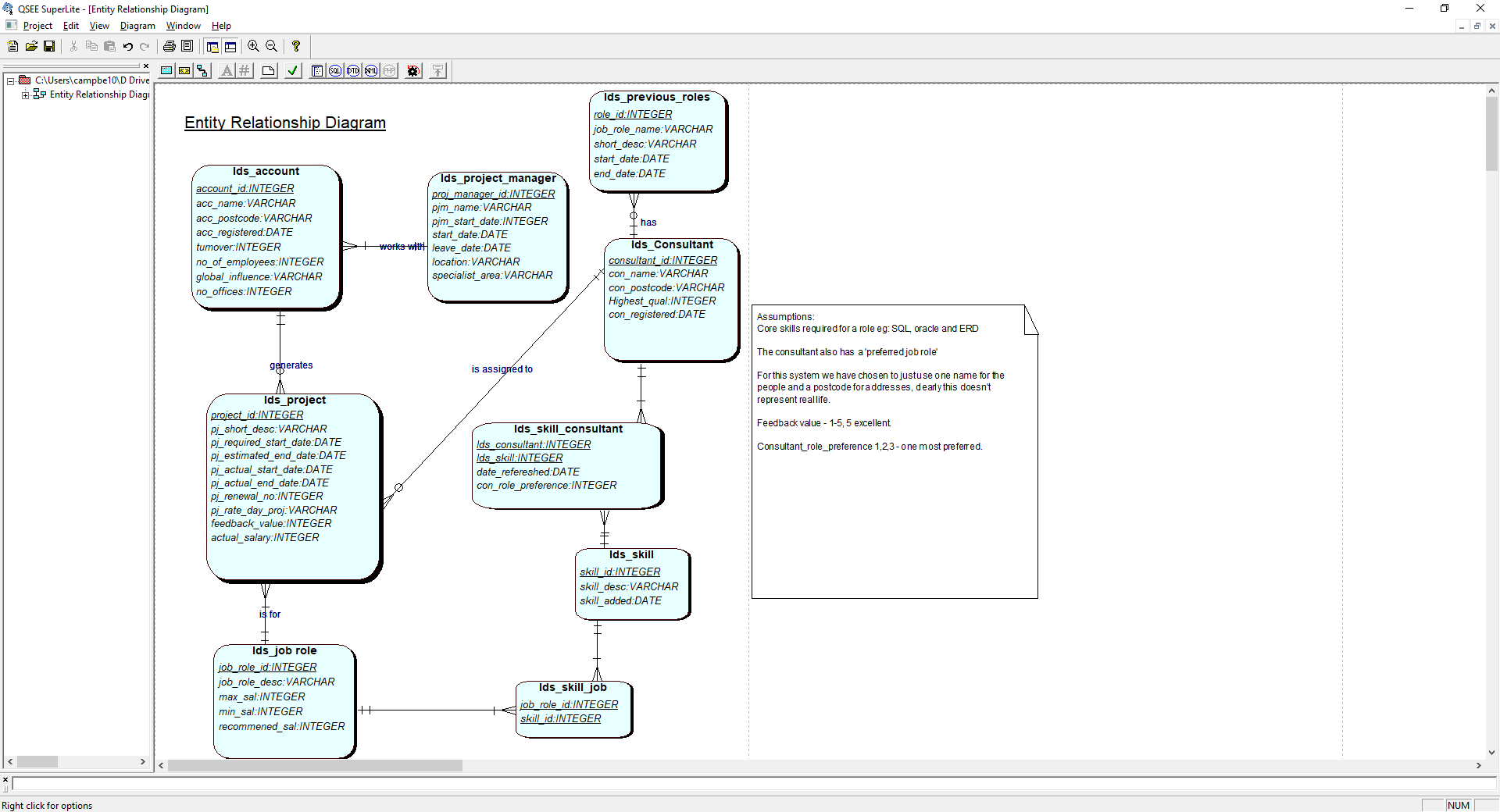
Tutorial

## Part 1: OLTP and OLAP



**Aim:** To appreciation differences of Operational Database and DW database types

Undertake the following exercise from the perspective of **ProjectIT consultant**.

1. Write down 3 queries (reports/things) the consultant may find out from the system. To get a range of query types (INSERT/SELECT/UPDATE/DELETE), try selecting at least:
2. Write SQL (or pseudo SQL) for one of these queries.
3. Consider how many tables were used for the query, how recent is the data retrieved, how long would the query take to run, how often this query (or very similar is run)?
4. Now repeat the exercise from the perspective of the ProjectIT Director
5. Write down 3 queries (reports/things) the owner of ProjectIT can find out from the system/s (Leeds and Manchester).
6. Write SQL (or pseudo SQL) for one of these queries.
7. Consider how many tables were used for the query, how recent is the data retrieved, how long would the query take to run, how often this query (or very similar is run)?
8. One of these systems is OLTP the other OLAP – identify! This will depend on you having understood the day to day requirements verses the high level ‘business’ analysis.

Recap/complete: (write OLAP or OLTP) against the characteristic.

|  |  |
| --- | --- |
| High volume (number of records) | Low volume |
| Low volatility – changing of data | High Volatility |
| Designed for daily users of the database system | Designed for management to investigate business patterns |
| Predictable queries | As and when queries |
| Current data | Historical data |
| Designed around transactions | Designed around reports |
| Data maintained constantly | Data maintained as scheduled |
| The nature of the data: granularity? Access? |  |
|  |  |
|  |  |

Any more …?

Let’s discuss – what you have met already, look at some online DW - NHS

## Part 2: Read paper

Found on x-stream > module materials> week 1> Seven Key Interventions for DATA WAREHOUSE SUCCESS *by* By Tim Chenoweth, Karen Corral, and Haluk Demirkan.

Discuss and list important factors to consider when creating a data warehouse.

## Part 3: Research on what is dw future, changes and challenges

## Part 4: Practice writing SQL.

Write code to:

1. Run ProjectIT – leeds and manchester set up scripts.
2. Create a new database table: ‘new\_projects’ with attributes: Week\_no, year, no\_of\_projects
3. Look at the data you have been given (from the ProjectIT scripts) and work out what data will be in the table.
4. Write SQL to SELECT the data to put into the table.
5. Write SQL to INSERT the data into the table.
6. Do further testing, add more rows to the original tables and re-test your queries.