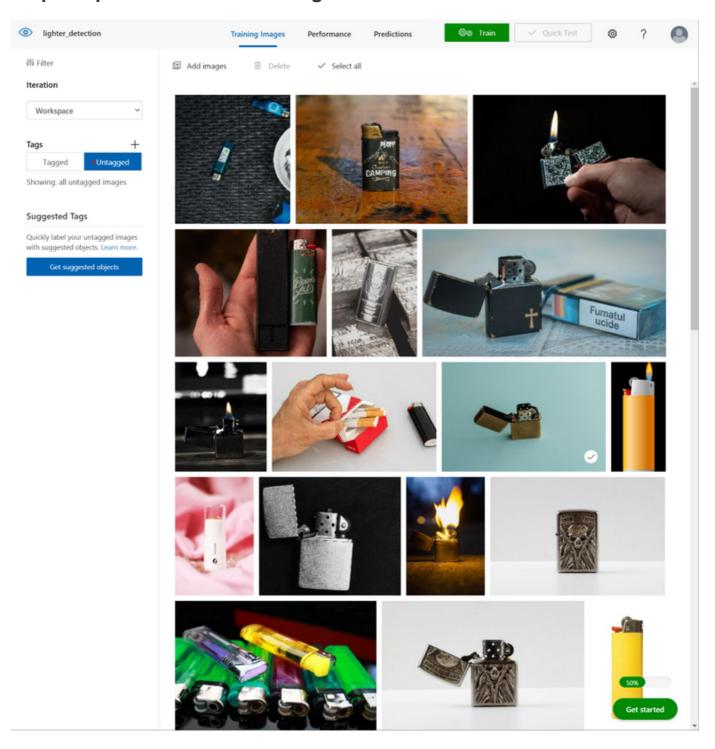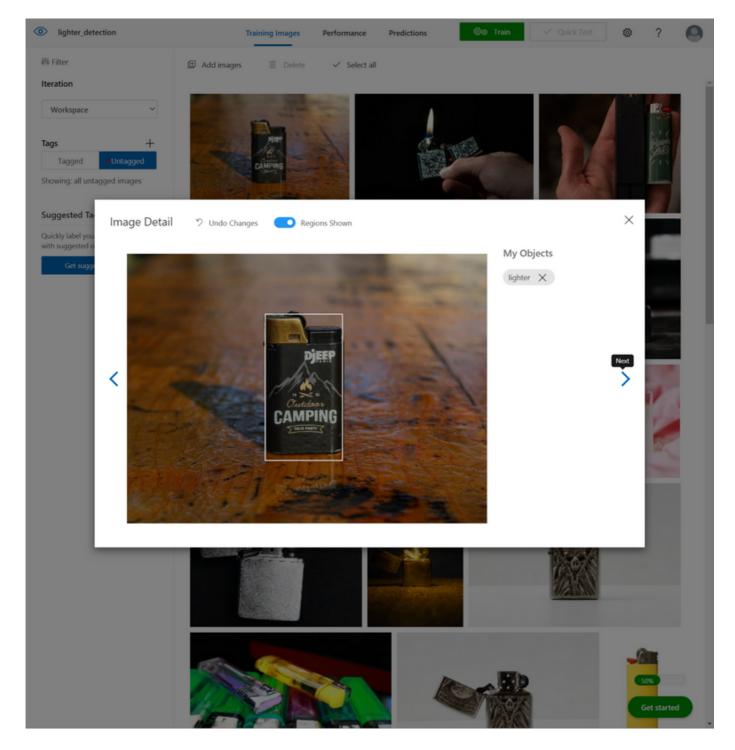# Step 4 - Object Detection

Train lighter detection model
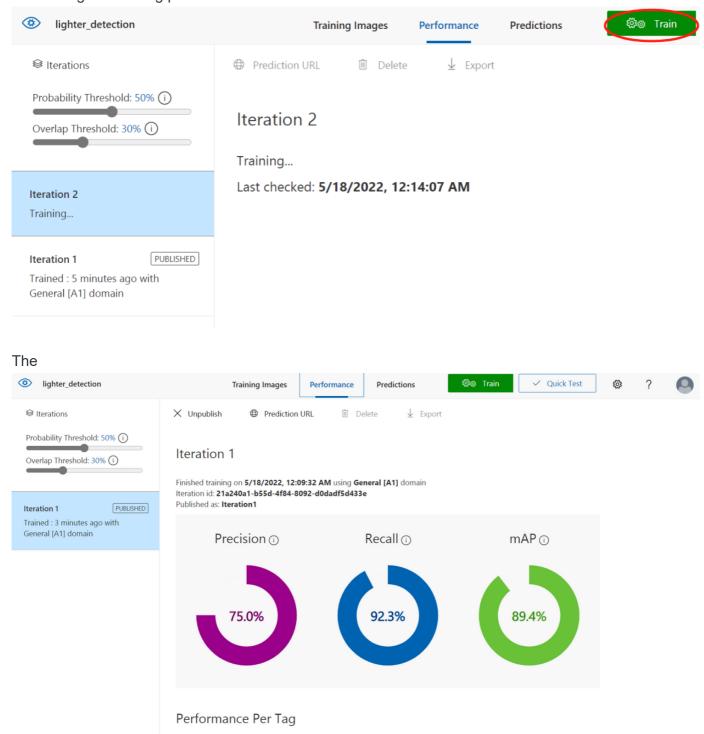
Step 1: Upload and label the images

