Tutorial S2: Blob storage container

Creating a storage account in Azure will allow you to create containers of stored data that you can mount onto their machines.

This tutorial covers how to do the following steps through the Azure desktop portal:

1. Create a **storage account****
2. Create a **storage container** within the storage account
3. Look at data within the storage container
4. Read and write data to the storage container using azcopy
5. Get storage account name and key (for NotebookS4)

**The settings you select when creating the storage account are extremely important to make sure it is easily accessible later.

1. Creating a storage account

Create a storage account

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Basics | Advanced | Networking | Data protection | Encryption | Tags | Review

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. Learn more about Azure storage accounts

Project details

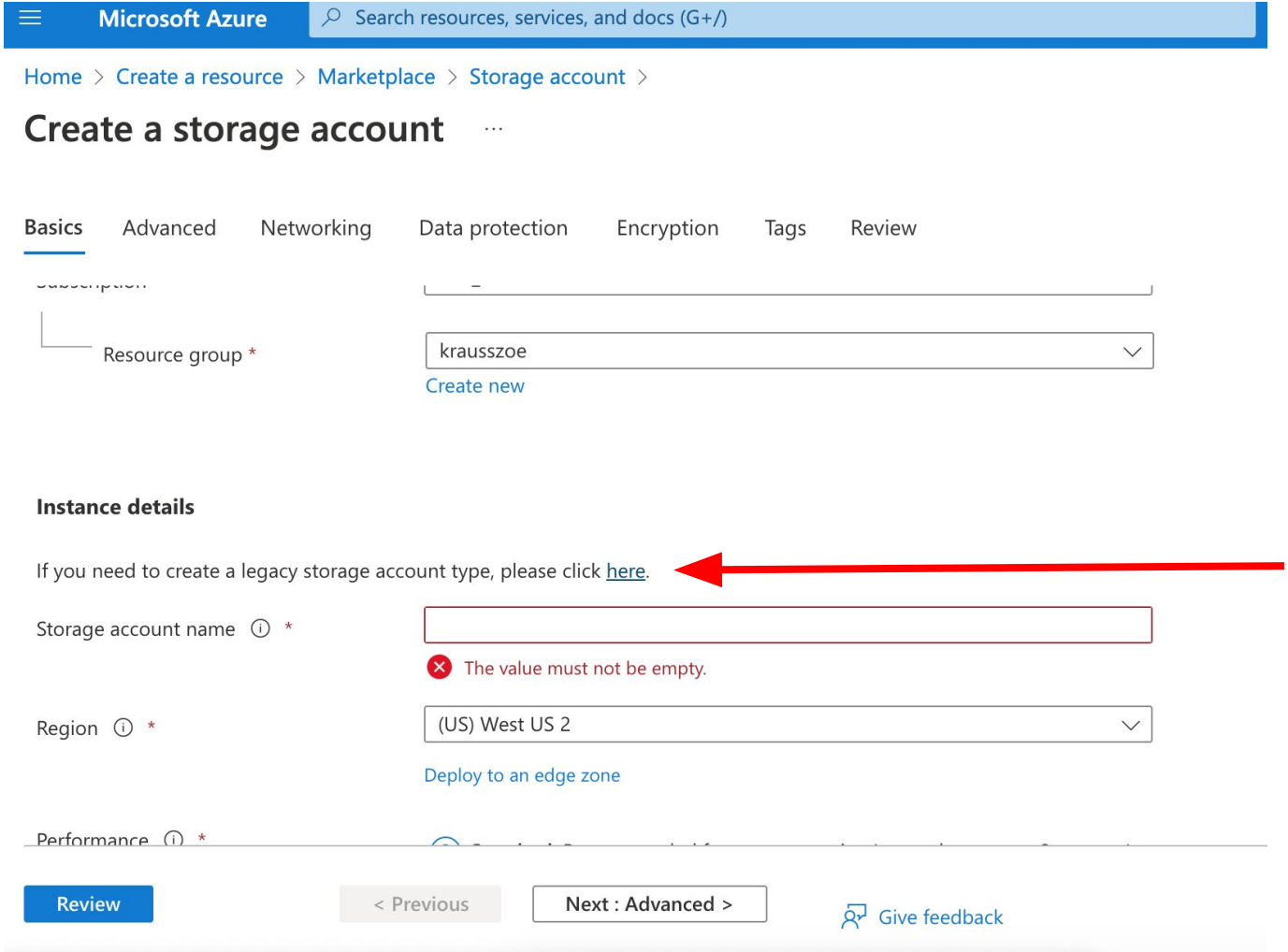
Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription * Zoe_Krauss

