=> Terraform :-

↳ { workspace in terraform }

-> Terraform Vault | -> Scenario Based on Terraform }

Environments of the project => DEV, QA, UAT, PILOT, Prod env

Env refers to platform (setup) that is required to run our app
(Servers, Database, Storage, Network ....)

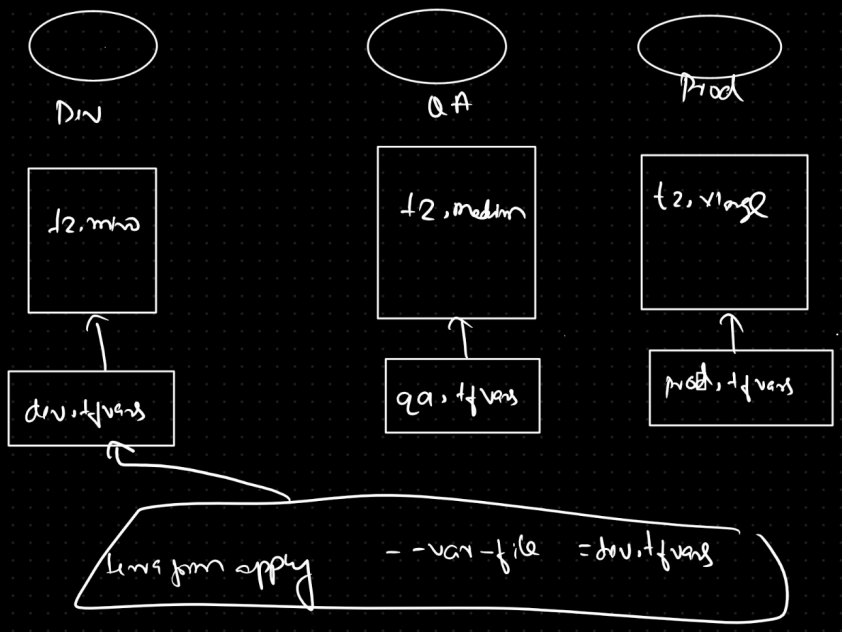
To Run our project we will use multiple Environments
Dev, QA, UAT, PILOT, PROD env

We have created diff tfvars files for diff environments

$ terraform apply --var-file=dev.tfvars ---> statefile got created

$ terraform apply --var-file=qa.tfvars

Workspace in terraform :-



-->To manage infrastructure for multiple environments we will go with concept of Terraform workspace

--> If we go with workspace then it will maintain separate state file for every workspace

===> We can execute same script for multiple environments

$ terraform workspace show --> show current workspace

$ terraform workspace list --> show list of workspace

$ terraform workspace new dev --> create new dev workspace

$ terraform workspace new qa --> creates new qa workspace

$ terraform workspace select dev --> It will go to dev workspace

$ terraform apply --var-file=dev.tfvars

=> (Infrastructure as code (IAC)

Terraform setup (linux & windows)

Terraform Architecture

Terraform Scripts (HC)

Variables (Input Output)

EC2 vm

S3 buckets

IAM user VPC

RDS

Terraform modules

State file & lock file

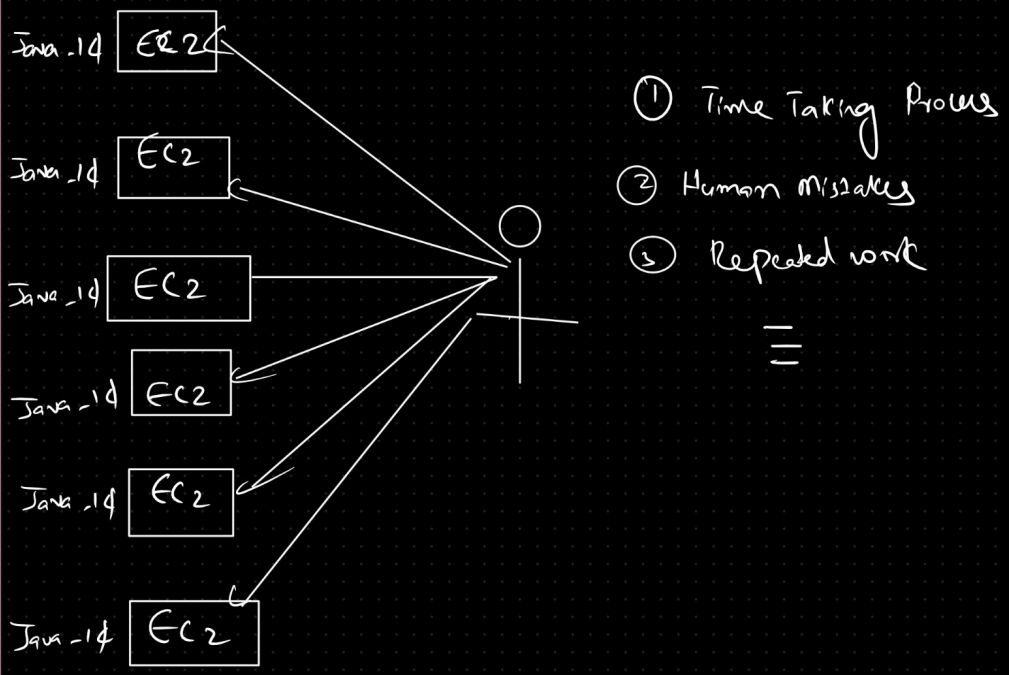
Resource Taint & unTaint

Terraform workspace

Terraform -> Vault

Ansible
======

Configuration Management
==========
Installing required software in the machines
Copy required files from one machine to another machine
OS updates/Patching



