```
INFO    2018-11-12 01:05:32 -0500    service     Waiting for training
                                                 program to start.
...
INFO    2018-11-12 01:09:05 -0500    ps-replica-2      Module completed;
                                                       cleaning up.
INFO    2018-11-12 01:09:05 -0500    ps-replica-2      Clean up finished.
INFO    2018-11-12 01:09:55 -0500    service           Finished tearing
                                                        down training
                                                        program.
INFO    2018-11-12 01:10:53 -0500    service           Job completed
                                                        successfully.
endTime: '2018-11-12T01:08:35'
jobId: iris_20181112_010123
startTime: '2018-11-12T01:07:34'
state: SUCCEEDED
```

Running a Distributed Training Job

The code for initiating distributed training on Cloud MLE is shown in the following, and the code is stored in the file 'distributed-training.sh'. For a distributed job, the attribute '- -scale-tier' is set to a tier above the basic machine type. Change the bucket names accordingly.

```
export SCALE_TIER=STANDARD_1 # BASIC | BASIC_GPU | STANDARD_1 | PREMIUM_1 |
BASIC_TPU
DATE=`date '+%Y%m%d_%H%M%S'`
export JOB_NAME=iris_$DATE
export GCS_JOB_DIR=gs://iris-dataset/jobs/$JOB_NAME
export TRAIN_FILE=gs://iris-dataset/train_data.csv
export EVAL_FILE=gs://iris-dataset/test_data.csv

echo $GCS_JOB_DIR

gcloud ai-platform jobs submit training $JOB_NAME \
                                    --stream-logs \
                                    --scale-tier $SCALE_TIER \
                                    --runtime-version 1.8 \
```

```
                                --job-dir $GCS_JOB_DIR \
                                --module-name trainer.task \
                                --package-path trainer/ \
                                --region us-central1 \
                                -- \
                                --train-files $TRAIN_FILE \
                                --eval-files $EVAL_FILE \
                                --train-steps 5000 \
                                --eval-steps 100
```

The following executes a distributed training job.

```
source ./scripts/distributed-training.sh
```

Running a Distributed Training Job with Hyper-parameter Tuning

To run a training job with hyper-parameter tuning, add the '- -config' attribute and link to the '.yaml' hyper-parameter configuration file. The code for running the job is the same, but with the attribute '- -config' added. Change the bucket names accordingly.

```
export SCALE_TIER=STANDARD_1 # BASIC | BASIC_GPU | STANDARD_1 | PREMIUM_1 |
BASIC_TPU
DATE=`date '+%Y%m%d_%H%M%S'`
export JOB_NAME=iris_$DATE
export HPTUNING_CONFIG=hptuning_config.yaml
export GCS_JOB_DIR=gs://iris-dataset/jobs/$JOB_NAME
export TRAIN_FILE=gs://iris-dataset/train_data.csv
export EVAL_FILE=gs://iris-dataset/test_data.csv

echo $GCS_JOB_DIR

gcloud ai-platform jobs submit training $JOB_NAME \
                                --stream-logs \
                                --scale-tier $SCALE_TIER \
                                --runtime-version 1.8 \
                                --config $HPTUNING_CONFIG \
```