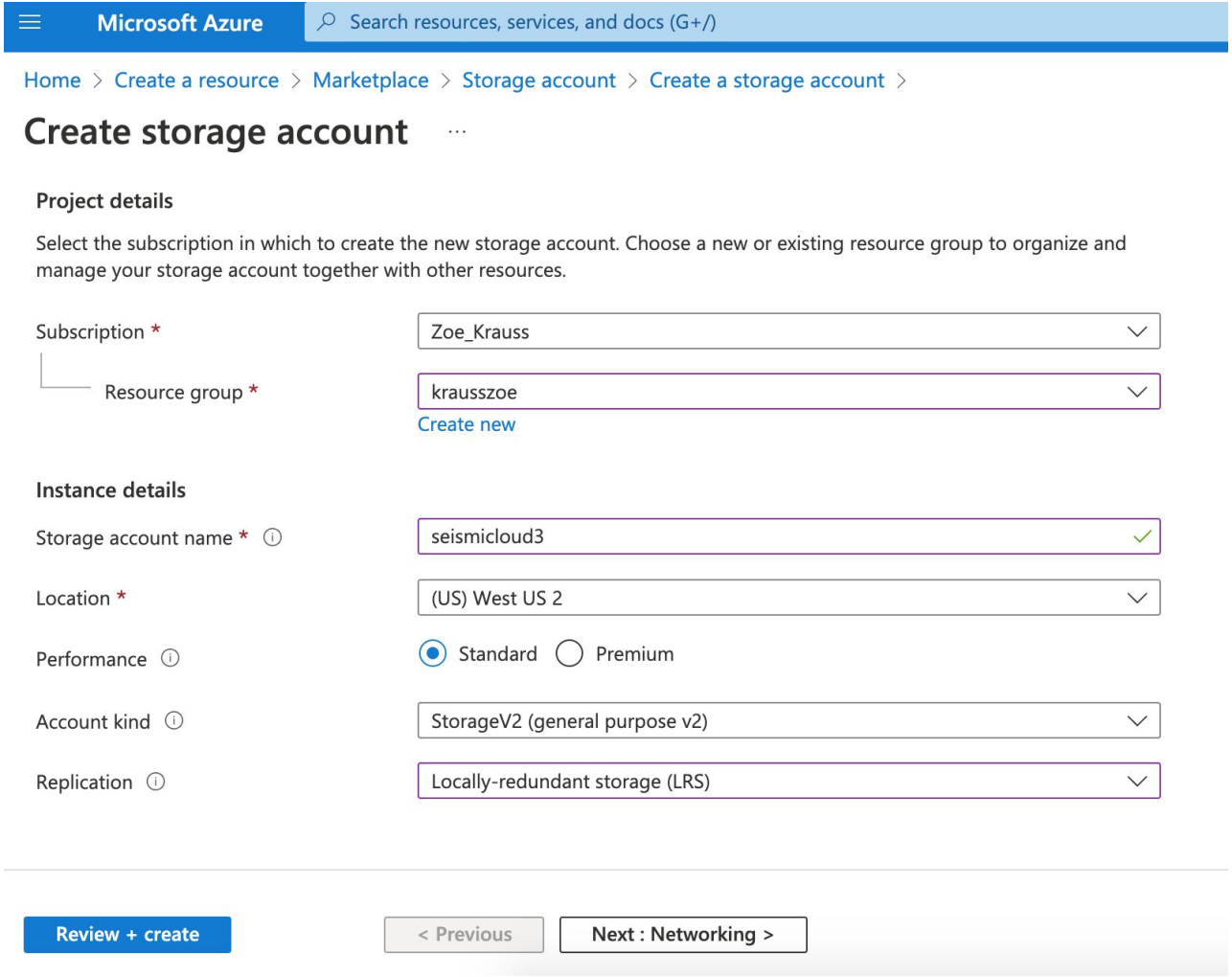
Resource group * krausszoe

Create new

Review | < Previous | Next : Advanced > | Give feedback

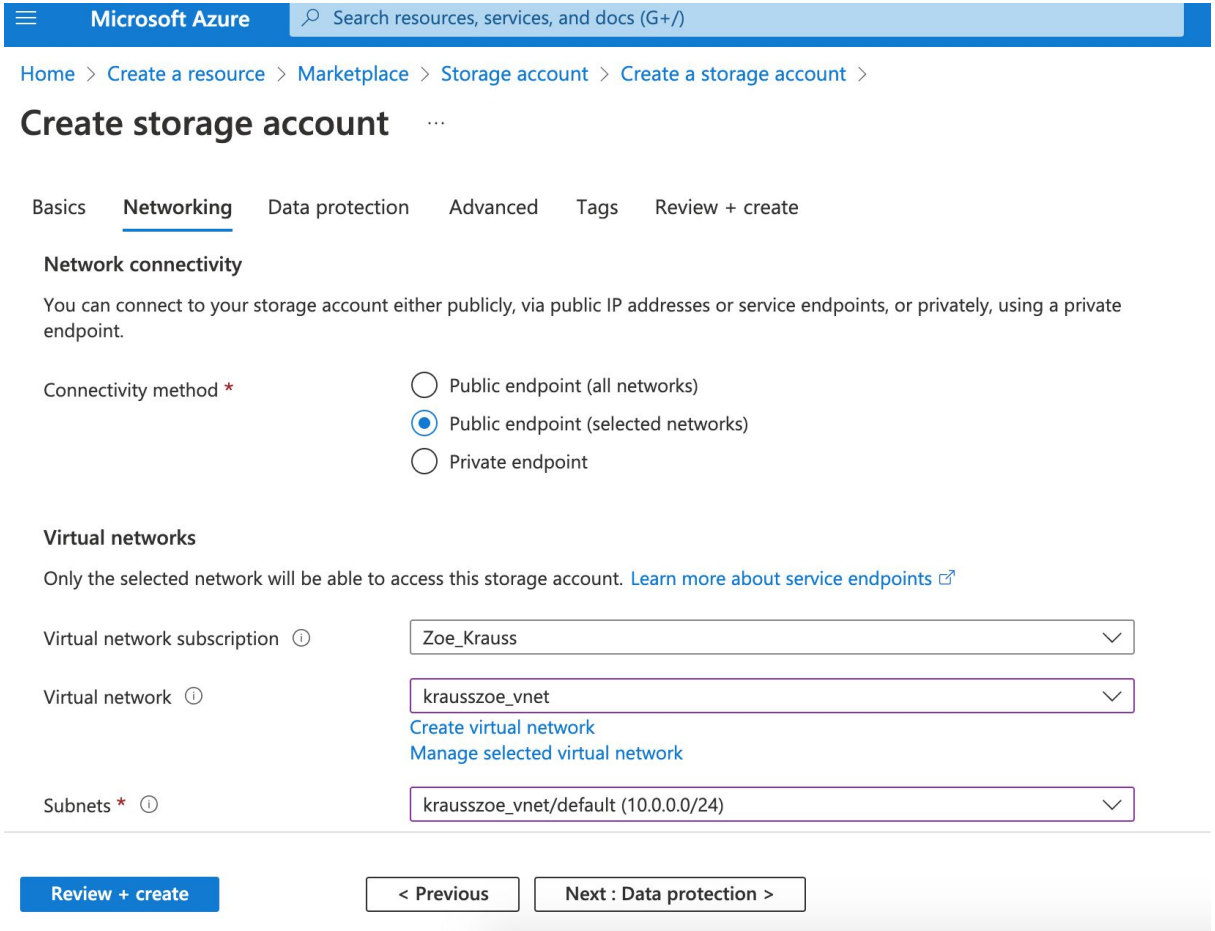


We want to create a legacy storage account type, which makes it easier to access shared file storage. Click here.



