

CLOUD MANAGEMENT

LAB #4 STORAGE AND SERVICE INTEGRATION IN AZURE

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Lab Report #4:

PART II

Azure Blob Storage

Azure Blob Storage is a Microsoft Azure service for storing large amounts of unstructured data, such as text or binary data. Blobs (Binary Large Objects) can store any type of data, making it ideal for serving images or documents directly to a browser, or for storing files for distributed access.

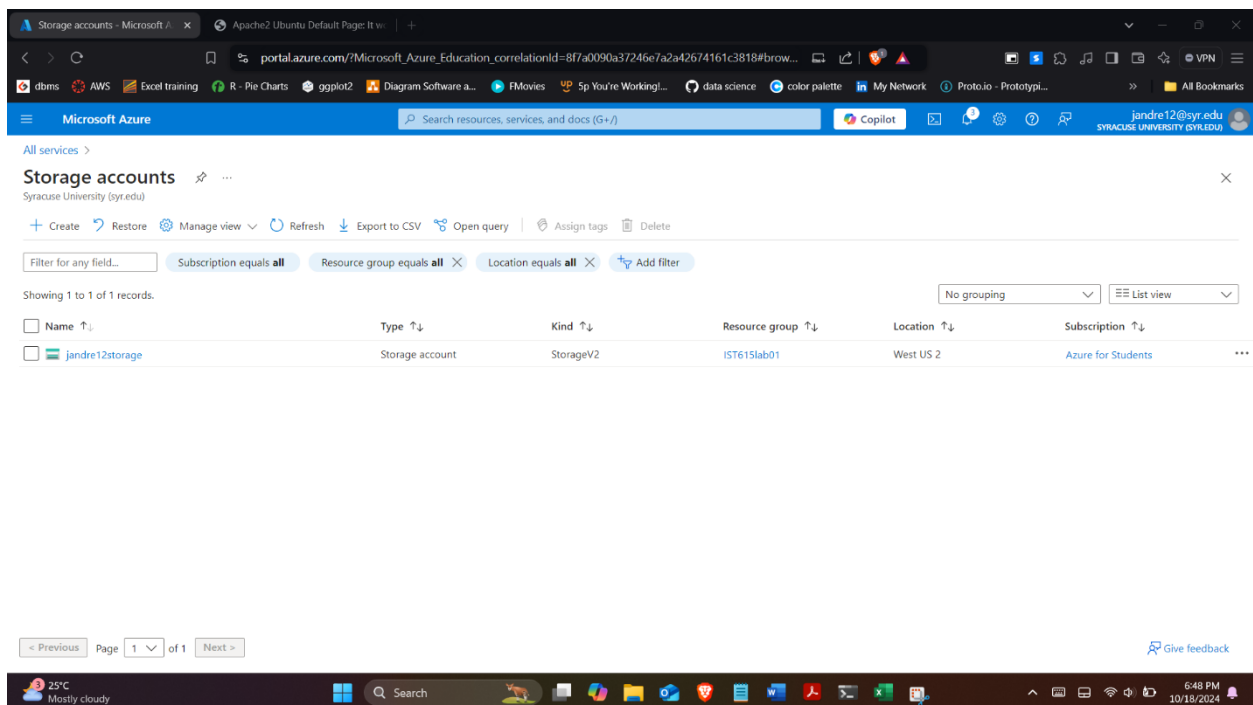
Shared Access Signatures (SAS)

A Shared Access Signature (SAS) is a secure way to grant limited access to resources in an Azure storage account without exposing your account key. SAS tokens provide granular control over the type of access granted and the duration of access.

PART III

SCS01: Storage account has been created.

