Project Presentation

Presented By –
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Infrastructure as Code

➔ Process of managing and provisioning infrastructure by writing dynamic and robust code.
➔ Its solves the problem of environmental drift in Infrastructure management
➔ Tools used - Terraform, AWS Cloudformation

Terraform

➔ Terraform is an open source tool created by HashiCorp
➔ Written in Go programming language
➔ It is cloud-agnostic, meaning it can work with several cloud providers like AWS, GoogleCloud, Azure

Benefits

➔ Speed and efficiency
➔ Reusability
➔ State Management
➔ Validation

Directory Structure

➔ Main.tf
➔ Output.tf
➔ Vars.tf
➔ Terraform.tfstate
➔ /modules

```
.
├── main.tf
├── modules
│   ├── ASG
│   │   ├── main.tf
│   │   ├── output.tf
│   │   ├── scr.sh
│   │   └── var.tf
│   ├── ECS
│   │   ├── main.tf
│   │   ├── output.tf
│   │   ├── service.json
│   │   └── var.tf
│   ├── IAM
│   │   ├── main.tf
│   │   ├── output.tf
│   │   └── var.tf
│   ├── LB
│   │   ├── main.tf
│   │   ├── output.tf
│   │   └── var.tf
│   └── VPC
│       ├── main.tf
│       ├── output.tf
│       └── var.tf
├── terraform.tfstate
├── terraform.tfstate.backup
└── var.tf
```
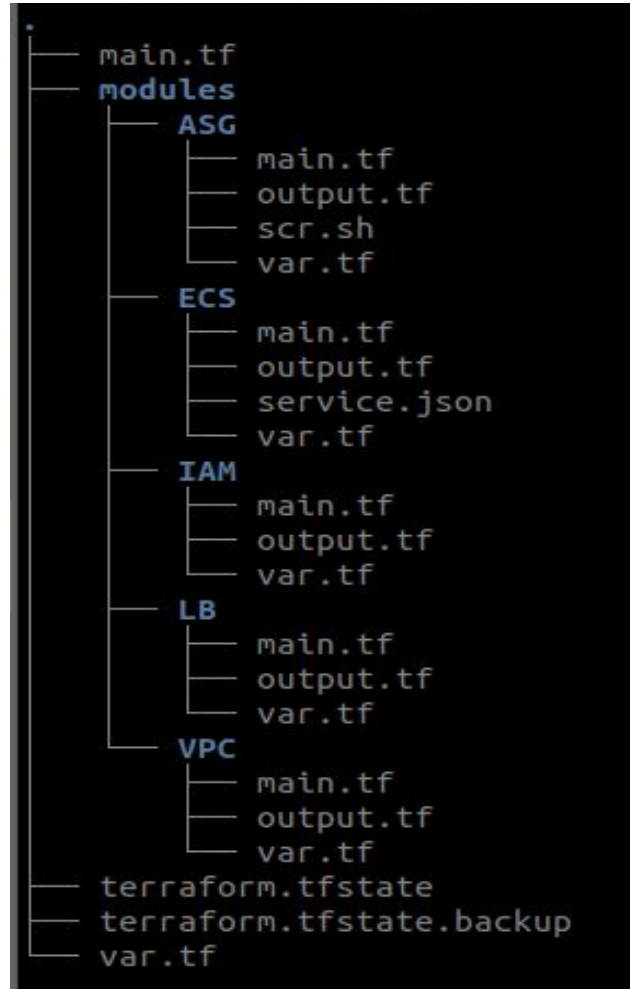
CI/CD

