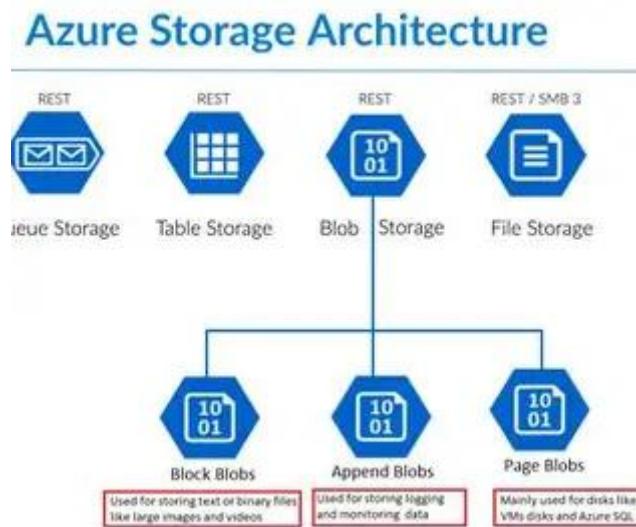


Azure Data Storage



1. Azure Blob Storage

- Object storage for large amounts of unstructured data.
- **3 Types of Blobs:**
 1. **Block Blob** – Stores text and binary data; optimized for streaming and storage.
 2. **Append Blob** – Optimized for append operations (e.g., logs).
 3. **Page Blob** – Stores random-access files; used for virtual hard disks (VHDs).

Use Cases:

1. **Media Storage:** Store images, videos for web apps. *Example:* Video streaming platform storing content in Block Blobs.
2. **Backup & Disaster Recovery:** Store VM snapshots using Page Blobs. *Example:* Enterprise backup strategy for Azure VMs.
3. **Log Storage:** Append logs from IoT devices into Append Blobs. *Example:* IoT telemetry data collection.

2. Azure Table Storage

- NoSQL key-value store for structured data.

Use Cases:

1. **User Profile Storage:** Store millions of user profiles efficiently. *Example:* Gaming app storing player stats.

2. **IoT Data:** Store sensor readings in a scalable table. *Example:* Smart home devices logging temperature data.
3. **Audit Logs:** Maintain lightweight audit trails. *Example:* Financial app storing transaction logs.

3. Azure Queue Storage

Definition: Message queue for decoupling components.

Use Cases:

1. **Order Processing:** Queue orders for asynchronous processing. *Example:* E-commerce app handling high-volume orders.
2. **Task Scheduling:** Queue background tasks for workers. *Example:* Image processing jobs queued for serverless functions.
3. **Microservices Communication:** Enable reliable messaging between services. *Example:* Payment service notifying inventory service.

4. Azure File Storage

Fully managed file shares accessible via SMB.

Use Cases:

1. **Lift-and-Shift Apps:** Migrate legacy apps needing file shares. *Example:* On-prem ERP app moved to Azure using File Storage.
2. **Shared Storage for VMs:** Multiple VMs accessing common files. *Example:* Web farm sharing configuration files.
3. **Hybrid Cloud:** Sync on-prem files with Azure using Azure File Sync. *Example:* Branch offices syncing data to cloud.