Name it whatever you like and tie it to your desired resource group.

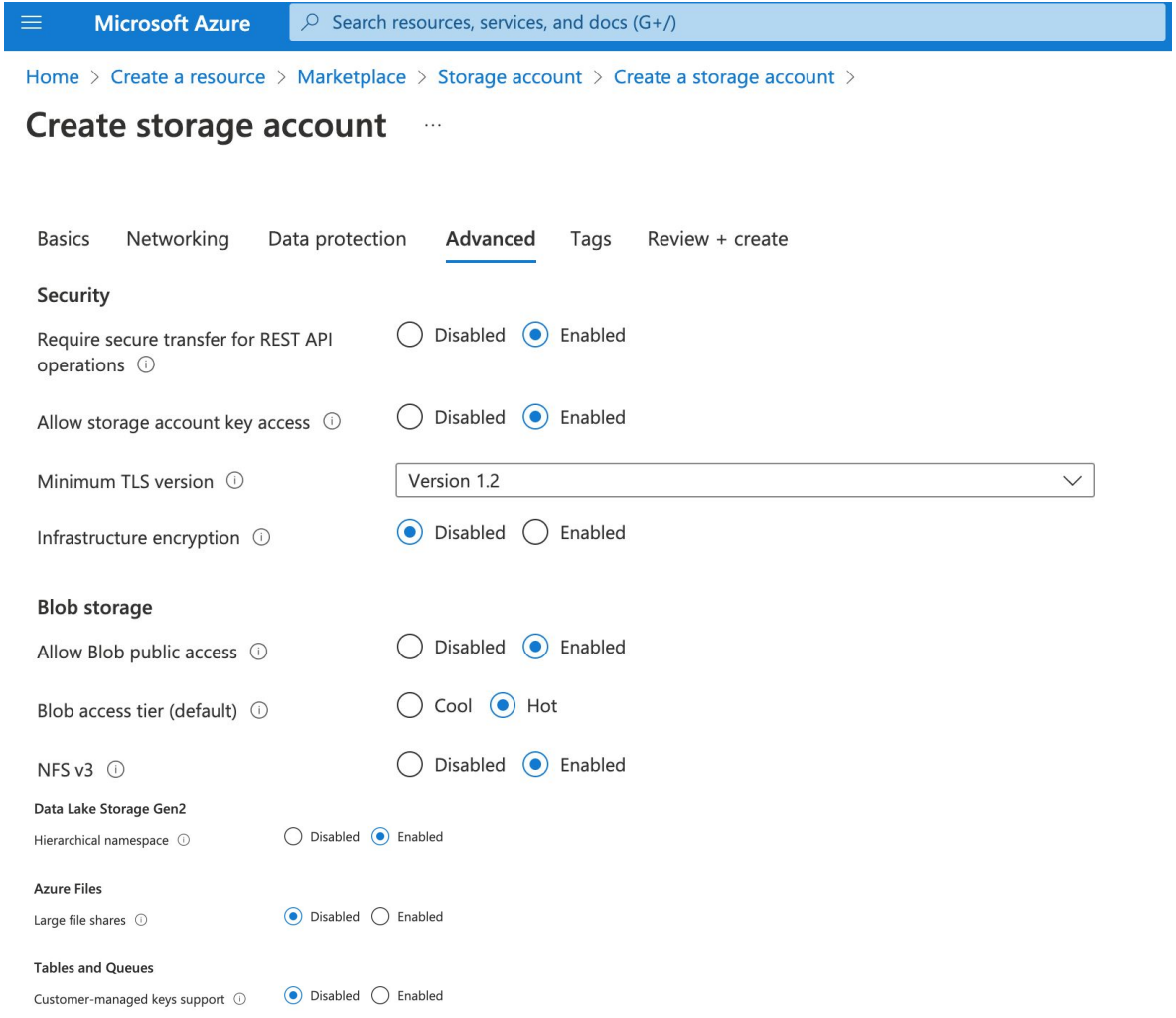
For Replication, select either “Locally Redundant Storage” or “Zone Redundant Storage”.



Under networking, select “Public endpoint (selected networks)”

Select the virtual network you will be working in, with the default subnet.

Default Microsoft network routing is fine.



Data Protection selections can be left as default. Navigate to Advanced, and select the options shown to the left.

