# **Deployment and Execution Procedure for Analysis Of Restaurant Reviews and Ratings**

## **Overview**

This document provides a step-by-step guide on how to install, deploy, and execute the project. The procedures ensure that the environment is correctly set up and the project runs smoothly.

## **1. System Requirements**

Ensure your system meets the following requirements:

* **Operating System:** Windows/Linux/macOS
* **Python Version:** 3.7 or later
* **RAM:** Minimum 4GB (8GB recommended for large datasets)
* **Disk Space:** At least 1GB of free space
* **Internet Connection:** Required for downloading dependencies

## **2. Installation Steps**

### **Step 1: Install Python**

1. Download Python from the [official Python website](https://www.python.org/downloads/).
2. Run the installer and check **"Add Python to PATH"** before proceeding.

Verify installation:  
 python --version

### **Step 2: Install Jupyter Notebook**

Open a terminal or command prompt and run:  
 pip install notebook

### **Step 3: Create a Virtual Environment (Recommended)**

python -m venv env

source env/bin/activate # For Linux/macOS

env\Scripts\activate # For Windows

### **Step 4: Install Required Libraries**

Navigate to the project directory and install dependencies:  
 pip install -r requirements.txt

If requirements.txt is not available, install manually:  
 pip install numpy pandas matplotlib seaborn scikit-learn nltk textblob

### **Step 5: Download NLTK Data**

python -m nltk.downloader all

## **3. Running the Project**

### **Step 1: Open Jupyter Notebook**

jupyter notebook

1. Navigate to the project directory in Jupyter.
2. Open the main notebook (analysis.ipynb) and execute the cells sequentially.

### **Step 2: Running the Python Scripts**

Alternatively, you can execute the Python scripts directly:

python run.py

## **4. Deployment Steps**

### **For Local Deployment:**

1. Ensure that the required dependencies are installed.
2. Run the run.py file to process the data and apply clustering/sentiment analysis.
3. View output files or visualizations generated during execution.

### **For Server Deployment:**

1. Deploy the project in a cloud environment (e.g., AWS, GCP, Azure) or a local server.

Use nohup or screen to keep the process running in the background:  
 nohup python run.py &

1. Set up a web interface or API (if needed) for visualization and interaction.

## **5. Troubleshooting Common Issues**

### **Issue 1: Jupyter Notebook Not Launching**

Ensure that Jupyter is installed correctly by running:  
 pip show notebook

If not installed, reinstall using:  
 pip install notebook

### **Issue 2: ImportError for Missing Libraries**

Install the missing package using:  
 pip install <package\_name>

### **Issue 3: Memory Issues When Processing Large Data**

* Reduce the dataset size before processing.
* Increase RAM allocation if using a cloud-based environment.

## **6. Additional Notes**

* Ensure that all files required for execution (datasets, scripts, trained models) are correctly placed.
* Modify configurations in the source code if required before deployment.
* If running in an enterprise or cloud environment, ensure proper security measures are in place.