

Lab 3

CST8912_011

Romeo De Guzman

degu0055

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Submitted to :

Prof. Tanishq Bansal

Lab Report Format

Title

Managing Azure Storage Account and Blob Lifecycle

Introduction or Purpose

This lab is intended to teach how to configure a Storage account. After all the configuration, the uploaded file can be access through Blob SAS URL.

Steps covered in the lab

Create a Storage Account

- Create a storage account named labtest8912 under the **student subscription** and resource group CST8912-demo.
- Set the region to **Canada Central** and choose **Geo Redundant Storage (GRS)**.
- Keep the **networking** and **data protection** options as default.

Change Redundancy and Blob Access Tier

- In the storage account, go to **Data Management > Redundancy** and change redundancy to **Local Redundant Storage (LRS)**.
- Under **Settings > Configuration**, set the **Blob Access Tier** to **Cool** and save changes.

Create a Container and Upload a Blob

- Navigate to **Data Storage > Containers**, create a new container named labtestcontainer8912.
- Upload a blob into a folder named sampletest8912 using files from the shared lab sample links.
- While uploading, change the **Access Tier** to **Hot** in advanced settings.

Test Blob URL Access

- Click the uploaded file in the container and copy its **Blob URL**.
- Open the Blob URL in a private browser window. The URL should not work as the container's public access is set to private.

Generate SAS Token for Access

- In the file's blade, click **Generate SAS**, copy the **SAS Token**, and paste the **Blob SAS URL** into a private browser window.
- You should now be able to view the file.

Create a Lifecycle Management Rule

- In the container blade, go to **Data Management > Lifecycle Management**.
- Create a new rule named myrule8912.
- Set the **rule scope** to "limit blobs with filters," and use the default blob type and subtype.
- Add a condition: If base blobs were last modified **more than 15 days ago**, move them to **Cool Storage**.

Cleanup and Report (1 point):

- Delete all resources created during the lab.

Results

1 - Create a Storage Account

The screenshot displays the Microsoft Azure portal interface for a storage account named 'labtest8912'. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The left sidebar shows the 'Overview' tab selected, with a list of navigation options including Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser, Storage Mover, Partner solutions, Data storage, Security + networking, Data management, Settings, Monitoring, Monitoring (classic), Automation, and Help. The main content area shows the 'Overview' tab for the 'labtest8912' storage account. It includes a search bar, a list of actions (Upload, Open in Explorer, Delete, Move, Refresh, Open in mobile, CLI / PS, Feedback), and a 'JSON View' link. The 'Essentials' section displays key account details: Resource group (CST8912-demo), Location (Canada Central), Primary/Secondary Location (Primary: Canada Central, Secondary: Canada East), Subscription (Azure for Students), Subscription ID (cdb9bdf3-e7ee-43e9-8f6c-ba7327868df1), and Disk state (Primary: Available, Secondary: Available). The 'Properties' section is expanded, showing 'Blob service' settings: Hierarchical namespace (Disabled), Default access tier (Hot), Blob anonymous access (Disabled), Blob soft delete (Enabled (7 days)), Container soft delete (Enabled (7 days)), Versioning (Disabled), Change feed (Disabled), NFS v3 (Disabled), and Allow cross-tenant replication (Disabled). The 'Security' section shows: Require secure transfer for REST API operations (Enabled), Storage account key access (Enabled), Minimum TLS version (Version 1.2), and Infrastructure encryption (Disabled). The 'Networking' section shows: Allow access from (All networks) and Private endpoint connections (0). The bottom status bar shows the URL 'https://portal.azure.com/#' and a 'Show portal menu' button.

2 - Local Redundant Storage

The screenshot shows the Azure portal interface for a storage account named 'labtest8912'. The left sidebar contains a navigation menu with options like Data migration, Events, Storage browser, Storage Mover, Partner solutions, Data storage, Security + networking, Data management, Storage tasks (preview), Redundancy, Data protection, Object replication, Blob inventory, Static website, Lifecycle management, Azure AI Search, Settings, and Help. The 'Redundancy' option is selected. The main content area displays the 'Redundancy' settings. At the top, a message states: 'Failover cannot yet be initiated because initial data synchronization from the primary to secondary region is in progress. Failover will be available when synchronization is complete. Click here for more information.' Below this, the 'Redundancy' dropdown is set to 'Locally-redundant storage (LRS)'. The 'Last failover time' is shown as '-'. The 'Storage endpoints' section includes a 'View all' link and a table with the following data:

Location	Data center type	Status	Failover
Canada Central	Primary	Available	-
Canada East	Secondary	Available	-

Below the table is a world map with pins indicating the locations. A 'Show portal menu' button is visible in the bottom right corner.

