# Using Amazon SageMaker

# SageMaker services

- Let’s review the SageMaker console and see what we can do with SageMaker

# Creating the first Jupyter Instance in SageMaker

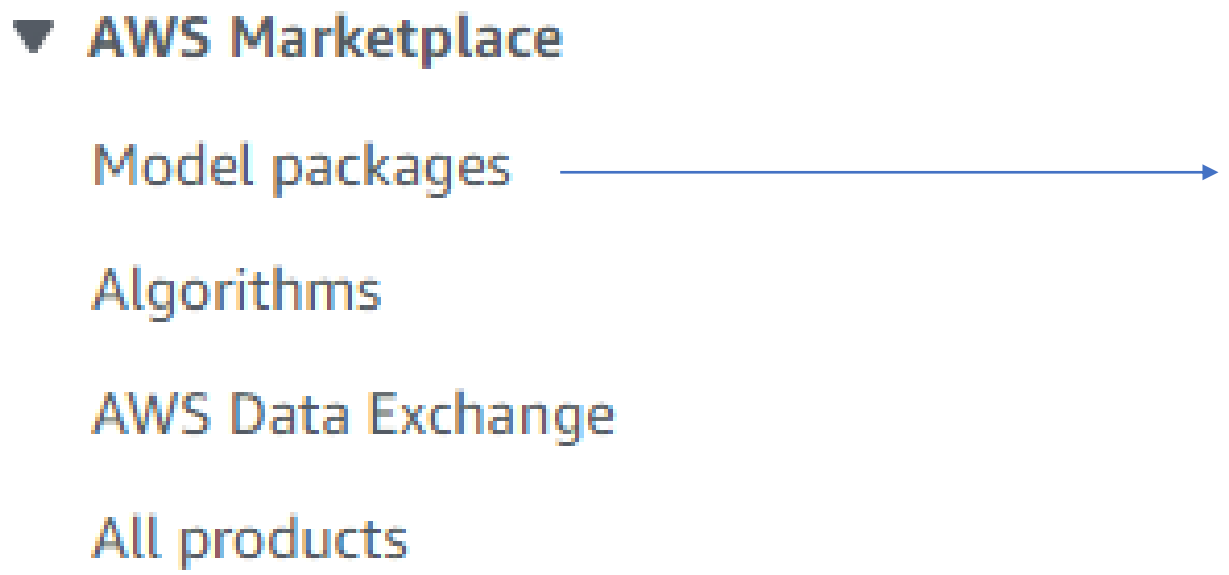
AWS Academy Virginia

# Creating first Notebook Instance

- Create a new Notebook instance in SageMaker
- Upload the firstnotbook.ipynb
- Read and run the cells in that notebook
  - In the notebook you get familiar with notebook magical commands
  - Using SageMaker SDK inside the notebook
  - Running OS commands from inside notebook
  - Using boto3 from inside a notebook
  - Using AWS CLI from inside a notebook
  - Opening a file from inside a notebook
  - Upload file to S3 bucket from notebook