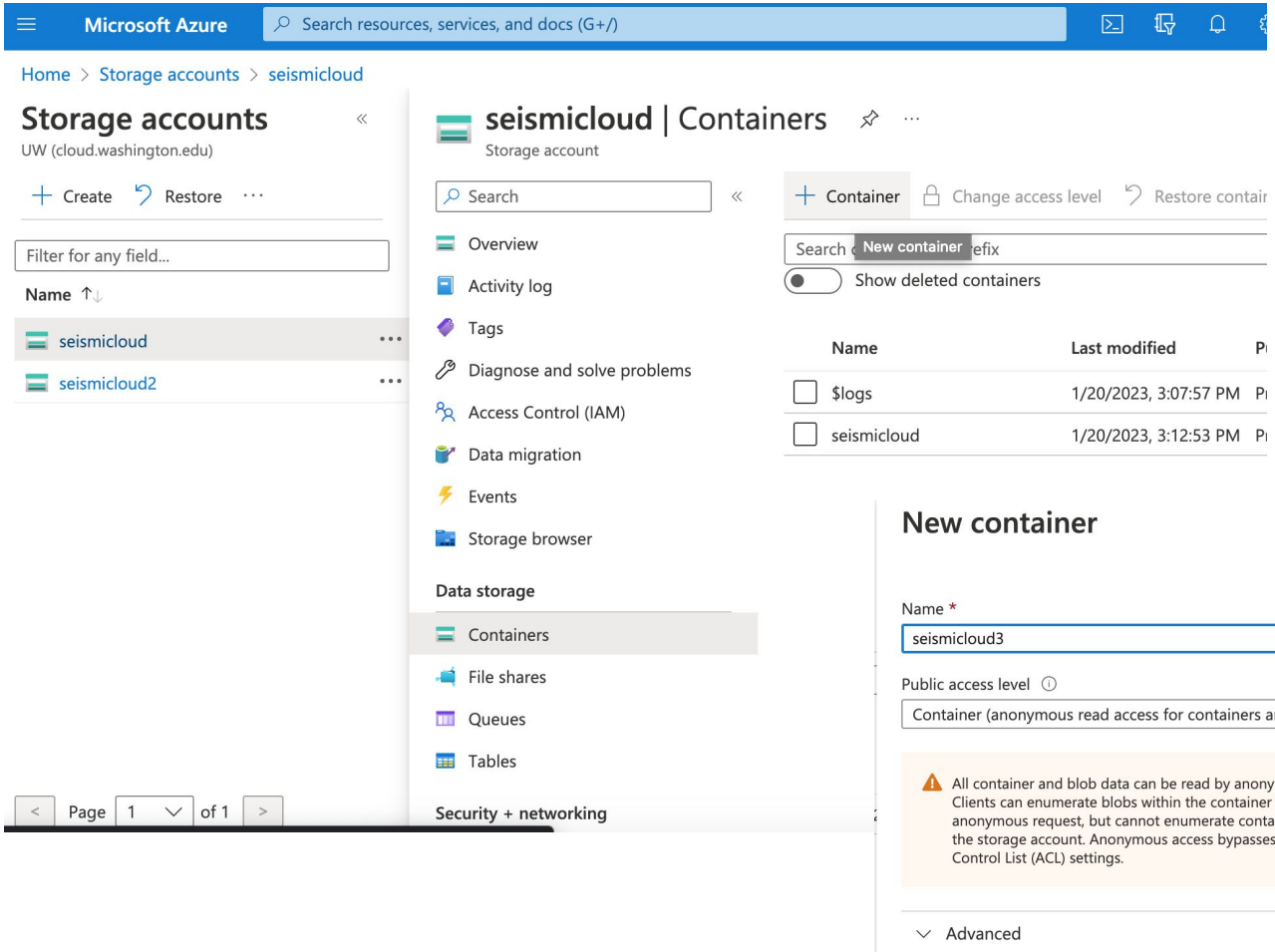
Make sure NFS v3 is enabled! This is how we will be accessing containers in the storage account.

Review & create.

2. Create a storage container

Great! Now we have a storage account set up with the proper permissions and abilities enabled.

Now, we have to create a container within the account in which to actually store data.