3 - Blob Access Tier

The screenshot shows the Azure portal interface for the same storage account 'labtest8912'. The left sidebar is similar to the previous screenshot, but the 'Configuration' option is selected. The main content area displays the 'Configuration' settings. The settings are as follows:

- Secure transfer required: ☐ Disabled ☒ Enabled
- Allow Blob anonymous access: ☒ Disabled ☐ Enabled
- Allow storage account key access: ☐ Disabled ☒ Enabled
- Allow recommended upper limit for shared access signature (SAS) expiry interval: ☒ Disabled ☐ Enabled
- Default to Microsoft Entra authorization in the Azure portal: ☒ Disabled ☐ Enabled
- Minimum TLS version: Version 1.2
- Permitted scope for copy operations (preview): From any storage account
- Blob access tier (default): ☐ Hot ☒ Cool ☐ Cold
- Large file shares: ☐ Disabled ☒ Enabled

4 – Container

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile 'degu0055@algonquinli...'. The left sidebar shows the 'Data Storage' section expanded, with 'Containers' selected. The main content area displays the 'Containers' page for 'labtest8912'. A notification bubble in the top right corner states: 'Successfully created storage container' and 'Successfully created storage container 'labtestcontainer8912''. Below the notification, there is a search bar for containers and a table listing the containers.

Name	Last modified	Anonymous access level	Lease state
<input type="checkbox"/> \$logs	1/27/2025, 6:25:14 PM	Private	Available
<input type="checkbox"/> labtestcontainer8912	1/27/2025, 6:32:02 PM	Private	Available

5 - sampletest8912 folder

The screenshot shows the Microsoft Azure portal interface for the 'labtestcontainer8912' container. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile 'degu0055@algonquinli...'. The left sidebar shows the 'Data Storage' section expanded, with 'Containers' selected. The main content area displays the 'labtestcontainer8912' container page. The 'Overview' tab is selected, showing the 'Authentication method' as 'Access key' and the 'Location' as 'labtestcontainer8912'. Below the overview, there is a search bar for blobs and a table listing the blobs.

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
<input type="checkbox"/> sampletest8912						

6 – Blob

Microsoft Azure

Search resources, services, and docs (G+/I)

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Home >

labtestcontainer8912
Container

Search

Upload Change access level Refresh Delete Change tier Acquire lease

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access tokens

Access policy

Properties

Metadata

Authentication method: Access key (Switch to Microsoft Entra user account)

Location: labtestcontainer8912

Search blobs by prefix (case-sensitive)

Add filter

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
No results						

Upload blob

1 file(s) selected: placeholder.json
Drag and drop files here or [Browse for files](#)☒ Overwrite if files already exist

Advanced

Blob type

Block blob

☒ Upload .vhd files as page blobs (recommended)

Block size

4 MiB

Access tier

Hot

Upload to folder

Blob index tags

Key	Value

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Home >

labtestcontainer8912
Container

Search

Upload Change access level Refresh Delete Change tier Acquire lease Break lease View snapshots Create snapshot Give feedback

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access tokens

Access policy

Properties

Metadata

Authentication method: Access key (Switch to Microsoft Entra user account)

Location: labtestcontainer8912

Search blobs by prefix (case-sensitive)

Show deleted blobs

Add filter

Name	Modified	Access tier	Archive status	Blob type	Size	Lease state
<input type="checkbox"/> sampletest8912						-