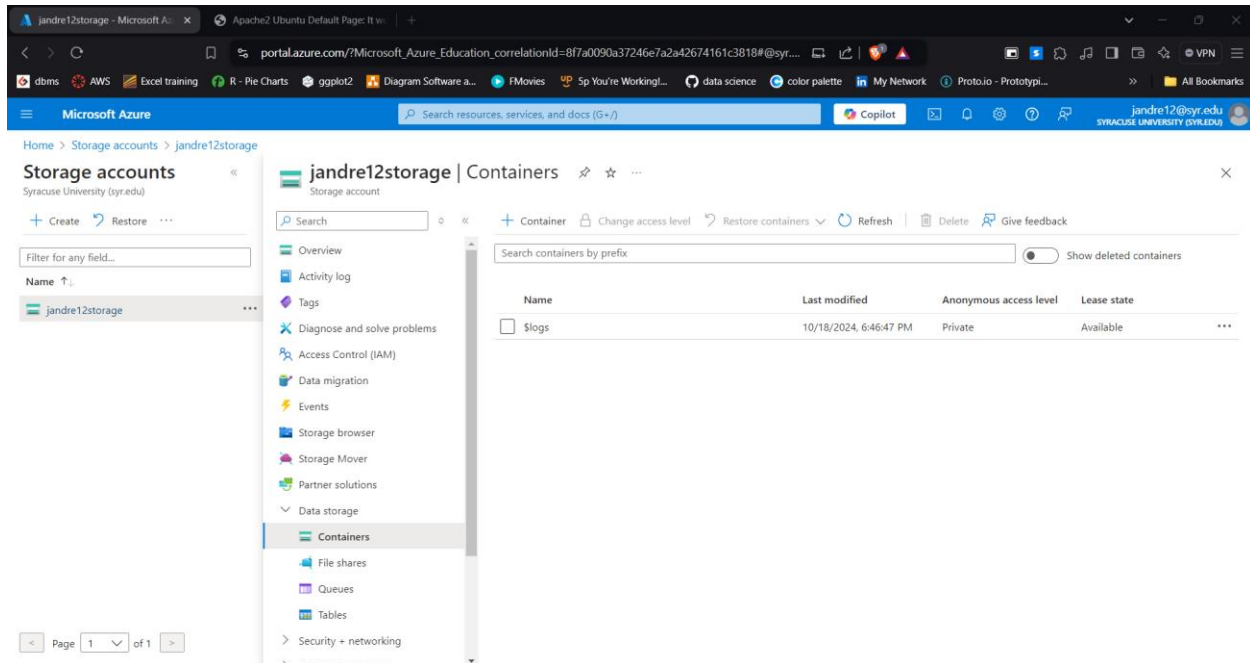
This screenshot shows the Azure Portal where a storage account named *jandre12storage* has been created under the resource group *IST615lab01*, using the *StorageV2* type, located in West US 2. The subscription used is Azure for Students. This confirms the successful creation of the storage account, which can now be used to store data and proceed with tasks like creating containers and uploading files.



SCS02: Storage container has been created.

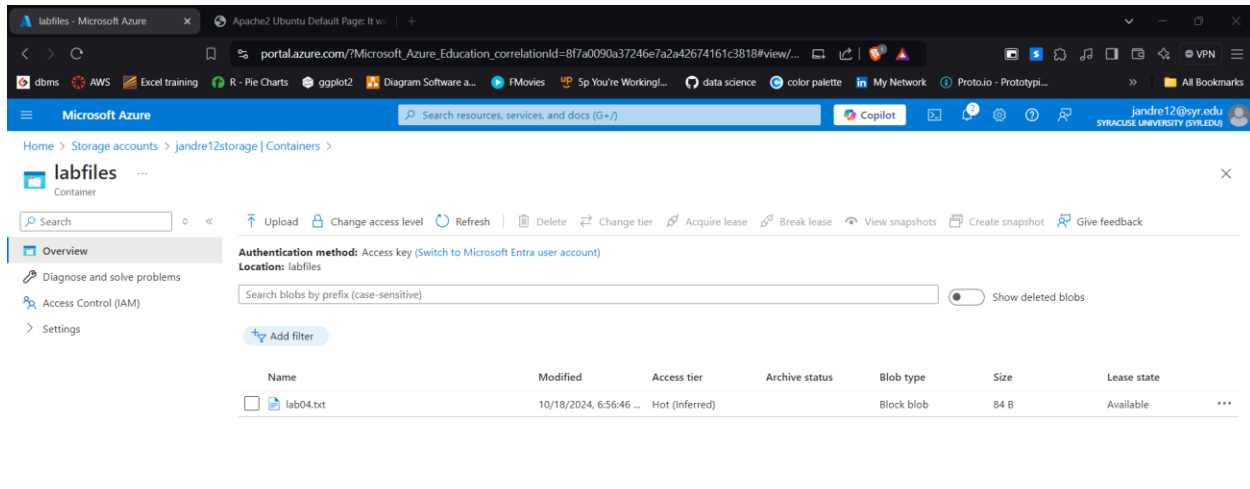
The Azure Portal's Containers section for the *jandre12storage* storage account is seen in this screenshot. It shows a single container with the name *\$logs*, which is generated automatically for

logging. The lease state of the container is stated as Available, and its access level is set to Private. You are now in the storage account's Data Storage area, where you may control queues, tables, file shares, and containers. From here, you may upload and manage files by creating a new container by selecting the Add Container icon.



