

**Deadline:** 5 business days after receipt of assignment

**Submission Style:** Please create a public GitHub repository containing all relevant code and send the URL to your hiring contact

**The assignment:**

Using Terraform v12, build a module meant to deploy a web application that supports the following design:

- It must include a VPC which enables future growth / scale
- It must include both a public and private subnet - where the private subnet is used for compute and the public is used for the load balancers
- Assuming that end-users only contact the load balancers and the underlying instances are accessed for management purposes, design a security group scheme which supports the minimal set of ports required for communication
- The AWS generated load balancer hostname will be used for requests to the public facing web application
- An autoscaling group should be created which utilizes the latest AWS AMI
- The instances in the ASG
  - must contain both a root volume to store the application / services
  - must contain a secondary volume meant to store any log data bound for /var/log
  - must include a web server of your choice
- Your completed module should include a README which explains the module inputs and any important design decisions you made which may assist in evaluation

*All requirements in this task for configuring the operating system should be defined in the launch configuration and/or the user data script (no external config tools like chef, puppet, etc)*

*Your module should not be tightly coupled to your AWS account - it should be designed so that it can be deployed to any arbitrary AWS account*

**Additional Areas to Focus On (Extra credit):**

- You must ensure that all data is encrypted at rest
- Ideally, you should design these web servers so they can be managed without logging in with the root key
- We should have some sort of alarm mechanism that indicates when the application is experiencing any issues
- Configure the autoscaling group to automatically add and remove nodes based on load
- You should assume that this web server may receive high volumes of web traffic, thus you should appropriately manage the storage / growth of logs