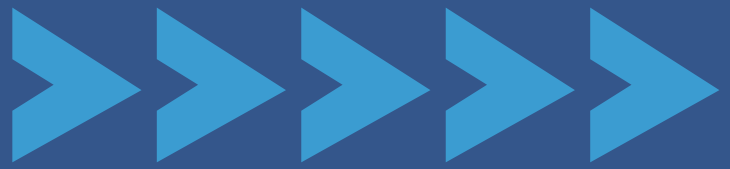


CI/CD Pipeline for web-application using Terraform, Ansible and AWS

CI/CD Pipeline for web-application

About me

My name is Taras Shyketa

Student of IFNTUOG

I am :

The quick-learner
team-worker
and organised person

CI/CD Pipeline

The main purpose of this project is to develop gained CI/CD knowledge, understanding of DevOps and increasing technical skills in developing and automatization within this methodology.

DevOps engineer can highly increase team performance but mistakes can bring down the whole production state and the product itself. That because it is actually very important to practice and improve as possible.

The goal of this project is create reachable server work environment and automate new releases deployment

This will also reduce cost and flexibility of project by handling cloud servers

TASKS

- Create project repository
- Create reachable servers
- Install required software
- Install and run automation server
- Install and run web-server
- Configure automation server

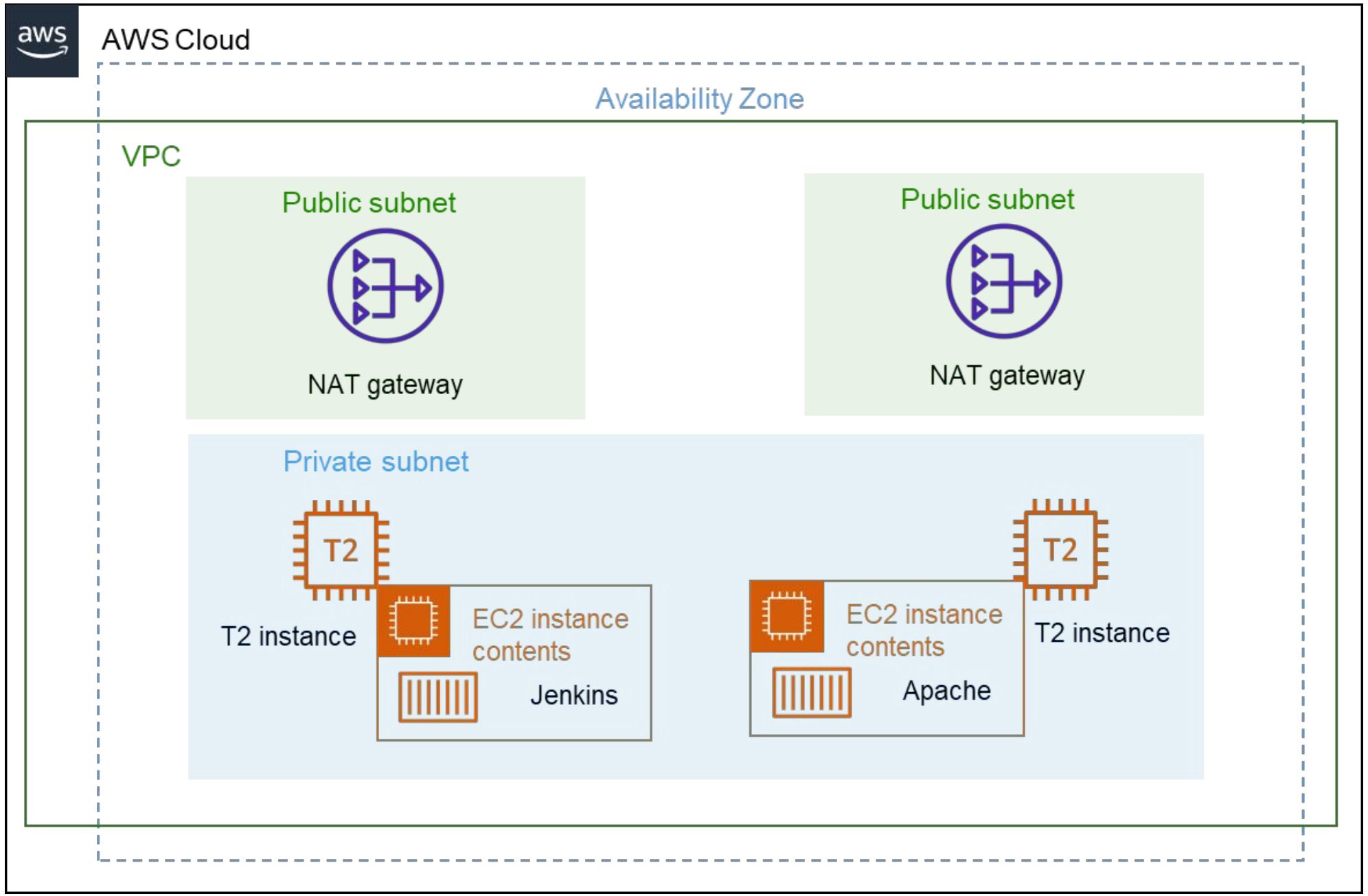
The host machine with git will be Ubuntu 20.04 in virtual environment (VirtualBox)

Project is based on small web-application with CSS and Java-Script

For cloud repository will be used GitHub.

The CI/CD will be released on AWS EC2 with Jenkins in Docker container and GitHubWebHook

Terraform and Ansible will be used to set up EC2 environment


aws
AWS Cloud
Availability Zone
VPC
Public subnet
NAT gateway
Public subnet
NAT gateway
Private subnet
T2
T2 instance
EC2 instance contents
Jenkins
T2
T2 instance
EC2 instance contents
Apache

With Terraform two EC2 will be created in eu-central-1 region. They will have Ubuntu 20.04 ami and t2.micro instance type, public IP address, ssh key, and set security group. Also after creation IP addresses will be received from output.tf.

With Ansible (the sequence is written in yaml playbook) on instances will be installed docker and depending on instance inventory name Jenkins or Apache will be runed in docker container with 8080 port exposed on both.

After that Jenkins will be configured to build and deploy web-application into mounted location in agent instance.

CI/CD Pipeline

In conclusion of this project we can start two cloud instances in any time and in any needed region with a few commands.