Praveen Madupu +91 98661 30093
Sr SQL Server DBA, Dubai
praveensqldba12@gmail.com

To learn **Azure Cloud Database Administration** in 7 days, you can follow this structured plan that covers key Azure database services, concepts, and administration tasks. This plan will give you a practical understanding of managing databases in the Azure Cloud and help you build foundational knowledge for a career in Azure Database Administration.

Day 1: Introduction to Azure Cloud and Database Concepts

- **Overview of Azure Cloud:**
  - Familiarize yourself with Azure's global infrastructure: regions, availability zones, and datacenters.
  - Understand Azure's key services (compute, networking, storage, etc.), and the Azure portal.
  - **Resources:**
    - Azure Overview
    - Azure Documentation
  - **Database Fundamentals:**
    - Types of databases: Relational, NoSQL, and data warehouses.
    - Benefits of using cloud databases (scalability, availability, security, and maintenance).
    - The role of a database administrator in the cloud.
  - **Hands-on Practice:**
    - Sign up for an **Azure Free Account** and get familiar with the Azure Portal.
    - Explore **Azure Resource Manager (ARM)** and create basic resources (like a virtual machine or storage account).

Day 2: Azure SQL Database and Managed Instances

- **Azure SQL Database:**
  - Learn about **Azure SQL Database**, a fully managed relational database service in Azure.
  - Understand **DTUs (Database Transaction Units)** vs **vCores**, and different pricing tiers (Basic, Standard, Premium).
  - Learn how to create, configure, and manage an Azure SQL database.
  - **Hands-on Practice:**
    - Create a SQL Database in the Azure portal.
    - Set up firewall rules to allow access to the database.
    - Connect to the database using SQL Server Management Studio (SSMS) or Azure Data Studio.

Praveen Madupu +91 98661 30093
Sr SQL Server DBA, Dubai
praveensqldba12@gmail.com

    - **Resources:**
        - Azure SQL Database Documentation
        - Azure SQL Overview
- **Azure SQL Managed Instance:**
    - Learn about **Azure SQL Managed Instance**, which offers compatibility with SQL Server on-premises and allows for more complex use cases.
    - Understand the differences between **Azure SQL Database** and **SQL Managed Instance**.
    - **Hands-on Practice:**
        - Create an Azure SQL Managed Instance and configure networking.
        - Learn about the **automatic backup** and **restore** capabilities of Managed Instances.

Day 3: Azure Database for PostgreSQL & MySQL

- **Azure Database for PostgreSQL:**
    - Understand **Azure Database for PostgreSQL**, a fully managed database service for PostgreSQL.
    - Learn about deployment options: Single Server, Flexible Server, and Hyperscale (Citus).
    - **Hands-on Practice:**
        - Create an Azure Database for PostgreSQL instance.
        - Connect to the PostgreSQL database using a PostgreSQL client (pgAdmin or Azure Data Studio).
        - Learn about backup and restore in PostgreSQL.
- **Azure Database for MySQL:**
    - Learn about **Azure Database for MySQL**, a fully managed MySQL database service.
    - Understand features like auto-scaling, high availability, and automatic backups.
    - **Hands-on Practice:**
        - Create an Azure Database for MySQL instance.
        - Connect to the database and perform simple SQL operations.
    - **Resources:**
        - Azure Database for PostgreSQL Documentation
        - Azure Database for MySQL Documentation

Praveen Madupu +91 98661 30093
Sr SQL Server DBA, Dubai
praveensqldba12@gmail.com

Day 4: Azure Cosmos DB (NoSQL Database)

- **Introduction to Azure Cosmos DB:**
  - Learn about **Azure Cosmos DB**, a globally distributed, multi-model database service.
  - Understand the different APIs supported by Cosmos DB: SQL (Core), MongoDB, Cassandra, Gremlin (graph), and Table API.
  - **Hands-on Practice:**
    - Create a Cosmos DB account with the SQL API.
    - Create a database and container.
    - Learn about partitioning and scaling in Cosmos DB.
    - Perform basic operations using Azure Portal or SDK (CRUD operations).
  - **Resources:**
    - Azure Cosmos DB Documentation
    - Cosmos DB Quickstart

