

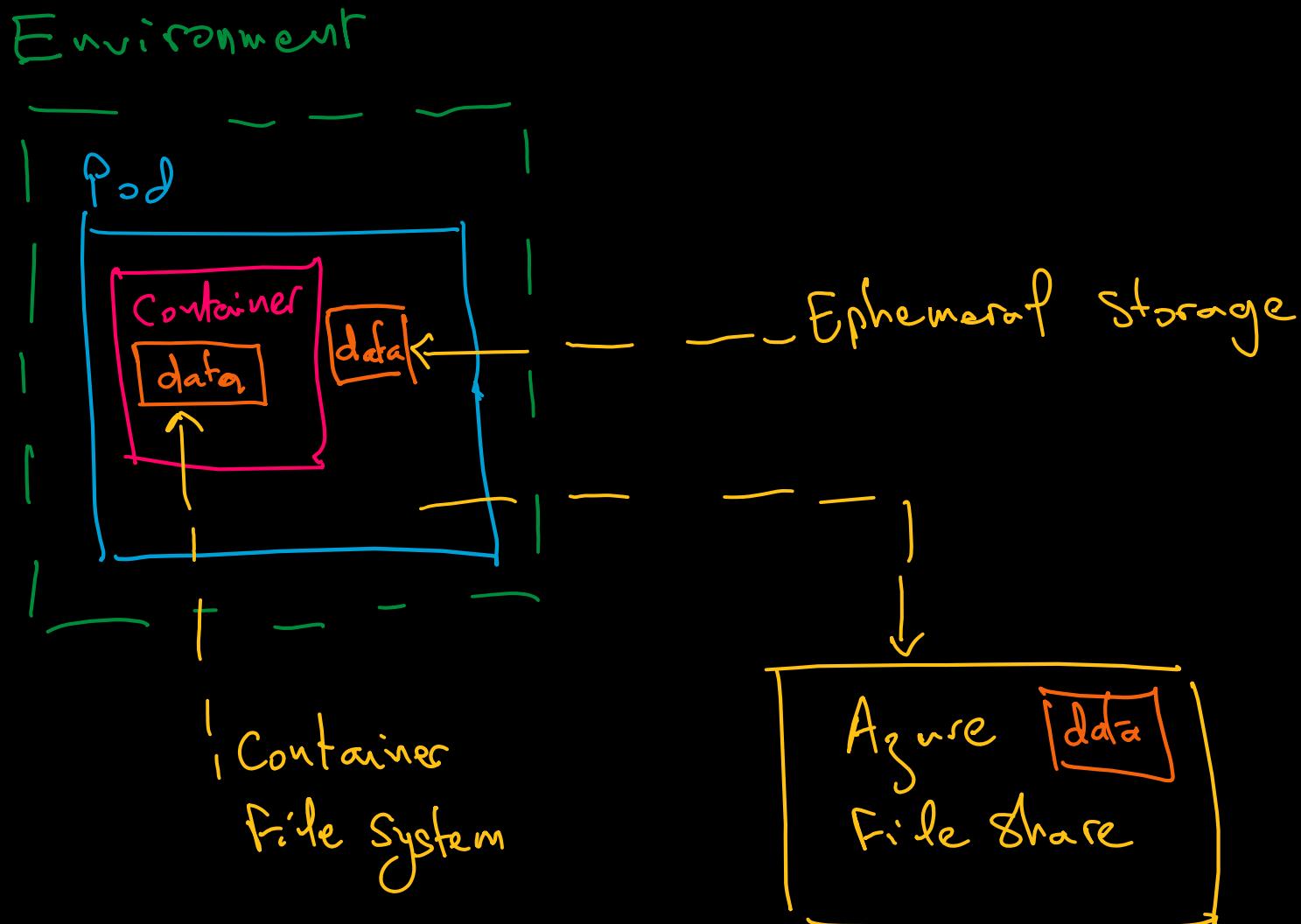
# Azure Container Apps

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## Storage options

- ➔ Container file system
- ➔ Ephemeral storage
- ➔ Azure Files

# Azure Container Apps Storage options



# Azure Container Apps Storage options

| Storage type          | Description                                       | Usage examples   |
|-----------------------|---|--|
| Container file system | Temporary storage scoped to the local container   | Writing a local app cache.   |
| Ephemeral storage     | Temporary storage scoped to an individual replica | Sharing files between containers in a replica. For instance, the main app container can write log files that are processed by a sidecar container. |
| Azure Files           | Permanent storage                                 | Writing files to a file share to make data accessible by other systems.  |

# Container Apps storage: container file system

- The storage is temporary and disappears when the container is shut down or restarted.
- Files written to this storage are only visible to processes running in the current container.
- There are no capacity guarantees.