➔ Continuous Integration

➔ Continuous Deployment
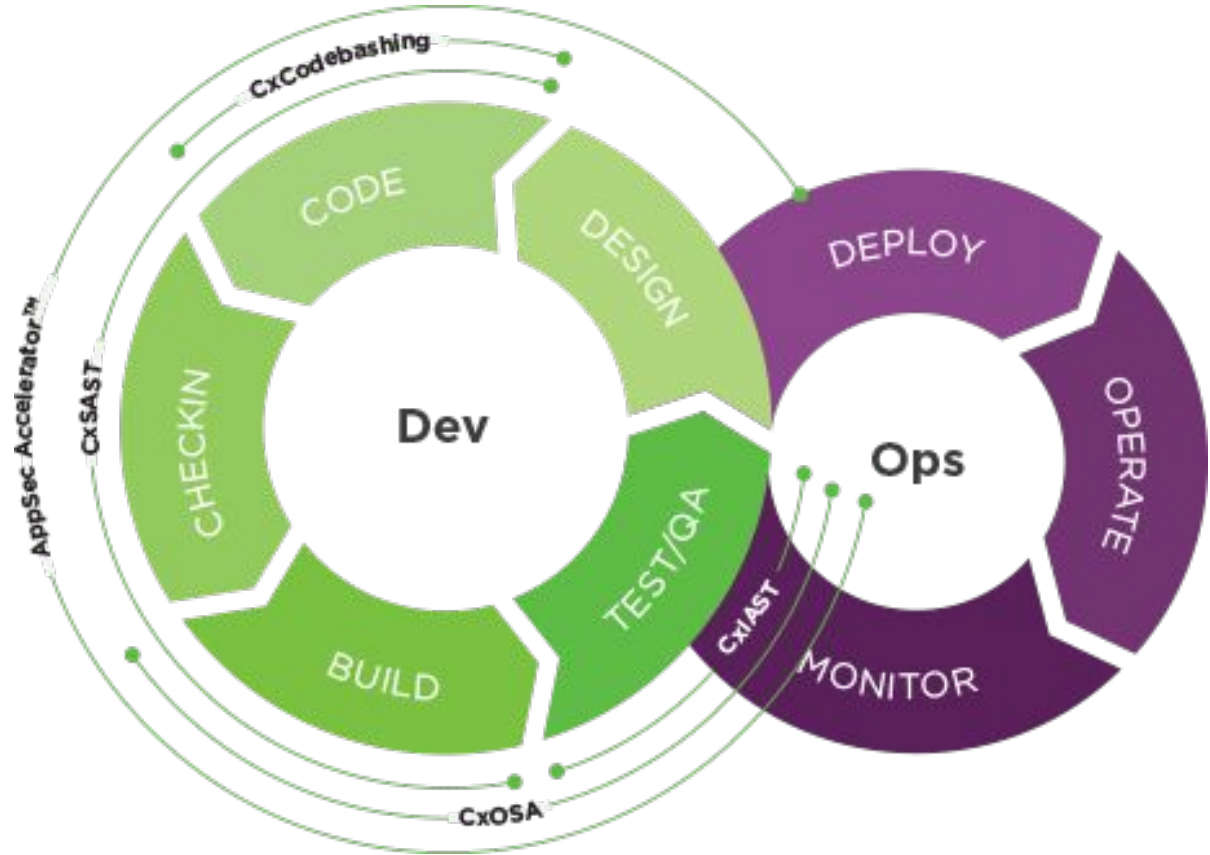
Contd...

➔ Continuous Integration is a practice of automatically building and testing code every time a developer pushes an update

➔ Tools - Git, Maven, Gradle

➔ Continuous Deployment is a method in which every change goes through the entire pipeline and gets automatically deployed

➔ Tools - Ansible, ELK

Jenkins

➔ It is a tool that can automate the whole workflow of CI/CD
➔ It can easily integrate with other Iac and configuration management tools like Terraform and Ansible
➔ Vast Plugin support
➔ Supports pipelines
➔ Based on Java and Apache tomcat
➔ Job - A set of steps that are to be executed by Jenkins

Types of Jobs

➔ Freestyle project
➔ Pipeline
➔ Multibranch Pipeline
➔ GitHub Organization

Thank You