Lab 10

CST8912_011

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Submitted to :

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Evaluate the security and data privacy implications

of various cloud solutions

Introduction & Purpose

Introduction:

Azure Logic Apps is the PaaS (Platform as a Service) offering from Microsoft Azure. Logic Apps helps us to define workflows and build powerful solutions with the help of connectors, triggers, and actions.

Azure Logic Apps is a cloud platform where you can create and run automated workflows with little to no code. By using the visual designer and selecting from pre-built operations, you can quickly build a workflow that integrates and manages your apps, data, services, and systems.

Few examples where logic apps can be used:

1. Schedule and send email notifications using Office 365 when a specific event happens, for example, a new file is uploaded.
2. Route and process customer orders across on-premises systems and cloud services.
3. Move uploaded files from an SFTP or FTP server to Azure Storage.
4. Monitor tweets, analyze the sentiment, and create alerts or tasks for items that need review.

Purpose:

Task 1: how you can alert users based on the data present/updated in your SQL Database.

Task 2: how to alert users when file gets uploaded/deleted in blob storage

Task3 : Monitoring workflows in azure monitor

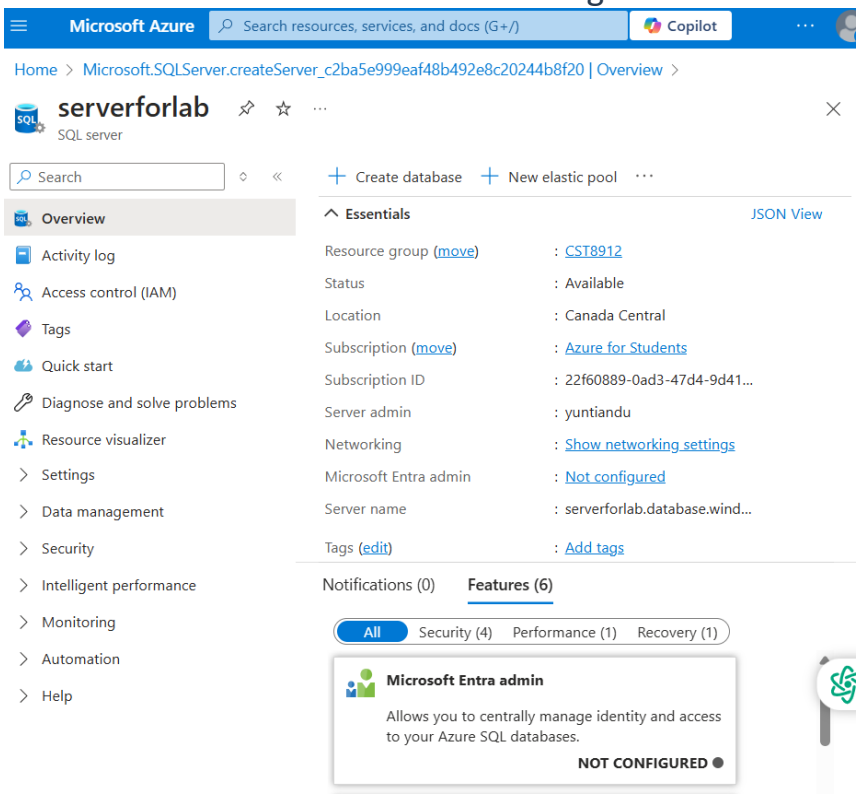
Task 4: Clean resources and record all the steps with screenshots in the lab report.

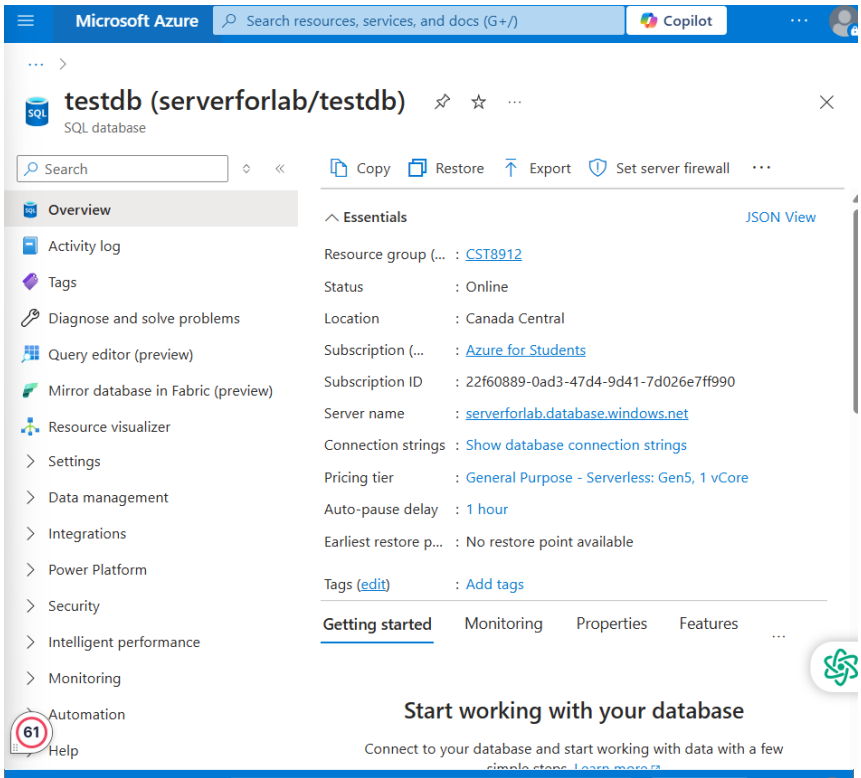
Problem statement: I have a storage account in Azure . In the container we are storing various data files . The files are stored in tree hierarchy of folders (Parent-> year -> month -> day).Each day new files get uploaded to the specific day folder . If the file for that specific day is not uploaded I would like to drop email notification.

Steps covered in the lab

Task 1:

1. Create logic app (choose consumption based plan) and sql server & database instance in Canada central region

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testdb (serverforlab/testdb)
SQL database
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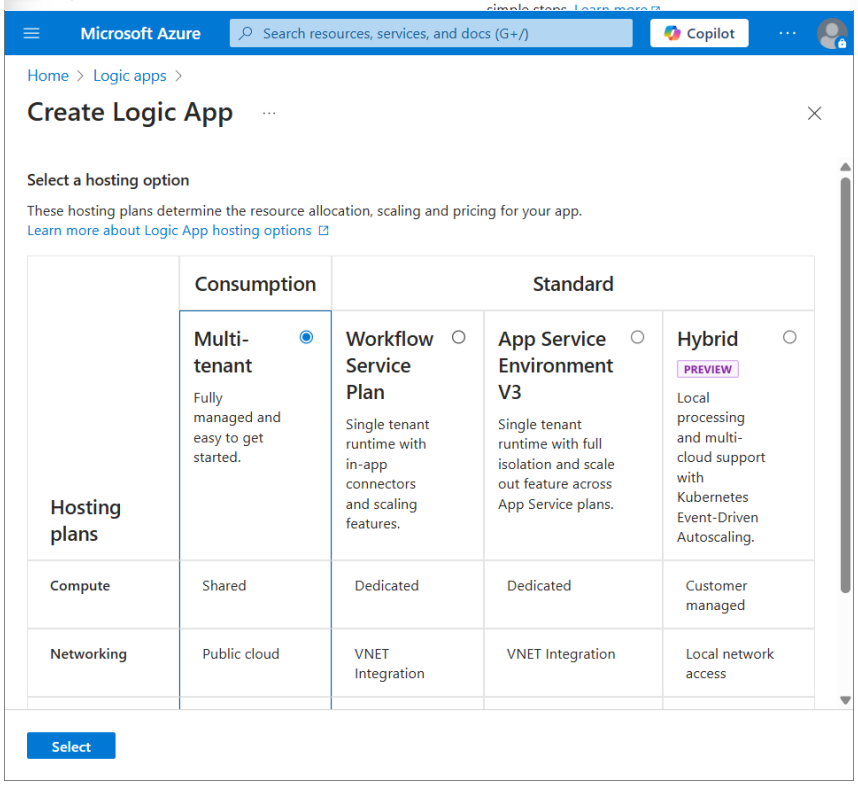
Activity log
Tags
Diagnose and solve problems
Query editor (preview)
Mirror database in Fabric (preview)
Resource visualizer
Settings
Data management
Integrations
Power Platform
Security
Intelligent performance
Monitoring
Automation
Help
Copy
Restore
Export
Set server firewall
Essentials
JSON View
Resource group (... : CST8912
Status : Online
Location : Canada Central
Subscription (... : Azure for Students
Subscription ID : 22f60889-0ad3-47d4-9d41-7d026e7ff990
Server name : serverforlab.database.windows.net
Connection strings : Show database connection strings
Pricing tier : General Purpose - Serverless: Gen5, 1 vCore
Auto-pause delay : 1 hour
Earliest restore p... : No restore point available
Tags (edit) : Add tags
Getting started
Monitoring
Properties
Features
Start working with your database
Connect to your database and start working with data with a few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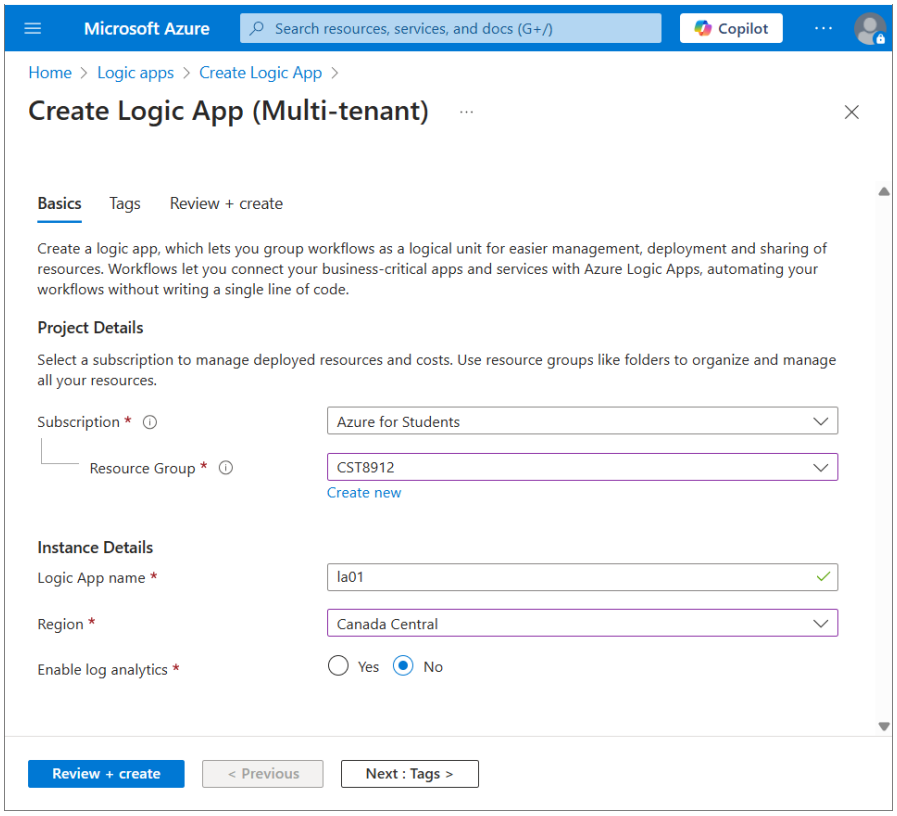
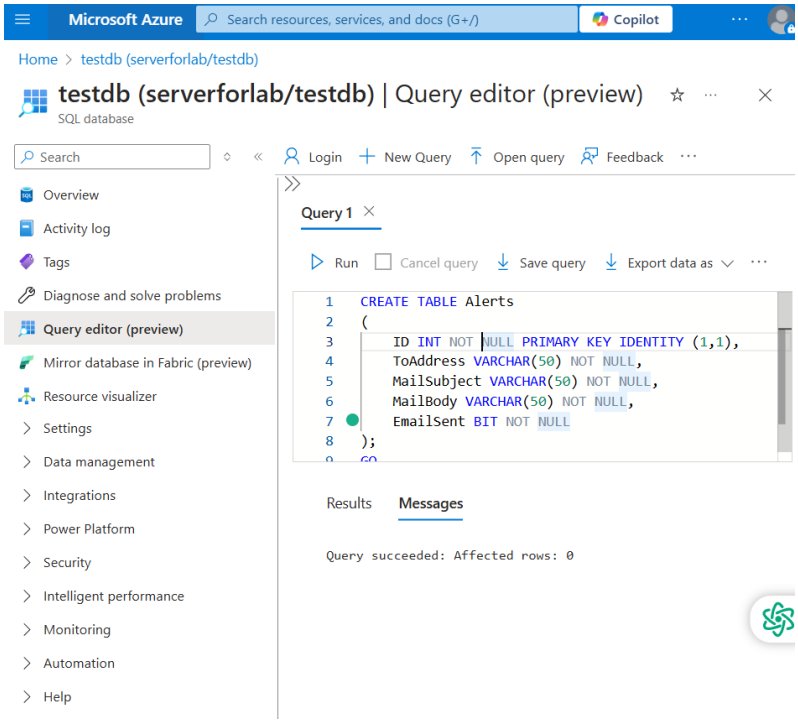
App Service Environment V3
Single tenant runtime with full isolation and scale out feature across App Service plans.
Hybrid
PREVIEW
Local processing and multi-cloud support with Kubernetes Event-Driven Autoscaling.
Hosting plans
Compute
Shared
Dedicated
Dedicated
Customer managed
Networking
Public cloud
VNET Integration
VNET Integration
Local network access
Select

