Microsoft Azure Fundamentals

Lesson 06 – Cloud Storage

simplilearn

What's in It for Me

- Understanding cloud storage
- Create and manage storage

Understanding Cloud Storage

- Overview of Azure Storage
- What is Blob storage?
- What is Table storage?
- What is Queue storage?
- What is File storage?
- Storage replication options
- Compare storage options

Overview of Azure Storage

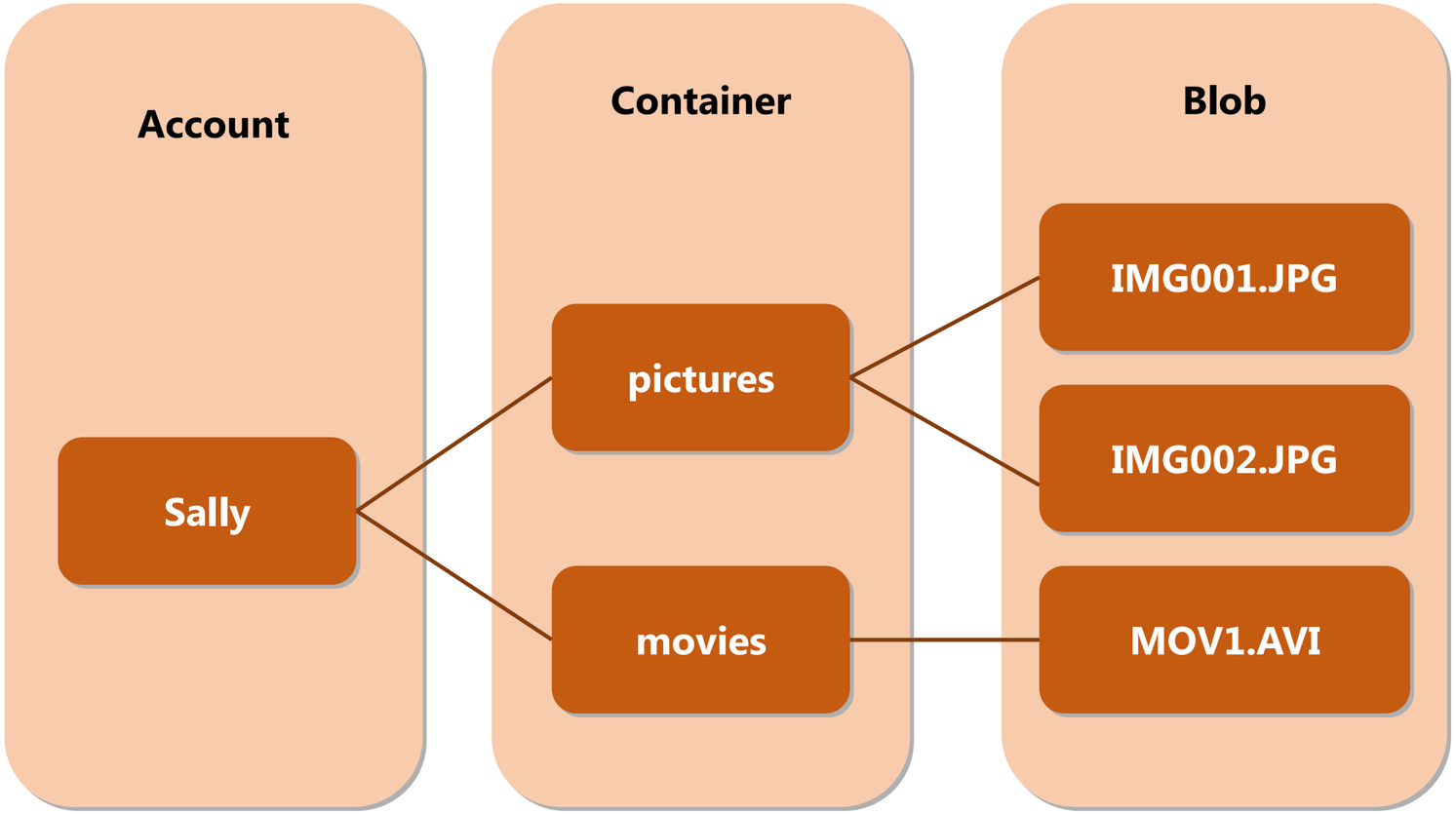
Azure Storage types of storage include:

- Blob:
  - Page, block, and append
- Table
- Queue
- File

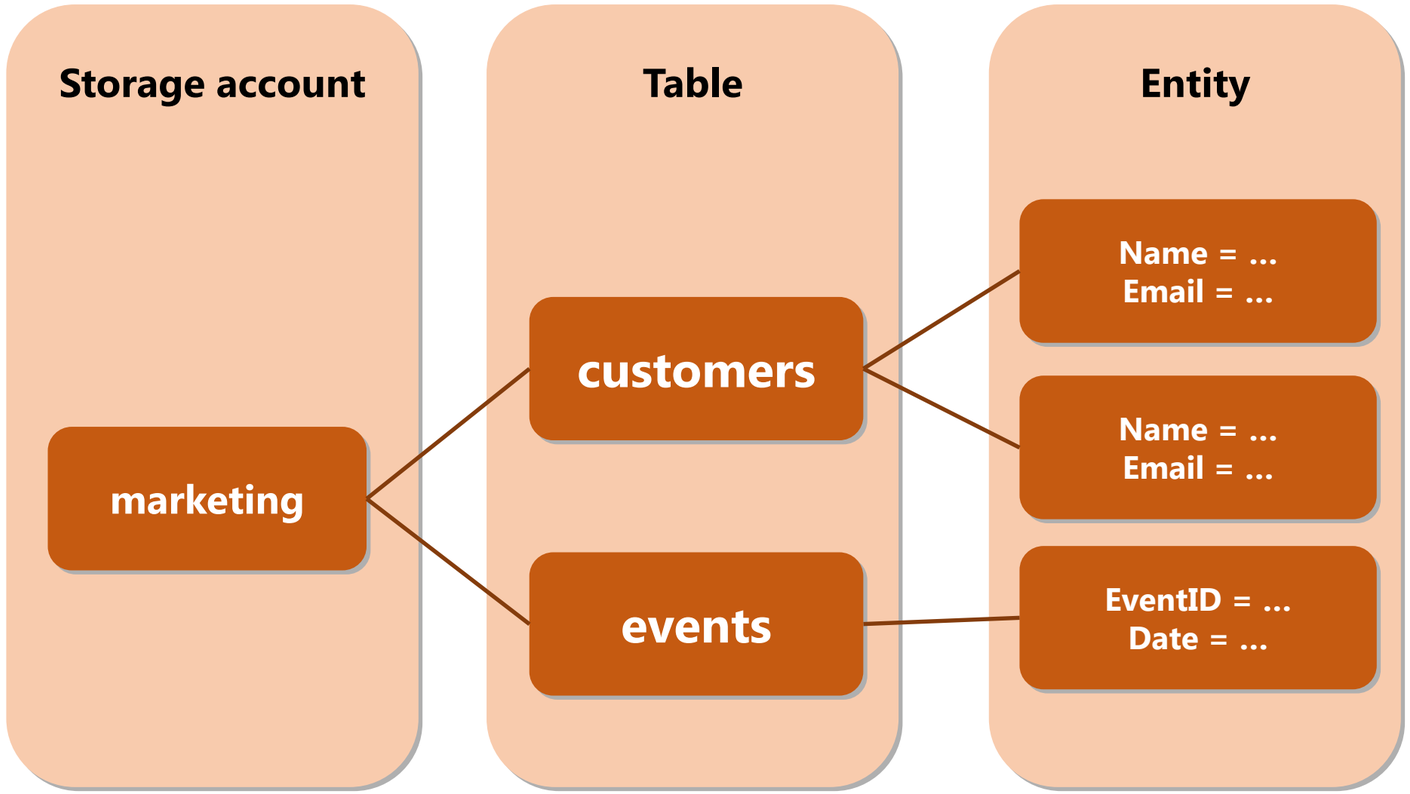
Azure Storage account types include:

- General purpose:
  - Standard (tables, queues, files, and all types of blob storage)
  - Premium Storage (page blobs only)
- Blob storage (block and append blobs only):
  - Hot blob storage
  - Cool blob storage

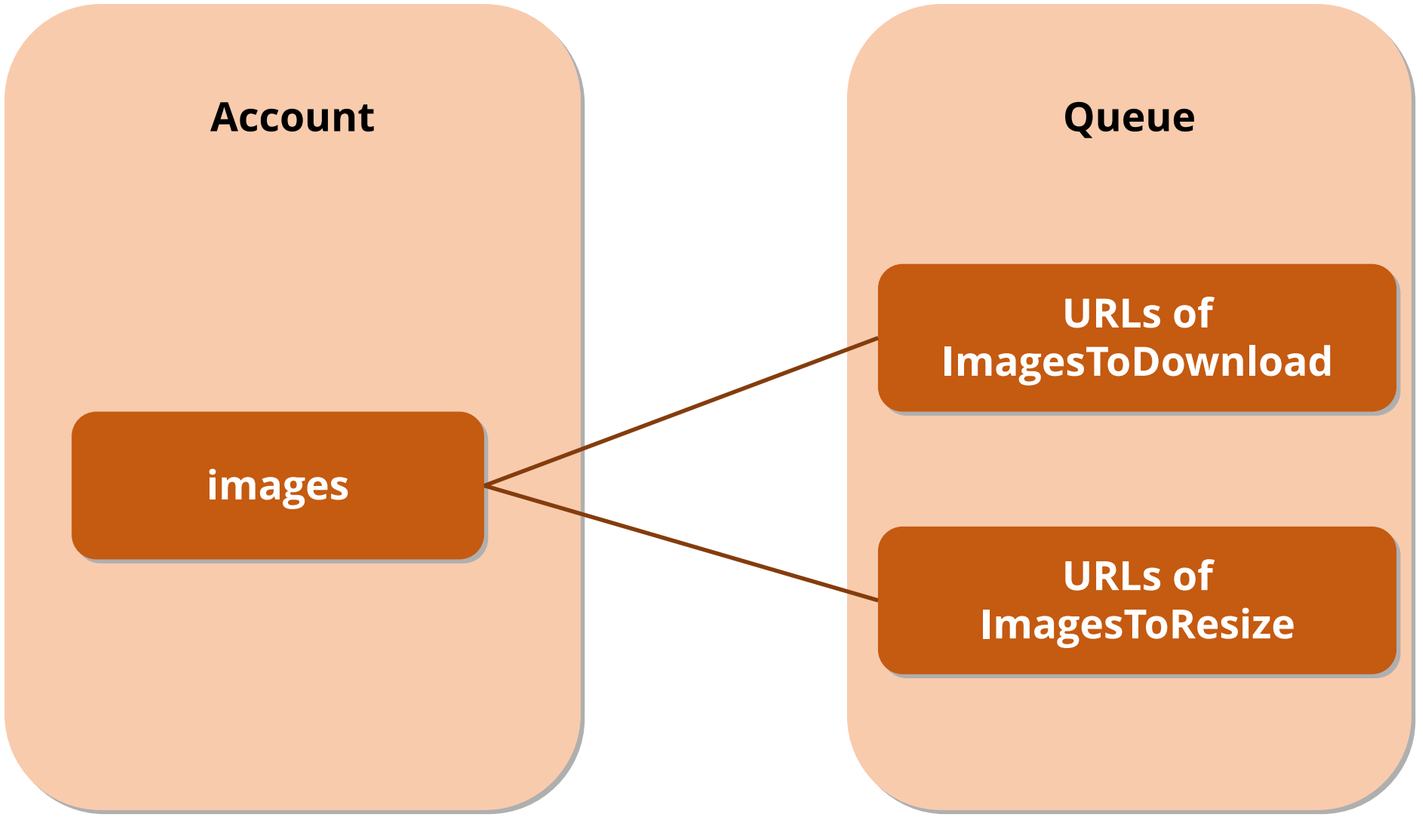
What is Blob Storage?