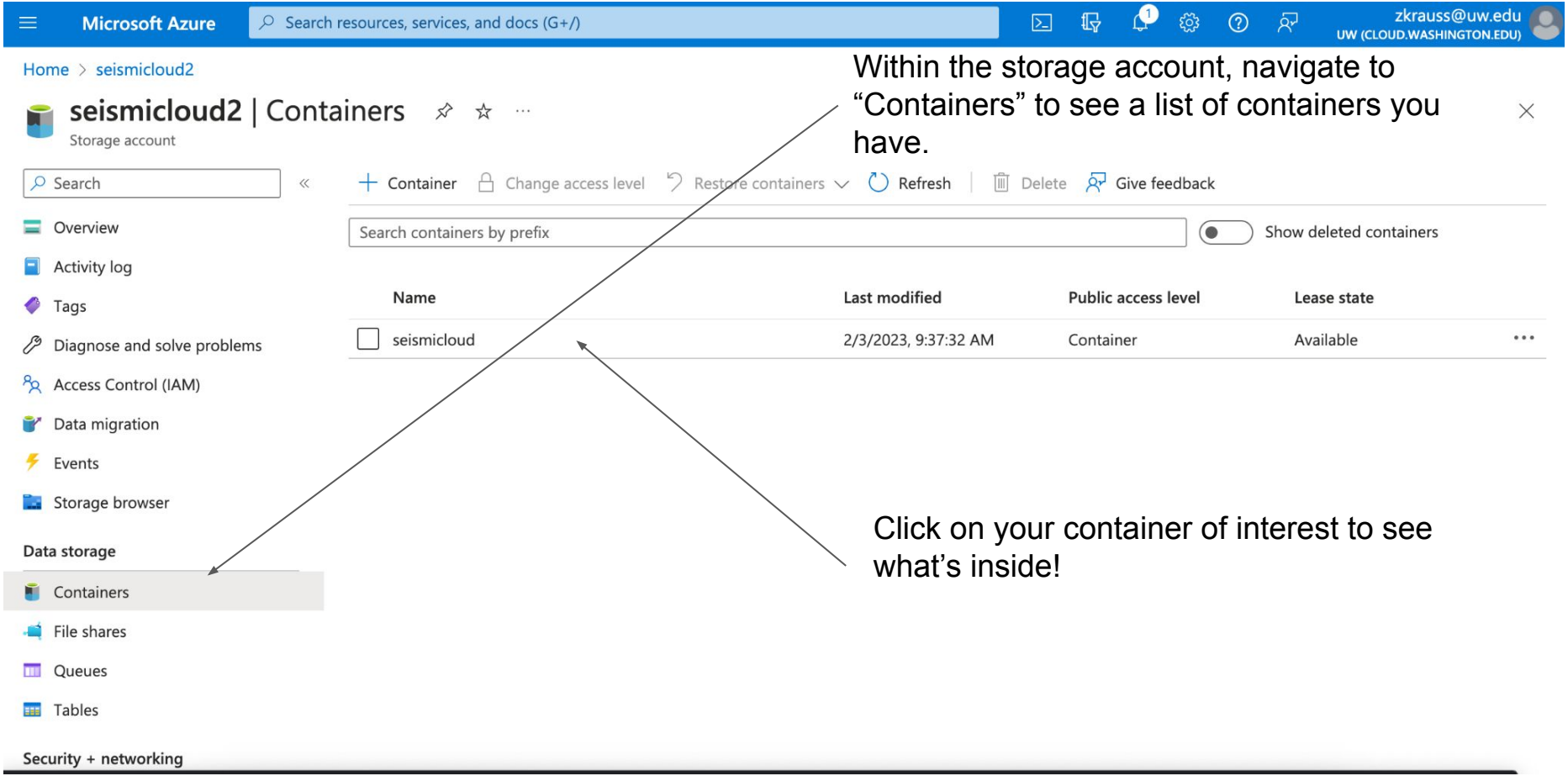


Click on your storage account, and then “Containers” on the sidebar. Add a new container.

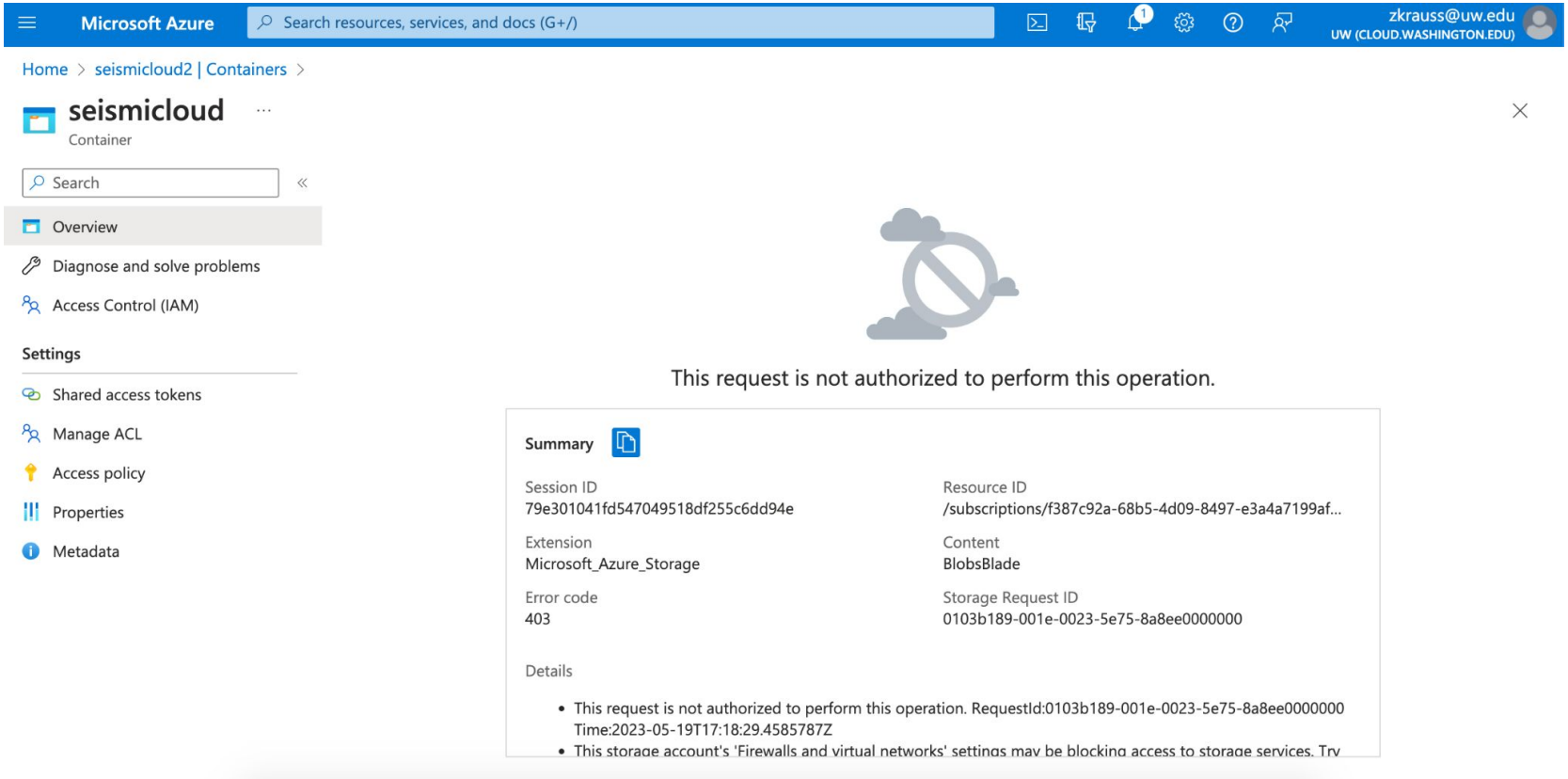
Name it anything you like, and specify “Container” as the public access level.

