**Azure Resource Setup & Role Assignments – User Guide**

**1. Azure SQL Database**

**Goal**: Deploy a single Azure SQL Database.  
 **Steps**:

* In the Azure Portal, go to **SQL Databases**.
* Select **Create** under *Single database*.
* On the **Basics** tab:
  + Choose subscription and resource group.
  + Name the database.
  + Create or select an existing server (unique name, region, admin credentials).
  + Set options (e.g., elastic pool = No, workload environment).
* **Review + Create**.

**Role Assignment**:

* Navigate to the SQL Database resource → **Access Control (IAM)** → **Add role assignment**.
* Choose roles like:
  + *SQL DB Contributor*.
  + *SQL Security Manager*.
  + *Reader*.

🔗 <https://learn.microsoft.com/en-us/azure/azure-sql/database/single-database-create-quickstart>

**2. Azure Machine Learning (Workspace + Compute Instance)**

**Goal**: Set up an ML environment.  
 **Steps**:

* In **Azure ML Studio** → **Create workspace**.
* Provide workspace details (name, subscription, region, hub optional).
* **Create**.
* Inside workspace → **New > Compute instance**.
* Provide name → **Review + Create**.

**Role Assignment**:

* Go to the **workspace** → IAM → Assign:
  + *Contributor*.
  + *Reader*.
  + *Owner*.
  + *AzureML Data Scientist*.

🔗 <https://learn.microsoft.com/en-us/azure/machine-learning/quickstart-create-resources>

**3. Azure OpenAI Service**

**Goal**: Provision GPT-capable resource.  
 **Steps**:

* In Portal → Create resource → **Azure OpenAI**.
* Fill Basics (subscription, group, name, tier, region).
* Configure **Networking**.
* **Review + Create**.

**Role Assignment**:

* Go to the OpenAI resource → IAM.
* Assign roles such as:
  + *Cognitive Services Contributor*.
  + *Cognitive Services User*.

🔗 <https://learn.microsoft.com/en-us/azure/ai-foundry/openai/how-to/create-resource>

**4. Azure App Service (Web App Deployment)**

**Goal**: Deploy a web app.  
 **Steps**:

* Create resource → **App Service**.
* Configure basics (name, runtime, region, plan).
* **Review + Create**.

**Role Assignment**:

* IAM → Assign roles like:
  + *Web Plan Contributor*.
  + *Website Contributor*.
  + *Reader*.

🔗 <https://learn.microsoft.com/en-us/azure/app-service/quickstart>

**5. Azure Storage (Blob / Table / Queue)**

**Goal**: Create storage accounts.  
 **Steps**:

* Create resource → **Storage account**.
* Configure (subscription, group, location, replication, performance).
* Create containers, tables, queues.

**Role Assignment**:

* IAM → Assign roles:
  + *Storage Blob Data Contributor*.
  + *Storage Queue Data Contributor*.
  + *Storage Table Data Contributor*.
  + *Reader*.

🔗 <https://learn.microsoft.com/en-us/azure/storage/common/storage-account-create>

**6. Azure Data Factory**

**Goal**: Create ETL pipelines.  
 **Steps**:

* Create resource → **Data Factory**.
* Configure (subscription, group, name, version, region).
* Author pipelines.

**Role Assignment**:

* IAM → Assign:
  + *Data Factory Contributor*.
  + *Reader*.

🔗 <https://learn.microsoft.com/en-us/azure/data-factory/quickstart-create-data-factory-portal>

**7. Azure Service Bus / Event Grid**

**Goal**: Messaging infrastructure.  
 **Steps – Service Bus**:

* Create resource → **Service Bus**.
* Configure namespace, tier, region.  
   **Steps – Event Grid**:
* Create resource → **Event Grid Topic**.
* Add topics/subscriptions.

**Role Assignment**:

* IAM roles include:
  + *Azure Service Bus Data Sender*.
  + *Azure Service Bus Data Receiver*.
  + *EventGrid Contributor*.

🔗 Service Bus: <https://learn.microsoft.com/en-us/azure/service-bus-messaging/service-bus-quickstart-portal> 🔗 Event Grid: <https://learn.microsoft.com/en-us/azure/event-grid/custom-event-quickstart-portal>

**8. Azure Logic Apps**

**Goal**: Workflow automation.  
 **Steps**:

* Create resource → **Logic App (Consumption/Standard)**.
* Configure (name, group, plan).
* Build workflows.

**Role Assignment**:

* IAM → Assign roles:
  + *Logic App Contributor*.
  + *Logic App Operator*.
  + *Reader*.

🔗 <https://learn.microsoft.com/en-us/azure/logic-apps/quickstart-create-first-logic-app-workflow>

**9. Azure Functions**

**Goal**: Deploy function apps.  
 **Steps**:

* Create resource → **Function App**.
* Configure basics (runtime, plan, region).
* Create and author functions.

**Role Assignment**:

* IAM roles:
  + *Function App Contributor*.
  + *Reader*.

🔗 <https://learn.microsoft.com/en-us/azure/azure-functions/functions-create-function-app-portal>

**10. Virtual Machine (VM)**

**Goal**: Create a VM.  
 **Steps**:

* Create resource → **Virtual Machine**.
* Configure (name, OS, size, credentials, disks, networking).
* **Review + Create**.

**Role Assignment**:

* IAM roles:
  + *Virtual Machine Contributor*.
  + *Reader*.
* Optionally assign **RBAC for VM login**:
  + *Virtual Machine Administrator Login*.
  + *Virtual Machine User Login*.

🔗 <https://learn.microsoft.com/en-us/azure/virtual-machines/windows/quick-create-portal>

**11. Azure Cosmos DB**

**Goal**: Multi-model distributed DB.  
 **Steps**:

* Create resource → **Azure Cosmos DB**.
* Choose API (SQL, MongoDB, Cassandra, Gremlin, Table).
* Configure basics (name, location, capacity mode).
* Optionally enable **global distribution**.

**Role Assignment**:

* IAM roles:
  + *Cosmos DB Account Contributor*.
  + *Cosmos DB Operator*.
  + *Cosmos DB Reader*.

🔗 <https://learn.microsoft.com/en-us/azure/cosmos-db/create-cosmosdb-resources-portal>