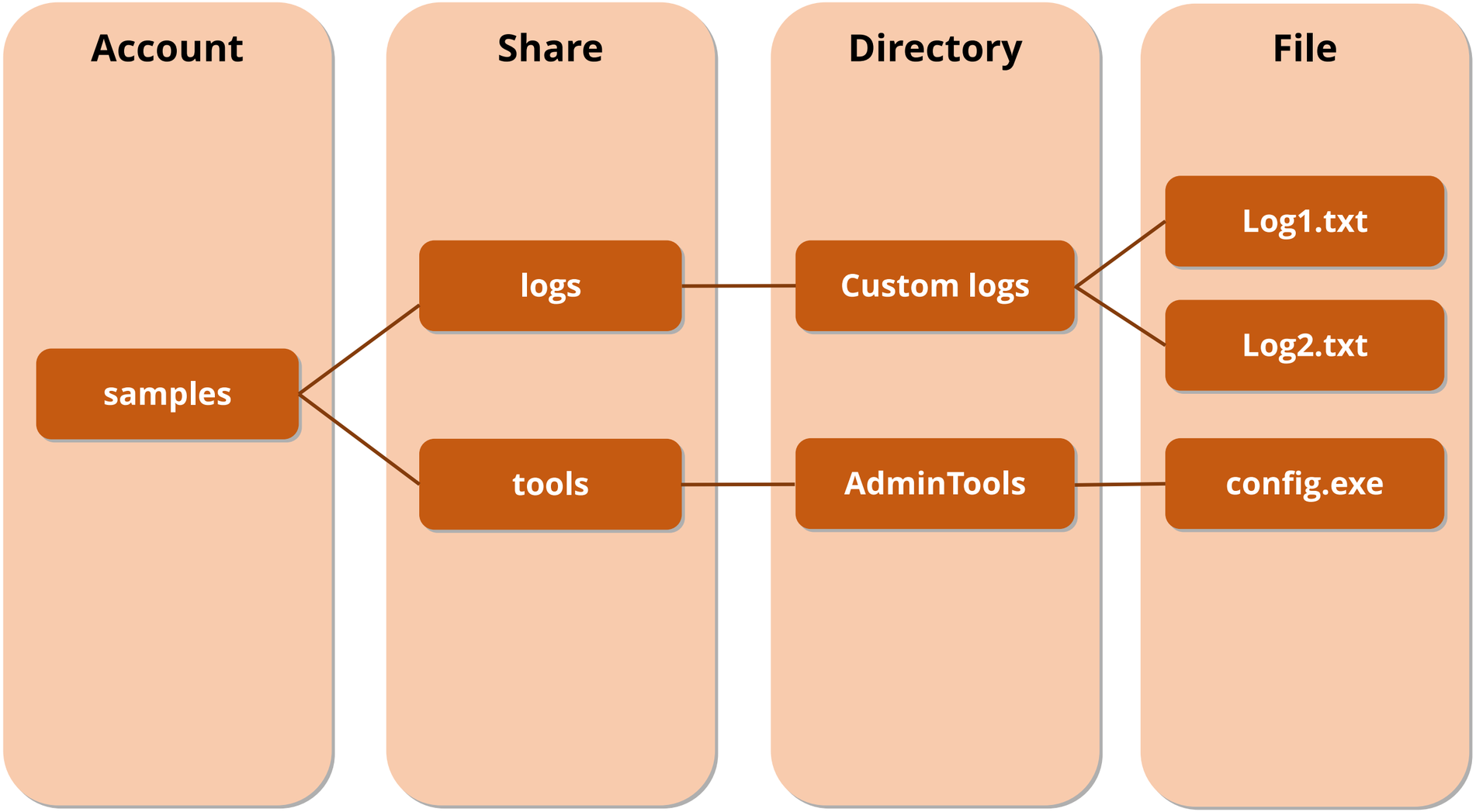
What is Table Storage?



