# Salary Survey Project Documentation

## 1. Introduction

This document provides an in-depth explanation of the Salary Survey Project. The purpose of this project is to analyze career trajectories and salary distributions using advanced data analysis techniques. The project involves cleaning, processing, and visualizing data using Excel, SQL, and Tableau to identify salary trends and influential factors.

## 2. Project Aim

The project focuses on the following objectives:  
- Data Cleaning – Ensure accuracy and consistency in Excel.

- Data Extraction – Identify trends and store data in MySQL.

- Trend Analysis – Analyze salary patterns and key influencing factors.

- Visualization – Create a dynamic Tableau dashboard for insights

## 3. Dataset Overview

- Total Records: 28,104 rows

- Attributes: 16 (Factors influencing salaries)

- Data Sources: Collected salary survey data from various sources

## 4. Data Preprocessing and Cleaning using Excel

The dataset was preprocessed in Excel to ensure high-quality data. The preprocessing steps include:  
- Removed duplicate entries to avoid redundancy.

- Addressed missing values using appropriate imputation techniques.

- Standardized data formats (dates, currency, text).

- Added new columns for better analysis.

- Handled outliers using statistical techniques.

- Ensured data integrity to prevent incorrect insights.

## 5. Data Transformation and Storage using SQL

After preprocessing, the cleaned dataset was imported into MySQL for efficient data analysis and retrieval. The key steps included:  
- Imported the cleaned dataset into MySQL.

- Executed complex SQL queries to extract meaningful insights.

- Generated CSV outputs for Tableau visualization.

## 6. SQL Queries and Analysis

Several SQL queries were used to extract meaningful insights, including:  
- Total Salary Compensation by Job Title

- Salary Distribution by Education Level

- Job Titles with the Highest Salary in Each Country

- Average Salary by City and Industry

Example SQL Query:

SELECT Job\_Title, SUM(Salary) AS Total\_Salary  
FROM salary\_data  
GROUP BY Job\_Title  
ORDER BY Total\_Salary DESC;

## 7. Data Visualization using Tableau

A dynamic Tableau dashboard was created to provide an intuitive and interactive user experience. Key metrics displayed include:  
Key Metrics Displayed:

- Total Compensation: 253,250,667 INR

- Total Employees: 27,920

- Average Salary: 7,781,556 INR

- Highest Salary: 867,000,000 INR

- Total Salary INR: 238,463,068,352

## Dynamic Dashboard Features

- Salary trends over time

- Salary distribution across different industries

- Comparison of salaries by education level

- Gender-based salary analysis

- Country-wise highest paying job roles

## 8. Key Insights and Conclusion

From the data analysis and visualization, the following key insights were derived:

1. Software Engineers receive the highest overall compensation.

2. Experience and professional skills significantly impact earnings.

3. The technology sector employs the highest number of professionals.

4. Men tend to earn more than other genders.

5. Countries like the USA, Switzerland, and Australia offer higher salaries for the same job roles compared to other countries