# STEPS FOR AZURE DEPLOYMENT

## Objective:

Deploy the Online Book Library System to Azure using **Azure App Service** for hosting and **Azure SQL Database** for data storage.

## Step-by-Step Deployment Process

### Step 1: Prerequisites

Before starting, ensure the following:

- An active **Microsoft Azure account**
- **Visual Studio** with ASP.NET and Azure SDK installed
- A completed and tested ASP.NET Core MVC application
- Code versioned and pushed to **GitHub** (optional but recommended)

### Step 2: Create an Azure SQL Database

1. Go to Azure Portal.
2. Click **"Create a resource" > "SQL Database"**.
3. Fill in details:
    a. Database name: OnlineBookLibraryDB
    b. Create or choose an existing SQL Server
    c. Select a pricing tier (free trial or basic for testing)
4. Click **"Review + Create" > "Create"**.
5. After deployment, go to your SQL Server and add a **firewall rule** to allow your IP address under **Networking**.

## Step 3: Create an Azure App Service

1. Go to **Azure Portal** > "Create a resource" > **App Service**.
2. Fill in details:
    a. App name: online-book-library
    b. Runtime stack: .NET Core (LTS)
    c. Region: closest to you
3. Choose the **Free (F1)** pricing plan for testing.
4. Click **"Review + Create" > "Create"**.

## Step 4: Update Connection String

1. Open appsettings.json in your project.
2. Replace the connection string:
    - In the connection string replace <your-server>, <your-username>, and <your-password> with actual values.

## Step 5: Publish Application to Azure

1. In Visual Studio, **right-click the project > Publish**.
2. Choose **Azure** > **Azure App Service (Windows)** > Select your created App Service.
3. Click **Finish**, then **Publish**.
4. Visual Studio will build and deploy the app.

## Step 6: Apply Database Migrations on Azure

1. In Visual Studio, open the **Package Manager Console**:

```mathematica
Tools > NuGet Package Manager > Package Manager Console
```

2. Run the following:

```bash
Update-Database
```

This will create the Books table in your Azure SQL Database.

## Step 7: Test the Live App

1. Visit the live URL
   - (e.g., https://online-book-library.azurewebsites.net)
2. Test all features:
   a. Add, edit, view, and delete books
   b. Confirm data is stored in the Azure SQL database