Candidate Assignment Brief: Azure & Terraform (Modular Infrastructure)

This assignment is designed to evaluate your practical skills in Microsoft Azure and Infrastructure as Code using Terraform. You are expected to use reusable Terraform modules to build scalable and maintainable infrastructure.

Assignment 1: Virtual Machines & Networking

Objective:

Deploy a secure Linux web server using reusable Terraform modules.

Requirements:

- Create reusable modules for:
  - Virtual Network + Subnet
  - Network Security Group
  - Virtual Machine (with cloud-init or custom script extension)
- Use the modules in a root configuration to:
  - Deploy a VM with NGINX or Apache
  - Expose ports 22 and 80 via NSG
  - Output the public IP

Deliverables:

- modules/ directory with at least 3 modules
- Root main.tf using the modules
- README with usage instructions and module documentation

Assignment 2: System Patch Management

Objective:

Automate patch management using Azure Automation and reusable modules.

Requirements:

- Create modules for:
  - Azure Automation Account
  - Log Analytics Workspace
  - Update Management configuration
- Use the modules to:
  - Link a VM to Update Management
  - Schedule a weekly patch deployment

Deliverables:

- Modular Terraform code
- Example usage in root module
- Documentation explaining how to monitor patch compliance

Bonus Challenge: Compose a Full Environment Using Modules

Objective:

Combine all previous modules into a single, parameterized environment.

Requirements:

- Create a root module that:
  - Deploys a VM with patch management
  - Sets up networking and NSG

- Use variables to control:
  - Region
  - VM size
  - Tags
  - Schedule times

Deliverables:

- A single main.tf using all modules
- terraform.tfvars for configuration
- README with architecture diagram and usage guide