

Cloud and GitHub setup assignment instructions

Saturday, August 13, 2022 12:49 PM

This assignment will explore two core pieces of class infrastructure set up - GitHub and Azure. These tools will be essential for all assignments in the class so take the time to get comfortable with them.

This document provides a detailed walkthrough for the Azure portion of the assignment. If you need more background on Git or GitHub, do the optional assignment in week 2.

The deliverables for the assignment include:

1. A new resource group created in your newly created Azure subscription.
2. A storage account with a blob container containing the CSV file from GitHub. The storage account should be in the new resource group.
3. A key vault with a secret named "MySecret".
4. Screenshots of the following submitted via your GitHub repo for the assignment:
 - a. The resource group containing the storage account and key vault.
 - b. The storage account showing the blob container with the CSV file in it.
 - c. The key vault showing the secret.

High level steps

1. Create an Azure subscription ([Azure for Students – Free Account Credit | Microsoft Azure](#))
2. Create a new resource group
 - a. Name the resource group 'CSCI422-Assigment1' or 'CSCI622-Assigment1'.
3. Create an Azure Storage Account
4. Create a blob container in the storage account.
5. Upload CSV content from GitHub repo to the blob container.
6. Create a Key Vault.
7. Create a secret named "MySecret" in the key vault.
8. Take the required screenshots, place them in the repo in the AssignmentEvidence folder.
9. Add the files, commit the changes, and push the repo.

Azure Setup

[Create subscription \(Azure for Students – Free Account Credit | Microsoft Azure\)](#)

Use your first.last@ndus.edu account for the subscription.

Your profile

Country/Region i
United States

Choose the location that matches your billing address. **You cannot change this selection later.**
If your country is not listed, the offer is not available in your region. [Learn More](#)

First name
David

Middle name (Optional)

Last name
Froslie

Email address for important notifications i

Phone i
(701) 231-7972

Address line 1

Address line 2 (Optional)

City

Azure for Students

Get \$100 in Azure credits and free access to popular cloud services plus developer tools like Visual Studio Code

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

david.froslie@ndus.edu NORTH DAKOTA UNIVERSITY SY...

Home > Education | Overview

Overview Get started Overview

Learning resources

- Roles
- Software
- Learning
- Templates

Need help?

- Support

Student offer details

- Available credits \$100 out of \$100
- Days until credits expire 365 Expires on 08/21/2023
- August costs \$0.00

View cost details

Popular solutions

- Deploy a Docker container Create simple containers to host apps.
- Create your first Node.js app Build and deploy web, mobile and API-based
- Create and train a Machine Learning model Train, deploy, automate, manage, and track
- Build and deploy your first website Automatically publish to web as your code

Explore all

Change subscription name to start with your email alias:

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

david.froslie@ndus.edu NORTH DAK...

Home >

david.froslie Student Subscription ⚡ ...

Subscription

Search (Ctrl+ /) Overview Activity log Access control (IAM) Tags Diagnose and solve problems Security Events

Up Upgrade Cancel subscription Rename Change directory Feedback

Essentials

Subscription ID	6c124bfa-68d7-4316-a88d-0d0dabdd2f1d	Subscription name	david.froslie Student Subscription
Directory	North Dakota University System (ad.ndus.edu)	My role	Owner
Status	Active	Plan	Azure Plan
Parent management group	ec37a091-b9a6-47e5-98d0-903d4a419203	Secure Score	Not available

Create a resource group

Navigate to Home

Microsoft Azure Search

Home >

david.froslie Student Subscription ⚡ ...