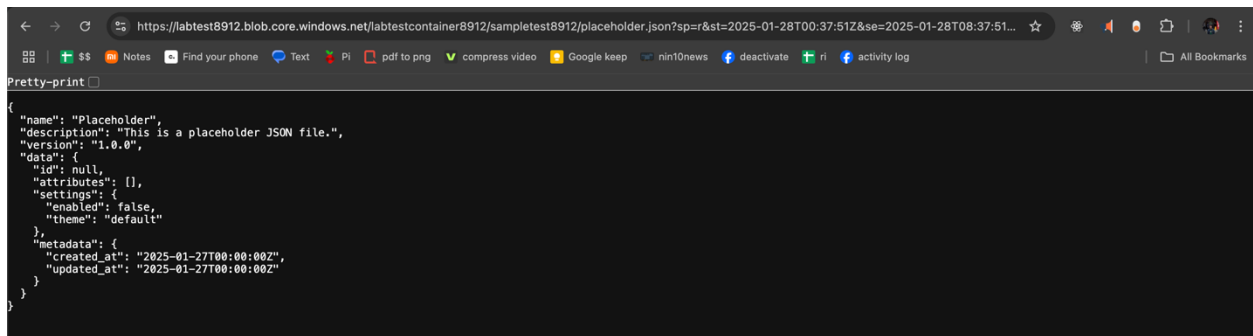
7 - Blob link

The screenshot shows the Microsoft Azure portal interface. On the left, the 'labtestcontainer8912' container is selected. The main pane displays the 'sampletest8912/placeholder.json' blob. The 'Properties' tab is active, showing details such as 'URL', 'LAST MODIFIED', 'CREATION TIME', 'VERSION ID', 'TYPE', 'SIZE', 'ACCESS TIER', 'ACCESS TIER LAST MODIFIED', 'ARCHIVE STATUS', 'REHYDRATE PRIORITY', 'SERVER ENCRYPTED', 'ETAG', 'VERSION-LEVEL IMMUTABILITY POLICY', 'CACHE-CONTROL', 'CONTENT-TYPE', 'CONTENT-MD5', 'CONTENT-ENCODING', and 'CONTENT-LANGUAGE'. The 'URL' field is highlighted, and a 'Copy' button is visible next to it.

The screenshot shows a web browser window with the URL <https://labtest8912.blob.core.windows.net/labtestcontainer8912/sampletest8912/placeholder.json>. The browser displays an error message: "This XML file does not appear to have any style information associated with it. The document tree is shown below." The error message is as follows:

```
<?xml version="1.0" encoding="utf-8" ?>
<Error>
  <Code>PublicAccessNotPermitted</Code>
  <Message>Public access is not permitted on this storage account. RequestId: cea2aaa6-401e-002e-661a-71d3ca000000 Time: 2025-01-28T00:22:02.4192003Z</Message>
</Error>
```