3. Look at data in storage account

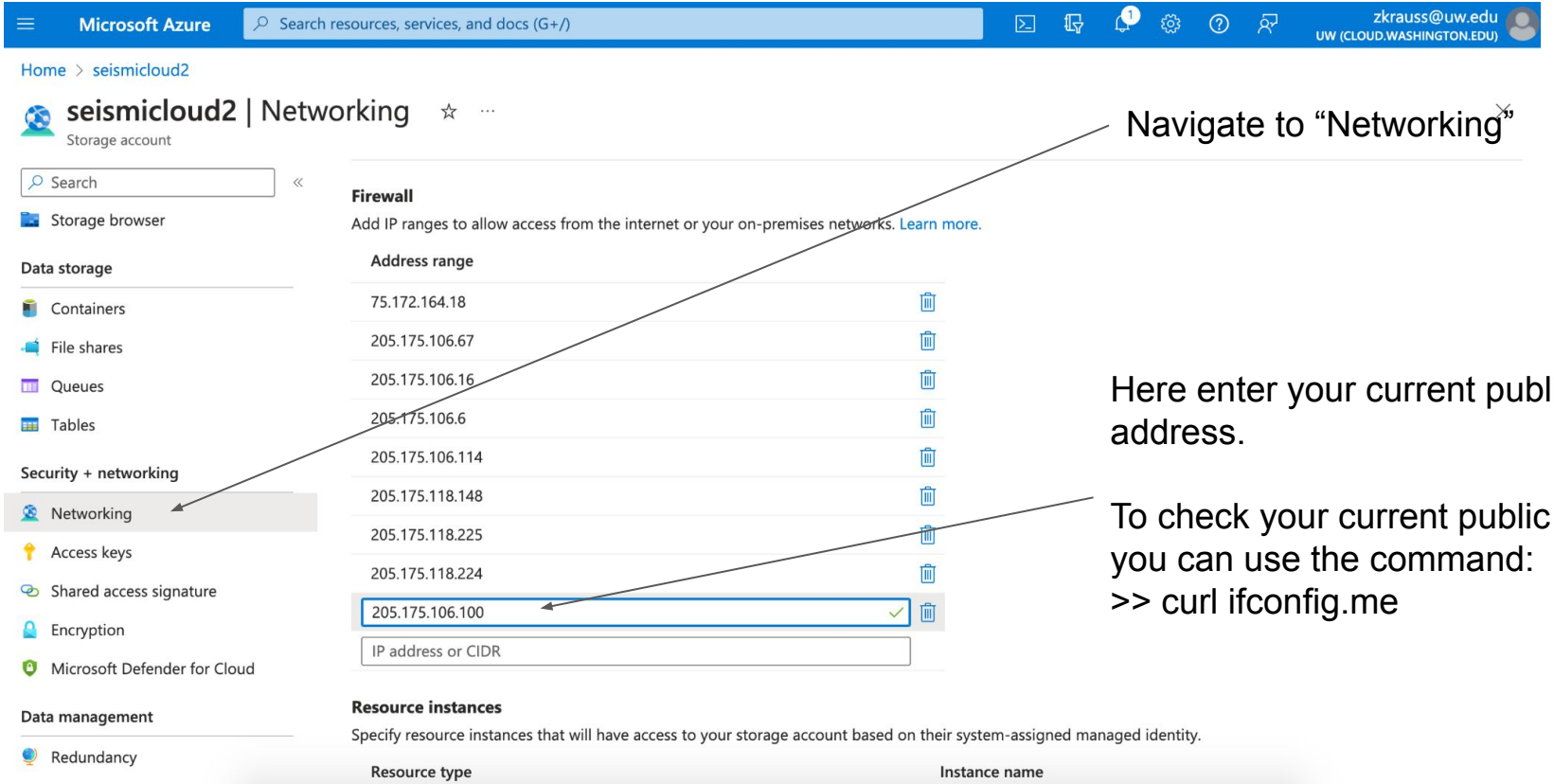
Once your container is created, you can navigate to it and see what's inside.



If you see this screen or a similar error message when you click on your container, you'll need to edit the "Networking" settings of the Storage Account itself. See next slide…



On the page for the Storage Account, navigate to “Networking” on the side bar and scroll down to the Firewall section.



