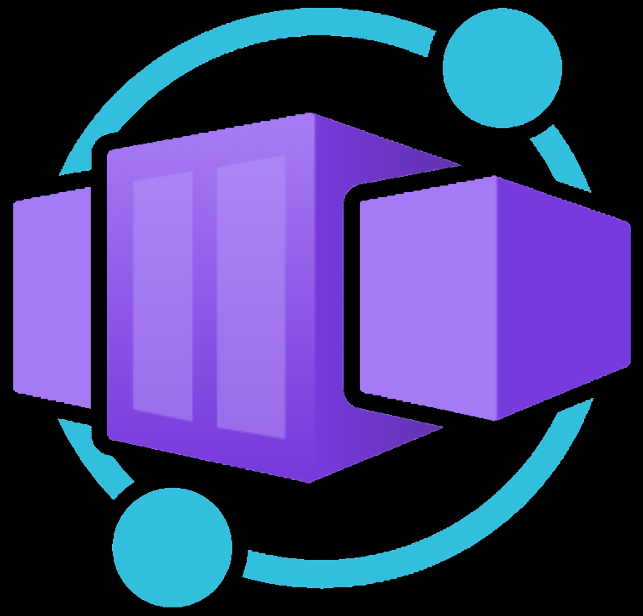

Azure Container Apps

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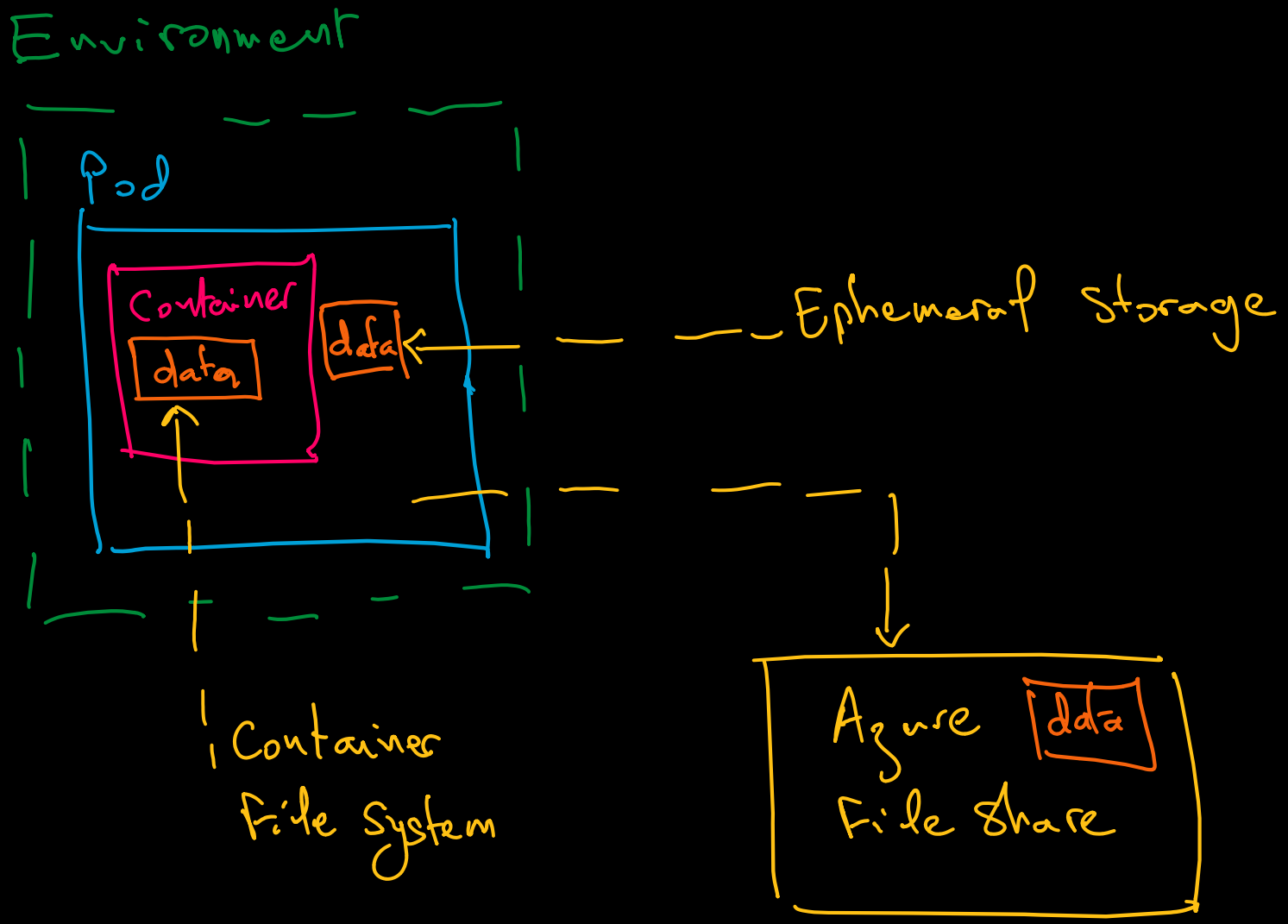
Storage options