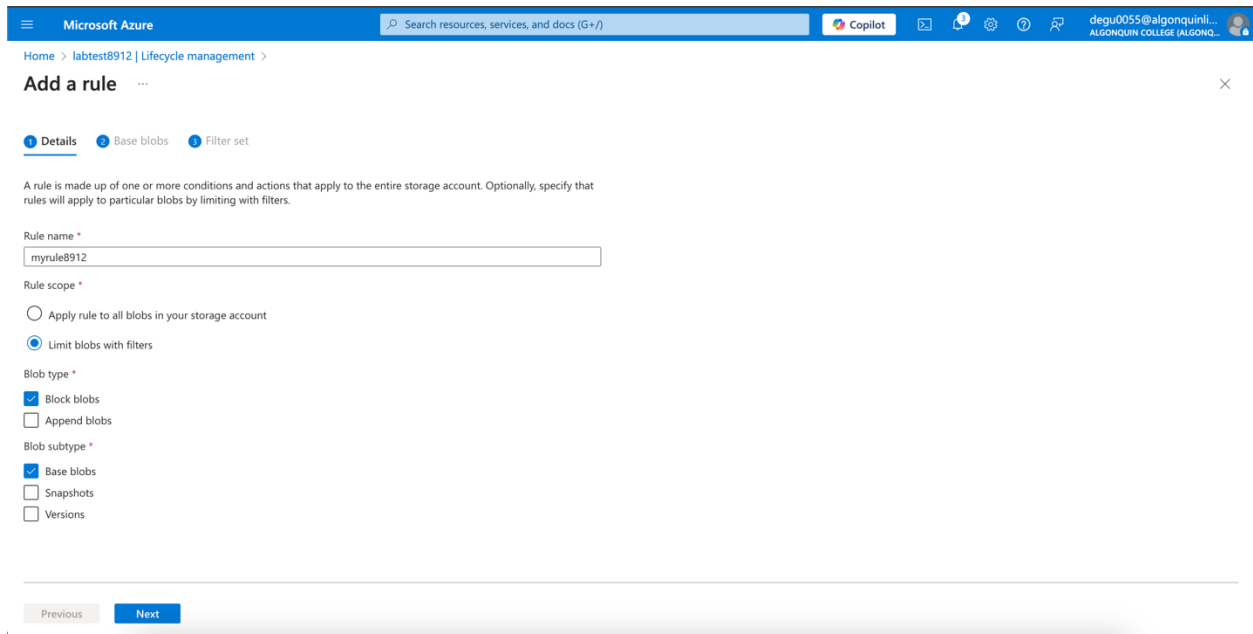
8 - Generate SAS Token for Access



The screenshot shows a web browser window with the address bar displaying a URL: `https://labtest8912.blob.core.windows.net/labtestcontainer8912/sampletest8912/placeholder.json?sp=r&st=2025-01-28T00:37:51Z&se=2025-01-28T08:37:51...`. The browser's address bar also shows several extensions: Notes, Find your phone, Text, Pi, pdf to png, compress video, Google keep, nin10news, deactivate, ri, and activity log. The main content area displays a JSON file named 'placeholder.json' with the following content:

```
{
  "name": "Placeholder",
  "description": "This is a placeholder JSON file.",
  "version": "1.0.0",
  "data": {
    "id": null,
    "attributes": {},
    "settings": {
      "enabled": false,
      "theme": "default"
    }
  },
  "metadata": {
    "created_at": "2025-01-27T00:00:00Z",
    "updated_at": "2025-01-27T00:00:00Z"
  }
}
```

9 - Create a Lifecycle Management Rule



The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and a Copilot button. The user's profile is visible in the top right corner. The main content area is titled 'Add a rule' and includes a sub-header 'Lifecycle management'. The page is divided into three tabs: 'Details', 'Base blobs', and 'Filter set'. The 'Details' tab is active. The page contains a description of a rule and a form to create one. The form includes a 'Rule name' field with the value 'myrule8912', a 'Rule scope' section with two radio buttons (the second is selected), a 'Blob type' section with two checkboxes (the first is checked), and a 'Blob subtype' section with three checkboxes (the first is checked). At the bottom of the form are 'Previous' and 'Next' buttons.

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Home > labtest8912 | Lifecycle management >

Add a rule

1 Details 2 Base blobs 3 Filter set

A rule is made up of one or more conditions and actions that apply to the entire storage account. Optionally, specify that rules will apply to particular blobs by limiting with filters.

Rule name *

myrule8912

Rule scope *

☐ Apply rule to all blobs in your storage account

☒ Limit blobs with filters

Blob type *

☒ Block blobs

☐ Append blobs

Blob subtype *

☒ Base blobs

☐ Snapshots

☐ Versions

Previous Next

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Home > labtest8912 | Lifecycle management >

Add a rule ...

Details

Base blobs

Filter set

Lifecycle management uses your rules to automatically move blobs to cooler tiers or to delete them. If you create multiple rules, the associated actions must be implemented in tier order (from hot to cool storage, then archive, then deletion).

If

Base blobs were *

Last modified

Created

More than (days ago) *

15

↓

Then

Move to cold storage

↓

+ Add conditions

Previous

Next

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Home > labtest8912 | Lifecycle management >

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If

Base blobs were *

Last modified

Created

More than (days ago) *

15

↓

Then

Move to cold storage

↓

+ Add conditions

Previous

Next

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Home > labtest8912

labtest8912 | Lifecycle management

Storage account

Data Management

Data migration

Data management

Data protection

Lifecycle management

Settings

Data Lake Gen2 upgrade

+ Add a rule

✓ Enable

□ Disable

↻ Refresh

🗑 Delete

🗨 Give feedback

Lifecycle management offers a rich, rule-based policy for general purpose v2 and blob storage accounts. Use the policy to transition your data to the appropriate access tiers or expire at the end of the data's lifecycle. A new or updated policy may take up to 48 hours to complete. [Learn more](#)

List View

Code View

Enable access tracking ⓘ

□

Name	Status	Blob type
myrule8912	Enabled	Block

Successfully updated lifecycle management policy

Successfully updated lifecycle management policy for storage account 'labtest8912'.

<https://portal.azure.com/#@AlgonquinLivecom.onmicrosoft.com/resource/subscriptions/cdb9bdf3-e7ee-43e9-8f6c-ba7327868df1/resourceGroups/CST8912-demo/providers/Microsoft.Storage/storageAccounts/labtest8912/managementPolicies>

9 – Delete all resources

Microsoft Azure

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Home >

All resources

Algonquin College (AlgonquinLivecom.onmicrosoft.com)

+ Create

⚙ Manage view

↻ Refresh

📄 Export to CSV

🔗 Open query

🏷 Assign tags

🗑 Delete

Filter for any field...

Subscription equals all

Resource group equals all

Type equals all

Location equals all

+ Add filter

0 Unsecure resources

0 Recommendations

0 Changed resources

No grouping

List view

Name ↑↓	Type ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
---------	---------	-------------------	-------------	-----------------

No resources match your filters

Try changing or clearing your filters.

Create resources

Clear filters

[Learn more](#)

Give feedback