Subscription

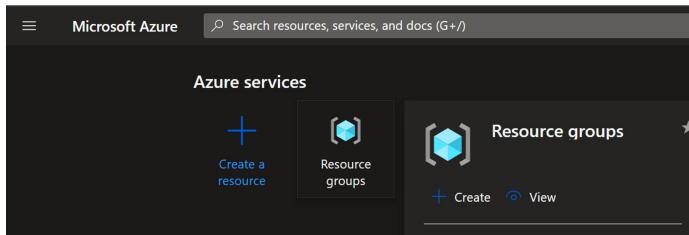
Search (Ctrl+ /) Overview Activity log Access control (IAM) Tags Diagnose and solve problems

Up Upgrade Cancel subscription Rename Change directory Feedback

Essentials

Subscription ID	: 6c124bfa-68d7-4316-a88d-0d0dabdd2f1d
Directory	: North Dakota University System (ad.ndus.edu)
Status	: Active
Parent management group	: ec37a091-b9a6-47e5-98d0-903d4a419203

Create a resource group. Hover over Resource groups until the popup menu appears and select Create.



Create the resource group in a US region and name it CSCI422-Assignment1 (or CSCI622-Assignment1).

A screenshot of the "Create a resource group" dialog box. At the top, there are tabs for "Basics", "Tags", and "Review + create", with "Basics" being the active tab. The "Basics" section contains a description of what a resource group is, followed by "Project details" and "Resource details" sections. In the "Project details" section, the "Subscription" dropdown is set to "david.froslie Student Subscription" and the "Resource group" dropdown is set to "CSCI422-Assigment1". In the "Resource details" section, the "Region" dropdown is set to "(US) East US".

Create a storage account, blob container, and upload CSV

Navigate to the Resource Group you just created. Click on '+ Create'.

A screenshot of the "Resource groups" overview page. The left sidebar shows a list of resource groups: "cloud-shell-storage-southcentralus" and "CSCI422-Assigment1". The "CSCI422-Assigment1" group is selected. The main pane shows the "CSCI422-Assigment1" resource group details, including its name, subscription information ("david.froslie Student Subscription"), and a list of features: "Overview", "Activity log", "Access control (IAM)", and "Tags".

Search the Marketplace for Storage Account. Find the Storage Account from Microsoft and click Create.

Microsoft Azure

Home > Resource groups > CSCI422-Assigment1 > Marketplace

Marketplace ...

Get Started

Service Providers

Management

Private Marketplace

Private Offer Management

My Marketplace

Favorites

Recently created

Private plans

Categories

Storage (77)

Compute (47)

Storage Account

Azure services only

Showing 1 to 20 of 175 results for 'Storage Account'. [Clear search](#)

Storage account

Microsoft

Azure Service

Use Blobs, Tables, Queues, Files, and Data Lake Gen 2 for reliable, economical cloud storage.

Price varies

Create  

Storage Account Using ARM Template

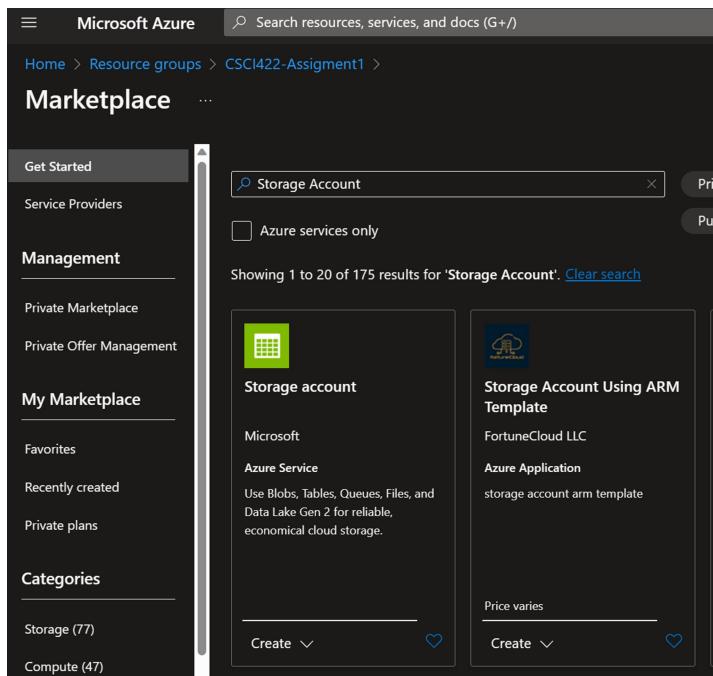
FortuneCloud LLC

Azure Application

storage account arm template

Price varies

Create  



Create the storage account in the same region as the resource group. Use Standard performance and Locally-redundant storage (LRS).

