

Lab 3

CST8912_011

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Submitted to :

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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

- 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 (move): CST8912-demo
- Location: canadacentral
- Primary/Secondary Location: Primary: Canada Central, Secondary: Canada East
- Subscription (move): Azure for Students
- Subscription ID: cdb9bdf3-e7ee-43e9-8f6c-ba7327868df1
- Disk state: Primary: Available, Secondary: Available
- Tags (edit): Add tags

The 'Properties' section is expanded, showing various settings for the 'Blob service' and 'Security'.

Category	Setting	Value
Blob service	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
Security	Require secure transfer for REST API operations	Enabled
	Storage account key access	Enabled
	Minimum TLS version	Version 1.2
Networking	Infrastructure encryption	Disabled
	Allow access from	All networks
	Private endpoint connections	0

The bottom of the page 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' configuration. 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

Microsoft Azure | Search resources, services, and docs (G+)

Home > labtest8912

labtest8912 | Containers

Storage account

Data Storage

Container

Change access level

Restore containers

Refresh

Delete

Give feedback

Search containers by prefix

Show deleted 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

https://portal.azure.com/#

5 - sampletest8912 folder

Microsoft Azure | Search resources, services, and docs (G+)

Home > labtest8912 | Containers >

labtestcontainer8912

Container

Search

Upload

Change access level

Refresh

Delete

Change tier

Acquire lease

Break lease

View snapshots

Create snapshot

Give feedback

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						

6 – Blob

Microsoft Azure

Search resources, services, and docs (G+)

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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
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

Microsoft Azure

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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

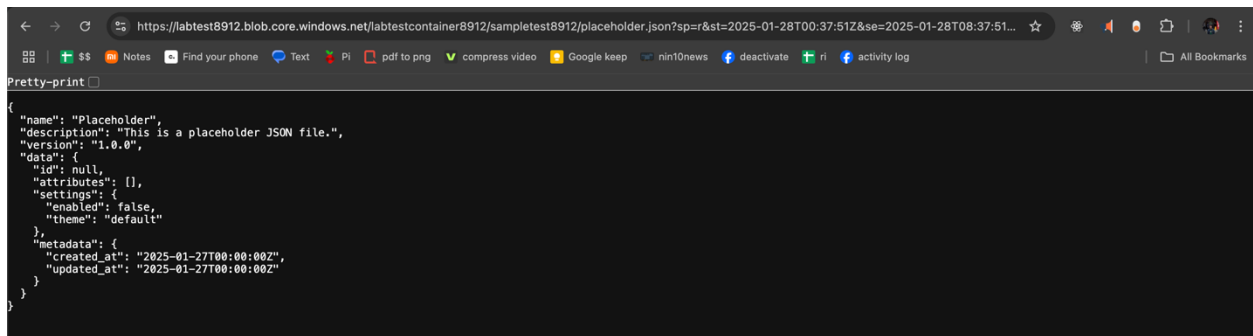
The screenshot shows the Microsoft Azure portal interface. On the left, the navigation pane is open, showing the 'labtestcontainer8912' container. The 'Overview' tab is selected. The main pane displays the 'sampletest8912/placeholder.json' blob. The 'Overview' tab is active, showing various properties of the blob. A 'Copy' button is visible next to the URL field.

Property	Value
URL	https://labtest8912.blob.core.windows.net/sampletest8912/placeholder.json
LAST MODIFIED	1/27/2025, 7:18:55 PM
CREATION TIME	1/27/2025, 7:18:55 PM
VERSION ID	-
TYPE	Block blob
SIZE	343 B
ACCESS TIER	Hot
ACCESS TIER LAST MODIFIED	1/27/2025, 7:18:55 PM
ARCHIVE STATUS	-
REHYDRATE PRIORITY	-
SERVER ENCRYPTED	true
ETAG	0x8DD3F315A1B35CA
VERSION-LEVEL IMMUTABILITY POLICY	Disabled
CACHE-CONTROL	
CONTENT-TYPE	application/json
CONTENT-MD5	0ufjixme+pQmxfOoJaRo...
CONTENT-ENCODING	
CONTENT-LANGUAGE	