- 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

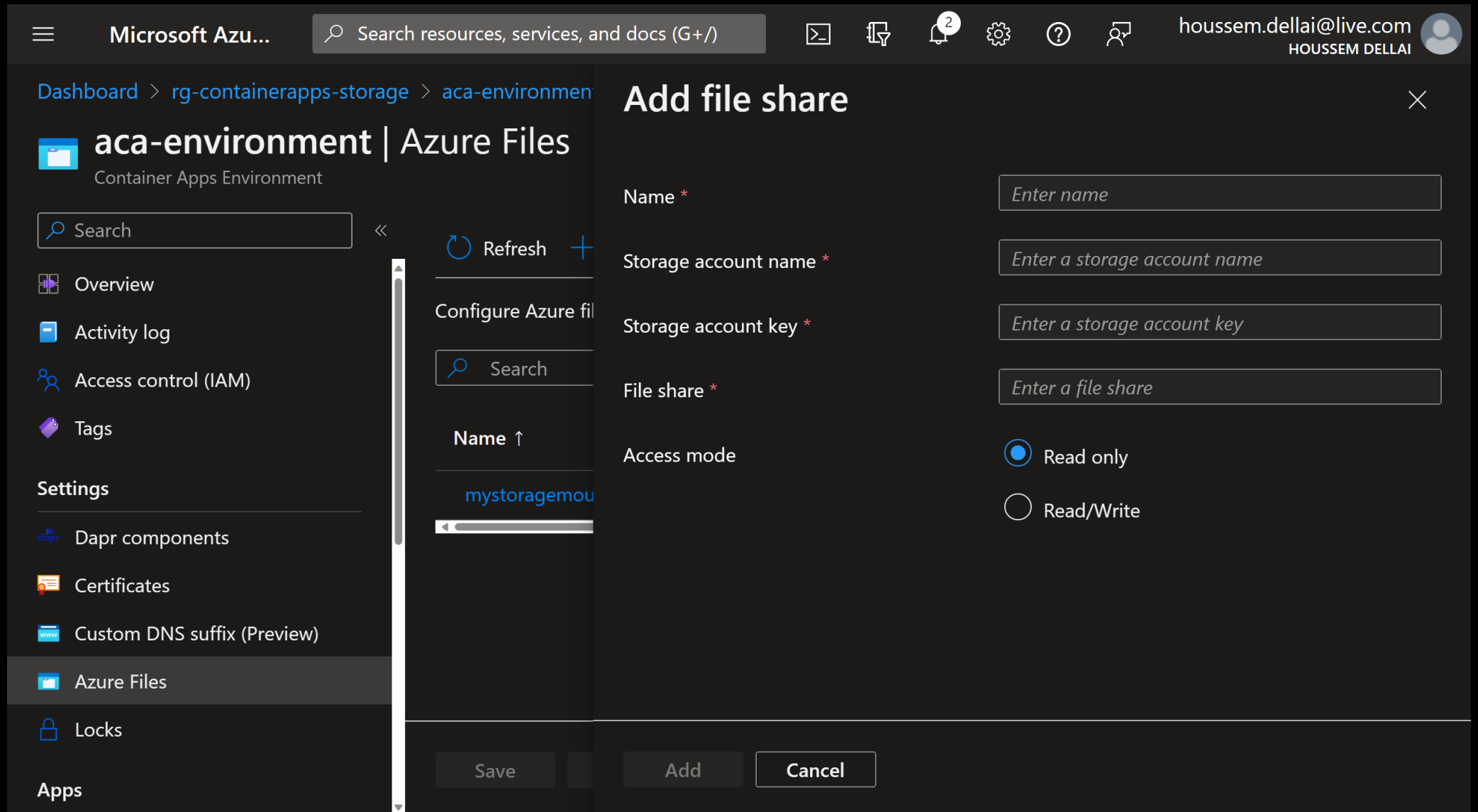
```
$ az containerapp update -n $CONTAINERAPPS_APP -g $RESOURCE_GROUP --yaml app.yaml
$
$ az containerapp exec -n $CONTAINERAPPS_APP -g $RESOURCE_GROUP --command ls
INFO: Connecting to the container 'aca-nginx-app'...
Use ctrl + D to exit.
INFO: Successfully connected to container: 'aca-nginx-app'. [ 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...
```

```yaml
# app.yaml
    volumeMounts:
    - mountPath: /app-ephemeral-storage
      volumeName: ephemeral-storage
  volumes:
  - name: ephemeral-storage
    storageType: EmptyDir
```