Step 2: Train Process

Performing the training process
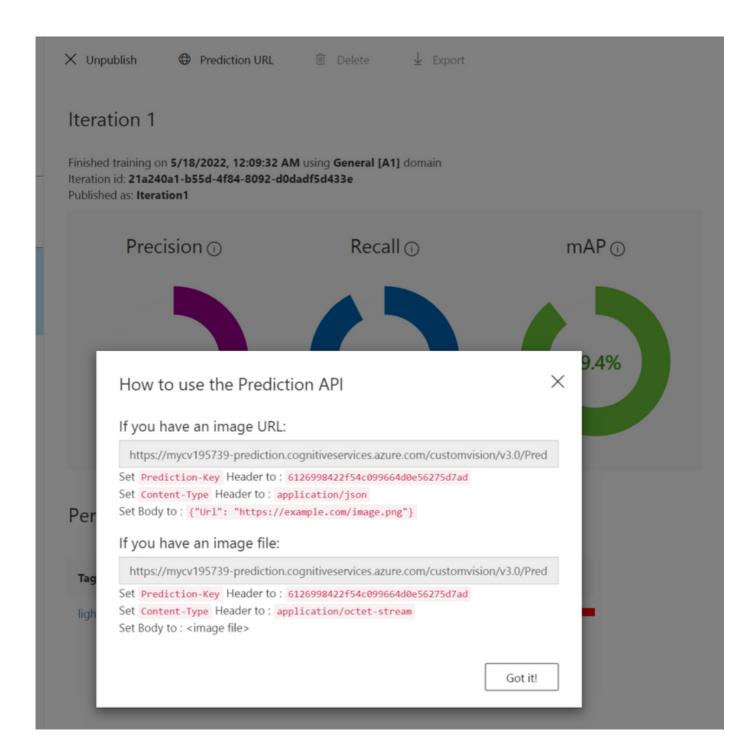

The

Step 3: Publish

Step 4: Prediction

Using the SDK to perform the prediction

Performing Prediction

- Using the predictor object

```
In [25]:  ▶  prediction_key = "6126998422f54c099664d0e56275d7ad"
```

```
In [26]:  ▶  prediction_credentials = ApiKeyCredentials(in_headers={"Prediction-key": prediction_key})
             predictor = CustomVisionPredictionClient(PREDICTION_ENDPOINT, prediction_credentials)
```

```
In [44]:  ▶  publish_iteration_name = "Iteration1"
             project_id = "093027dc-c717-4181-8940-3ddb2d6b1fc0"
```

```
In [50]:  ▶  test_image_path = '/home/workspace/lighter'
```

```
In [52]:  ▶  !ls $test_image_path

             lighter_test_set_1of5.jpg  lighter_test_set_3of5.jpg  lighter_test_set_5of5.jpg
             lighter_test_set_2of5.jpg  lighter_test_set_4of5.jpg
```

```
In [47]:  ▶  def perform_prediction(image_file_name):
                 with open(os.path.join (local_image_path,  image_file_name), "rb") as image_contents:
                     results = predictor.detect_image(project_id, publish_iteration_name, image_contents.read())
                     # Display the results.
                     for prediction in results.predictions:
                         print("\t" + prediction.tag_name +
                             ": {0:.2f}%".format(prediction.probability * 100))
```

The prediction result

```
In [61]:  ▶  for file in os.listdir(test_image_path):
              print("===========================")
              print(file)
              perform_prediction(file)
```

```
===========================
lighter_test_set_4of5.jpg
        lighter: 95.14%
        lighter: 45.21%
        lighter: 2.39%
===========================
lighter_test_set_5of5.jpg
        lighter: 96.19%
        lighter: 71.01%
        lighter: 38.68%
        lighter: 38.56%
        lighter: 10.50%
        lighter: 1.19%
===========================
lighter_test_set_2of5.jpg
        lighter: 94.13%
        lighter: 82.01%
        lighter: 51.68%
        lighter: 33.99%
        lighter: 8.47%
        lighter: 3.47%
        lighter: 1.56%
        lighter: 1.17%
        lighter: 1.07%
===========================
lighter_test_set_3of5.jpg
        lighter: 97.47%
        lighter: 49.55%
        lighter: 1.76%
===========================
lighter_test_set_1of5.jpg
        lighter: 99.32%
        lighter: 2.72%
        lighter: 2.29%
        lighter: 1.70%
```