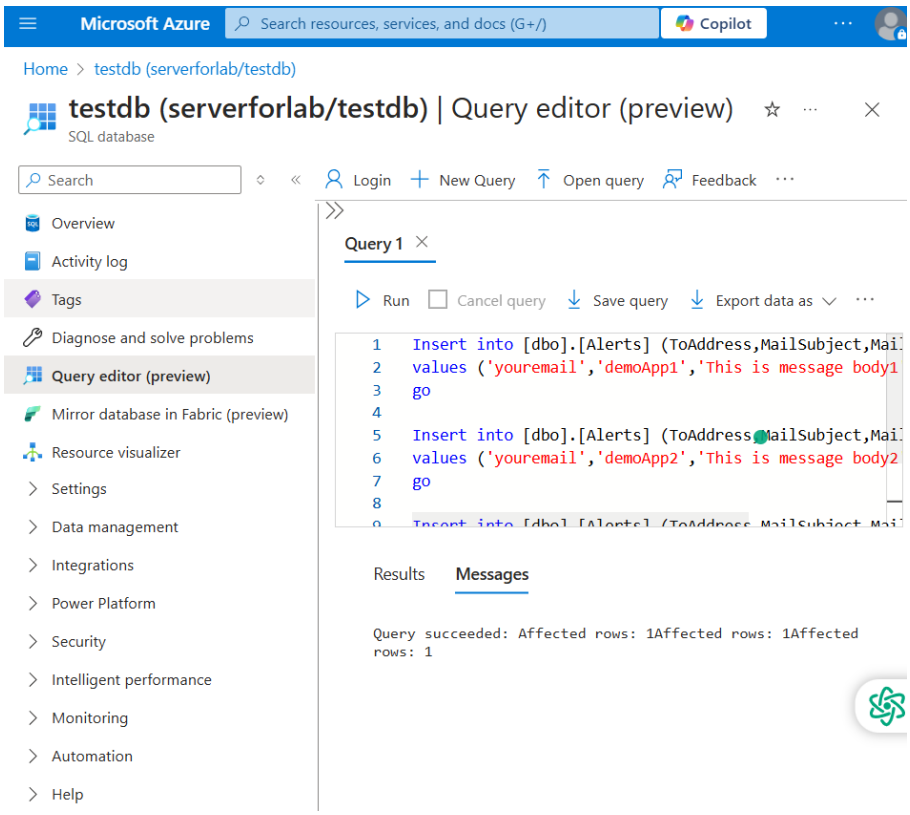


2. Create alerts table in sql database using query editor

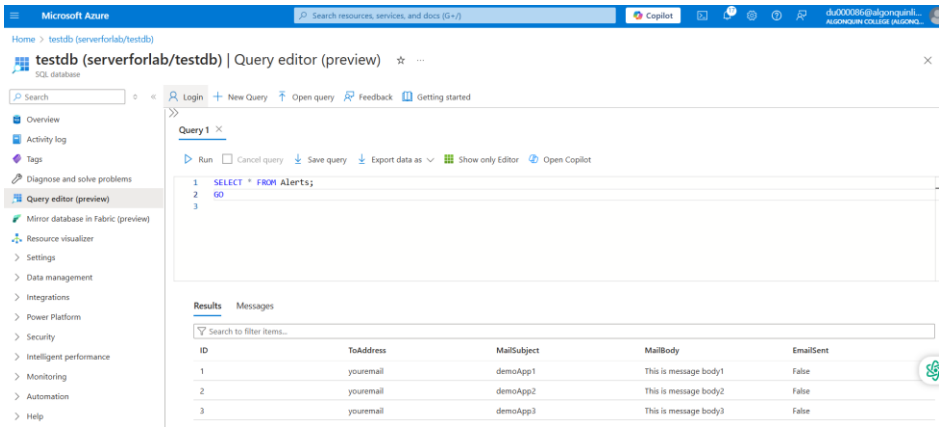


3. Insert records into the Alerts table using the query

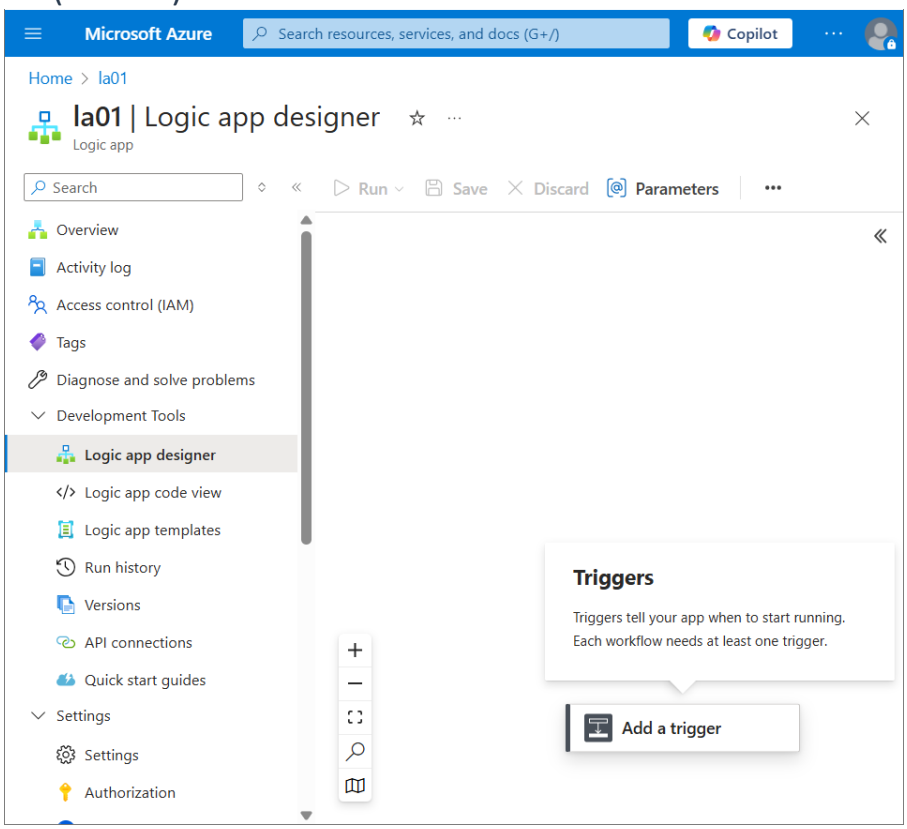
```
Insert into [dbo].[Alerts] (ToAddress,MailSubject,MailBody,EmailSent)
values ('youremail','demoApp1','This is message body1',0)
go

Insert into [dbo].[Alerts] (ToAddress,MailSubject,MailBody,EmailSent)
values ('youremail','demoApp2','This is message body2',0)
go

Insert into [dbo].[Alerts] (ToAddress,MailSubject,MailBody,EmailSent)
values ('youremail','demoApp3','This is message body3',0)
Go
```

