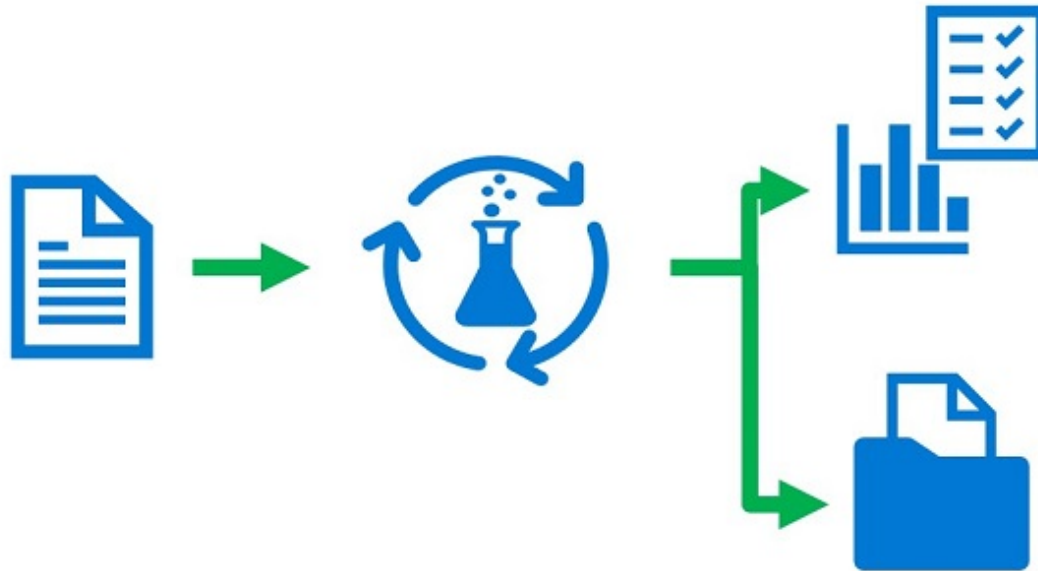Highlight ｜ Note

What is an Experiment?

Like any scientific discipline, data science involves running *experiments*; typically to explore data or to build and evaluate predictive models. In Azure Machine Learning, an experiment is a named process, usually the running of a script or a pipeline, that can generate metrics and outputs and be tracked in the Azure Machine Learning workspace. Additionally, metadata for the experiment run, and events that occur during the run are logged. The logged metadata includes the context for the experiment – for example, if the experiment is based on a script that is stored in a GitHub repo, metadata about the GitHub branch is included in the logged metadata.

An experiment can be run multiple times, with different data, code, or settings; and Azure Machine Learning tracks each run, enabling you to view run history and compare results for each run.

The Experiment Run Context

When you submit an experiment, you use its *run context* to initialize and end the experiment run that is tracked in Azure Machine Learning, as shown in the following code sample:

```python
from azureml.core import Experiment

# create an experiment variable
experiment = Experiment(workspace = ws, name = "my-experiment")

# start the experiment
run = experiment.start_logging()

# experiment code goes here

# end the experiment
run.complete()
```

After the experiment run has completed, you can view the details of the run in the **Experiments** tab in Azure Machine Learning studio.