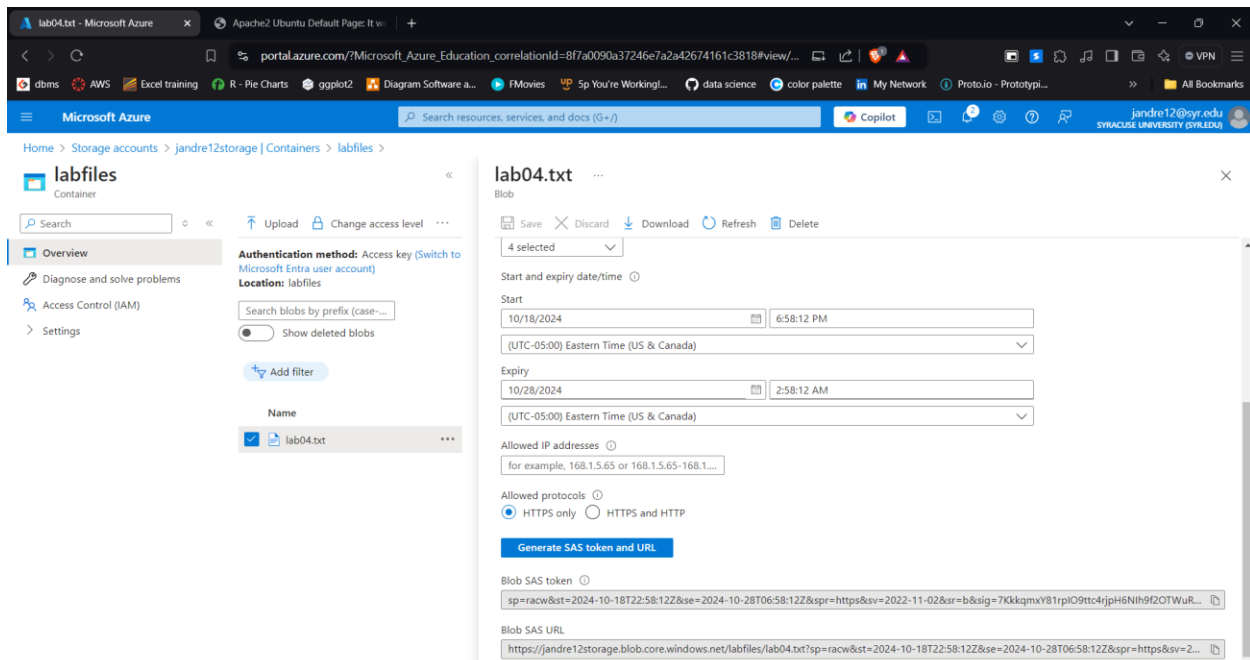
SCS03: lab04.txt file has been uploaded.

The image displays the labfiles container under the jandre12storage Azure storage account, where the uploaded file lab04.txt is visible. The file was last edited on October 18, 2024, and is kept as an 84 B Block blob with an Access tier of Hot (Inferred) for frequent access. The file may be seen or altered since it is in the Lease state of Available.



SCS04: SAS token and URL created.

The creation of a Shared Access Signature (SAS) token for the file lab04.txt within the labfiles container is seen in this picture. The token is valid from October 18, 2024, to October 28, 2024; no IP address limitations apply, and access is limited to HTTPS only. The file may be accessed securely for the allotted duration because the Blob SAS URL and SAS token have been produced correctly.



