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Education

Bachelor of Computers and Artificial Intelligence, Cairo University **(Class of 2023)**

Projects:

Graduation Project: Exodia OS (**Excellent Grade**)

- 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.

VProfile-GitOps

- 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
  In this Project There are two Git repositories: Terraform Workflow and Application Workflow.
  - It consists of two branches: the Stage Branch and the Main Branch.
  - If any changes are added to the Stage Branch, workflows will detect these changes.
  - Then, Terraform will test and validate these changes in AWS Cloud.
  - If the code is validated successfully, the changes will be merged into the main Branch via a Pull Request.
  - The Pull Request will then be validated and approved (approved by the owner of the main Branch).
  - Finally, this code will be applied to the infrastructure level (applied to AWS Cloud).
  - It fetches the code and builds it using Maven.
  - Tests and analyzes the code using SonarCloud.
  - Builds Docker images if validated successfully and uploads them to Amazon ECR (AWS Docker registry).
  - Then, use Helm to fetch the Docker images to the EKS Cluster and run the application.

VProfile - Kubernetes

- Deploying VProfile on K8s Cluster
  Steps:
  - Install Kops to launch a Kubernetes cluster.
  - Containerize the VProfile app.
  - Create an EBS volume for the DB Pod to handle the database.
  - Label nodes with zone names.

VProfile - Jenkins(using CI/CD)

- Deploy VProfile on AWS using Jenkins CI/CD
  Steps:
  - Fetch the code from GitHub and Build the code using Maven.
  - Test the code using Maven UnitTest.
  - Analyze the code using Maven Checkstyle.
  - Analyze the code using SonarQube .
  - Build Docker images and Deploy images to the AWS ECR Registry.

AWS Lift & Shift For VProfile

- deploy the VProfile on AWS, utilizing the 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:
  - Configure Security Group & Keypairs.
  - Create EC2 Instances for all services.
  - Build & Deploy the VProfile App. 4. Set up ELB & 53.
  - Add AutoScaling Group

VProfile app deployment on local host

- deploy the VProfile on LocalHost
  Steps:
  - 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.
  - Create scripts to install all services. Each service should have its script (e.g., a script to install and enable the
  MySQL service, another script for Nginx, another for Memcached, etc.).
  - Create a Vagrantfile and configure all VMs (five VMs for the five different services).

Collaborators at acer-predator-turbo-and-rgb-keyboard-linux-module

- It's a kernel module for Acer Predator laptops designed to control GPU/CPU fan speed, keyboard RGB, and TURBO mode. We reverse-engineered the official Predator Series App and subsequently wrote a C-based kernel module for Linux.

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.

Experience:

Cisco CyberOps Associate Trainee – NTI **(1 month in Aug – Sept 2021)**

- National Telecommunication Institute summer Cisco CyberOps Associate Training .

CCNA Training - FCAI **(1 month in Aug - Sept 2020)**

- Faculty of Computers and Artificial Intelligence Cairo University summer CCNA Training

Incident Response - CyberTalents **(3 months in Jun - Aug 2021)**

- Reverse Engineering
- Digital Frontiers

Skills:

- **Linux, Penetration Testing**
- **Version Control:** Git, Git LFS, GitHub, GitLab
- **Programming & Scripting:** C/C++, java, python, Bash Scripting, PowerShell
- **containers**: Docker, podman, Kubernetes
- **CI-CD & Pipelines**: Jenkins, GitHub Actions, GitLab CI
- **Tools**: AWS, Helm, Ansible, vagrant, Vim, Neovim, Grafana
- **Data Serialization & DSL**: JSON, YAML, Terraform

Courses:

- **DevOps:** DevOps with Projects - udemy, RealTime DevOps & GitOps Projects - udemy
- **CI-CD & Pipelines**: Terraform - udemy, GitLab CI - udemy, GitHub Actions - udemy
- **Penetration Testing**: PNPT - TCMSec, Mobile PenTesting - TCMSec, Web PenTesting - TCMSec
- **containers**: Docker & Kubernetes - udemy, Helm Masterclass - udemy

Certificates:

- **CyberSecurtiy:** Incident Response, NTI CyberOps, PNPT
- **DevOps:** DevOps with Projects
- **Networks:** CCNA
- **Programming:** C With linux