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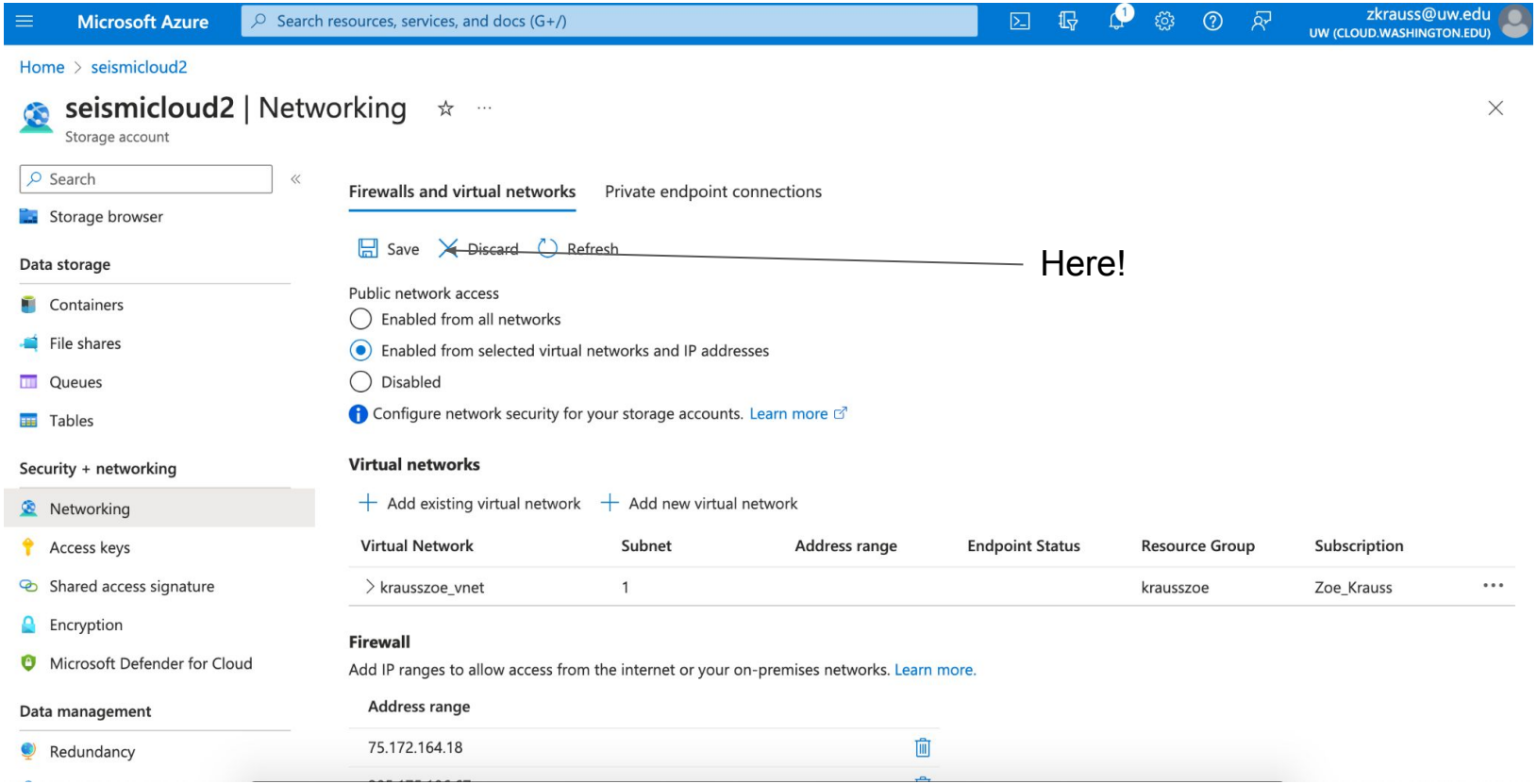
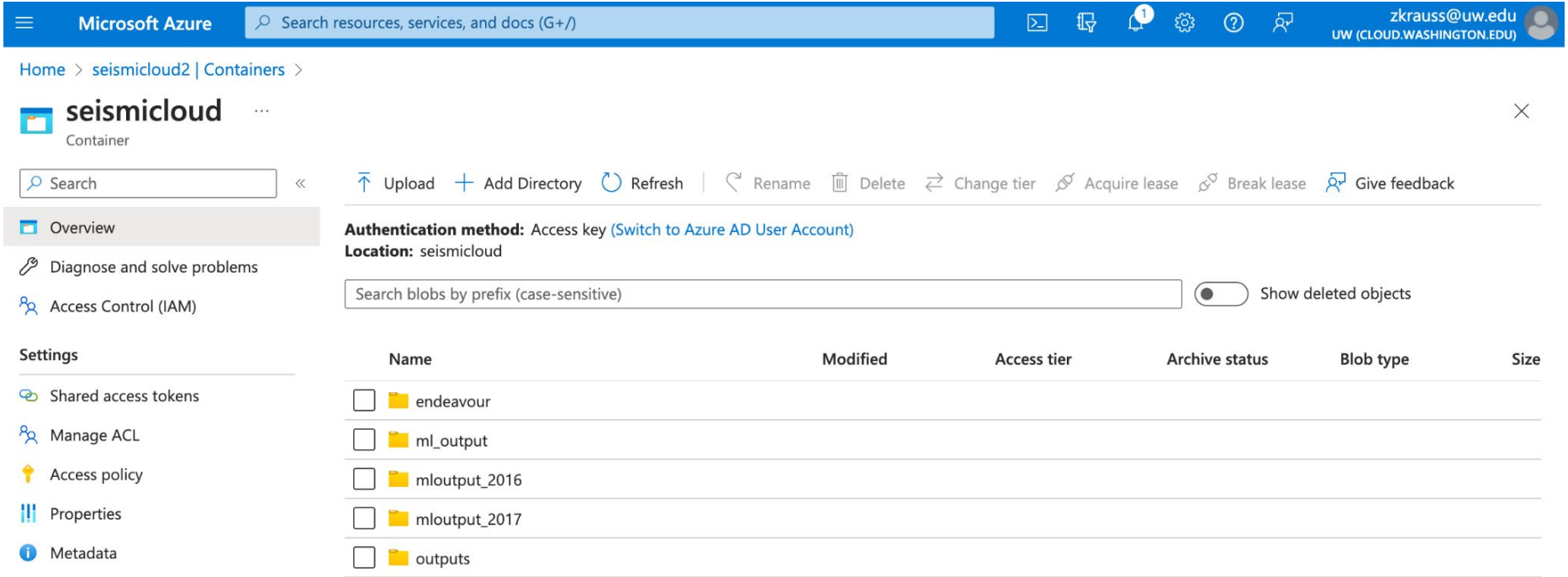
After typing in your Public IP Address, scroll up and hit “Save”.



It sometimes takes a few seconds for the new networking settings to take effect, but you should now be able to access your container through “Containers” in the side bar.

Once you successfully have access into the container page, you will see a screen like this. You can click on different folders and navigate through files in the same way you would a laptop!



4. Write and read data to/from the storage container

There are several ways to do this, but the we found that the easiest and most straightforward was using Azure’s azcopy Command Line Interface (CLI).

