Rodrigo Jorge Alvarenga – Project 1

**Automating Infrastructure using Terraform**

Course-end Project 1

DESCRIPTION

Use Terraform to provision infrastructure

**Description:**

Nowadays, infrastructure automation is critical. We tend to put the most emphasis on software development processes, but infrastructure deployment strategy is just as important. Infrastructure automation not only aids disaster recovery, but it also facilitates testing and development.

Your organization is adopting the DevOps methodology and in order to automate provisioning of infrastructure there's a need to setup a centralised server for Jenkins.

Terraform is a tool that allows you to provision various infrastructure components. Ansible is a platform for managing configurations and deploying applications. It means you'll use Terraform to build a virtual machine, for example, and then use Ansible to instal the necessary applications on that machine.

Considering the Organizational requirement you are asked to automate the infrastructure using Terraform first and install other required automation tools in it.

**Tools required:** Terraform, AWS account with security credentials, Keypair

**Expected Deliverables:**

* Launch an EC2 instance using Terraform
* Connect to the instance
* Install Jenkins, Java and Python in the instance

Steps:

* 1. Open AWS Lab go to IAM and create a User with Admin policy

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* 1. Generate an Access Key for cmd access

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* 1. Generate a key pair:

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* 1. Open a new directory and write a Teraform .tf file with the Ec2 launch configuration:
     + File should have:
       - Provider:
         * Using the region us-east-1
         * The access user/key provided above
       - Security group resource
         * Allowing SSH
         * Opening Ingress to ports 22 (ssh) and 8080 (Jenkins http)
       - The EC2 Server AWS Instance.
         * Should have the ami from Amazon Linux 2
         * As user\_data we add the apt-get commands to install all apps needed.



The 3 actions need were successfully finished:

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Project1 EC2 Instance is available

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All software were installed fine:

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Jenkins is running:

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