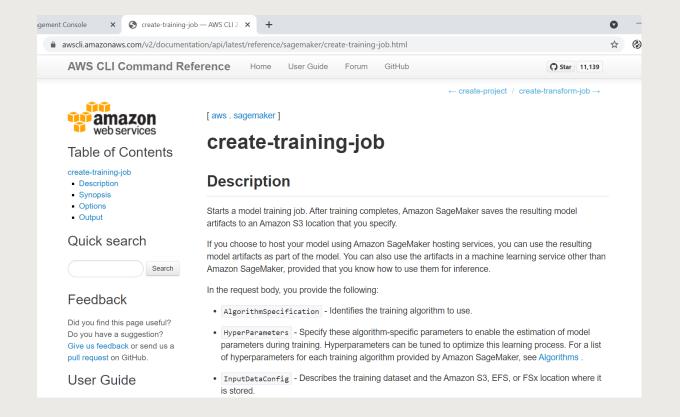
SageMaker Service, SDK Changes

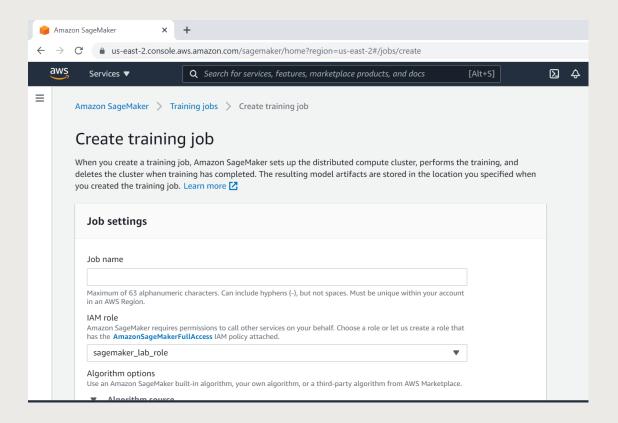
https://github.com/ChandraLingam/AmazonSageMakerCourse

Model Training





SageMaker Console



Programmatic (SDK)

Build Model

```
In [ ]: # Configure the training job
        # Specify type and number of instances to use
        # S3 Location where final artifacts needs to be stored
        # Reference: http://sagemaker.readthedocs.io/en/Latest/estimators.html
        # for managed spot training, specify the use spot instances flag, max run, max wait and checkpoint s3 uri
        # SDK 2.x version does not require train prefix for instance count and type
        estimator = sagemaker.estimator.Estimator(
            container,
            role,
            instance count=1,
            instance type='ml.m5.xlarge'.
            output path=s3 model output location,
            sagemaker session=sess.
            base job name = job name,
            use_spot_instances=use_spot_instances,
            max run=max run,
            max wait=max wait,
            checkpoint s3 uri=checkpoint s3 uri)
In [ ]: # Specify hyper parameters that appropriate for the training algorithm
        # XGBoost Training Parameter Reference
        # https://github.com/dmlc/xgboost/blob/master/doc/parameter.rst#learning-task-parameters
        estimator.set hyperparameters(max depth=5,
                                      objective="reg:squarederror",
```

Supported Channels and Input Mode

For built-in algorithms, this link has supported channel names, support for File and Pipe mode, and file format

https://docs.aws.amazon.com/sagemaker/latest/dg/commo n-info-all-im-models.html

Checkpoint



Save model state – protection from unexpected interruption to training job or instance



Resume training from existing checkpoint



Analyze model at intermediate stages



Use with Managed Spot Training

Managed Spot Training

Spot instance – AWS spare capacity at 90% discount over on-demand pricing

Use for Training and Hyperparameter tuning jobs

Spot instance may not be readily available

Spot instance can be terminated anytime by AWS with a two-minute notice. SageMaker handles this automatically

Cost Saving Tips

- With free-trial, you can complete most of the labs for free
 - Only on-demand instances are part of free-trial
- If you are no longer under free-trial, use spot-instances for training
- Inference Endpoints Terminate after you are done with inference in the labs
- Use Batch Transform Jobs to generate predictions for large dataset
- Stop and Restart notebook instances don't leave them running
- Setup billing and budget alerts



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