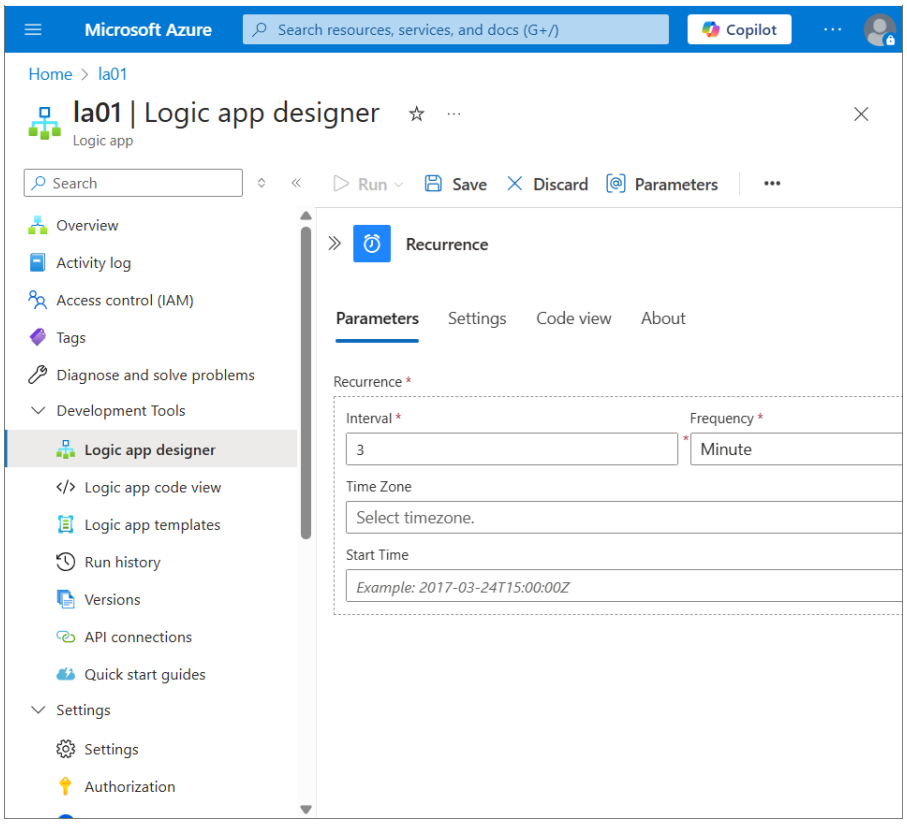


4. Select rows from db.Alerts table to verify the records inserted in the table.

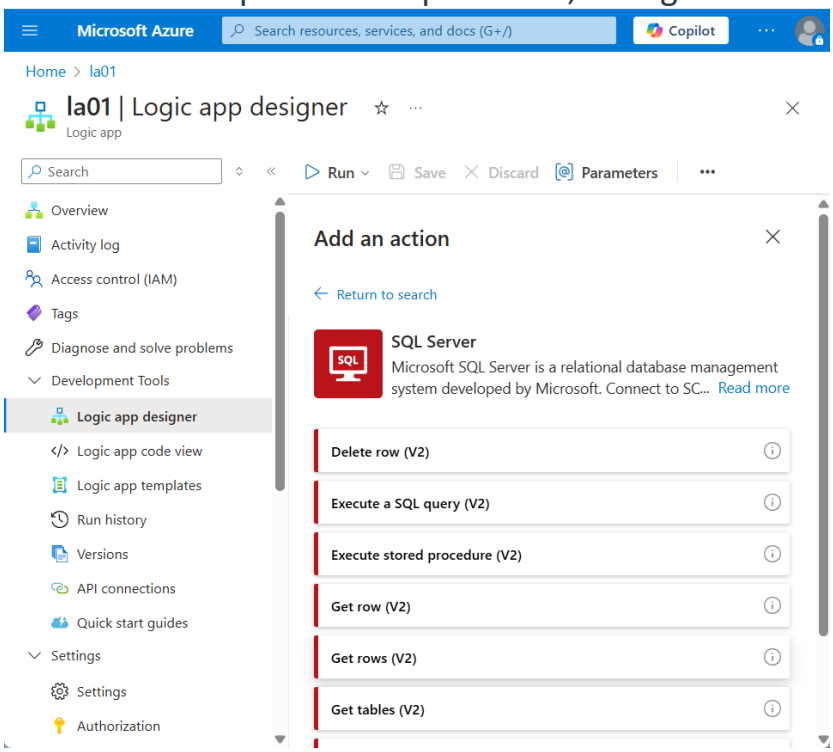


5. Go to logic app created in lab
6. Use recurrence trigger and define values for interval (3) and frequency (minute)



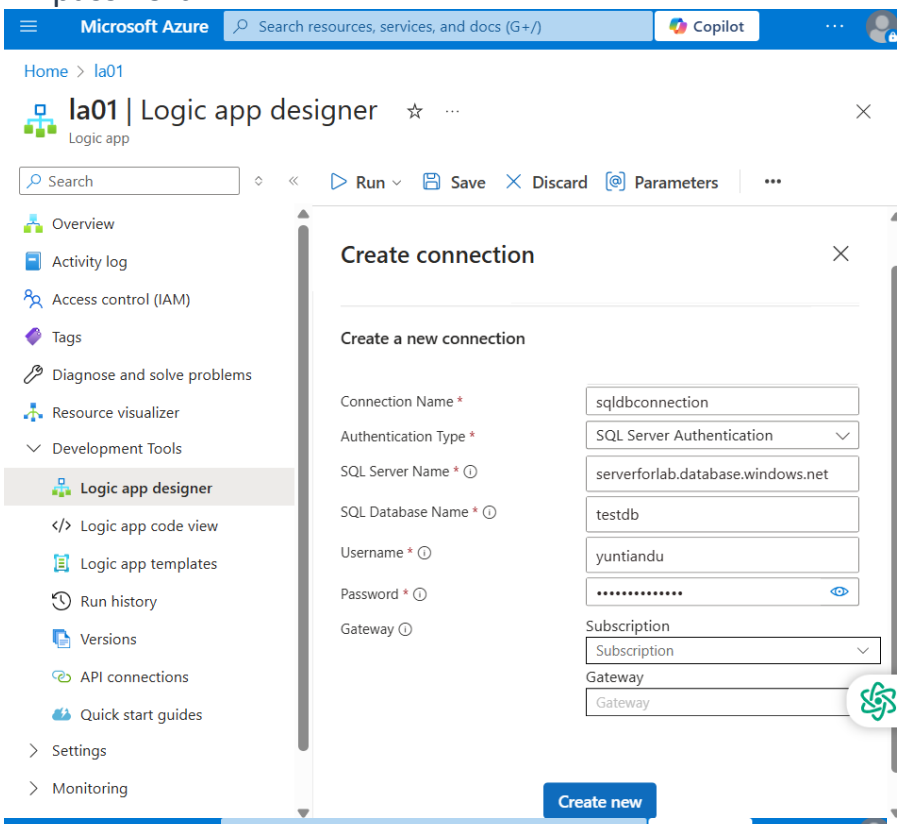


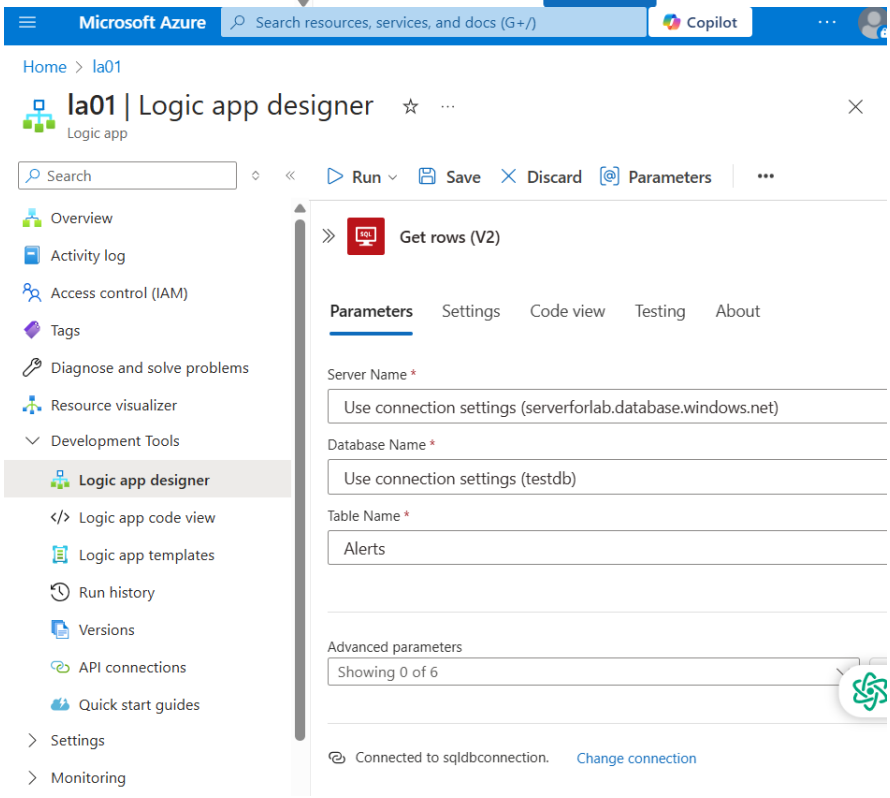
7. Add new step named “sql server” , use “get rows” as action.



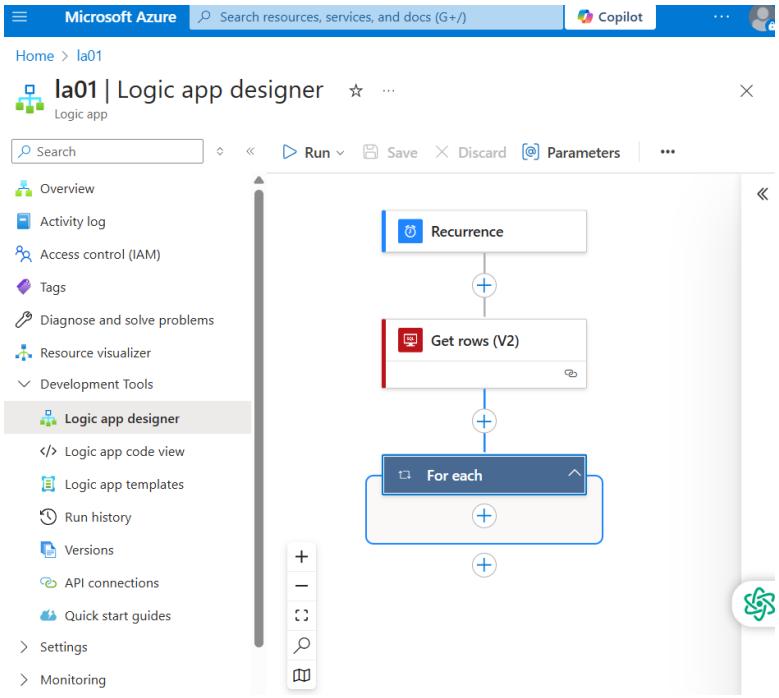
8. Enter the credentials (In background, connectors are getting created). Enter your server name (FQDN), database name, username and

password.