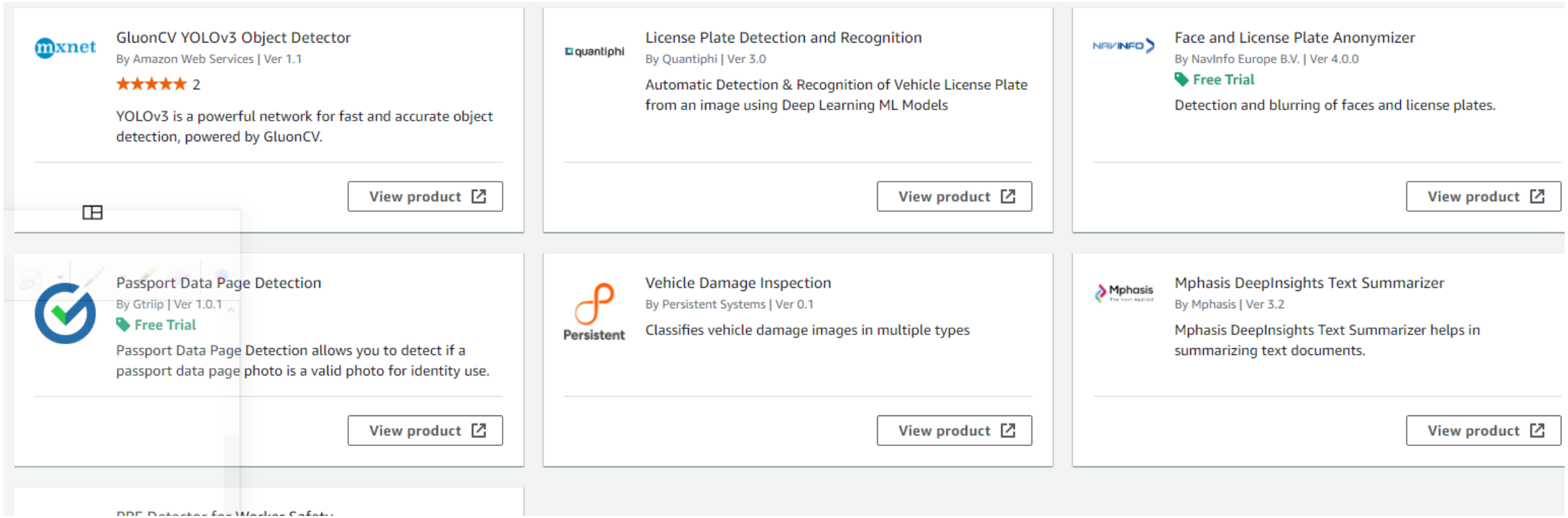
# Using SageMaker Marketplace Model

# From SageMaker console

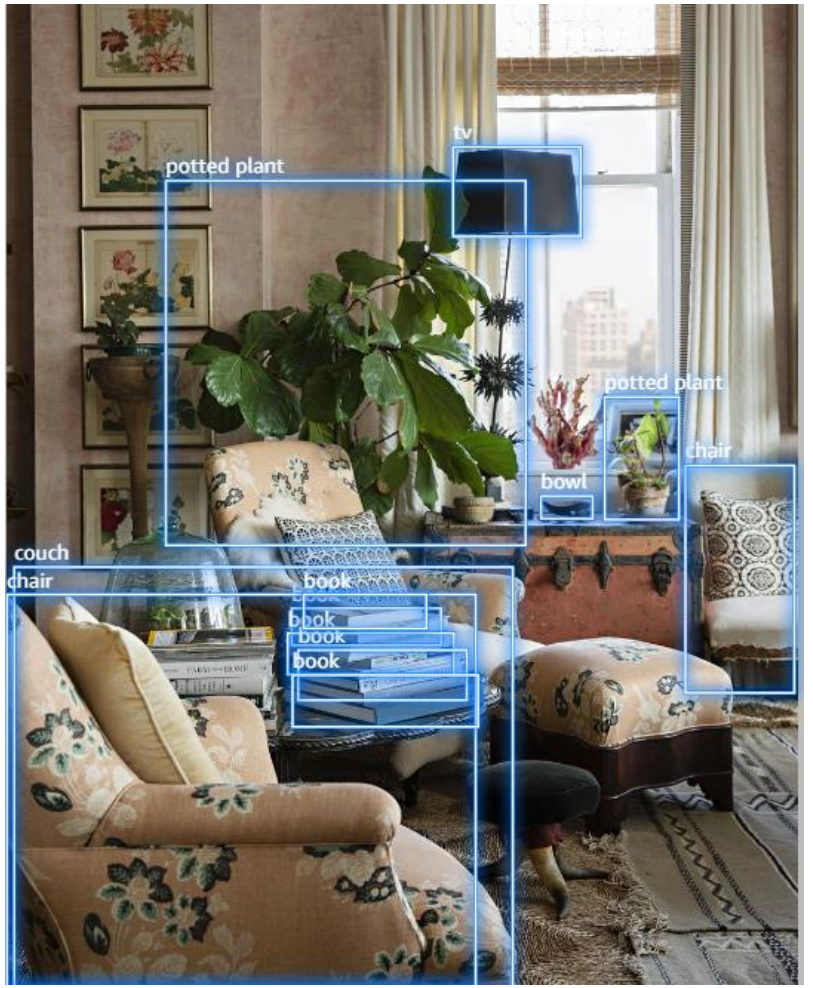



Models that are already trained and we can just start using them

# Model Packages



# Try **GluonCV YOLOv3 Object Detector**

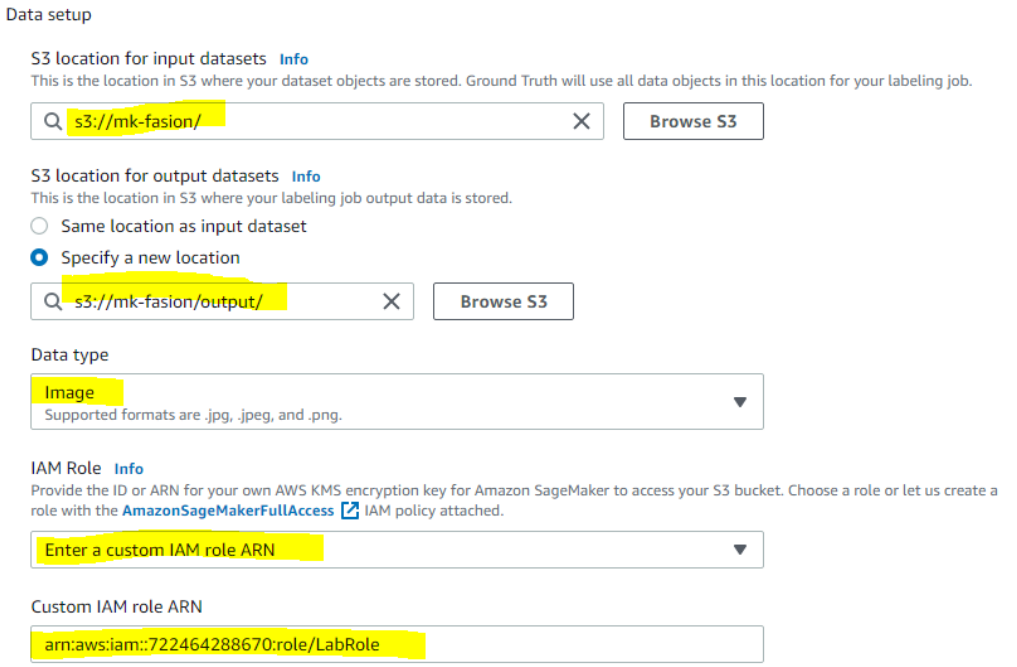
# Try one of the following models

- Vehicle Damage Inspection
- License Plate Detection and Recognition