To Overcome problems associated with manual configuration management we can go with automation configuration management and To automate Configuration management we have many tools

example : Chef , Puppet, Ansible (Mostly being used)

Ansible is an open-source IT automation tool used for:

Configuration management

Application deployment

Task automation

Orchestration

It allows you to automate complex multi-tier IT systems with simple, human-readable YAML scripts called Playbooks.

Ansible was originally developed by Michael DeHaan in 2012.

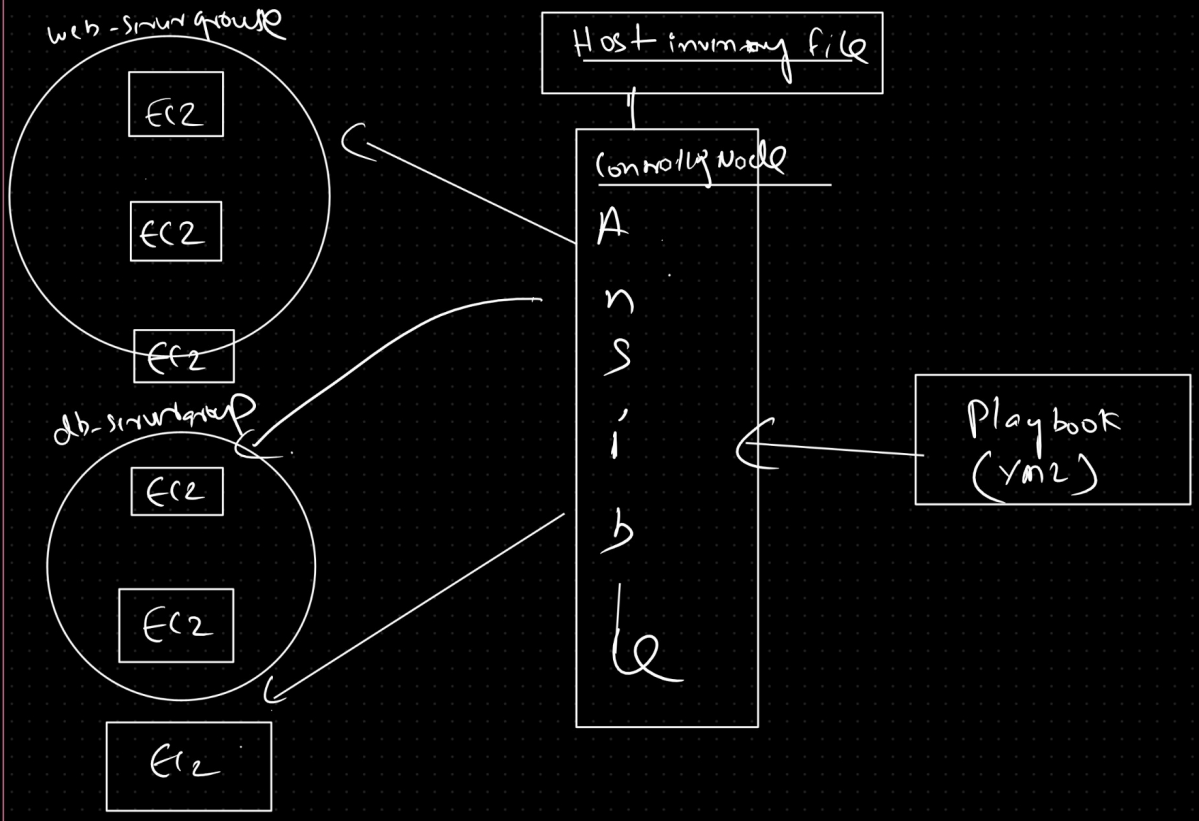
Ansible was acquired by Red Hat in 2015, and since Red Hat is a subsidiary of IBM, IBM effectively owns it now.

Ansible Architecture
==========

Controlling Node
Managed Nodes
Host Inventory File
Playbooks

==> The machine which contains ansible software/tool to manage other machines is called as Controlling Node

==> The machines which are managing by Control Node are called as Managed Nodes
==> Host Inventory file contains Managed nodes information
==> Playbook is a YML/YAML which contains set of task



⇒ (1) Create 3 Linux VMs in AWS

1 → Control Node } ←

2 → Managed Nodes } ←