IAS - Group - 5

Team - 5

Requirement Document

Monitoring and Fault Tolerance and Logger

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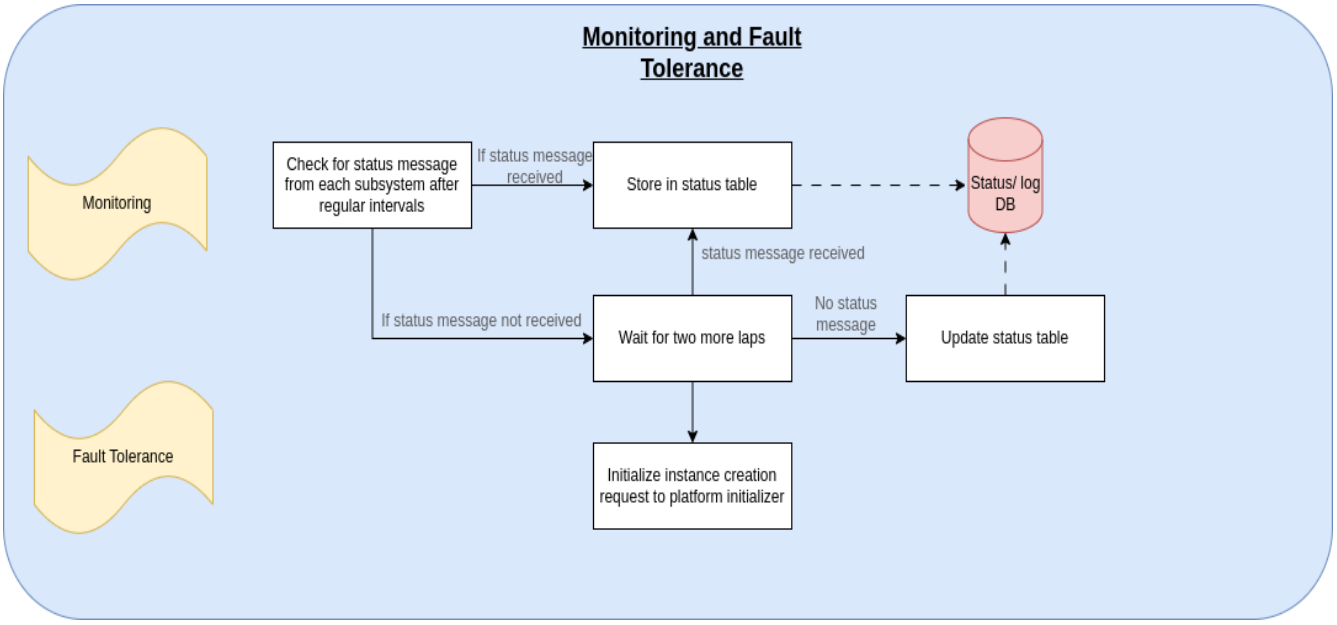
a. What are the six parts each team will work on one part
    i. Monitoring and Fault Tolerance:
    ii. App Controller, Scheduler
    iii. Sensor Manager
    iv. Load Balancer and Node Manager
    v. Deployer
    vi. Logger
b. Functional Overview of each part
    i. Our team Platform deals with the Logger and Monitoring, and Fault Tolerance subsystem.
        1. **Monitoring and Fault Tolerance** subsystem monitors each instance of every subsystem and keep a record of active and inactive subsystems. If the module is down, it will take action accordingly. It checks for the application controller, scheduler, deployer, load balancer, node manager and other subsystems. It is also called the heartbeat of the platform due to its regular checkup and monitoring.
        2. **Logger** The responsibility of logger is to take account of every action and more importantly errors taking place in the platform.
c. One block diagram giving more details on this part



d. List of sub-systems in this part
    i. Logger
    ii. Monitoring and fault tolerance
e. List of services/capabilities in the part
    i. Monitoring and Fault Tolerance
        1. Monitor each instance of every subsystem and keep a record of active and inactive subsystems.
        2. The following are the subsystems monitored:

        a. Application controller
        b. Deployment manager
        c. Sensor manager
        d. Scheduler
        e. Deployer
        f. Initialiser
        g. Node Manager
    3. In the case of non-responsive; perceived as a dead instance, a request for the creation of a new instance will be sent to the initializer.