Microsoft Azure

Home > Resource groups > CSCI422-Assigment1 > Marketplace > Storage account > Create a storage account ...

Basics Advanced Networking Data protection Encryption Tags Review

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *

Resource group * [Create new](#)

Instance details

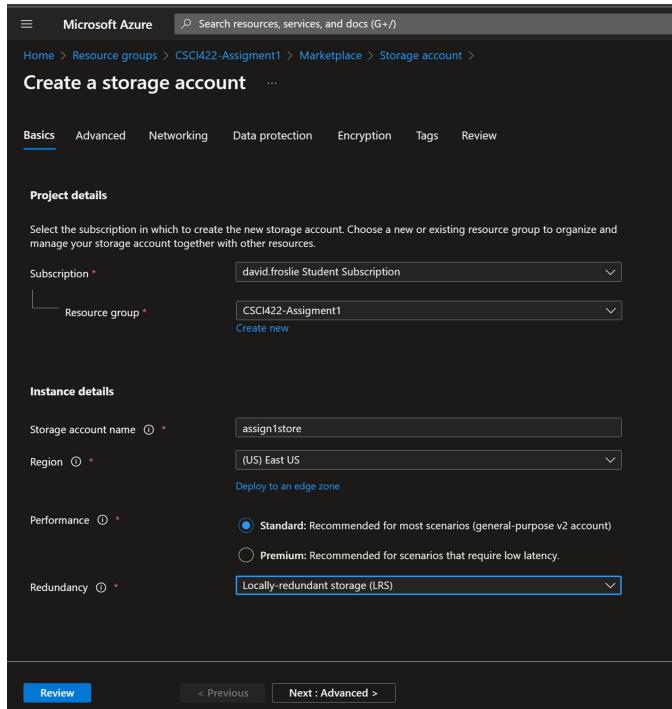
Storage account name *

Region * [Deploy to an edge zone](#)

Performance * Standard: Recommended for most scenarios (general-purpose v2 account)
 Premium: Recommended for scenarios that require low latency.

Redundancy *

[Review](#) [Next : Advanced >](#)



On Advanced, Use the defaults with the exception of:

- Enable hierarchical namespace - this is a good default as it helps with big data processing
- Access tier - Hot. We'll reuse the storage account for future assignments where frequent access will be required.

Microsoft Azure

Search resources, services, and docs (G+)

Home > Resource groups > CSC422-Assigment1 > Marketplace > Storage account >

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review

Default to Azure Active Directory authorization in the Azure portal

Minimum TLS version

Permitted scope for copy operations (preview)

Hierarchical Namespace

Hierarchical namespace, complemented by Data Lake Storage Gen2 endpoint, enables file and directory semantics, accelerates big data analytics workloads, and enables access control lists (ACLs) [Learn more](#)

Enable hierarchical namespace

Access protocols

Blob and Data Lake Gen2 endpoints are provisioned by default [Learn more](#)

Enable SFTP

Enable network file system v3

Blob storage

Allow cross-tenant replication
Cross-tenant replication and hierarchical namespace cannot be enabled simultaneously.

Access tier Hot: Frequently accessed data and day-to-day usage scenarios Cool: Infrequently accessed data and backup scenarios

Review < Previous Next : Networking >

Networking - take defaults

Data protection - take defaults

Encryption - take defaults

Tags - None

Review

Create

After creation, go to resource. Select containers, then '+ Container'

Microsoft Azure

Search resources, services, and docs

Home >

assign1store_1691184855610 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

Overview Inputs Outputs Template

Your deployment is complete

Deployment name: assign1store_1691184855610
Subscription: david.frosle Student Subscription
Resource group: CSC422-Assigment1

Deployment details Next steps

Go to resource Give feedback

The screenshot shows the Microsoft Azure Storage account interface. In the left sidebar, under 'Data storage', 'Containers' is selected. The main area displays a list of containers with a search bar at the top. A single result, '\$logs', is listed under the 'Name' column.