Container Apps storage: Azure File volume

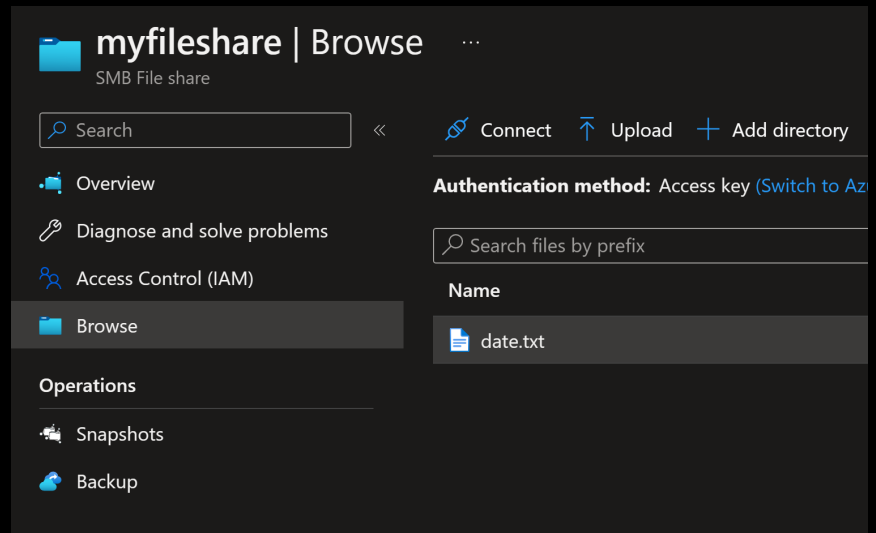
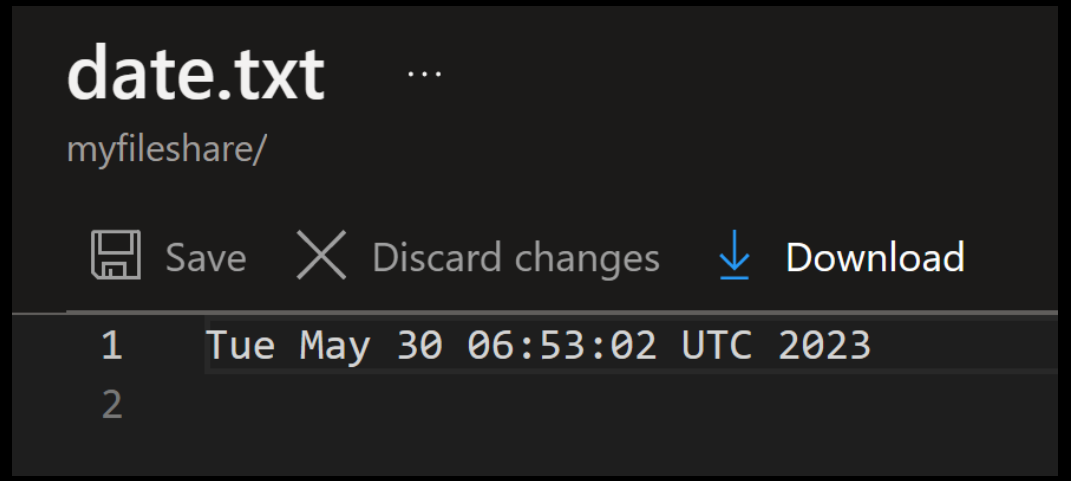
- You can mount a file share from Azure Files as a volume in a container.
- Files written under the mount location are persisted to the file share.
- Multiple containers can mount the same file share, including ones that are in another replica, revision, or container app.
- All containers that mount 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



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
```

```yaml
# 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
```