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Internals of Application Servers

Database - registry/repository maintenance

Group 7

Yashasvi Girdhar, 201101146
Mohit Aggarwal, 201101164
Kulvinder, 201305538

The application platform would be deployed with a database at the backend, so we need to install and configure Cassandra, that is popular NoSQL database and has already been deployed for some well known sensor based application. Also as our application planned to be developed in java, so writing triggers for the Casandra can be directly done from java based platform.

The **repository** will have the following information :

Sensor data

Device Id	Type	Status	Value	Location	Timestamp	Gateway

Each device will have its own buffer to hold the readings and other information and send to the gateway from time to time.

Device Id - Each device/sensor will have a unique ID, so that it becomes easy to identify them.

Type - This column will store the type of sensor - whether it is temperature, moisture, humidity, light or visual sensor.

Status - This will have information about the sensor status - whether it is on or off.

Value - This will store the data collected by the sensor.

Location - This will store the location (gps coordinates) of the sensor.

Timestamp - This will store the latest timestamp when data was updated in any of the sensors.

Gateway - This will store the gateway id from which the data has been received.

Gateway data

Gateway ID	IP address	Status

Gateway ID - Each gateway will have a unique ID.

IP address - This will store the IP address corresponding to each gateway.

Status - This will store the status of gateway, whether it is on, off or working properly or not.

The repository will be populated at regular intervals so that we have the data from all the sensors at different intervals. This data can then be used by users through API calls.

There will also be a Registry that will store meta data about the repository. Any addition/deletion of sensor/gateway from IoT Platform will require adding the required device data first to the registry and then to the repository. One can get an idea of the entire repository through the registry.