# SageMaker GroundTruth

# Creating a labelling job by SageMaker GroundTruth

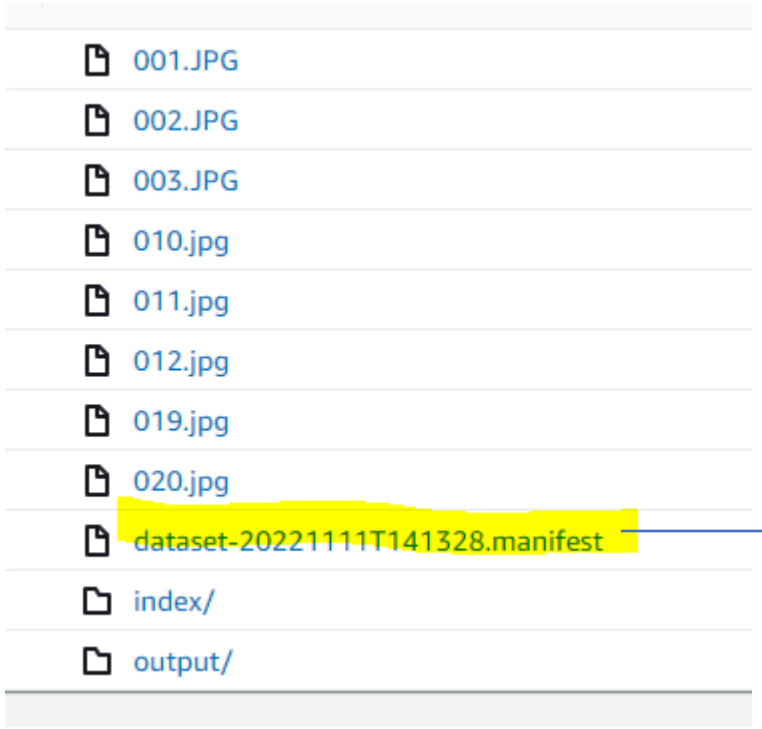
- Create a bucket in S3 and upload the fashion data into it (The repository to get the fashion data is: https://github.com/zalandoresearch/fashion-mnist)
- Create an "**output**" folder in that bucket
- Set those locations in the labelling job in SageMaker GroudTruth
- Set the Labrole ARN in the IAM role :