What is Queue Storage?



What is File Storage?



Storage Replication Options

	Locally redundant storage	Geo-redundant storage	Zone-redundant storage	Read-access geo-redundant storage
Redundancy	Three copies within a single region	Three copies within a single region and three additional copies in secondary region	Three copies of data across multiple datacenters within or across regions and for block blobs only	Three copies within a single region and three additional copies in secondary region
Read access to replicas in secondary region	N/A	No	No	Yes
Availability SLA	99.9% for all read/write	99.9% for all read/write	99.9% for all read/write	99.9% for writes and 99.95% for reads Data is read from secondary source if primary is unavailable

Compare Storage Options

- Blob storage:
  - Virtual hard disk files for Azure VMs
  - Static content for Web Apps
  - Archiving infrequently accessed data
  - Incremental dumps of logs
- Table storage:
  - Large amounts of structured but non-relational data
  - Data sets that can be fully de-normalized
- Queue storage:
  - Passing messages
  - Graceful handling of unreliable or uneven data flow
- File storage:
  - Sharing content across multiple Azure virtual machines
  - Migrating SMB-dependent apps to Azure

Create and Manage Storage

- Creating and managing Azure Storage non-programmatically
- Creating and managing storage programmatically
- Demonstration: Creating a storage account and uploading a blob
- Creating and managing tables programmatically
- Demonstration: Creating and managing blobs and tables from Visual Studio

Creating and Managing Azure Storage Non-programmatically

- To create a storage account, specify the following:
  - Name
  - Deployment model
  - Account type
  - Performance
  - Replication
  - Access tier
  - Subscription
  - Resource group
  - Location
- To create and manage a storage account, use:
  - Microsoft Azure Storage Explorer
  - Azure Web Storage Explorer
  - AzCopy.exe
  - Windows PowerShell
  - Import/Export service

Creating and Managing Storage Programmatically

To connect to Azure Storage from a Visual Studio .NET project:

- Configure the connection string
- Add the Microsoft.WindowsAzure.Storage.dll assembly

Develop by leveraging:

- Azure SDK for .NET
- Azure Storage SDK for Java
- Azure Storage SDK for C++
- Azure SDK for PHP
- Azure SDK for Python
- Azure Storage Client Library for iOS
- Azure Storage Client Library for Xamarin
- REST APIs for Azure

Demonstration: Creating a Storage Account and Uploading a Blob

In this demonstration, you will see how to:

- Create an Azure Storage account by using Azure Portal
- Create an Azure Storage container by using Azure Portal
- Upload a blob by using Azure Web Storage Explorer

Creating and Managing Tables Programmatically

Azure Portal does not support direct access to table data. To connect to Azure storage tables from a Visual Studio .NET project:

- Configure the connection string
- Add the Microsoft.WindowsAzure.Storage.dll assembly
- Use the CloudTableClient object to access a table from Visual Studio

Demonstration: Creating and Managing Blobs and Tables from Visual Studio

In this demonstration, you will see how to manage blobs and tables by using a Visual Studio developed app.

Key Takeaways

- Azure Storage is a highly scalable service that you can use to store vast amounts of data, including structured data and unstructured data.
- You organize Azure Storage by using storage accounts, which are logical groupings of individual storage types.
- To create a container, you can use the Azure Portal.
- To interact with the content of a storage account programmatically, configure the connection string to the Azure Storage account.
- To access Blob storage programmatically, you should first add to your project and assembly that contains the Azure Storage management classes.

Key Takeaways

- To represent your storage account, you can use the CloudStorageAccount class.
- To create a table programmatically, use the CloudTableClient object, which allows you to reference tables and entities within the table.

This concludes “Cloud Storage.”

Next Lesson is “Microsoft Azure Databases.”

THANK YOU