Term Project (15%)

**Instructions**:

* This is a group work.
* Group members can use more then one Azure subscription to complete this project
* Only one student in a group may submit the project solution document
* Delete your resource or storage account ***only*** after taking required screenshot

**Task 1: Create and Monitor Azure SQL Database (5%)**

You have been hired as a Cloud Administrator to help in implementing and monitoring the database cloud environment. This task will focus on Azure SQL Database. You are requested to import a backup of the database and restore it into a new database. Then, monitor the database.

* Create and Configure an Azure SQL
* Import AdventureWorksLT2017.bak from the link provided in reference section.
* Perform two update transactions on any of AdventureWorksLT2017 database tables.
* Use monitoring solutions in Azure monitor and display “overview of monitor page” and “SQL Assessment page”

Note: Delete the resource group or Azure SQL after taking screenshot

**Submission:**

* Screenshot of the imported database
* Screenshot of the update DML transaction
* Screenshot of the monitor overview page
* Screenshot of deleted Azure SQL resource

**Task2: Create Cosmos DB and implement data monitoring (5%)**

You have been required as cloud administrator to implement a non-relational data store for Electronics stores. The store sells Desktop, laptop, monitors, Keyboard, and printers from different vendors like Lenovo, HP, and Dell. Each store has only one manager and two sales representatives.

Requirements:

* Implement Cosmos DB that fulfill your company’s requirement and
* Insert any data for testing purpose before you go into production phase.
* Create an alert to monitor important metrics or signal in your database

**Submission:**

* Screenshot of the Insert statement in Cosmos DB and the execution result
* Screenshot of the alert page

**Task 3: Design data redundancy solution**

You have been required as cloud administrator to design data redundancy for your organization. In the current design there are three copies of the file in the same datacenter in locally redundant storage (LRS). It looks like the following figure:

Graphical user interface, application

Description automatically generated

You decided to replicate the file synchronously across three Azure availability zones in the primary region in a Zone-redundant storage (ZRS). Implement ZRS solution based on the figure below. You may include only one image file to complete this task.

Graphical user interface, application

Description automatically generated

**Submission:**

* Screenshot of your storage accounts
* Screenshot of your ZRS replication type
* Screenshot of deleted storage account

References:

Task 1:

<https://docs.microsoft.com/en-us/sql/samples/adventureworks-install-configure?view=sql-server-ver15&tabs=ssms>

<https://docs.microsoft.com/en-us/azure/azure-monitor/insights/solutions?tabs=portal>

Task 2:

<https://docs.microsoft.com/en-us/learn/modules/create-cosmos-db-for-scale/2-create-an-account>

<https://docs.microsoft.com/en-us/azure/cosmos-db/create-alerts>