`arn:aws:iam::YourAccountID:role/LabRole`

# Create manifest file

**Click on Complete Data Setup**

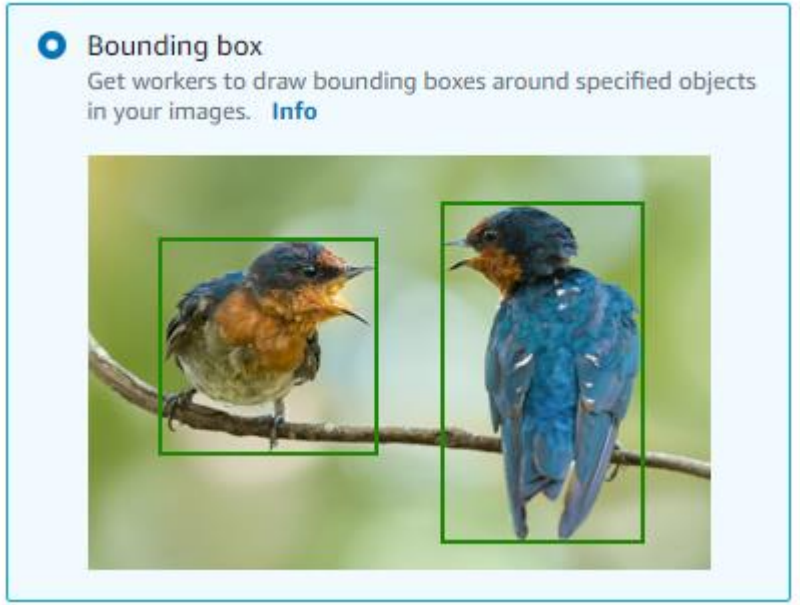




```
{"source-ref":"s3://mk-fasion/001.JPG"}
{"source-ref":"s3://mk-fasion/002.JPG"}
{"source-ref":"s3://mk-fasion/003.JPG"}
{"source-ref":"s3://mk-fasion/010.jpg"}
{"source-ref":"s3://mk-fasion/011.jpg"}
{"source-ref":"s3://mk-fasion/012.jpg"}
{"source-ref":"s3://mk-fasion/019.jpg"}
{"source-ref":"s3://mk-fasion/020.jpg"}
```

# Task Selection

- Task selection → bounding box
- Select Mechanical Turk
- Select 1 worker in **additional configuration**

