💻 **aws-samples** / **aws-deepcomposer-samples**

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🐙 **Phu Nguyen** Updated Lab 2 README   Latest commit `d22fe09` on Dec 19, 2019   ⊙ History

👥 **1 contributor**

88 lines (43 sloc) | 2.57 KB   Raw   Blame   🖥 ✏ 🗑

Lab 2 - Train a custom GAN model

🔗 Goal

As part of this lab, you will learn to build a custom GAN architecture and train the model using Amazon SageMaker.

Prerequisites
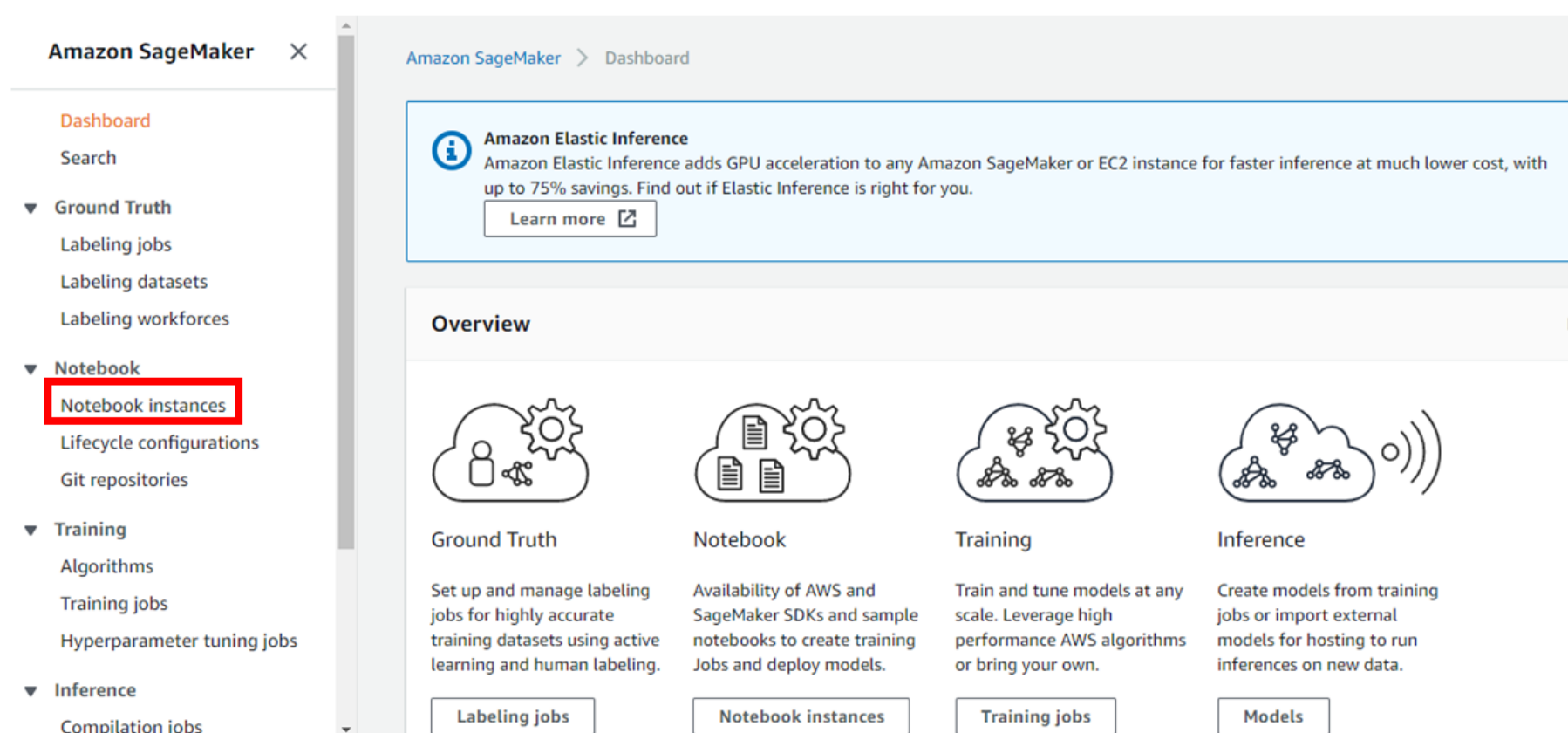
- Access to Amazon SageMaker

Cost

Using a ml.c5.4xlarge, the entire exercise take 3-4 hrs to run. Please see the Amazon SageMaker pricing for details.

