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# Exercise - Deploying a cognitive service to IoT Edge as a container

15 minutes

Before deploying the Language Detection module to your edge device, you need to configure the Azure AI services API key and endpoint into the container.

## Create an Azure AI Language service resource

Create an Azure AI Language service resource that matches the container.

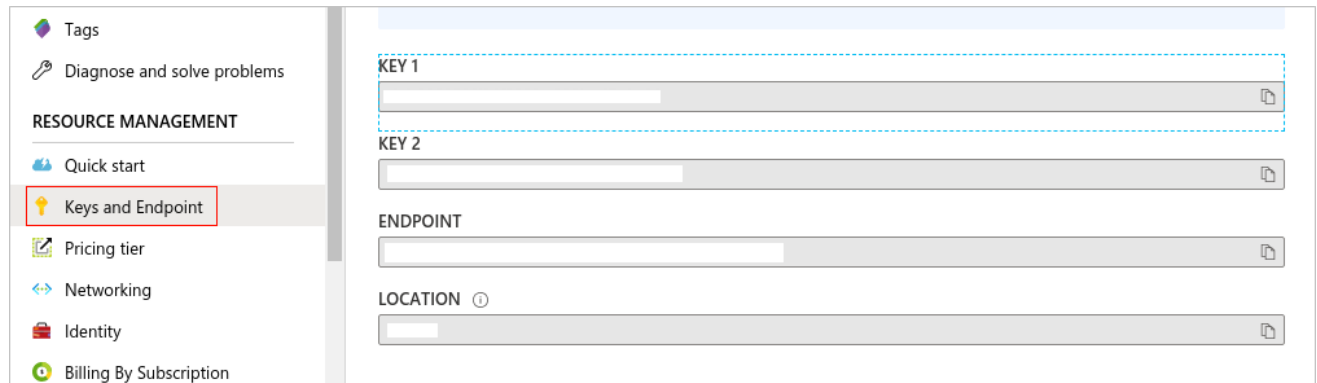
1. Sign in to the [Azure portal](#).
2. Select **Create a resource**, and then go to **AI + Machine Learning > Language service**.
3. Enter all the required settings:

[Expand table](#)

Setting	Value
Name	Enter a name (2-64 characters).
Subscription	Select the appropriate subscription.
Location	Select a nearby location.
Pricing tier	Enter <b>S</b> , the standard pricing tier.
Resource group	Select an available resource group.

4. Select **Create**, and wait for the resource to be created. Your browser automatically redirects to the newly created resource page.

5. Go to the resource.
6. In the **Keys and Endpoint** page under **Resource Management**, copy **KEY 1** and **Endpoint**.



The screenshot shows the Azure IoT Edge 'Keys and Endpoint' configuration page. On the left, a sidebar lists navigation options: Tags, Diagnose and solve problems, and a 'RESOURCE MANAGEMENT' section containing Quick start, Keys and Endpoint (highlighted with a red box), Pricing tier, Networking, Identity, and Billing By Subscription. The main content area contains four input fields: 'KEY 1' (highlighted with a dashed blue box), 'KEY 2', 'ENDPOINT', and 'LOCATION' (with a help icon). Each field has a copy icon on the right.

## Deploy the Language Detection module to the edge

To deploy the Language Detection container image as Azure IoT Edge modules from Azure Marketplace, follow these steps:

1. In the Azure portal, enter **Edge Module - Language Detection (Text Analytics)** into the search and open the Azure Marketplace result.
2. Select **Create** to create the image.
3. It takes you to the Azure portal's **Target Devices for IoT Edge Module** page. Provide the following required information.
  - a. Select your subscription.
  - b. Select the IoT hub created in an earlier step.
  - c. Select **Find device** and find your IoT Edge device created in an earlier step.
4. Select the **Create** button. It takes you to the **Set modules** page. Keep the page open, because you'll configure Azure AI services in the next step.
5. Select on the **EdgeModuleLanguageDetectionTextAnalytics** IoT Edge module.

**IoT Edge Modules**

An IoT Edge module is a Docker container you can deploy to IoT Edge devices. It communicates with other modules and sends data to the IoT Edge runtime. Using this UI you can import Azure Service IoT Edge modules or specify the settings for an IoT Edge module. Setting modules on each device will be counted towards the quota and throttled based on the IoT Hub tier and units. For example, for S1 tier, modules can be set 10 times per second if no other updates are happening in the IoT Hub.

[Learn more](#)

 Add   Runtime Settings

NAME	DESIRED STATUS	
<a href="#">EdgeModuleLanguageDetectionTextAnalytics</a>	running	This module may require additional configuration. 

6. Navigate to **Environment Variables** and provide the following information.

- Keep the value **accept** for **Eula**.
- Fill out **Billing** with your Azure AI services endpoint.
- Fill out **ApiKey** with your Azure AI services API key.

Module Settings	Environment Variables	Container Create Options	Module Twin Settings
Environment variables provide supplemental information to a module facilitating the configuration process.			
NAME		VALUE	
<input type="text" value="Eula"/>		<input type="text" value="accept"/>	
<input type="text" value="Billing"/>		<input type="text"/>	
<input type="text" value="ApiKey"/>		<input type="text"/>	
<i>Variable name</i>		<i>Variable value</i>	

7. Navigate to **Container Create Options**, and verify the options to be:

JSON

```
{
  "ExposedPorts": {
    "5000/tcp": {}
  },
  "HostConfig": {
    "PortBindings": {
      "5000/tcp": [
        {
          "HostPort": "5000"
        }
      ]
    }
  }
}
```

```
}  
}
```

This configuration adds port 5000 to the exposed ports so that the container can be connected to.

8. Select **Update**.
9. Select **Next: Routes** to define your route. You define all messages from all modules to go to Azure IoT Hub.
10. Select **Next: Review + create**. You can preview the JSON file that defines all the modules that get deployed to your IoT Edge device.
11. Select **Create** to start the module deployment.
12. After you complete the module deployment, you'll go back to the **IoT Edge** page of your IoT hub. Select your device from the list of IoT Edge devices to see its details.
13. Scroll down and see the modules listed. Check that the runtime status is running for modules.

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## Next unit: Exercise - Test Azure AI services on the IoT Edge device

[Continue >](#)