YARN ARCHITECTURE

Resource Manager
Node Manager

MASTER NODE

RESOURCE MANAGER`

Job Scheduler → Application Manager

Node Manager 1

Node Manager will allocate resources and App Master to monitor Containers.

- App Master will monitor resources and will negotiate about resources for running job.
- App Master will running one for each Job.
- App Master will kill itself once job is finished.

Container

APP MASTER

Container

Node Manager 2

Node Manager will send the Status of slave node using signal (heartbeat), signal sent at regular interval.

Node Manager 3

App Master

Job Scheduler
1. When user submits Job, it goes to Job Scheduler and it schedules Job, Using FIFO, FAIR and Capacity Schedulers.
2. Job Scheduler will allocate resources for the Job.

Application Manager
1. Application Manager will accept the Job from Job Scheduler.
2. It will request Node Manager to allocate Containers (Resources - RAM, CPU, Network, Data Blocks).
3. Application Manager will monitor Job Execution, if required more Resources. It will request to distribute resources as required.
4. If Job fails, Application Manager will request to restart job.