Setup

First we create the Amazon SageMaker notebook instance.

Navigate to Amazon SageMaker using the link: https://console.aws.amazon.com/sagemaker/home?region=us-east-1#/dashboard

Click **Notebook instances** from the left navigation bar

Select **Create notebook instance**

Notebook instances				Actions ▼	**Create notebook instance**

🔍 Search notebook instances   ‹ **1** › ⚙

Name ▼	Instance	Creation time ▼	Status ▼	Actions
		There are currently no resources.		

Within the notebook instance creation form, select "c5.4xlarge" for **Notebook instance type**

Notebook instance settings

Notebook instance name

> DeepComposerNotebook

Maximum of 63 alphanumeric characters. Can include hyphens (-), but not spaces. Must be unique within your account in an AWS Region.

Notebook instance type

> ml.c5.4xlarge   ▼

Elastic Inference **Learn more** ⧉

> none   ▼

▶ **Additional configuration**

Set the following for **Permissions and encryption**:

- IAM role: Use an existing role or create a new role
- Root access: Enable
- Encryption key: No Custom Encryption

Permissions and encryption

IAM role
Notebook instances require permissions to call other services including SageMaker and S3. Choose a role or let us create a role with the **AmazonSageMakerFullAccess** IAM policy attached.

> AmazonSageMaker-ExecutionRole-20190723T164172   ▼

Root access - *optional*
- ⦿ Enable - Give users root access to the notebook
- ◯ Disable - Don't give users root access to the notebook
  Lifecycle configurations always have root access

Encryption key - *optional*
Encrypt your notebook data. Choose an existing KMS key or enter a key's ARN.

> No Custom Encryption   ▼

Set the following for **Git repositories**:

- Repository: Clone a public Git repository to this notebook instance only
- Git repository URL: https://github.com/aws-samples/aws-deepcomposer-samples

▼ Git repositories – *optional*

▼ Default repository

Repository

Jupyter will start in this repository. Repositories are added to your home directory.

| Clone a public Git repository to this notebook instance only ▼ |

Git repository URL

Clone a repository to use for this notebook instance only.

| https://github.com/aws-samples/aws-deepcomposer-samples |

Add additional repository

Click **Open Jupyter**

Notebook instances

| | Actions ▼ | Create notebook instance |

| 🔍 Search notebook instances | ‹ 1 › ⚙ |

	Name ▼	Instance	Creation time ▼	Status ▼	Actions
○	**DeepComposerNotebook**	ml.c5.4xlarge	Dec 19, 2019 02:48 UTC	⊘ InService	Open Jupyter	Open JupyterLab

Click **Lab 2** folder, then click **GAN.ipynb**

| □ 0 ▼	📁 / **aws-deepcomposer-samples** / **Lab 2**	Name ↓	Last Modified	File size
	📁 ..		seconds ago	
□	📁 dataset		2 minutes ago	
□	📁 images		2 minutes ago	
□	📁 original_midi		2 minutes ago	
□	📁 utils		2 minutes ago	
□	📓 GAN.ipynb		2 minutes ago	49.5 kB
□	📄 input_twinkle_twinkle.mid		2 minutes ago	736 B
□	📄 Lifecycle_configurations.sh		2 minutes ago	490 B
□	📄 README.md		2 minutes ago	2.06 kB

