

# Project 10: Water Quality Analysis

## Phase 1: Problem Definition and Design Thinking

In this part you will need to understand the problem statement and create a document on what have you understood and how will you proceed ahead with solving the problem. Please think on a design and present in form of a document.

### Project Definition:

The project involves analyzing water quality data to assess the suitability of water for specific purposes, such as drinking. The objective is to identify potential issues or deviations from regulatory standards and determine water potability based on various parameters. This project includes defining analysis objectives, collecting water quality data, designing relevant visualizations, and building a predictive model.

### Design Thinking:

1. Analysis Objectives: Define specific objectives for analyzing water quality data, including assessing potability, identifying deviations from standards, and understanding parameter relationships.
2. Data Collection: Gather the provided water quality data containing parameters like pH, Hardness, Solids, etc.
3. Visualization Strategy: Plan how to visualize parameter distributions, correlations, and potability using suitable tools.
4. Predictive Modeling: Decide on the machine learning algorithms and features to use for predicting water potability.

**Dataset Link:** <https://www.kaggle.com/datasets/adityakadiwal/water-potability>

## Project Steps

### Assignment Notebook Submission

File Naming Convention: **DAC\_Phase1**

After completion upload your file to your private GitHub account. Please give access to your faculty evaluators of your college and industry evaluator [ [IndustryEvaluator@skillup.online](mailto:IndustryEvaluator@skillup.online) ] to your private GitHub repository for evaluation process

Go to the Project Submission Part 1 section and add your college code, the link of your GitHub in the space provided, upload your documents, and click on submit.

## PROJECT SUBMISSION PHASE 1

This assignment has several steps. In the first step, you'll provide a response to the prompt. The other steps appear below the **Your Response** field.