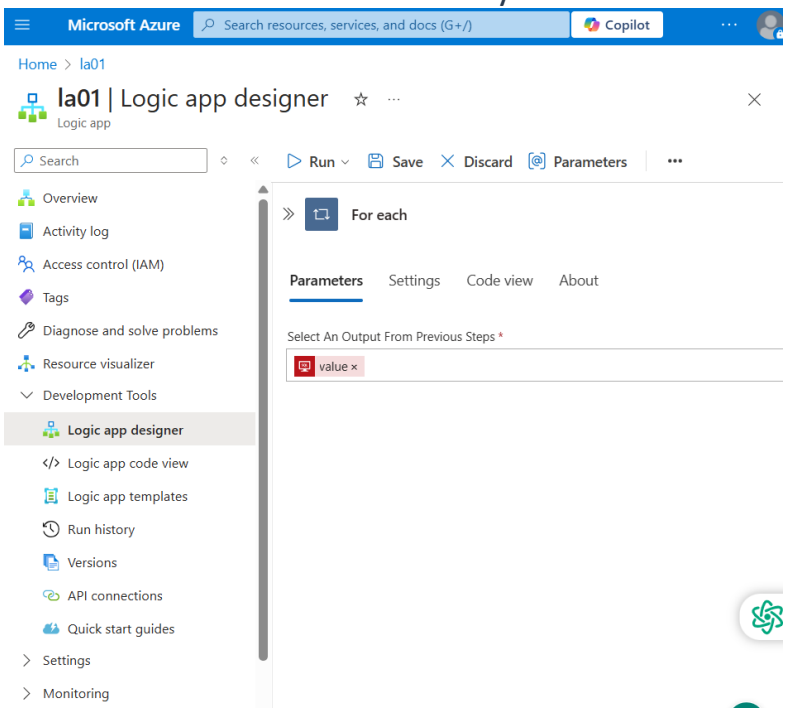




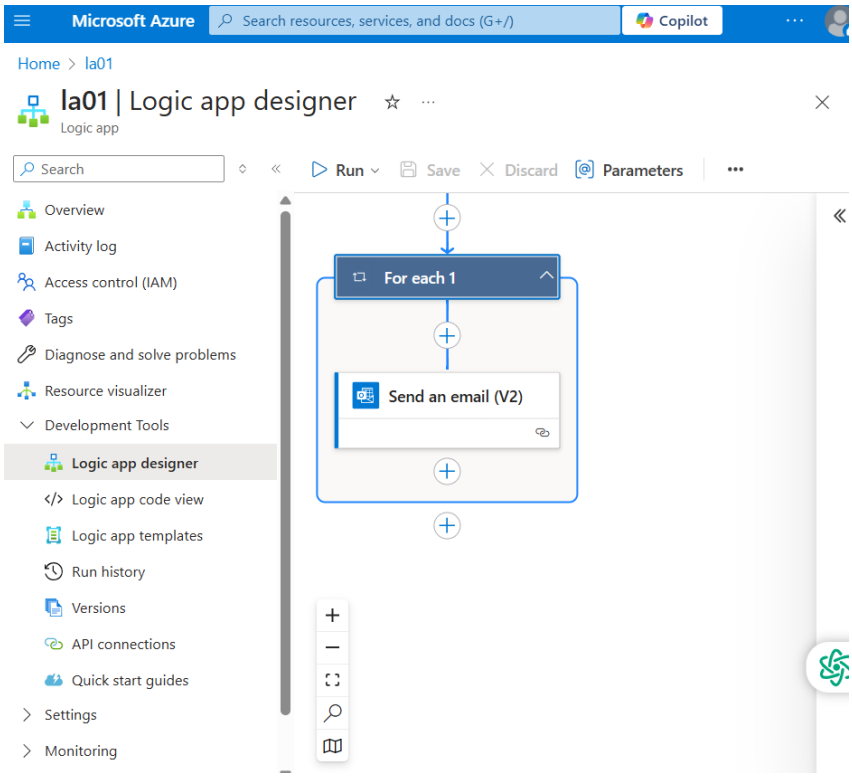
9. Add a new step ‘For-Each’ in the Logic App.



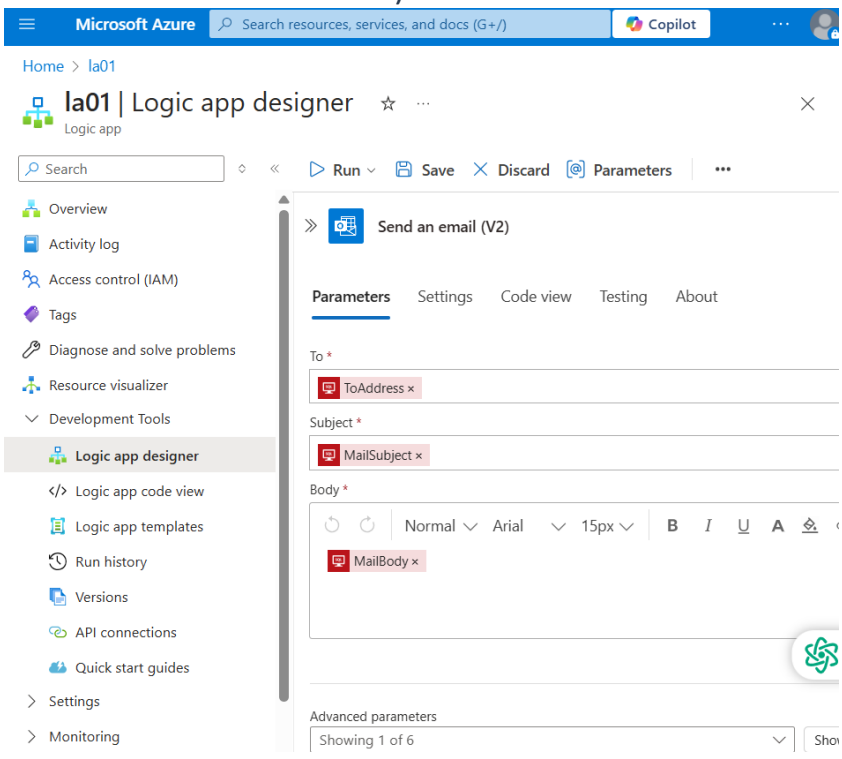
10. Select ‘Value’ Parameter from Dynamic Content



11. Now add a ‘Send mail’ Action.



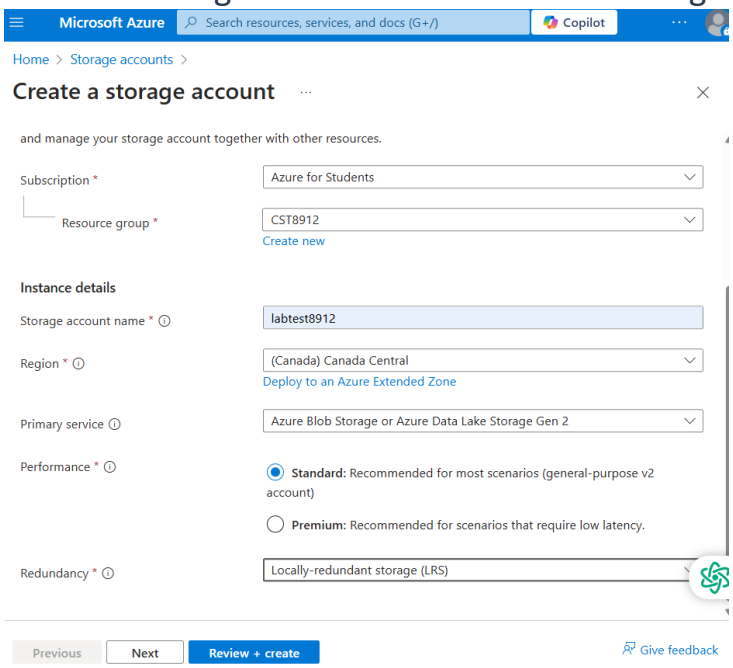
12. Enter the details from Dynamic content (refer to values from columns defined in the alerts table)



