

Format for the Weekly Progress Report

Name of the Student 1	Dev Pandya
Roll Number of Student 1	22BCP409
Name of the Student 2 (if any)	Kavya Patel
Roll Number of Student 2 (if any)	22BCP406
Project Title	Smart Energy Consumption Monitoring and Prediction Using Big Data
Name of the Supervisor (Mentor) at PDEU	Dr. Samir Patel
Week Number	Week 4
<p>Progress made in Week 4:</p> <ol style="list-style-type: none"> Environment Preparation <ul style="list-style-type: none"> Installed and configured WSL2 with Ubuntu for a Linux-based development environment on Windows. Verified compatibility of WSL2 with Docker and networking components. Containerization Setup <ul style="list-style-type: none"> Installed Docker and Docker Compose to manage multi-container applications. Configured a docker-compose.yml file for running a complete data stack. Big Data Stack Deployment <ul style="list-style-type: none"> Successfully deployed and ran the following services: <ul style="list-style-type: none"> Kafka (message broker) Zookeeper (service coordination for Kafka) MongoDB (NoSQL database) InfluxDB (time-series database) Grafana (data visualization dashboard) Kafka Verification <ul style="list-style-type: none"> Created a test Kafka producer and consumer to validate message flow. Verified that messages produced were successfully consumed, confirming Kafka setup. 	

Dev Pandya

Kavya Patel

Dr. Samir Patel

**Name & Signature of
Student 1**

**Name & Signature of
Student 2**

**Name & Signature of
Supervisor (Mentor)**