

**Introducing Generative AI with AWS**

**Project: Building a Domain Expert Model**

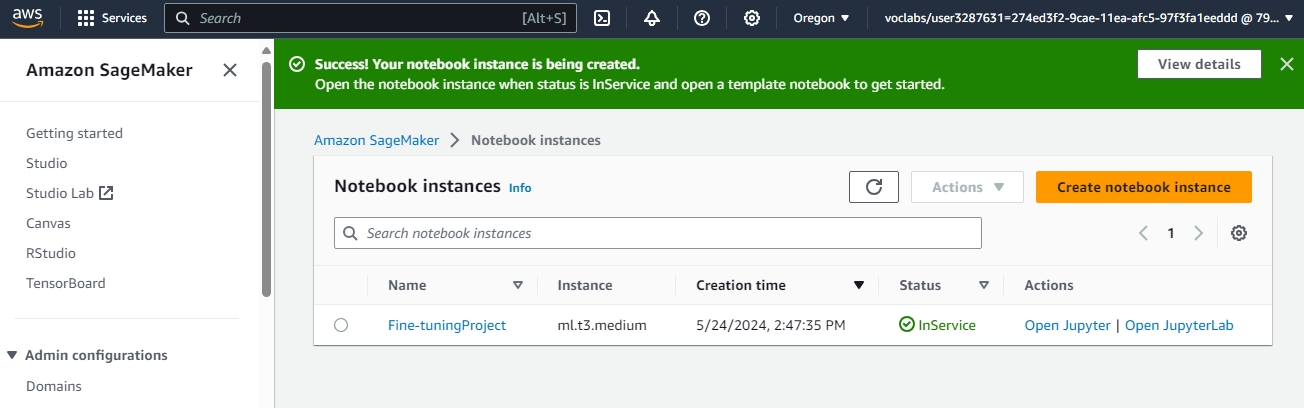
# **Environment and Project Setup**

**Configured and completed the below steps and used Aws US West Oregon (us-west-2) Region.**

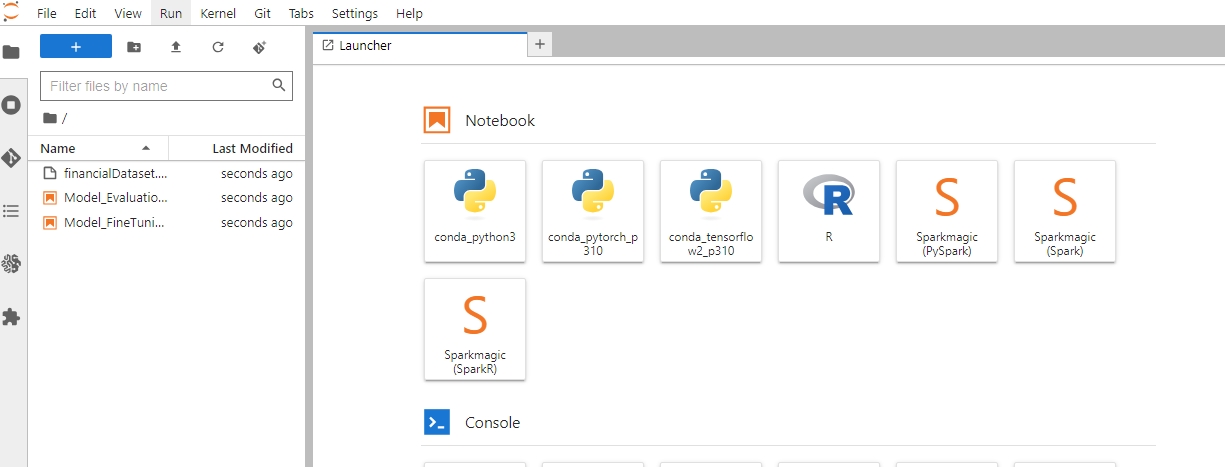
* An AWS SageMaker IAM Role
* An AWS SageMaker Notebook Instance
* A GPU instance for fine-tuning training
* Downloaded the [**project starter files**](https://video.udacity-data.com/topher/2024/February/65bb2743_genaiwithawsprojectstarter/genaiwithawsprojectstarter.zip).

