Mahmoud Mohamed Said Ahmed

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in Mahmoud Mohamed   ⚲ portfolio

Education

Bachelor in Information Technology

Cairo University - Faculty of Computers and Artificial Intelligence ⎋

Professional Experience

Cisco CyberOps Associate Trainee

National Telecommunication Institute ⎋

Incident Response

cybertalents

Reverse Engineering, Digital Forensics

Skills

Linux Administration   **Penetration Testing**

Version Control   **Programming & Scripting**

Git / Git LFS / GitHub / GitLab   C/C++/ java / python / Bash Scripting / PowerShell

containers   **CI/CD & Pipelines**

Docker / podman / Kubernetes   Jenkins / GitHub Actions / GitLab CI

Tools   **Data Serialization & DSL**

AWS/Helm/Ansible/vagrant/vim/neovim/grafana   JSON / YAML / Terraform

Projects

Exodia OS ⎋

Exodia OS is an Arch-based distribution designed for all cybersecurity fields. It also offers other special editions, such as the Home edition for daily use and the Acer Predator edition tailored for Acer Predator laptops, enabling control over CPU/GPU fans and keyboard RGB settings.

Ransomware ⎋

This is a basic implementation of ransomware using Python, consisting of two programs: a server and a client.
The server is used to control the client (ransomware) and is hosted on the attacker's machine.
The client, which functions as the ransomware, connects to the server and awaits commands to encrypt/decrypt files. The client is deployed on the victim's machine.

VProfile app deployment on local host ⎋

VProfile is a website written in Java and consists of multiple services, forming a Multi-Tier Web Application.
The services include: MySQL - Memcached - RabbitMQ - Tomcat - Nginx
Steps:
1. In this process, we will deploy the application on our local host using Vagrant, a tool that facilitates the creation of VMs using a Ruby script.
2. Create scripts to install all services. Each service should have its own script (e.g., a script to install and enable the MySQL service, another script for Nginx, another for Memcached, etc.).
3. Create a Vagrantfile and configure all VMs (five VMs for the five different services).

AWS Lift & Shift For VProfile ⧉

Here, we will deploy the VProfile app on AWS instead of locally, utilizing the following tech stack for services:

- EC2 Instances for MySQL, Tomcat, Memcache, RabbitMQ
- ELB in place of Nginx LB - AutoScaling for EC2 scaling
- S3/EFS Storage for Shared Storage - Route 53 for private DNS service

Steps:
1. Configure Security Group & Keypairs. 2. Create EC2 Instances for all services.
3. Build & Deploy the VProfile App.   4. Set up ELB & 53.
5. Add AutoScaling Group.

AWS PAAS & SAAS VProfile
Tech Stack (Services):

- Elastic Beanstalk for Tomcat (App Server), Nginx Load Balancer, EC2 AutoScaling
- S3/EFS Storage for Shared Storage   - RDS Instance for Databases
- Amazon ElastiCache instead of Memcached - ActiveMQ instead of RabbitMQ
- Route 53 for private DNS service   - CloudFront for content delivery network

Steps:
1. Configure Security Group & Keypairs. 2. Create RDS Instances.
3. Set up Amazon ElastiCache.   4. Set up Amazon Route 53.
5. Configure the Database.   6. Set up Elastic Beanstalk.
7. Build & Deploy the VProfile App.   8. Set up CloudFront.

VProfile - Jenkins(using CI/CD) ⧉
Deploy VProfile on AWS using Jenkins CI/CD

Steps:
1. Fetch the code from GitHub.   2. Build the code using Maven.
3. Test the code using Maven Unit Test. 4. Analyze the code using Maven Checkstyle.
5. Analyze the code using SonarQube and upload it to the SonarQube Server, then wait for the Quality Gate.
6. Build Docker images.   7. Deploy images to the AWS ECR Registry.

VProfile - Kubernetes ⧉
Deploying VProfile on K8s Cluster

Steps:

1. Install Kops to launch a Kubernetes cluster.
2. Containerize the VProfile app.
3. Create an EBS volume for the DB Pod to handle the database.
4. Label nodes with zone names.

Courses

- DevOps with Projects ⧉
- Terraform ⧉
- GitHub Actions ⧉

- 20RealTime DevOps Projects ⧉
- Docker & Kubernetes ⧉
- Helm Masterclass ⧉

- PNPT ⧉
- GitLab CI ⧉
- HashiCorp - Terraform ⧉

Certificates

- Incident Response ⧉
- CCNA ⧉
- DevOps ⧉

- NTI CyberOps Associa ⧉
- C Programming With linux ⧉
- PNPT ⧉