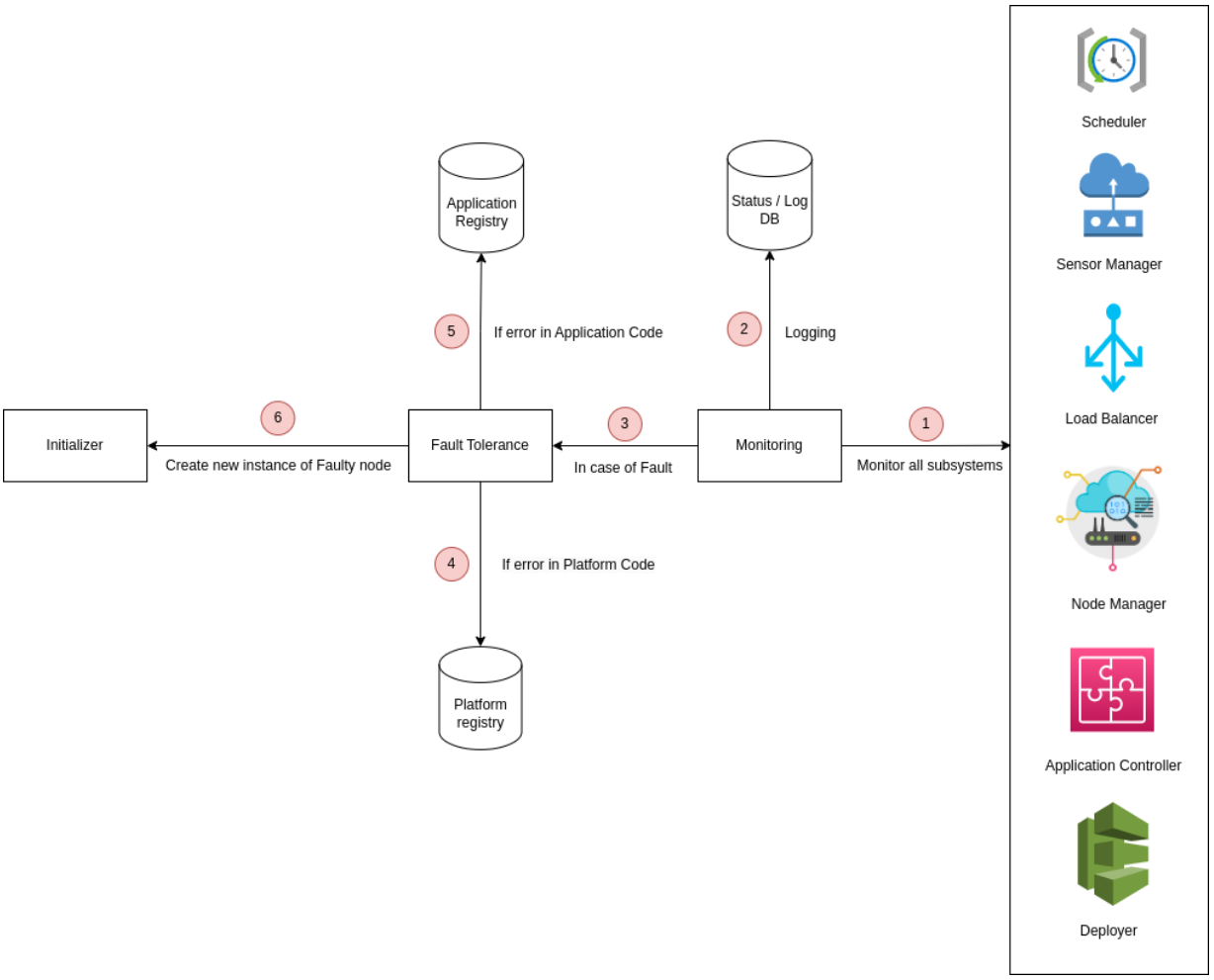
ii. Logger

1. Log each instance of every subsystem and keep a record of active and inactive subsystems.
2. The following are the subsystems logged:
    a. Application controller
    b. Deployment manager
    c. Sensor manager
    d. Scheduler
    e. Deployer
    f. Initialiser
    g. Node Manager
3. The logging in three categories based on the level of error.

f. Interactions between this and other parts. Nature/purpose of interactions, likely interchange info/services

i. Monitoring and Fault Tolerance

1. The Monitoring and Fault Tolerance Module is responsible for continuously monitoring the status of all the subsystems mentioned in the services and hence, communicates with all the subsystems.
2. In case of an unresponsive subsystem, it communicates with the initializer to create a new instance.



ii. Logger

1. The responsibility of the logger is to take account of every action and more importantly, errors taking place in the platform.
2. This module makes the information available to the submodules and platform admin.
3. Just like the monitoring and fault tolerance system, it is connected to every other module registered in this platform.