**Step 1: Upload Project Starter Files**

* **Creating and Running the Fine-tuningProject Instance**

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* **Uploading the Python notebook files (.ipynb)**

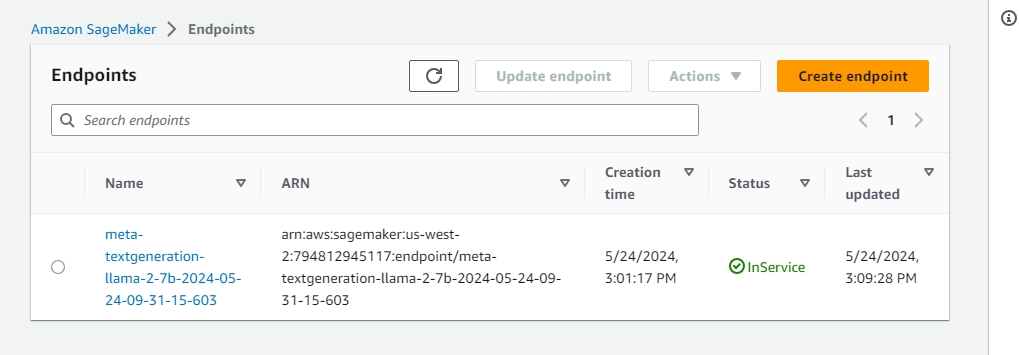
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**Step 2: Choose your Dataset**

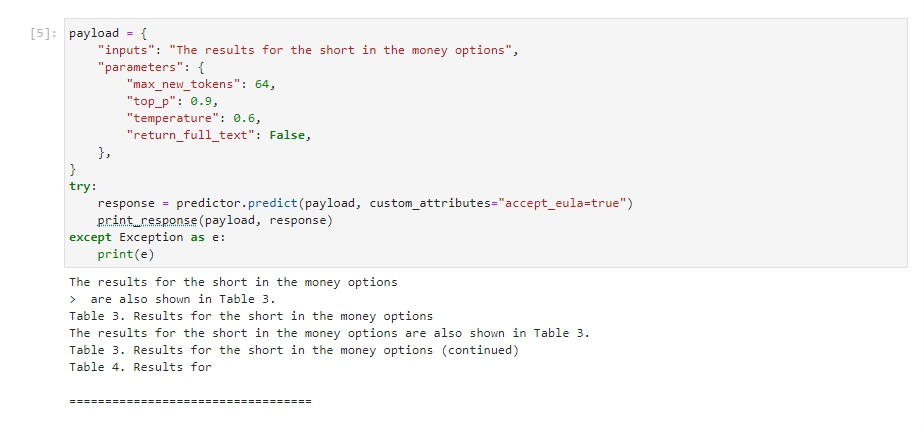
I have opted for a dataset within the domain of **Financial Domain**.

**Step 3: Deploy and Evaluate the model (Model\_Evaluation.ipynb)**

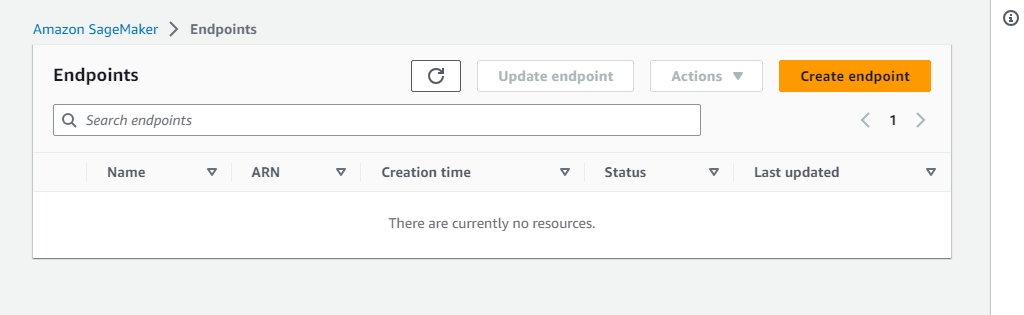
* Completed and ran the cells in the Model\_Evaluation.ipynb file
* Screenshot of the Model Deployment of Model\_Evaluation.ipynb



* Saved and download Model\_Evaluation.ipynb with the cell output,uploaded in the zip file and file name is ***Model\_Evaluation\_UdacityGenAIAWS.ipynb***
* Screenshot of the Model\_Evaluation.ipynb file with the cell output as proof



