

# Define an Event Hubs namespace

**Note** In this reading you can see the steps involved in the process of defining an Event Hubs namespace.

There are two main steps when creating and configuring new Azure Event Hubs. The first step is to define the Event Hubs **namespace**. The second step is to create an Event Hub in that namespace.

## Define an Event Hubs namespace

An Event Hubs namespace is a containing entity for managing one or more Event Hubs. Creating an Event Hubs namespace typically involves the following configuration:

### Define namespace-level settings

Certain settings such as namespace capacity (configured using **throughput units**), pricing tier, and performance metrics are defined at the namespace level. These settings apply to all the Event Hubs within that namespace. If you don't define these settings, a default value is used: *1* for capacity and *Standard* for pricing tier.

Keep the following aspects in mind:

- You must balance your configuration against your Azure budget expectations.
- 

1. Select a unique name for the namespace. The namespace is accessible through this URL: *namespace.servicebus.windows.net*

2. Define the following optional properties:

- Enable Kafka. This option enables Kafka apps to publish events to the Event Hub.
- Make this namespace zone redundant. Zone-redundancy replicates data across separate data centers with their independent power, networking, and cooling infrastructures.
- Enable Auto-Inflate and Auto-Inflate Maximum Throughput Units. Auto-Inflate provides an automatic scale-up option by increasing the number of throughput units up to a maximum value. This option is useful to avoid throttling in situations when incoming or outgoing data rates exceed the currently set number of throughput units.

## Azure CLI commands to create an Event Hubs namespace

To create a new Event Hubs namespace, use the **az eventhubs namespace** commands. Here's a brief description of the subcommands you'll use in the exercise.

## Command Description

create	Create the Event Hubs namespace. All Event Hubs within the same Event Hubs namespace share common connection credentials. You'll need these credentials when you configure apps to send and receive messages using the Event Hub. This command returns the connection string for your Event Hubs namespace.
authorization-rule	

## Configure a new Event Hub

After you create the Event Hubs namespace, you can create an Event Hub. When creating a new Event Hub, there are several mandatory parameters.

The following parameters are required to create an Event Hub:

- **Event Hub name** - Event Hub name that is unique within your subscription and:
  1. Is between 1 and 50 characters long.
  2. Contains only letters, numbers, periods, hyphens, and underscores.
  3. Starts and ends with a letter or number.
- **Partition Count** - The number of partitions required in an Event Hub (between 2 and 32). The partition count should be directly related to the expected number of concurrent consumers and can't be changed after the hub has been created. The partition separates the message stream so that consumer or receiver apps only need to read a specific subset of the data stream. If not defined, this value defaults to 4.
- **Message Retention** - The number of days (between 1 and 7) that messages will remain available if the data stream needs to be replayed for any reason. If not defined, this value defaults to 7.

You can also optionally configure an Event Hub to stream data to an Azure Blob storage or Azure Data Lake Store account.

## Azure CLI commands to create an Event Hub

To create a new Event Hub with the Azure CLI, you'll run the **az eventhubs eventhub** command set. Here's a brief description of the subcommands we'll be using.

Command	Description
create	Creates the Event Hub in a specified namespace.
show	Displays the details of your Event Hub.

## Summary

To deploy Azure Event Hubs, you must configure an Event Hubs namespace, and then configure the Event Hub itself. In the next unit, you'll go through the detailed configuration steps to create a new namespace and Event Hub.