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## Creating an Amazon DAX Cluster (AWS Console)

### 1️⃣ Prerequisites

Before you start, make sure you have:

* **AWS account** with permissions for both **DynamoDB** and **DAX**.
* A **DynamoDB table** (you can use an existing table or create a new one).
* A **VPC** with at least one subnet where the cluster will run.
* An **IAM role** that grants DynamoDB access (for example, with the AmazonDynamoDBFullAccess policy or a custom policy with similar permissions).

### 2️⃣ Open the DAX Console

1. Sign in to the [AWS Management Console](https://console.aws.amazon.com/).
2. In the search bar, type **DynamoDB**.
3. In the DynamoDB console’s left navigation pane, choose **DAX Clusters**.
4. Click **Create Cluster**.

### 3️⃣ Configure Cluster Settings

* **Cluster name**: Enter any name you prefer.
* **Node type**: Choose **dax.r5.large** (or another size that fits your workload).
* **Cluster size**: Specify the number of nodes (1–3 is typical for production).
* **IAM role**: Select an existing role with DynamoDB access or create a new one and attach the necessary policy.

### 4️⃣ Network Settings

* **VPC**: Select the VPC where your DynamoDB application runs.
* **Subnets**: Choose at least one subnet in that VPC.
* **Security groups**: Add a security group that allows inbound traffic from your application environment (for example, ECS services or AWS Lambda functions).

### 5️⃣ Encryption & Security (Optional)

* **Encryption at rest**: Enable if you need additional data protection.
* **Parameter group**: You can leave the default settings, including options such as TTL and caching.

### 6️⃣ Review and Create

* Double-check all the settings.
* Click **Create Cluster**.

### 7️⃣ Connect to the Cluster

* Wait until the cluster status shows **Available**.
* Copy the **DAX endpoint** from the console.
* Update your application code to use the DAX endpoint instead of the standard DynamoDB SDK endpoint.