A modal dialog titled 'New container' is open. It contains fields for 'Name' (set to 'assign1') and 'Public access level' (set to 'Private (no anonymous access)'). There is also an 'Advanced' section which is currently collapsed.

Go to Storage browser, Blob Containers.

The screenshot shows the Microsoft Azure Storage browser. Under 'Storage browser', 'Blob containers' is selected. It lists two containers: '\$logs' and 'assign1'. There are also links for 'View all', 'File shares', 'Queues', and 'Tables'.

Navigate to the blob you just created. Upload the CSV file from the GitHub repo.

Take a screenshot of the uploaded file in the Storage Explorer and save it in the repo.

You now have successfully completed the storage account portion of the assignment.

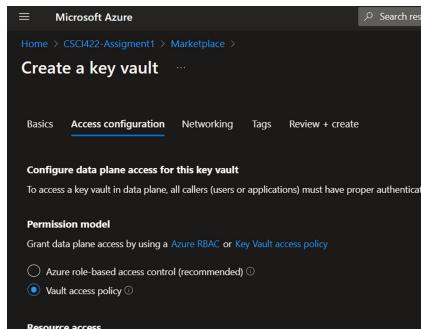
Create a Key Vault

Navigate back to the Resource Group and create a key vault in it by searching in the marketplace for it as you did with the storage account. Select the Key Vault from Microsoft that looks like the following:



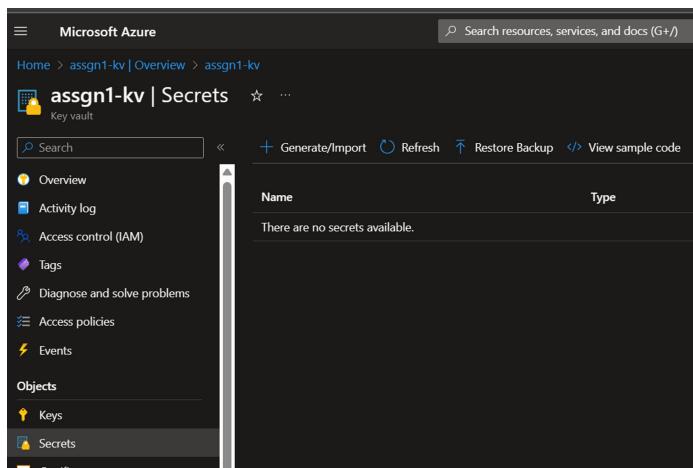
Use the defaults on the Basics page. Select the same region as your storage account.

On the Access configuration page, select Vault access policy.

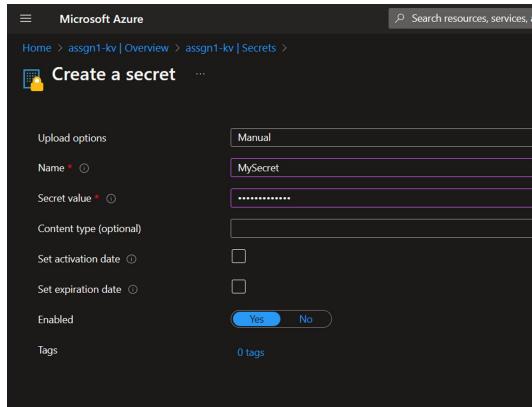


Use the defaults for Networking and Tags, Review, and Create.

After the resource is created, go to it. Next, manually generate a new secret.



Name the secret "MySecret" and put whatever you want into the Secret value.



Once the secret is created, you can navigate to its current version and show the secret.

Take a screenshot of the created secret in the Secrets listing of the Key Vault and save it in the repo.

You have now completed the key vault portion of the assignment.

Wrap up

Navigate back to the resource group and take a screenshot of the resources in the group and save it in the repo.

You should now have screenshots providing evidence for the storage account, key vault, and resource group. Commit and push your changes in git to complete the assignment.