# Internals of Application Server



INTERNATIONAL INSTITUTE OF
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H Y D E R A B A D

# Group No. 1

# Architecture Diagram

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# Architecture Diagram :

**Logging DB**

Logging DB keeps an archive of all the logs so far. Persists even if the platform goes down

**Shared FileSystem**

Receives logs from each module directly

Each submodule will have the shared filesystem mounted and appends to its log file

**O M 2 M A P I**

Fetch & Store data

**Sensor Data DB**

Sensor Manager interacts with App instances and provides data and sensor types

Send data

**Zookeeper**

Request sensor data

**Microservices Nodes**

Send response

Get:
* Sensor data
* Query Processing Request

**Sensor Data Streams Topic**

Receive sensor data request

**API Manager Topic**

**Micro-services Topic**

Send sensor data as response

**Node Manager Topic**

Request: 
* RealTIme data 
* TimeSeries data

**Sensor Manager**

Request deployment of app

**Cron Job Scheduler — Workflow Manager**

Send Workflow JSON

API Key DB is used to validate if API request is valid and is authorised to use that microservice.

API Manager is used to route api calls from outside the platform and return appropriate response.

**API Key DB**

Process API Requests

Validate API Key

**Monitoring Service Topic**

**Notification Topic**

**Analytics Topic**

Analytics Service provides a graphical response of request for analytics of a app/platform/sensor.

Get Workflow Endpoint

**Scheduler**

The code being deployed is send to the scheduler which then send the code to deployer

**Deployer**

**App Repository**

Store App Zip

Fetch App Zip

**Node Manager**

Node Manager is responsible for managing all aspects of node provisioning and VM allocation for platform

**Analytics Service**

Fetch Sensor Data

**API Manager**

**A P I G A T E W A Y**

**API Response**

**Sample App**

**API Key**

**LDAP**

**App User**

**Request API**

**Workflow JSON**

**Dev Token**

**App Dashboard**

**App ID**

**LDAP**

**App Developer**

**App Zip File**

**App Config**

**Source Code**

**Sensor Type Config**

**App Developer**

Develops applications to be run on the platform

**API Key**

**Sensor Info**

**API Docs**

**Sensor Mapping DB**

**Monitoring Service**

In case a service goes down monitoring service tells node manager to restart it

The monitoring service also uses API calls to check if app instances are running or not

Read messages

**Notification Service**

Send Message & user credentials

**Email Credentials**

**SMTP Server**

Notification Service can send the mail to Admin mail if problem is platform-related and send the mail to App developer if there is problem with the app

Request and receive sensor data

Request and receive analytics

Send Traffic Logs

**Traffic Details DB**

Store Traffic Logs

Traffic Details DB stores information regarding the number of hits of an API through the API Manager.

Stores Module Zip Files

**Bootstrap Init**

Register Sensors

**Logging Script**

**VM Init**

**Module Endpoints**

**Sensor File**

**Module Source Code**

**Platform Configurer**

Controls set of default generated configurations and adds developer to the

Bootstrap init is used to start the plaform by starting subsystems in a defined sequence

## LEGEND

| | |
|---|---|
| ▬ | Platform Submodule |
| ▬ | Platform Submodule with mounted shared filesystem |
| ⬤ | Databases |
| ▬ | Files for initializing platform/ apps |
| ▬ | Inputs while interacting with platform via apps |
| ▬ | Architecture explanation boxes |
| ▬ | Kafka Topic |
| ▬ | Shared Filesystem |
| ☦ | User |