You can interact with the storage container using a CLI called azcopy, which you must install from Azure.
https://learn.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-files

To write data *to* the storage container, the command has the form:

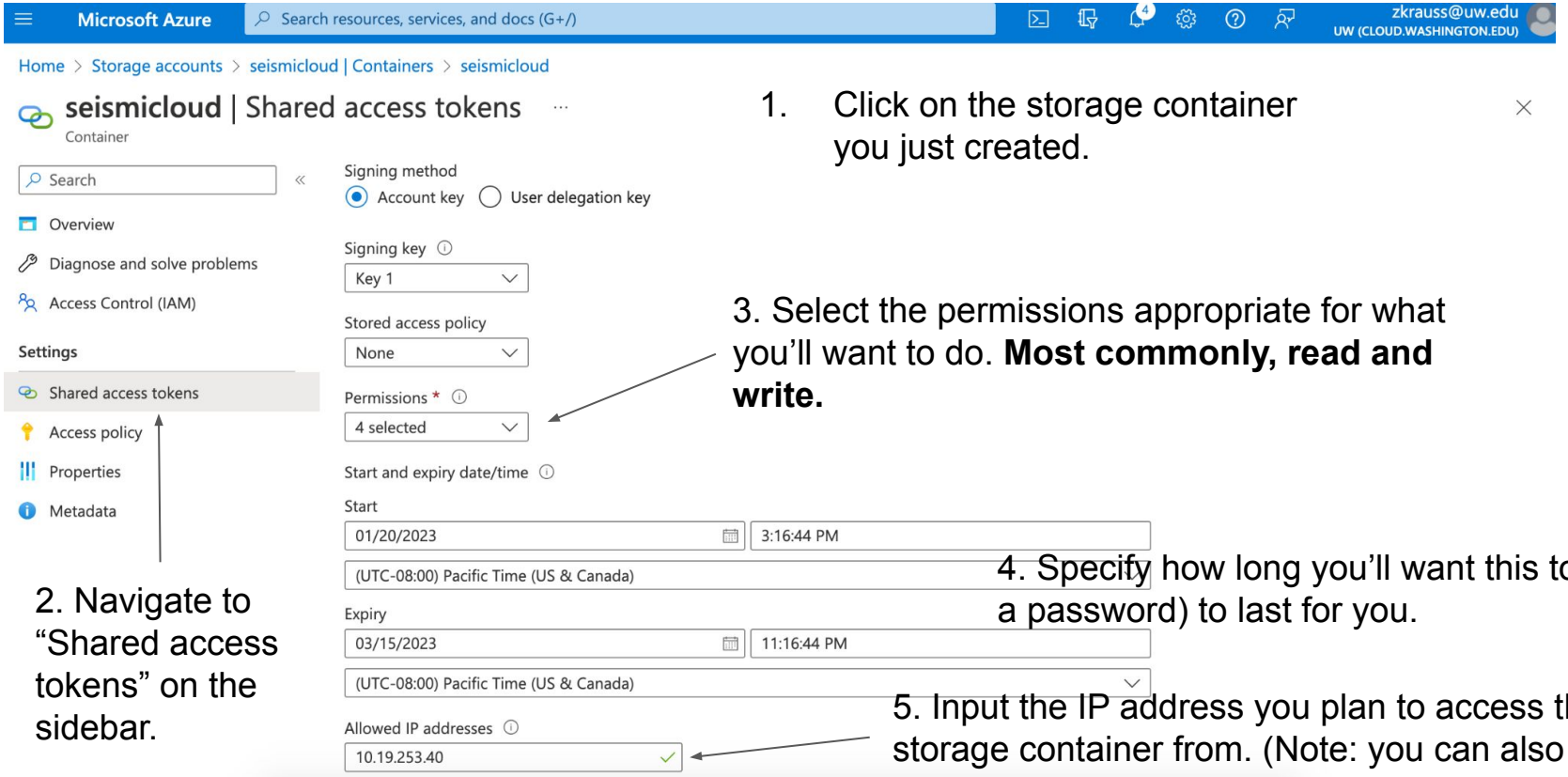
>> azcopy copy "<local directory to copy>"
"https://{storage_account_name}.blob.core.windows.net/{storage_container_name}?{sas_token}" -- recursive=True

The command to read data *from* the storage container is nearly the same, but with the filepaths switched. To read data from the storage container, the command has the form:

>> azcopy copy "https://{storage_account_name}.blob.core.windows.net/{storage_container_name}/path/to/copy/?{sas_token}"
"<local path to copy to>" -- recursive=True

The passed argument –recursive=True is unnecessary if you are only reading or writing one file.

The storage account name and storage container name you already have. Remember that we made a storage container *inside* the storage account! To get the SAS token for the storage container, check out the next slide…



1. Click on the storage container you just created.

2. Navigate to "Shared access tokens" on the sidebar.

3. Select the permissions appropriate for what you'll want to do. **Most commonly, read and write.**

4. Specify how long you'll want this token (like a password) to last for you.

5. Input the IP address you plan to access the storage container from. (Note: you can also leave this blank. **But, make sure that the IP address you will use is allowed under /Networking in the Storage account settings**.)

6. Generate the token. This is used in the azcopy command, and you should save and keep in a safe place.

Common problems when trying to write data to the storage container using azcopy…

- Copy and pasting the azcopy command (quotation marks get screwed up).
- Make sure you specified the correct permissions when generating the SAS token: Read AND Write!
- “Description=This request is not authorized to perform this operation.”
    - Permission / authentication errors- in this case you want to check on the storage **account** under “Networking” and make sure the IP address you are trying to read/write from is allowed. Make sure to “save” your changes here!
    - The command “>> curl ifconfig.me” will print your current public IP address.

5. Get storage account name and key

Navigate to your storage account