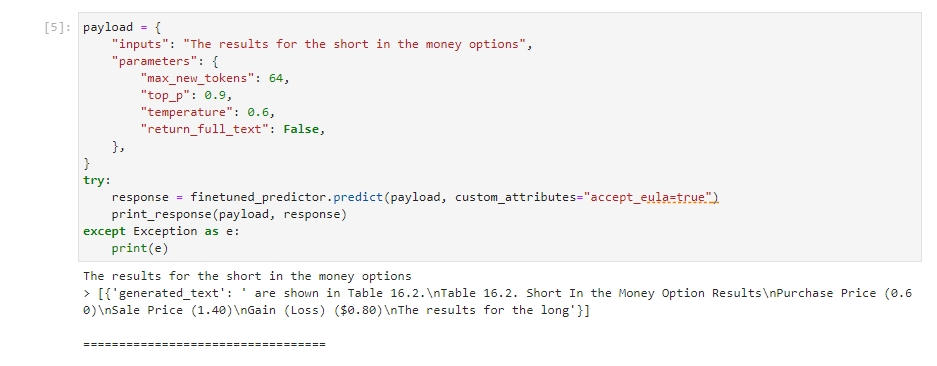
* Screenshot of Deleted the Model Deployment and endpoints



* Updated the Project Documentation section about the evaluation of the model's text generation capabilities and knowledge.

**Step 4: Fine-tune the Model (Model\_FineTuning.ipynb)**

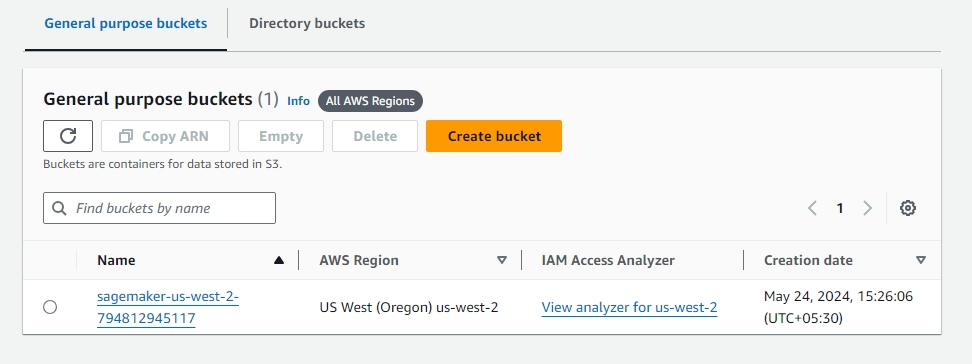
* Completed and ran the cells in the Model\_FineTuning.ipynb
* Saved and download Model\_Evaluation.ipynb with the cell output,uploaded in the zip file and file name is ***Model\_FineTuning.ipynb***
* screenshot of the Model\_FineTuning.ipynb file with the cell output as proof



* Updated the Project Documentation Report section about fine-tuning the model

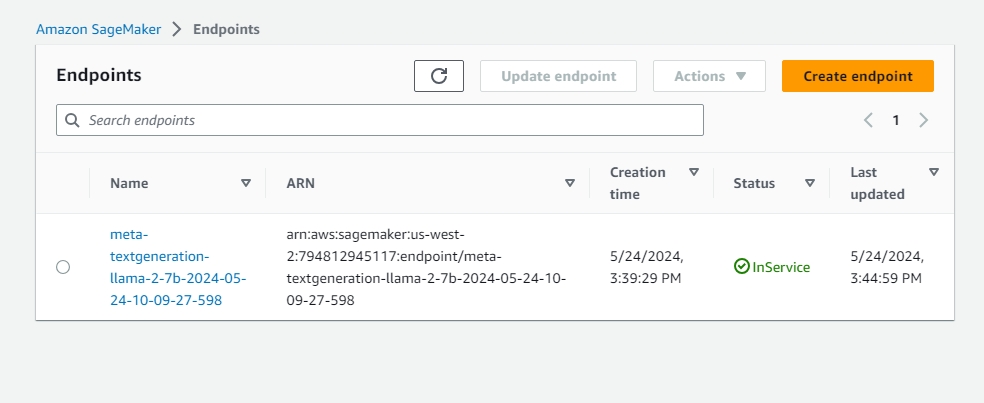
**Step 5: Deploy and Evaluate the Fine-tuned Model**

* Screenshot of Visiting the AWS S3 bucket where my fine-tuned model weights are stored after training for your submission.