The available storage depends on the amount of disk space available in the container.

# Container Apps storage: container file system

```
az containerapp create `  
  --name $CONTAINERAPPS_APP `  
  --resource-group $RESOURCE_GROUP `  
  --environment $CONTAINERAPPS_ENVIRONMENT `  
  --image nginx:latest `  
  --target-port 80 `  
  --ingress 'external'  
  
az containerapp exec -n $CONTAINERAPPS_APP -g $RESOURCE_GROUP  
INFO: Connecting to the container 'aca-nginx-app'...  
Use ctrl + D to exit.  
INFO: Successfully connected to container: 'aca-nginx-app'. [ Revision: 'aca-nginx-app--e82qtzi', Replica: 'aca-nginx-app--e82qtzi-6c76c45b56-2sjvd' ]  
#  
# date > date.txt  
#  
# cat date.txt  
Mon May 29 20:39:16 UTC 2023
```

# Container Apps storage: ephemeral storage

- Ephemeral, temporary volume that is equivalent to `emptyDir` in Kubernetes.
- Files are persisted for the lifetime of the replica.
  - If a container in a replica restarts, the files in the volume remain.
- Any containers in the replica can mount the same volume.
- A container can mount multiple ephemeral volumes.
- The available storage depends on the total amount of vCPUs allocated to the replica.

| vCPUs         | Ephemeral storage |
|---------------|-------------------|
| 0.25 or lower | 1 GiB             |
| 0.5 or lower  | 2 GiB             |
| 1 or lower    | 4 GiB             |
| Over 1        | 8 GiB             |

# Container Apps storage: ephemeral storage

```
$ az containerapp update -n $CONTAINERAPPS_APP -g $RESOURCE_GROUP --yaml app.yaml
$ az containerapp exec -n $CONTAINERAPPS_APP -g $RESOURCE_GROUP --command ls
INFO: Connecting to the container 'aca-nginx-app'...
Use ctrl + D to exit.
INFO: Successfully connected to container: 'aca-nginx-app'. [ Revision: 'aca-nginx-app--z1oc8uq', Replica: 'aca-nginx-app--z1oc8uq-bfcbbfd77-8qpgh' ]
app-ephemeral-storage dev etc lib64 opt run sys var
bin docker-entrypoint.d home media proc sbin tmp
boot docker-entrypoint.sh lib mnt root srv usr
INFO: received success status from cluster
Disconnecting... # app.yaml
volumeMounts:
- mountPath: /app-ephemeral-storage
  volumeName: ephemeral-storage
volumes:
- name: ephemeral-storage
  storageType: EmptyDir
```

# Container Apps storage: Azure File volume

- You can mount a file share from Azure Files as a volume in a container.
- Files written under the mount location are persisted to the file share.
- Multiple containers can mount the same file share, including ones that are in another replica, revision, or container app.
- All containers that mount the share can access files written by any other container or method.
- More than one Azure Files volume can be mounted in a single container.

# Container Apps storage: Azure File volume

Microsoft Azu... Search resources, services, and docs (G+ /) 2 ? ouser houssem.dellai@live.com HOUSSEM DELLAU

