



# What is Spark-submit ?

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Located in Spark's bin directory, Spark-Submit is a tool for easily launching applications on a cluster. It streamlines the utilization of all supported cluster managers within Spark through a uniform interface, eliminating the need for extensive manual configurations.

## Launching Applications with spark-submit :

Launching applications through spark-submit involves specifying some parameters and arguments that trigger the Spark application's execution. These include details such as the application jar file, resource managers, deploy mode, and more. Example :

```
./bin/spark-submit \
--master <master-url> \
--deploy-mode <deploy-mode> \
--conf <key=<value> \
--driver-memory <value>g \
--executor-memory <value>g \
--executor-cores <number of cores> \
--jars <comma separated dependencies>
--class <main-class> \
<application-jar> \
```

# Understand these Parameters :

Option	Values
master	Yarn, Mesos, Standalone, local
deploy-mode	cluster, client
driver-cores	Number of driver cores
driver-memory	Memory for Spark driver (4g)
executor-cores	Number of executor cores
executor-memory	Memory for Executors (4g, 8g, 12g)
jars	your_application.jar
class	Entry point of your application
conf	Spark configuration like (spark.sql.shuffle.partitions=20000, spark.dynamicAllocation.enabled=true)

## Here is one Example :

```
./bin/spark-submit \
--master yarn \
--deploy-mode client \
--conf spark.executor.memory=4g \
--conf spark.driver.memory=2g \
--executor-cores 4 \
--class org.apache.spark.examples.SparkPi \
examples/jars/spark-examples_2.12-3.2.0.jar 1000
```

# References :

- <https://sparkbyexamples.com/spark/spark-submit-command/>
- <https://spark.apache.org/docs/latest/submitting-applications.html#:~:text=When%20using%20spark%2Dsubmit%20%2C%20the,not%20work%20with%20%2D%2Djars%20.>
- <https://docs.oracle.com/en-us/iaas/data-flow/using/spark-submit.html#:~:text=You%20can%20use%20spark%2Dsubmit,%2D%2Dconf>

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