

# Angel

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1.

Angel  
Server  
Spark on Angel

Angel PS  
Angel PSModel  
Java Scala Yarn

2.

2.1. Angel

Client

Angel

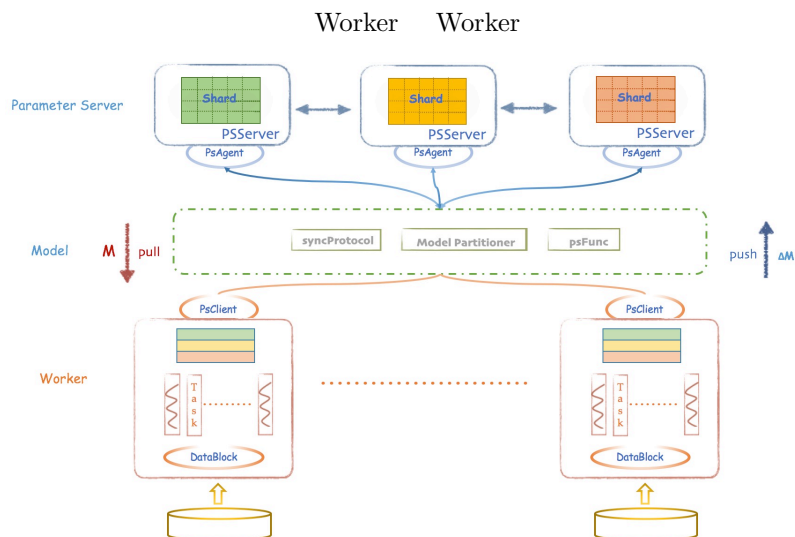
Master

Worker ParameterServer

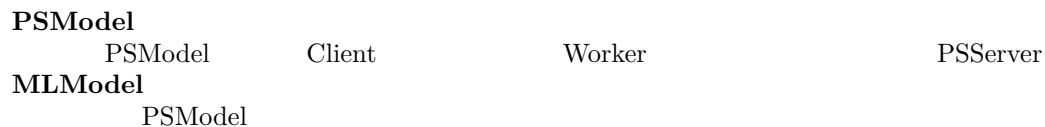
Worker ParameterServer

Parameter Server

Worker



## 2.2. Angel



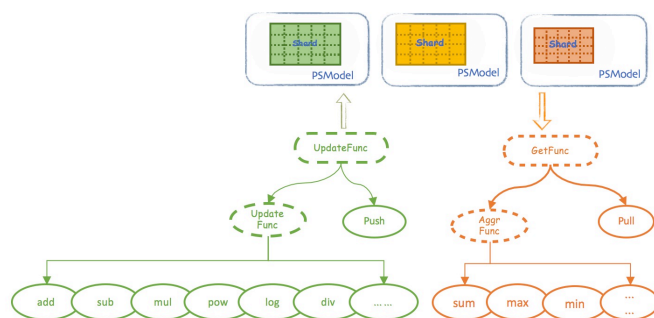
## 3.

### 3.1.

- BSP Task
- SSP Task
- ASP Task

### 3.2. ps function(psf)

- Angel psf / Angel
- pull()/push()
- psf ps



- GetFunc

PSServer PSServer

- UpdateFunc  
PSClient

PS PS

**Note.** Get Update psFunc

**Note.** github psf client-ps psf ps-ps psf ps-ps psf github

### 3.3.

- Angel 1 PS 2 PS 3 PS
- Partitioner getPartitions assignPartToServer PSModel MatrixContext

### 3.4.

- PS checkpoint
- Worker Master PS
- Master hdfs Yarn Angel Master Worker PS

## 4. Angel

- Jdk >= 1.8 Maven >= 3.0.5 Protobuf >= 2.5.0 Hadoop Protobuf
  - git clone https://github.com/Tencent/angel
  - mvn clean package -Dmaven.test.skip=true dist/target
  - Yarn
- Note.** Angel Hadoop Protobuf Hadoop Protobuf 2.4 Angel Protobuf2.4 Angel

## 5.

1. MLModel
  2. Task TrainTask parse() train()
  3. Runner MLRunner train() predict()
  4. psf psf
- Note.** Angel Distributed Negative Sampling for Word Embeddings ps-ps psf Angel ps ps Angel Word2Vec

## 6.

Angel Angel Angel PS Server psf client—  
 ps psf client or ps Word2Vec ps  
 ps psf ps  
 Angel  
 psFunc PSServer PSServer psFunc  
 psFunc Worker