

## **Case Study: Integrating Consumer Data into SMART360**

### **Background:**

ABC Utility Company, a leading provider of electricity services, seeks to streamline its consumer data management process. They aim to integrate their consumer data into SMART360, a comprehensive utility management platform developed by Bynry. This integration will allow ABC Utility Company to efficiently manage consumer information and enhance its operational efficiency.

### **Objective:**

The objective of this project is to develop Python scripts to extract consumer data from ABC Utility Company's databases and map it to corresponding tables within the SMART360 platform. By automating this data integration process, ABC Utility Company aims to ensure data accuracy, improve data consistency, and streamline their consumer data management workflow.

### **Approach to be tested:**

1. Data Extraction: Python scripts will be developed to extract consumer data from ABC Utility Company's databases. These scripts will connect to the databases, retrieve relevant data, and format it for further processing.
2. Data Mapping: The extracted consumer data will be mapped to corresponding tables within the SMART360 platform. This mapping will ensure that the consumer data is accurately transferred and aligned with the data structure of SMART360.
3. Transformation and Loading: Once the data mapping is complete, the Python scripts will transform the extracted data according to the requirements of SMART360 and load it into the platform's consumer tables.
4. Validation and Testing: The integrated consumer data will undergo thorough validation and testing to ensure its accuracy, completeness, and consistency. Any discrepancies or issues will be addressed and resolved during this phase.

5. Deployment: Upon successful validation, the Python scripts will be deployed to automate the data integration process. Scheduled tasks or triggers will be set up to execute the scripts at predefined intervals or in response to specific events.

**Sample Consumer Data Columns:**

1. Consumer ID
2. Name
3. Address
4. Contact Number
5. Email Address
6. Account Number
7. Meter Number
8. Tariff Plan
9. Consumption History
10. Payment Status

**Sample SMART360 Consumer Table Fields:**

1. Consumer ID
2. First Name
3. Last Name
4. Address Line 1
5. Address Line 2
6. City
7. State
8. Zip Code
9. Phone Number
10. Email Address

You output should be:

- Comprehensive data mapping plan
- Python scripts for automated mapping
- Documentation of mapping process

- Testing and validation of scripts