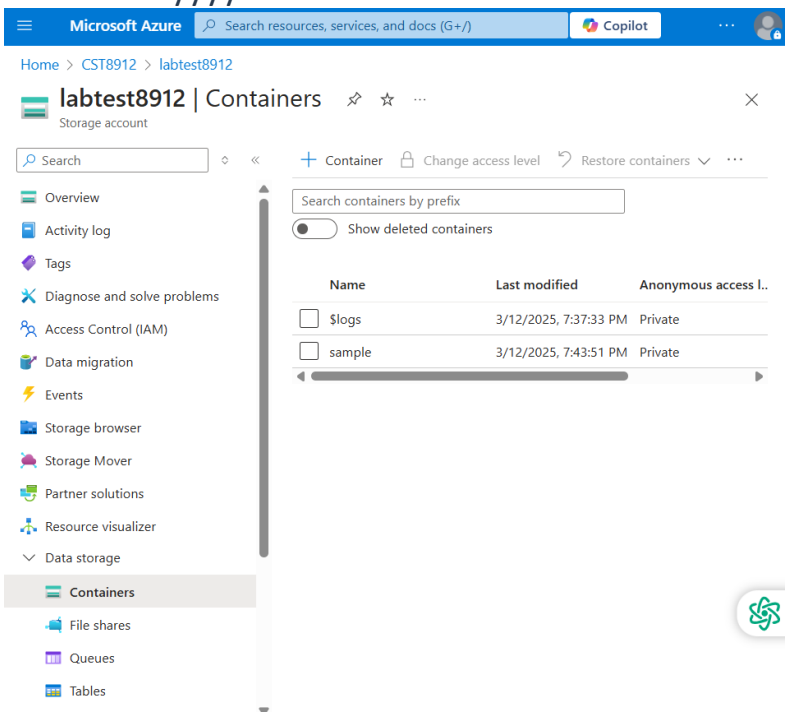
13. Save the Logic App.
14. Wait for sometime and you will receive an email.

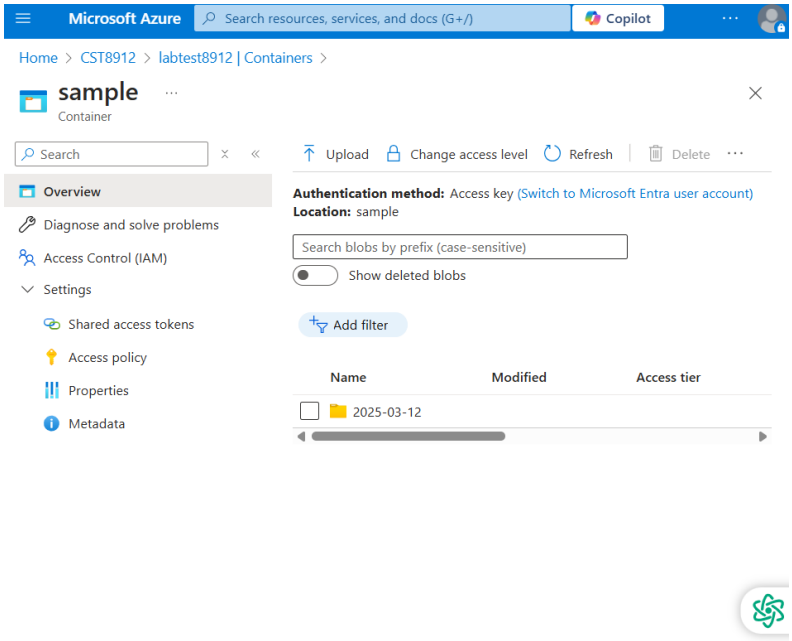
Task 2: Design a logic to trigger an email notification in your outlook when the file to a specific folder does not gets uploaded by specific time.