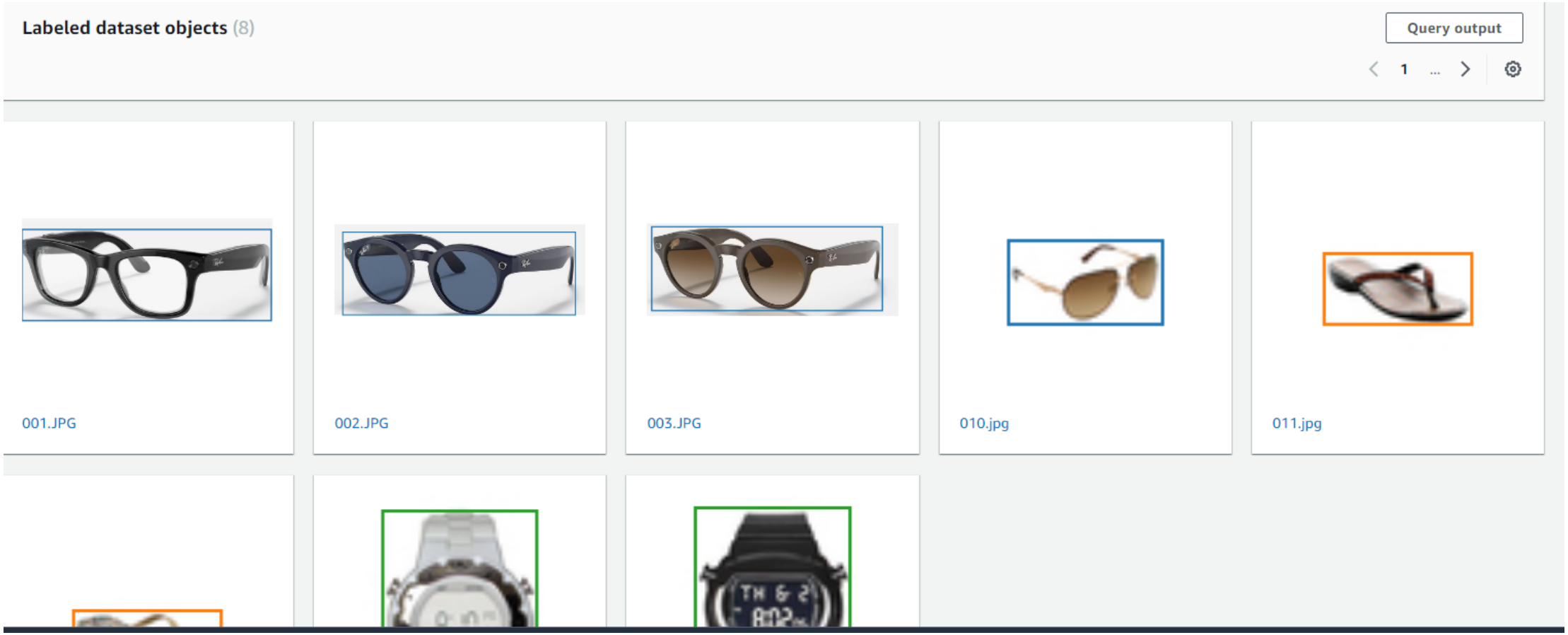


# Output file looks like this

- Open file “output.manifest” to see an example

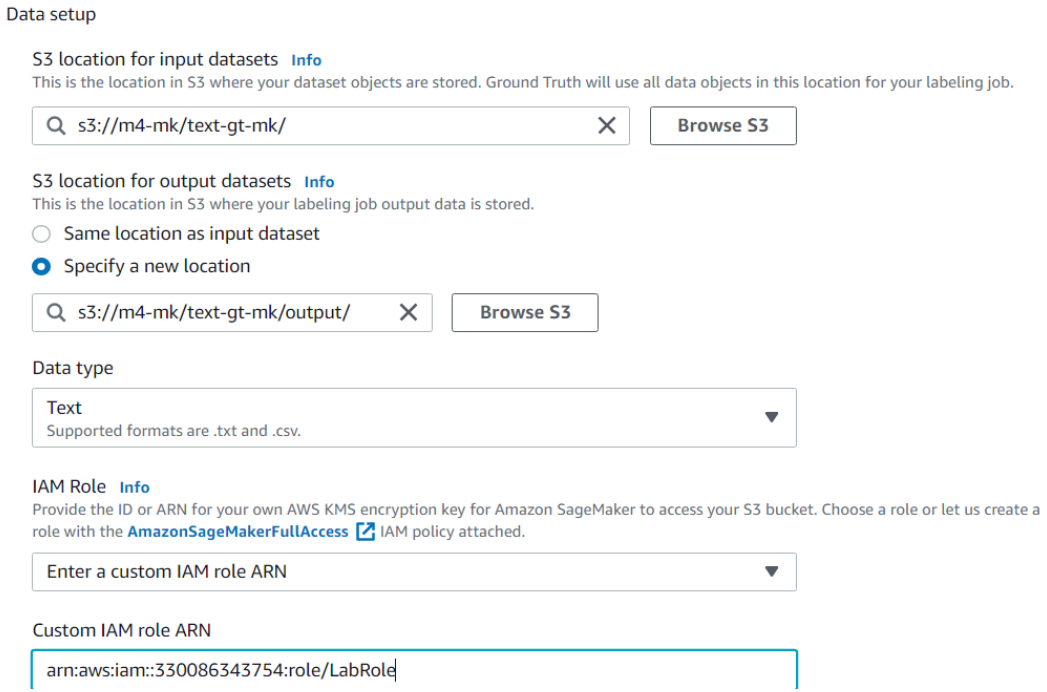

```
ref":"s3://mk-fasion/001.JPG","morteza-fasion":{"image_size":[{"width":838,"height":344,"depth":3}],"annotations":[{"class_id
ref":"s3://mk-fasion/002.JPG","morteza-fasion":{"image_size":[{"width":901,"height":327,"depth":3}],"annotations":[{"class_id
ref":"s3://mk-fasion/003.JPG","morteza-fasion":{"image_size":[{"width":918,"height":335,"depth":3}],"annotations":[{"class_id
ref":"s3://mk-fasion/010.jpg","morteza-fasion":{"image_size":[{"width":60,"height":80,"depth":3}],"annotations":[{"class_id":
ref":"s3://mk-fasion/011.jpg","morteza-fasion":{"image_size":[{"width":60,"height":80,"depth":3}],"annotations":[{"class_id":
