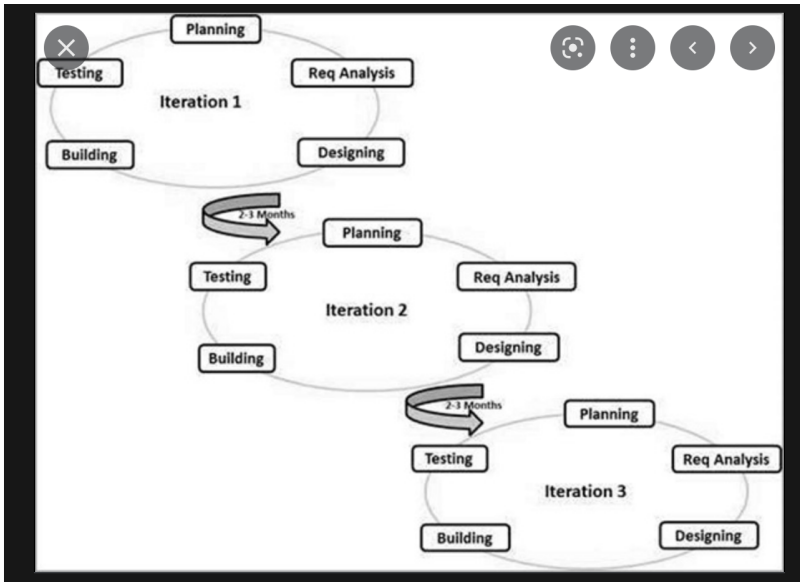
Waterfall ⇒ sequential



Small scale applications ⇒ feedback

medium/large scale ⇒ feedback

Agile model



Scrum
Kanban

Sprints
Scrum master
Jlra tickets
Standup call
Retrospective
Sprint plan
Refinement call

