**Pre-requisites**

1. An Azure account
2. Create an Azure Machine Learning workspace in the Azure account
3. Get the Machine Learning Studio web URL

**Steps to deploy the model in AZ ML Studio**

1. Open the Azure Machine Learning Studio web URL
2. Click Notebooks under Authoring pan on the left hand side
3. Upload the folder [**MNIST\_AZURE**](https://github.com/ShabnaNazar/MNIST_AZURE) under the username in Azure Notebooks

The folder MNIST\_AZURE will have the below file

1. image\_classifier\_mnist.ipynb 🡪 Code to deploy a classification model for Azure Open Dataset MNIST
2. image\_classifier\_mnist.yml 🡪 Environment requirements to execute the code
3. score.py 🡪 script required to initialize the model and do predictions
4. utils.py 🡪 script contains load\_data function which parses the compressed files into numpy arrays
5. Sample\_test\_data.txt 🡪 a sample test data for testing purpose

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1. Run the notebook file [image\_classifier\_mnist.ipynb](https://github.com/ShabnaNazar/MNIST_AZURE/blob/main/image_classifier_mnist.ipynb) present in the MNIST\_AZURE folder
2. Once the notebook is executed successfully, a training job is created, the model is registered in the model registry and a real time endpoint is created
3. Training job with MLFlow tracking

Jobs > **mnist-sklearn-classification**

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1. Model registry with Model version

Models > sklearn\_mnist\_model

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1. Real time Endpoint

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1. Click the endpoint name starting with ‘mnist-svc” and get the RESRT endpoint url from the Details tab

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Eg: (**SAMPLE ONLY**)

URL :

<http://f8771be4-4e9f-43ea-8d89-4a1aada1fd65.eastus2.azurecontainer.io/score>

**Steps to use the deployed model to predict an API request**

For Testing the rest endpoint, there are multiple ways we can test the online endpoint. Below are some of the options

Option 1: Send an API POST request using POSTMAN API Interface

1. Create a POST request with scoring url
2. Add a key value pair for the Headers as ”Content-Type" as KEY "application/json" as the VALUE
3. Get a sample test data from the file Sample\_test\_data.txt and copy it in the Body as raw
4. Click Send button
5. You will get the predicted result as the API response

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Option 2: Test the Endpoint directly in Azure Machine Learning Studio

Navigate to the Endpoint created after the code run. Click Test tab present next to the Details tab. Copy the contents of the file present in Sample\_test\_data.txt and click the Test button