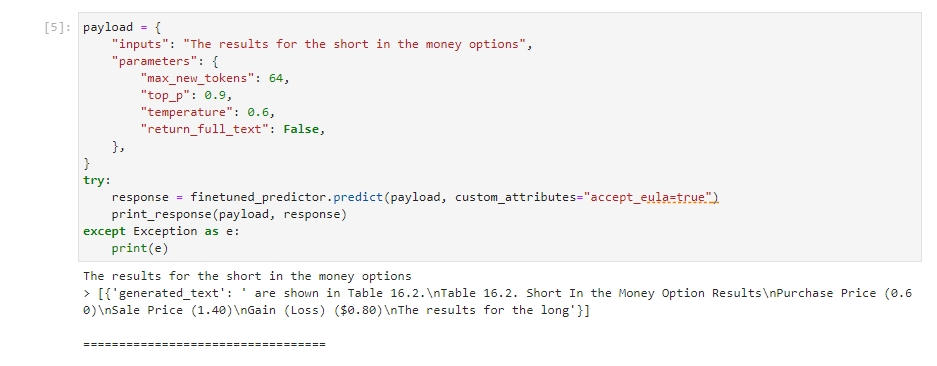
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**ARN -** arn:aws:s3:::sagemaker-us-west-2-794812945117

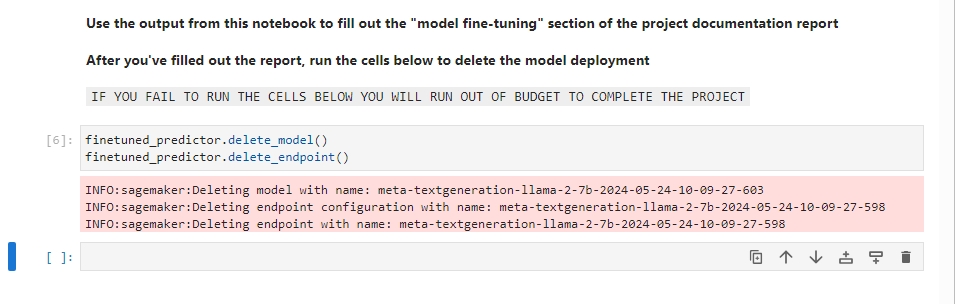
* Screenshot of Model\_FineTuning.ipynb file about deploying and evaluating the fine-tuned model.



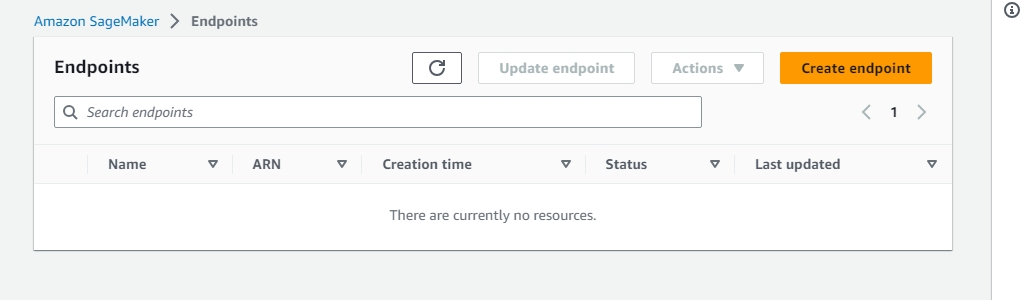
* Screenshot of the Model\_FineTuning.ipynb file with the cell output as proof



* Screenshot of Deleted the Model Deployment and endpoints(Cell Output)



* Screenshot of Deleted the Model Deployment and endpoints(Cell Output)



* Updated the Project Documentation Report section about fine-tuning the model.

**Step 6: Collect Project Documentation and Submit**

**Zip File Named Project\_Building\_a\_Domain\_Expert\_Model.zip is uploaded and consists of**

* Model\_evaluation.ipynb with cell output (File\_Name:-Model\_evaluation.ipynb).
* Model\_FineTuning.ipynb with cell output (File\_Name:- Model\_FineTuning.ipynb).
* Screenshots of both notebooks with cell output.
* The completed Project Documentation Report (File\_Name:- UDACITY Introduction to Generative AI with AWS Project Documentation Report).
* Snapshots folder consists of both the notebooks with outputs for better visibility.