*You will likely be prompted to select kernel. Choose the drop down and select **conda_python3** as the kernel*
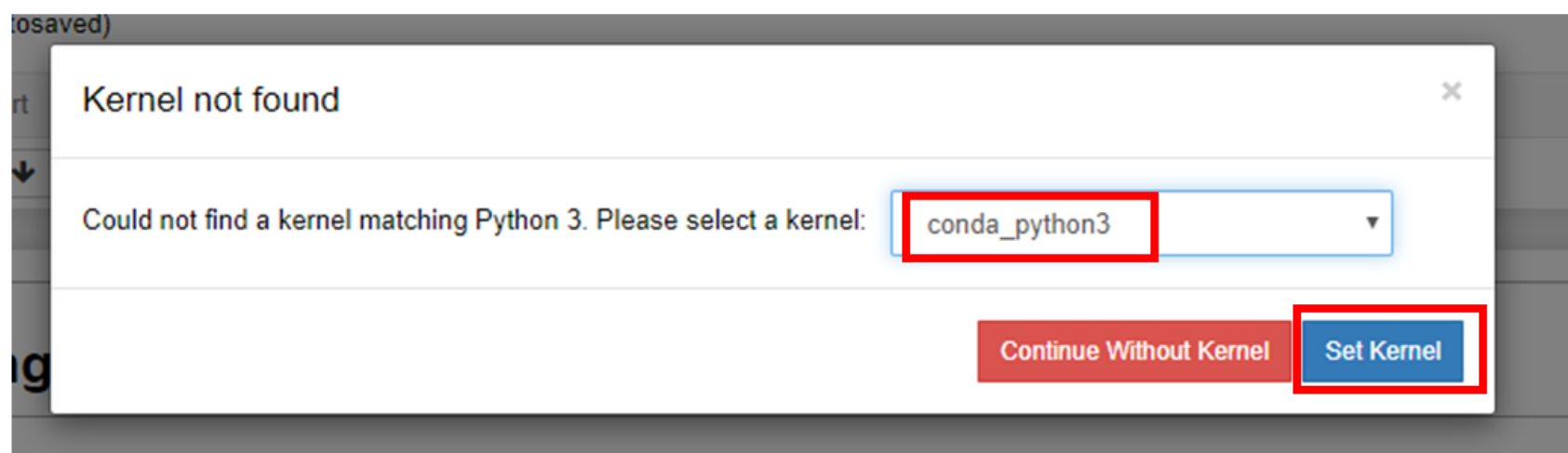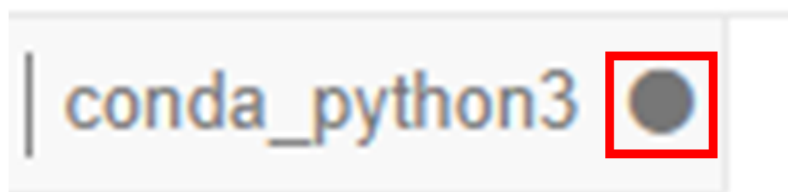
This notebook contains instructions and code to create a custom GAN model from scratch. Follow the notebook content and run all cells to the end.
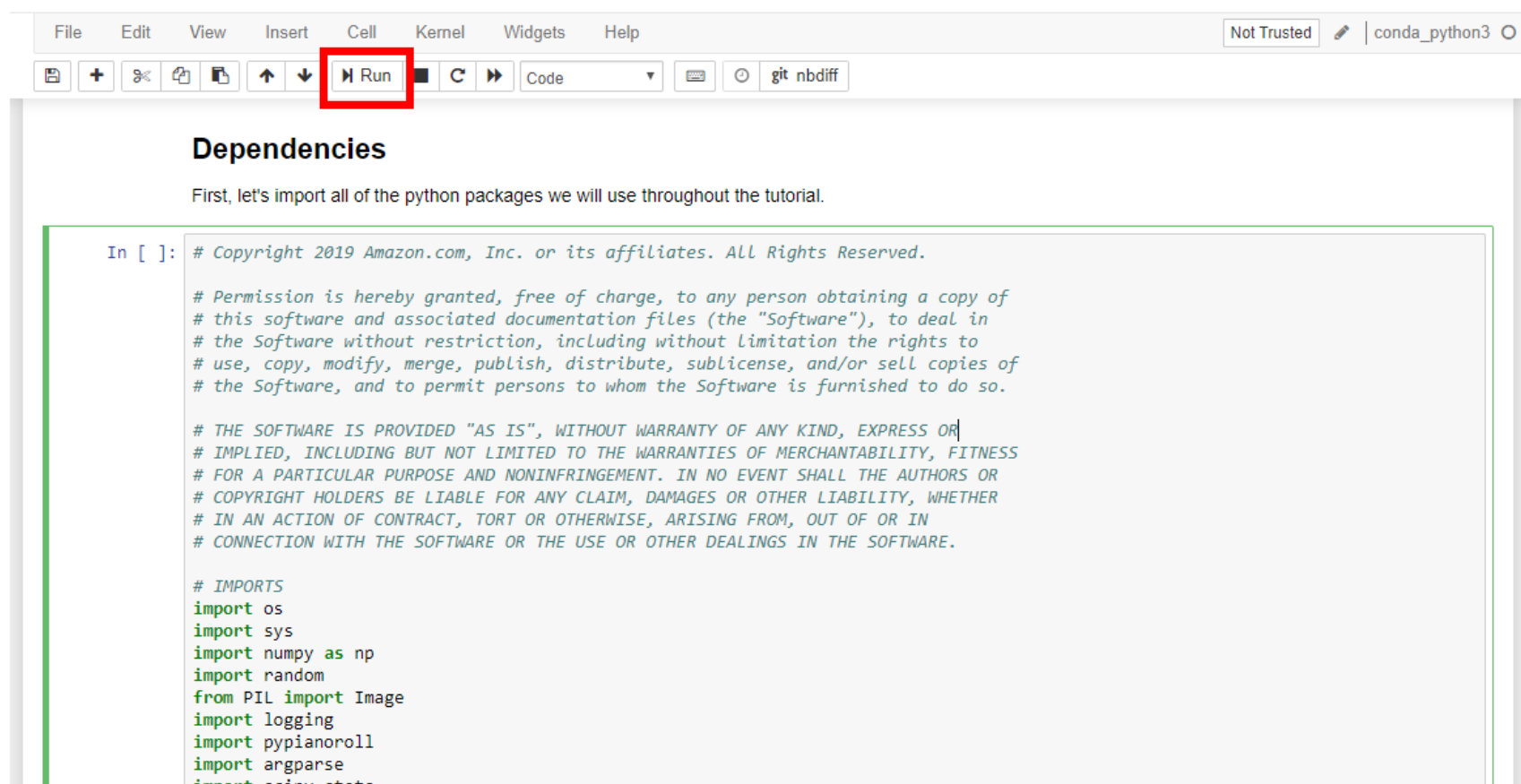
To run the code cells, choose the code cell you want to run and click **Run**
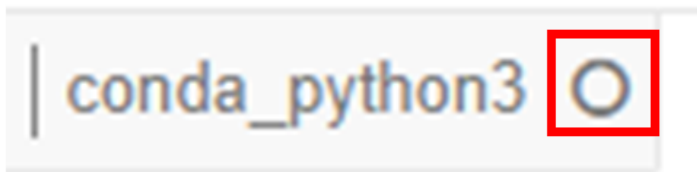
If the kernel has an empty circle, it means it is free and ready to execute the code