ref":"s3://mk-fasion/012.jpg","morteza-fasion":{"image_size":[{"width":60,"height":80,"depth":3}],"annotations":[{"class_id":
ref":"s3://mk-fasion/019.jpg","morteza-fasion":{"image_size":[{"width":60,"height":80,"depth":3}],"annotations":[{"class_id":
ref":"s3://mk-fasion/020.jpg","morteza-fasion":{"image_size":[{"width":60,"height":80,"depth":3}],"annotations":[{"class_id":
```

# A completed job



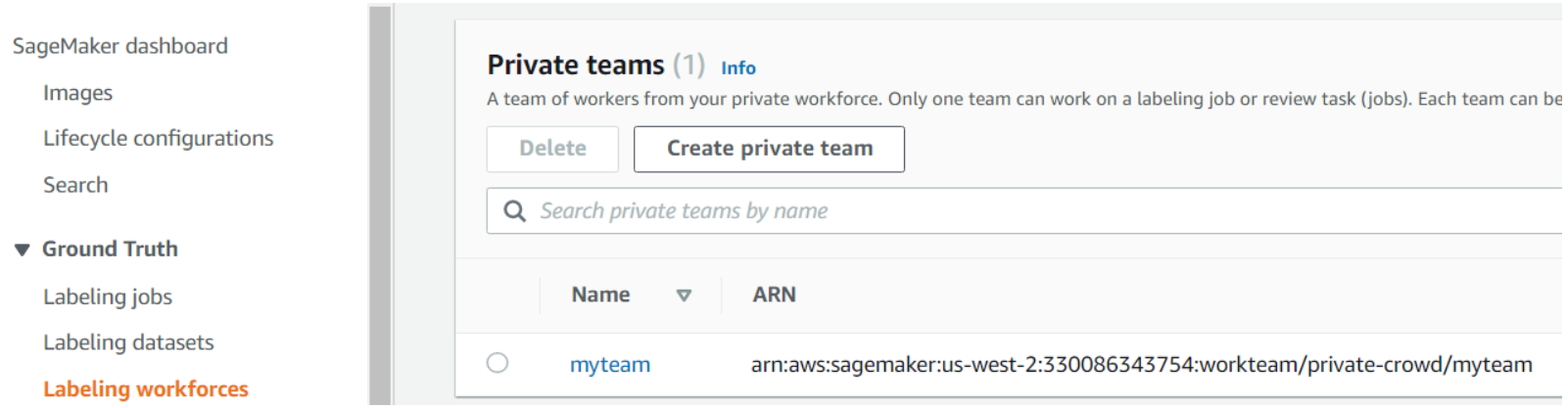
# Assignment

- Let’s say we have a series of customer feedbacks stored in a **customer_feedback.csv** file (upload it in a bucket). In that bucket create a folder for the output location
- Create a labeling job in SageMaker GroundTruth
- Specify the source and destination buckets
- Specify the role and data type
- Click on complete data setup