Dashboard > rg-containerapps-storage > aca-environment

## aca-environment | Azure Files

Container Apps Environment

Search Overview Activity log Access control (IAM) Tags

Settings

Dapr components Certificates Custom DNS suffix (Preview) Azure Files Locks Apps

Refresh + Configure Azure file

File share Name ↑ mystorage mou

Add file share

Name \* Enter name

Storage account name \* Enter a storage account name

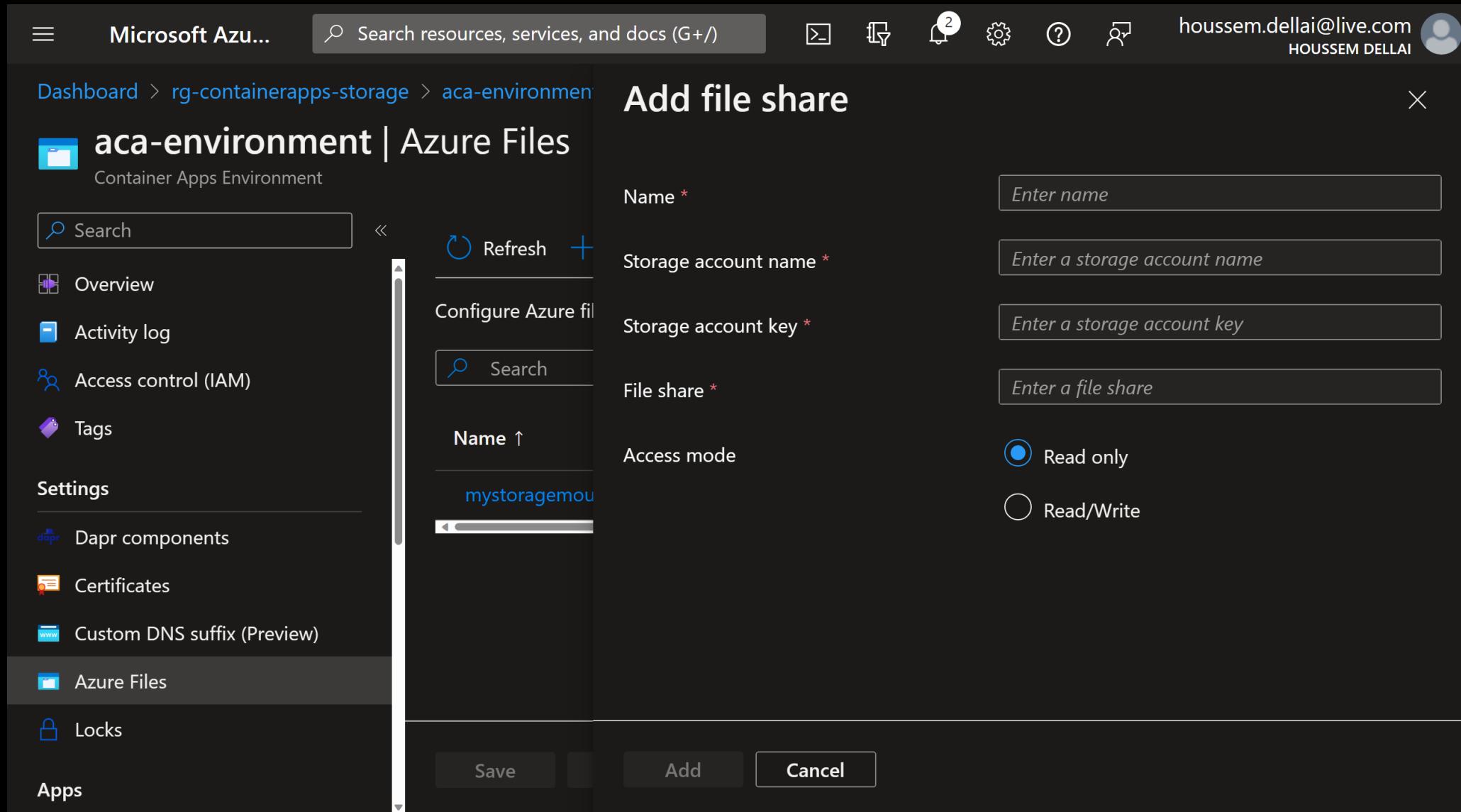
Storage account key \* Enter a storage account key