If the kernel has a filled circle, it means it is busy. Wait for it to become free before you execute the next line of code.

Next Steps

Congratulations on building a custom GAN model from scratch!

Now try using your model to create compositions based on your custom MIDI input.

Important: Remember to stop your Amazon SageMaker instances after you're done to avoid extra charges

Notebook instances

Search notebook instances

	Name	Instance	Creation time	Status
○	FraudDetectionNotebookInstance	ml.t2.medium	Jun 12, 2019 19:39 UTC	⊖ Stopped
○	c45xl	ml.c5.4xlarge	Nov 22, 2019 06:00 UTC	⊘ InService
●	c5	ml.c5.4xlarge	Nov 23, 2019 02:01 UTC	⊘ InService

Actions ▼   **Create notebook instance**

Open Jupyter
Open JupyterLab
Stop
Start
Update settings
Add/Edit tags
Delete

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er | Open JupyterLab

Notebook instances

Search notebook instances

Actions ▼   **Create notebook instance**

Open Jupyter
Open JupyterLab
Stop
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	Name	Instance	Creation time	Status
○	FraudDetectionNotebookInstance	ml.t2.medium	Jun 12, 2019 19:39 UTC	⊖ Stopped
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●	c5	ml.c5.4xlarge	Nov 23, 2019 02:01 UTC	⊘ InService

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