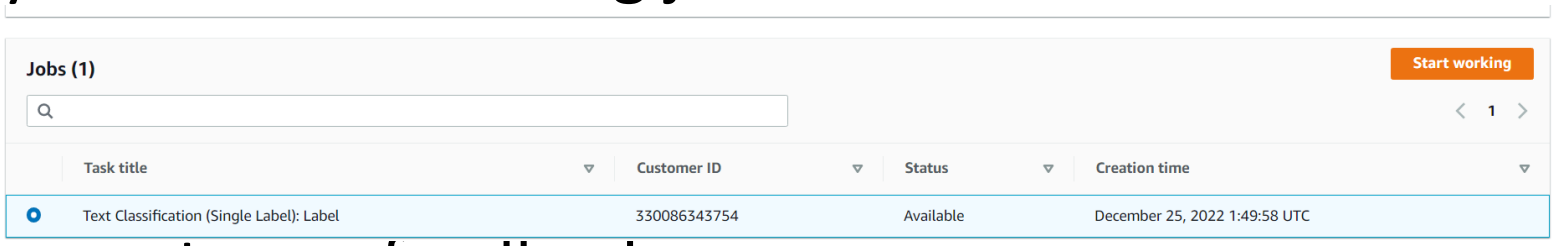
# Assignment (contd.)

- Review the manifest file
- Select Text Classification (Single Label)
- Select a private group, add a group name, add your email address and invite **yourself** to label the jobs
- You will receive an email with a temporary password. You need to change that password and log out and login again. You should be able to see your email as confirmed in the **Labeling workforce**

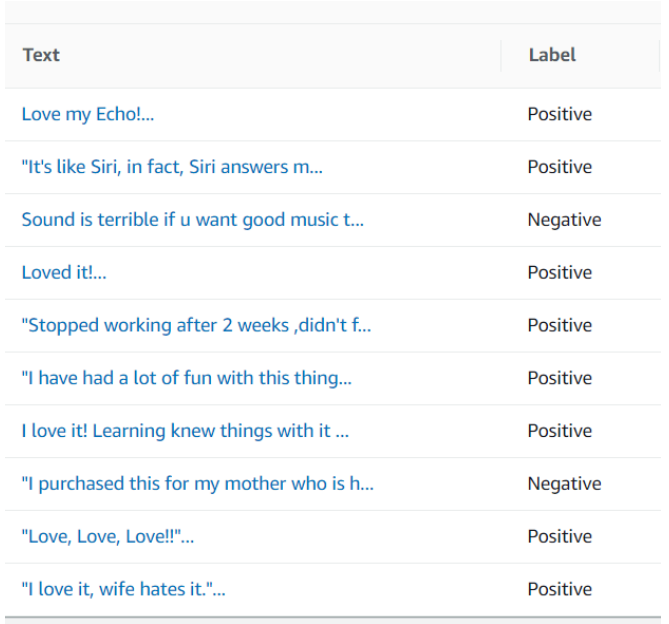


# Assignment (contd.)

- After you login, you may not see the labeling job but in 10 minutes or so you will see that




- Label the semantic of the customer feedbacks
- See them in S3 bucket and in console



| Text | Label |
|---|---|
| Love my Echo!... | Positive |
| "It's like Siri, in fact, Siri answers m... | Positive |
| Sound is terrible if u want good music t... | Negative |
| Loved it!... | Positive |
| "Stopped working after 2 weeks ,didn't f... | Positive |
| "I have had a lot of fun with this thing... | Positive |
| I love it! Learning knew things with it ... | Positive |
| "I purchased this for my mother who is h... | Negative |
| "Love, Love, Love!!"... | Positive |
| "I love it, wife hates it."... | Positive |