1. Create a storage account in Canada central region

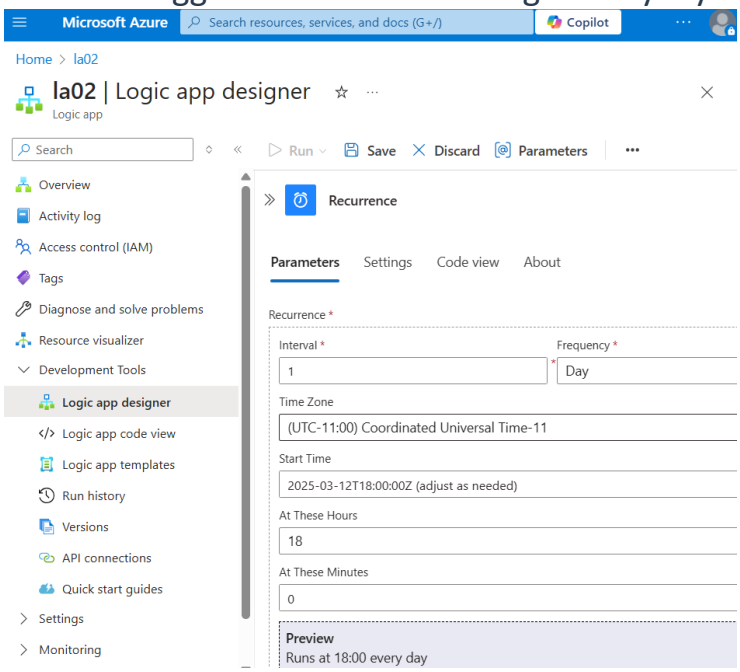


2. Create a sample container and within that container create folder in format of “yyyy-mm-dd”

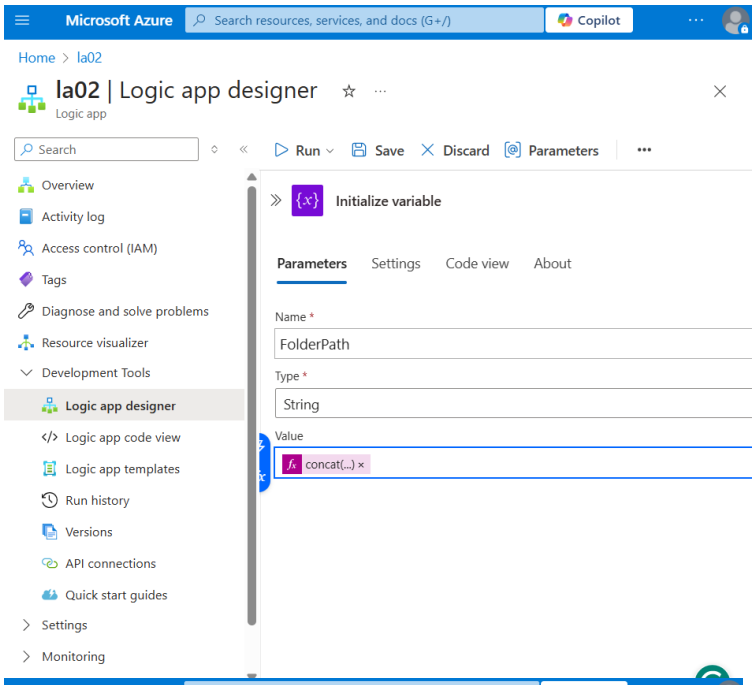




3. Create a trigger to schedule this logic everyday at 6pm



4. Use list blob to check every file in folder to check the file in the folder, you can use the expression like concat('/',utcNow('yyyy/MM/dd')), if the file in the path does not exists, list blob will fail.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Discard
Parameters
Overview
Activity log
Access control (IAM)
Tags
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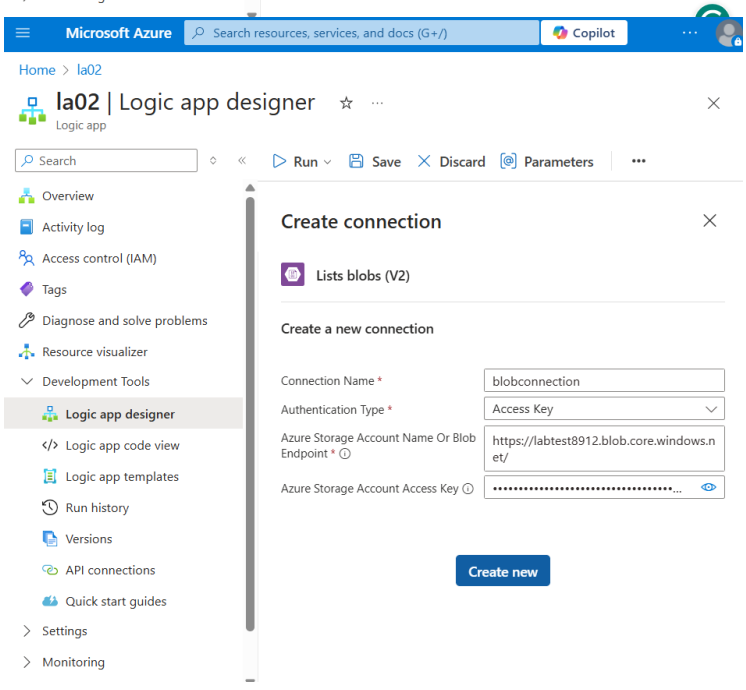
Resource visualizer
Development Tools
Logic app designer
Logic app code view
Logic app templates
Run history
Versions
API connections
Quick start guides
Settings
Monitoring
Initialize variable
Parameters
Settings
Code view
About
Name *
FolderPath
Type *
String
Value
concat(...)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API connections
Quick start guides
Settings
Monitoring
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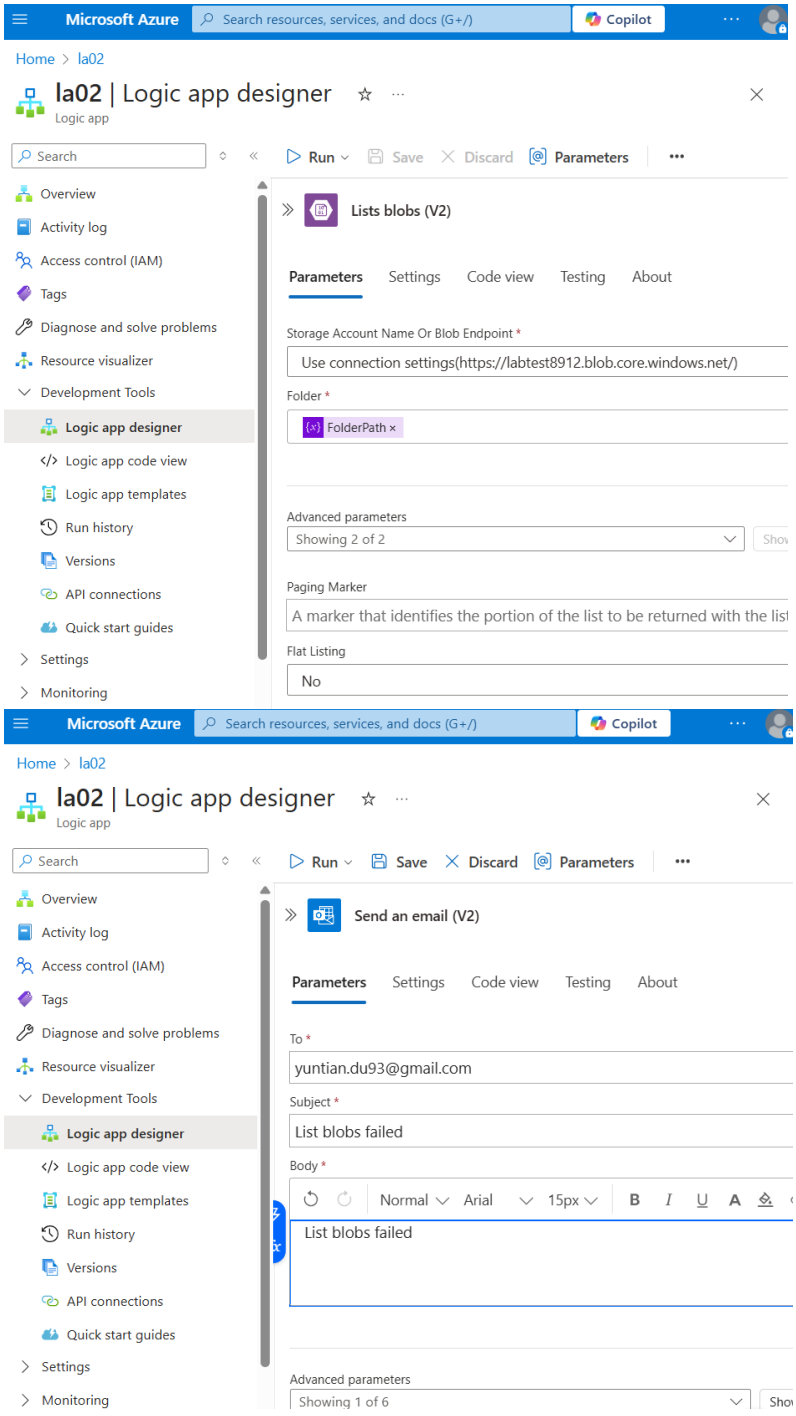
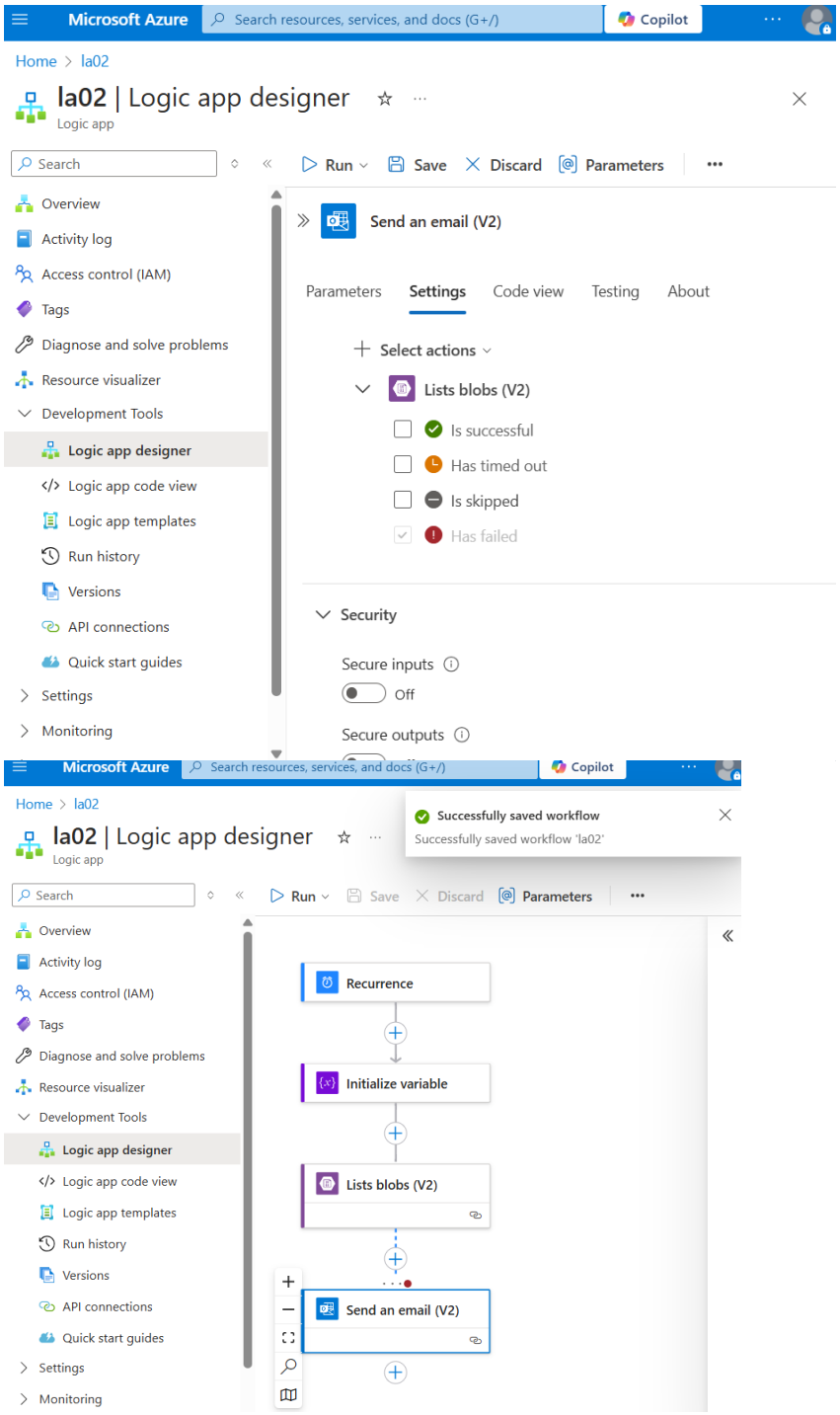
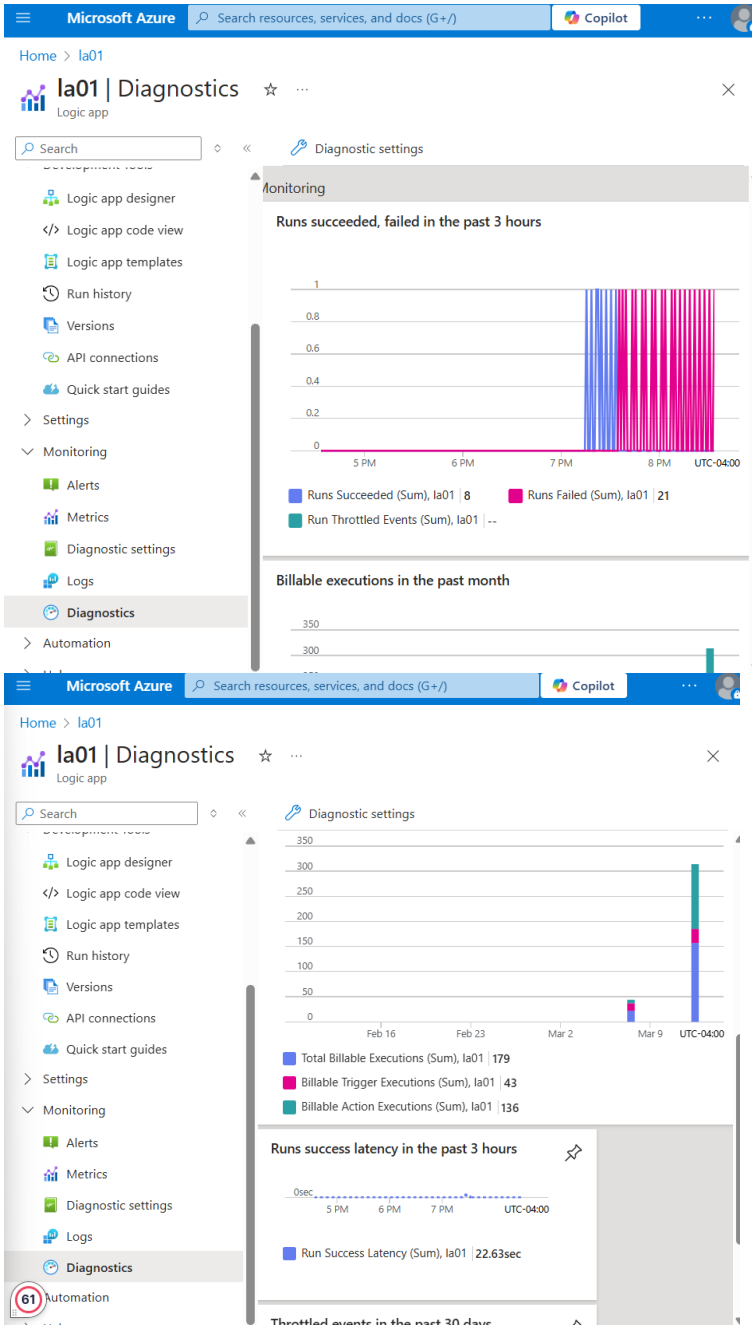
Lists blobs (V2)
Create a new connection
Connection Name *
blobconnection
Authentication Type *
Access Key
Azure Storage Account Name Or Blob Endpoint *
https://labtest8912.blob.core.windows.net/
Azure Storage Account Access Key
Create new



