

## **Data Engineering: Sql Use Case**

**Total Evaluation Time 1 hour (45 mins - Prepare; 15 mins - Present)**

### **Context**

UtilityPlus is a multi utility company which provides Electricity and Mobile services to its customers. Each department maintains the details of their services offered to its customers in their siloed data marts. As a data engineer, can you bring the data from these individual data marts into an Exec report using Sql query?

### **Metrics for the Exec Report:**

- A. How many customers does UtilityPlus serve?
- B. How many services in total does UtilityPlus provide? Can the same sql query be used to also show a split of services by type (mobile/electricity)?
- C. How many customers have both Electricity and Mobile Services?
- D. Can you build a data table showing the number of Elec services being supplied (i.e. ongoing services and not ended) at the end of each month?
- E. What are your observations on the nature of UtilityPlus customers and their services based on the datasets?

**Sql Environment to build queries:** [Link](#) (or alternative [link](#))

### **Skills Assessed:**

- Ability to quickly understand and work with relational data structures;
- Demonstrate the understanding/awareness of data quality issues; [ is the data complete; are the keys / Id values not null; dates are invalid/null/future]
- Ability to build Sql queries to interrogate data and present insights in the form of metrics;
- Demonstrate data modelling skills;
- Demonstrate ability to use advance Sql/ analytical functions to support impactful analytics.