TDD
BDD
XP

Prod release

Agile

Silos

Admin

Infra

Tomcat → 7

8

Release

Server

Deploy

Communicate

Exceptions

⇒ talk/discuss

Admin

Log monitoring

UI
⇒ search

Infra monitoring
Alerts

10 lines

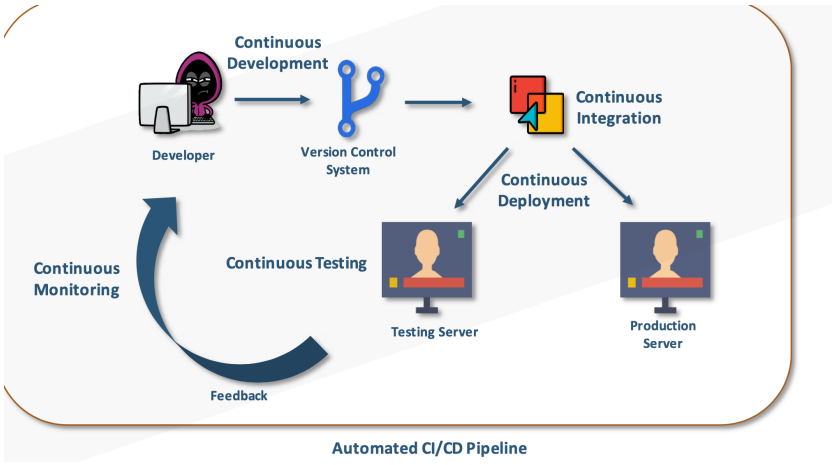
Build

deploy
Test

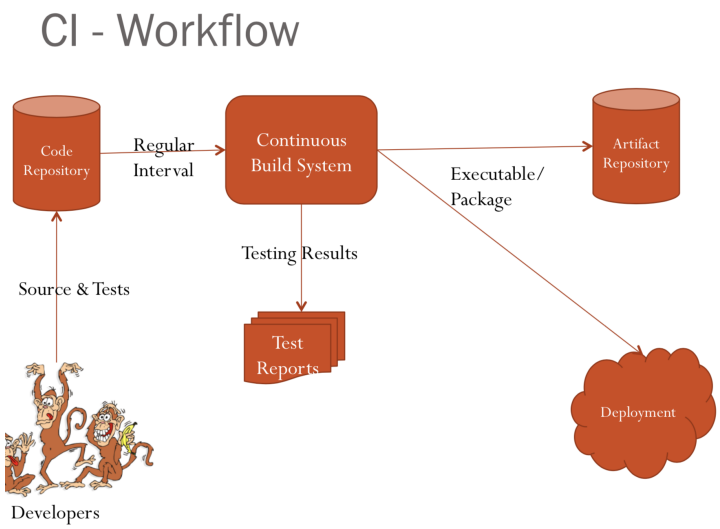
Result

CI
CD
CT
CM

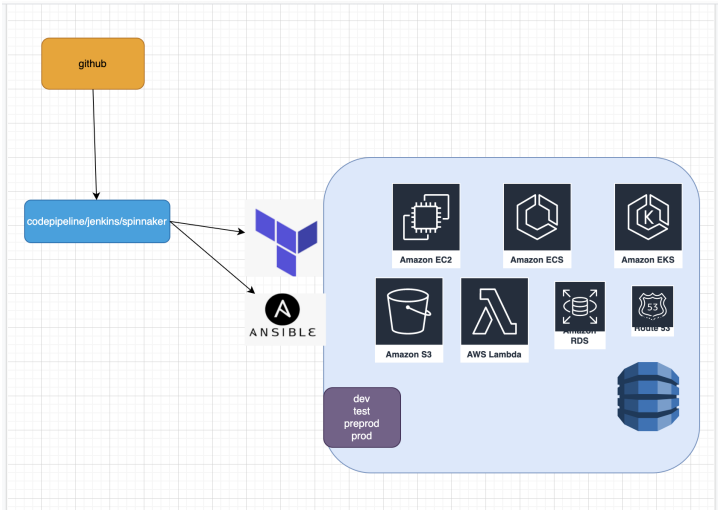
Waterfall => Monolithic application ⇒ PM
Agile ⇒split application ⇒ VM
Devops ⇒ microservices ⇒ Container (docker/k8s)



CI:
Github/bitbucket/gitlab/code commit
jenkins/bamboo/teamcity/code build/code deploy/code pipeline
maven/gradle/dotnet/msbuild
nexus/jfrog/s3/ECR/Dockerhub
sonarqube/varacode/hpfortify/checkmarx



CD



Manual steps

- VM
- tomcat
  - Download package
  - Configure the files
  - Start the service
- DB
- DNS
  - ACM

Security manager
Docker
kubernetes
Terraform
ansible

CT
TDD/BDD
Code
Pipelines ⇒ testcases
docker/k8s/browsers
CM:
Scale out
Scale in
Notifications
Alerts
Dashboard
Txn failures
Application failures
Infra:
Cloud watch
Prometheus
Nagios
datadog
Application:
Elastic search
Splunk
Cloudwatch ⇒ elk
security:
Checkmarx
Secureworks
Tenable
hp-fortify

Security:

Authentication ⇒ users
Authorization ⇒ roles, policies
Certs
Secrets
Firewalls
Kms

Server

AWS ec2 instance
Package
Configure
Services

chmod 400 ohio.pem

https://ubuntu.com/tutorials/install-and-configure-nginx#2-installing-nginx

Vm
Install apache server in ubuntu

https://ubuntu.com/tutorials/install-and-configure-apache#5-activating-virtualhost-file

Lab:

Nginx
Apache
Httpd server ⇒ centos/redhat

Tomcat server

https://linuxhint.com/install_apache_tomcat_server_ubuntu/

Install java
Install tomcat
Ensure 8080 port enabled
Access url in browser(http://ipaddress:port/)

Labs:

Create ec2

Install nginx in ubuntu

https://ubuntu.com/tutorials/install-and-configure-nginx#4-setting-up-virtual-host
Install apache2 in ubuntu
https://ubuntu.com/tutorials/install-and-configure-apache#4-setting-up-the-virtualhost-configuration-file
Install httpd in redhat

Install and deploy jenkins war file in tomcat

Install and deploy jetty server and deploy one sample app(ex: jenkins)

Create ec2 instance using AWS cli

https://docs.aws.amazon.com/cli/latest/userguide/cli-services-ec2-instances.html

```
aws ec2 run-instances --image-id ami-xxxxxxxx --count 1
--instance-type t2.micro --key-name MyKeyPair --security-group-ids
sg-903004f8 --subnet-id subnet-6e7f829e
```