5. Send an email to your email address in outlook if list blob fails.



Task 3: Monitor workflows in Azure Logic Apps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Logs
Diagnostics
Automation
Runs succeeded, failed in the past 3 hours
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8 PM
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Run Throttled Events (Sum), la01 --
Billable executions in the past month
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Logs
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Automation
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Feb 16
Feb 23
Mar 2
Mar 9
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Total Billable Executions (Sum), la01 179
Billable Trigger Executions (Sum), la01 43
Billable Action Executions (Sum), la01 136
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7 PM
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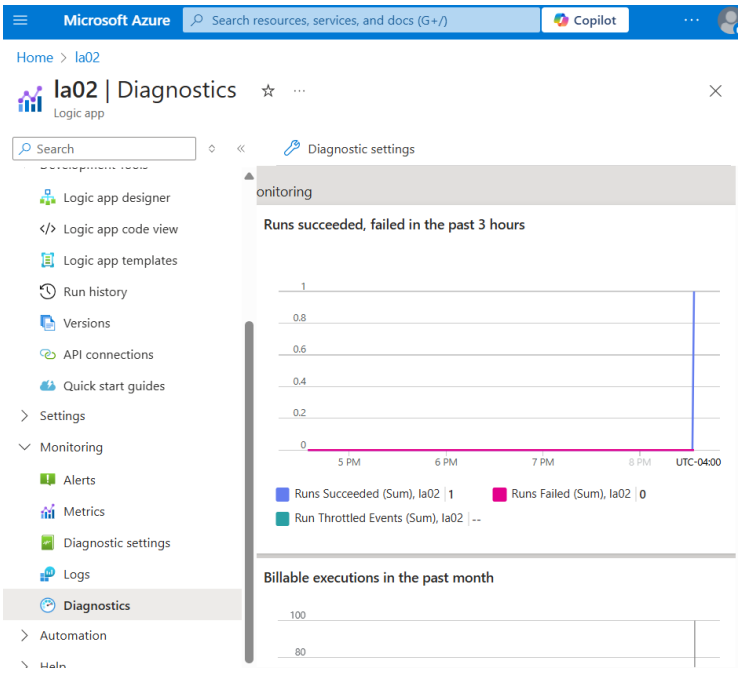
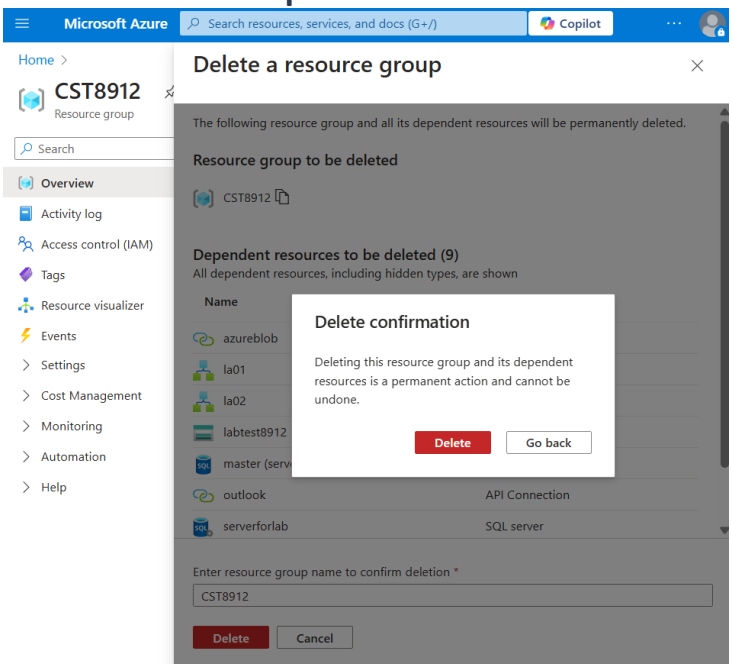
Run Success Latency (Sum), la01 22.63sec



Task4: Clean all the resources created during this lab and record all the steps with screenshots in the lab report.



References

None.