**Assignment 2**

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|  | | Name: |
|  | Student Number: | |

**Submission Requirements:**

1. Create a Word File named with the following format: [***yourlastname\_LabActivity#.docx***]
2. Include the questions you are answering in your submission file.
3. Include appropriate screenshots if applicable that are well formatted, cropped, labeled, and aligned.

**Total 42 Marks**

**Note:** **Please read the rubric attached to the Lab Activity to comprehend the grading criteria**

**Scenario:**

In this assignment you will deploy a webserver that uses a load balancer to offer high availability and autoscaling. By deploying instances across multiple subnets, you can avoid an outage in the event of an AZ failure. By using autoscaling groups, you can scale up or down your instances across both AZs to handle increased load, the load balancer will automatically distribute traffic evenly across your instances.

**Required Resources:**

* AWS Learner Lab Environment Access
* GCP Account and Credits
* Azure Account and Credits

**Note:** **DELETE ALL RESOURCES WHEN YOU HAVE COMPLETED YOUR TASKS!!!!!**

# **AWS**

Create a basic website with a personal message (Full Name Included) on an EC instance web server. Use <**lastname-assign2**> or <**lastname\_assign2**> as the naming context. Account for high availability and redundancy in your deployment.

* Create a Custom VPC with all the custom resources to allow your site to be reached and your web server to access the internet as need be.
* Ensure security of access to considered in your deployment.
* Create an auto scaling group from your custom instance template.
* Create a scaling policy with a desired capacity of two (2) that scales out after 60% CPU for one (1) minute. Two (2) instances should be running at all times.
  + Ensure to add a reasonable scale in criteria as well.
* Internet Facing ALB with instance Target Group
* Testing your auto scaling functions with instance termination.

1. **Show evidence of your website installed and running via an ALB. (3 Marks)**
2. **Show evidence of your website powered by a minimum two (2) instances. (1 Mark)**
3. **Show evidence of a custom VPC and custom resources for your website. (5 Marks)**
4. **Show evidence of successful auto scaling group functions. (1 Mark)**
5. **Show evidence of high availability and redundancy at work in your deployment. (1 Mark)**
6. **Show evidence of security being considered in your deployment. (3 Marks)**

**Note:** **DELETE ALL RESOURCES WHEN YOU HAVE COMPLETED YOUR TASKS!!!!!**

# **GCP**

Migrate your deployment to GCP with as much similarity as possible, use <**lastname-assign2**> or <**lastname\_assign2**> as the naming context. Account for high availability and redundancy in your deployment.

Ensure the following areas are covered:

* VPC (Virtual Network)
* Security
* Compute
* Load Balancing
* Auto-scaling

1. **Show evidence of your website installed and running via an ALB. (3 Marks)**
2. **Show evidence of your website powered by a minimum two (2) instances. (1 Mark)**
3. **Show evidence of a custom VPC and custom resources for your website. (5 Marks)**
4. **Show evidence of successful auto scaling group functions. (1 Mark)**
5. **Show evidence of high availability and redundancy at work in your deployment. (1 Mark)**
6. **Show evidence of security being considered in your deployment. (3 Marks)**

**Note:** **DELETE ALL RESOURCES WHEN YOU HAVE COMPLETED YOUR TASKS!!!!!**

# **Azure**

Migrate your deployment to Azure with as much similarity as possible, use <**lastname-assign2**> or <**lastname\_assign2**> as the naming context. Account for high availability and redundancy in your deployment.

Ensure the following areas are covered:

* VNet (Virtual Network)
* Security
* Compute
* Load Balancing
* Auto-scaling

1. **Show evidence of your website installed and running via an ALB. (3 Marks)**
2. **Show evidence of your website powered by a minimum two (2) instances. (1 Mark)**
3. **Show evidence of a custom VPC and custom resources for your website. (5 Marks)**
4. **Show evidence of successful auto scaling group functions. (1 Mark)**
5. **Show evidence of high availability and redundancy at work in your deployment. (1 Mark)**
6. **Show evidence of security being considered in your deployment. (3 Marks)**

**Note:** **DELETE ALL RESOURCES WHEN YOU HAVE COMPLETED YOUR TASKS!!!!!**