File share \* Enter a file share

Access mode

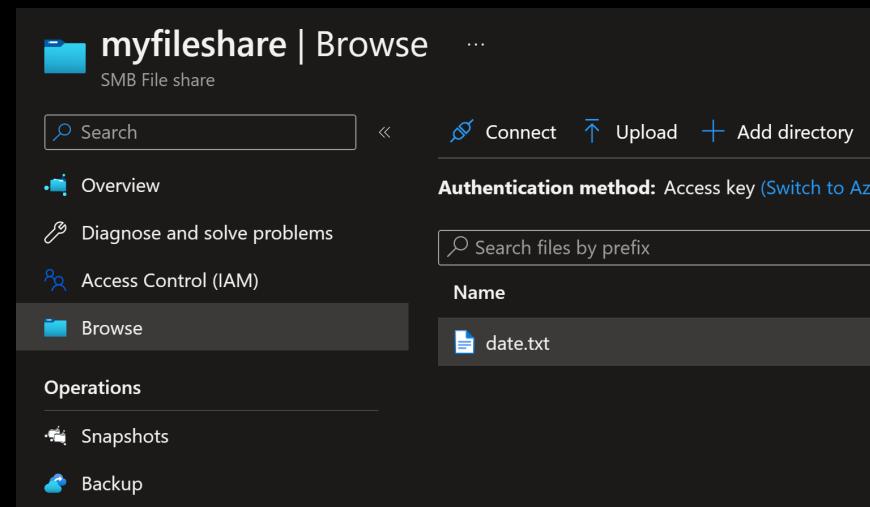
Read only  Read/Write

Save Add Cancel



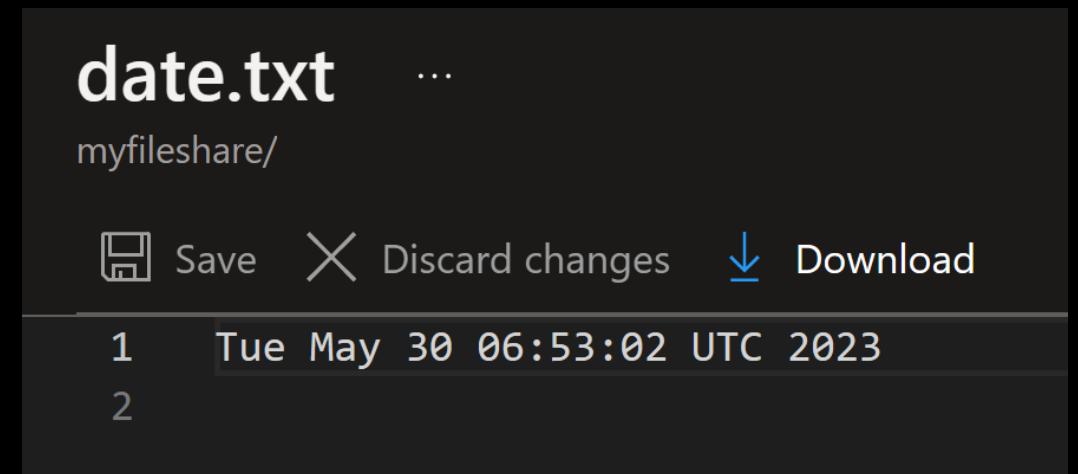
# Container Apps storage: Azure File volume

```
az containerapp update -n$ACA_APP_AZURE_FILE `  
-g$RESOURCE_GROUP --yaml app_azure_file.yaml  
  
$ az containerapp exec -n $ACA_APP_AZURE_FILE `  
-g $RESOURCE_GROUP  
#  
# date > /app-azure-file/date.txt  
#  
# cat /app-azure-file/date.txt  
Tue May 30 06:53:02 UTC 2023
```



The screenshot shows the Azure Storage Explorer interface. On the left, there's a sidebar with options like Overview, Diagnose and solve problems, Access Control (IAM), and a selected 'Browse' option. The main area is titled 'myfileshare | Browse' and shows an 'SMB File share'. It has a search bar, a 'Connect' button, and 'Upload' and 'Add directory' buttons. Below these are sections for 'Authentication method' (Access key) and 'Search files by prefix'. A table lists files with columns for Name and Size. One file, 'date.txt', is shown with its content: 'Tue May 30 06:53:02 UTC 2023'.

```
# app_azure_file.yaml  
template:  
  volumes:  
    - name: my-azure-file-volume  
      storageName: mystoragemount  
      storageType: AzureFile  
  containers:  
    - image: nginx  
      name: aca-app-azure-file  
      volumeMounts:  
        - volumeName: my-azure-file-volume  
          mountPath: /app-azure-file
```



The screenshot shows the content of the 'date.txt' file from the previous screenshot. The file is titled 'date.txt' and is located in the 'myfileshare/' directory. It has standard file operations: Save, Discard changes, and Download. The file's content is displayed as a table with two rows. Row 1 contains the timestamp 'Tue May 30 06:53:02 UTC 2023'. Row 2 is empty.