Deployment Manager has two parts.

1. Deployer :

Deployer will get an algorithm execution request from the scheduler. Deployer will apply a load balancing algorithm, if a node is available the algorithm will be executed on that node. Otherwise, the Deployer will request for a new node to Node manager and then run the algorithm on the newly allocated node. Deployer may ask for one or more nodes to Node Manager.

Heartbeat Manager is one service of Deployer which keeps checking whether all nodes are alive or not and whether the algorithm inside node is running or not. If the algorithm inside the node is not working, the Deployer will re-execute the algorithm in that node. And if node is not working, the Deployer will run the algorithm at another node.

Load balancing algorithm :

It will store this in a map data structure mapping IP address to the cpu usage and RAM usage of node.

Load of node = 1 / ( ( 1 / cpu usage) + ( 1 / RAM usage ) )

Deployer will calculate the load of each active node and execute the algorithm with minimum load.

1. Node Manager :

Load balancer will request for nodes to Node Manager. Node Manager allocates new nodes to Load balancer for execution of an algorithm and sends a list of active nodes to load balancer. It will start the new node and load the init file to node. Init file is responsible for communication between node and load balancer. It can allocate one or more nodes based on requirements of load balancer.