The screenshot shows a web browser window with the URL <https://labtest8912.blob.core.windows.net/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" standalone="no" ?>
<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>
```

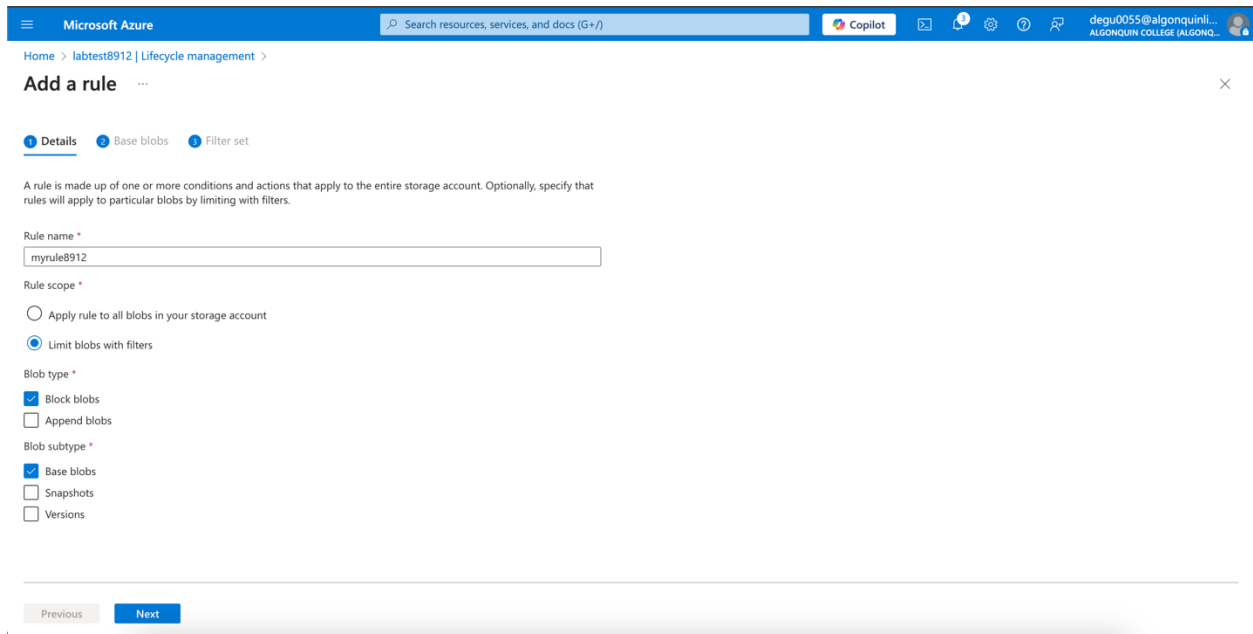
8 - Generate SAS Token for Access



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 for creating a Lifecycle Management rule. The page title is 'Add a rule' with a dropdown arrow. The breadcrumb navigation shows 'Home > labtest8912 | Lifecycle management >'. The page has three tabs: 'Details' (selected), 'Base blobs', and 'Filter set'. A descriptive text states: '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.' The form includes the following fields and options:

- Rule name ***: A text input field containing 'myrule8912'.
- Rule scope ***: Two radio button options: 'Apply rule to all blobs in your storage account' (unselected) and 'Limit blobs with filters' (selected).
- Blob type ***: Two checkbox options: 'Block blobs' (checked) and 'Append blobs' (unchecked).
- Blob subtype ***: Three checkbox options: 'Base blobs' (checked), 'Snapshots' (unchecked), and 'Versions' (unchecked).

At the bottom of the form, there are two buttons: 'Previous' (disabled) and 'Next' (active).

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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

Microsoft Azure

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Home > labtest8912 | Lifecycle management >

Add a rule

×

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Move to cold storage

+ Add conditions

Previous

Next

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Home > labtest8912

labtest8912 | Lifecycle management

Storage account

Data Management

+ Add a rule

Enable

Disable

Refresh

Delete

Give feedback

Data migration

Data management

Data protection

Lifecycle management

Settings

Data Lake Gen2 upgrade

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

Unsecure resources

Recommendations

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