SCS05: ls commands and labfiles directory is present in VMs file system

This screenshot demonstrates how to successfully download lab04.txt from Azure Blob Storage to the local virtual machine (VM) using the AzCopy tool. The file's SAS URL was supplied in the command, and 84 bytes of data were sent with 1 file transfer and 0 failures. The transfer was successful, as indicated by the task summary, and lab04.txt is now accessible in the virtual machine's local directory.

```
azureuser@jandre: ~  
Saving to: 'downloadazcopy-v10-linux'  
downlo  0%    0  --.-KB/s  
downloa 54%   8.56M  42.8MB/s  
downloadazco 100% 15.66M  59.0MB/s   in 0.3s  
  
2024-10-18 23:06:12 (59.0 MB/s) - 'downloadazcopy-v10-linux' saved [16420846/16420846]  
  
azcopy_linux_amd64_10.26.0/  
azcopy_linux_amd64_10.26.0/NOTICE.txt  
azcopy_linux_amd64_10.26.0/azcopy  
azureuser@jandre:~$ sudo azcopy copy 'https://jandre12storage.blob.core.windows.net/Labfiles/lab04.txt?sp=racw&st=2024-10-18T22:58:12Z&se=2024-10-28T06:58:12Z&sp=https&sv=2022-11-02&sr=b&sig=7KkkqmxY8lrpI09ttc4rjPH6NIh9F20TWuRPpDmCdvk%3D' . --recursive  
INFO: Scanning...  
INFO: Any empty folders will not be processed, because source and/or destination doesn't have full folder support  
Job 25b6c167-684d-124f-652f-86653de5af2f has started  
Log file is located at: /root/.azcopy/25b6c167-684d-124f-652f-86653de5af2f.log  
  
100.0 %, 1 Done, 0 Failed, 0 Pending, 0 Skipped, 1 Total, 2-sec Throughput (Mb/s): 0.0003  
  
Job 25b6c167-684d-124f-652f-86653de5af2f summary  
Elapsed Time (Minutes): 0.0334  
Number of File Transfers: 1  
Number of Folder Property Transfers: 0  
Number of Symlink Transfers: 0  
Total Number of Transfers: 1  
Number of File Transfers Completed: 1  
Number of Folder Transfers Completed: 0  
Number of File Transfers Failed: 0  
Number of Folder Transfers Failed: 0  
Number of File Transfers Skipped: 0  
Number of Folder Transfers Skipped: 0  
Total Number of Bytes Transferred: 84  
Final Job Status: Completed  
  
azureuser@jandre:~$ ls  
azcopy_linux_amd64_10.26.0  lab04.txt  
downloadazcopy-v10-linux  
azureuser@jandre:~$
```

SCS06: Content of file *lab04.txt*

The procedure where the lab04.txt file is successfully transferred to the virtual machine and its contents are shown is depicted in this screenshot. Once the file has been downloaded using AzCopy, the command ls verifies that lab04.txt is in the current directory. Instead of trying to go to a non-existent directory, the user reads the contents of lab04.txt using the cat program, which verifies Jovita Andrews wrote the text file on October 18, 2024. This attests to the success of the file transmission and access.

```
azureuser@jandre: ~  
Job 25b6c167-684d-124f-652f-86653de5af2f has started  
Log file is located at: /root/.azcopy/25b6c167-684d-124f-652f-86653de5af2f.log  
  
100.0 %, 1 Done, 0 Failed, 0 Pending, 0 Skipped, 1 Total, 2-sec Throughput (Mb/s): 0.0003  
  
Job 25b6c167-684d-124f-652f-86653de5af2f summary  
Elapsed Time (Minutes): 0.0334  
Number of File Transfers: 1  
Number of Folder Property Transfers: 0  
Number of Symlink Transfers: 0  
Total Number of Transfers: 1  
Number of File Transfers Completed: 1  
Number of Folder Transfers Completed: 0  
Number of File Transfers Failed: 0  
Number of Folder Transfers Failed: 0  
Number of File Transfers Skipped: 0  
Number of Folder Transfers Skipped: 0  
Total Number of Bytes Transferred: 84  
Final Job Status: Completed  
  
azureuser@jandre:~$ ls  
azcopy_linux_amd64_10.26.0 lab04.txt  
downloadazcopy-v10-linux  
azureuser@jandre:~$ cd labfiles  
-bash: cd: labfiles: No such file or directory  
azureuser@jandre:~$ cat lab04.txt  
This is a text file created in my PC/laptop on 10/18/2024  
Created by Jovita Andrewsazureuser@jandre:~$
```