Day 5: Azure Synapse Analytics and Data Warehouse

- **Azure Synapse Analytics (formerly Azure SQL Data Warehouse):**
  - Learn about **Azure Synapse Analytics**, which combines big data and data warehousing into a unified platform.
  - Understand the architecture of **Synapse SQL Pools** (formerly Data Warehouse) and **Synapse Spark Pools**.
  - Learn how to ingest, query, and analyze data using **Synapse Studio**.
  - **Hands-on Practice:**
    - Create an Azure Synapse Analytics workspace.
    - Create a dedicated SQL pool and run queries.
    - Learn about **PolyBase** for querying external data in Synapse.
  - **Resources:**
    - Azure Synapse Analytics Documentation
    - Synapse Analytics Overview

Day 6: High Availability, Security, and Backup/Recovery

- **High Availability and Disaster Recovery:**
  - Learn about **high availability** (HA) options in Azure database services.
  - Understand **Geo-replication**, **Active Geo-Replication**, **Failover Groups**, and **Automatic Failover**.

Praveen Madupu +91 98661 30093
Sr SQL Server DBA, Dubai
praveensqldba12@gmail.com

- Learn about **Azure SQL Database Always On** and its components.
- **Hands-on Practice:**
  - Set up geo-replication for Azure SQL Database.
  - Set up automatic failover for **Azure SQL Managed Instance** or **PostgreSQL**.

- **Database Security:**
  - Learn about securing Azure databases using **Virtual Networks**, **Firewall Rules**, **Azure Active Directory** authentication, and **Encryption** (at rest and in transit).
  - Understand **Advanced Threat Protection** and **Auditing** features in Azure SQL Database.
  - **Hands-on Practice:**
    - Enable **Transparent Data Encryption** (TDE) on an Azure SQL Database.
    - Set up **Advanced Threat Protection** for an Azure SQL Database.
- **Backup and Recovery:**
  - Learn about **automated backups** in Azure SQL Database, **Point-in-Time Restore**, and **Long-Term Retention**.
  - Learn how to restore databases in case of failure.
  - **Hands-on Practice:**
    - Perform a point-in-time restore for an Azure SQL Database.
    - Create and test a backup and restore plan for a database.
  - **Resources:**
    - Azure SQL Database Security

    https://learn.microsoft.com/en-us/training/modules/backup-restore-azure-sql/

Day 7: Monitoring, Optimization, and Best Practices

- **Monitoring Azure Databases:**
  - Learn how to monitor performance using **Azure Monitor** and **SQL Insights**.
  - Understand **Query Performance Insights** in Azure SQL Database.
  - Set up **Alerts** and **Log Analytics** to track issues like slow queries, resource usage, etc.
  - **Hands-on Practice:**
    - Set up monitoring and alerts for an Azure SQL Database.
    - Use **SQL Database Query Performance Insights** to optimize query performance.
- **Database Optimization Best Practices:**
  - Learn best practices for optimizing performance in Azure databases (e.g., indexing, query optimization, scaling).
  - Understand the role of **Elastic Pools** and **Scaling** in Azure SQL Database.

Praveen Madupu +91 98661 30093
Sr SQL Server DBA, Dubai
praveensqldba12@gmail.com

- Learn about **Cost Management** and **Resource Optimization** for database services.
- **Resources:**
  - Azure Monitor

https://learn.microsoft.com/en-us/azure/azure-sql/database/monitor-tune-overview?view=azuresql

Additional Resources:

- **Azure Certification:** Consider pursuing the **Microsoft Certified: Azure Database Administrator Associate** certification for a structured learning path and career growth.
  - https://learn.microsoft.com/en-us/credentials/certifications/azure-database-administrator-associate/?practice-assessment-type=certification
- **Community and Support:**
  - Join Azure forums, communities, and online platforms like Microsoft Learn.
  - Follow Azure blog for updates and best practices.

Summary:

This 7-day learning plan covers key Azure database administration topics, including database services, security, high availability, backup/recovery, and performance optimization. By following this plan and getting hands-on experience with Azure's powerful database offerings, you'll have a solid foundation to manage Azure databases and work as an Azure Database Administrator.