Assessment Task (50%)

Part 1 (Business Drivers)

Select a subject for analysis using data warehousing techniques from the operational data captured in the Microsoft training Northwind database (E-R model included in this document). Document your reasons for selecting this subject area, identify key stakeholders, formalise the vision and goals of the data warehouse.

[5]

Part 2 (Data Modelling)

Develop and present a suitable schema for the data warehouse (data mart). Discuss your reasons for the design.

[15]

Part 3 (Implement Tables and ETL procedure)

Using Microsoft SQL Server, implement your tables and extract, transform and load data from the operational database into the data warehouse (datamart). This can be done using any available tool including SQL queries.

[10]

What would be a motivation for using the Microsoft solution? Compare the Microsoft solution with a competitive data warehousing solution from another vendor.

[5]

Part 4 (Reporting and Analysis)

Produce reports and analyses in support of the requirements outlined in Part 1. You can use any suitable tool including SSDT (SQL Server Data Tools – not available at DBS but can be downloaded on laptops), SQL Server queries, PowerBI or Tableau.

[15]

Submission
A zipped file should be submitted online (20-01-2019 23:55) including an individual report as well as supporting SQL and reporting scripts and workbooks. The report should detail steps followed and include relevant screenshots, observations, and findings under the part headings. Time will be allocated for group work and discussion during the module lectures.

The grade assessment will be based on the DBS CA grading scheme which has been included in this document.

Products

Column Name	Condensed Type	Nullable
ProductID	int	No
ProductName	nvarchar(40)	No
SupplierID	int	Yes
CategoryID	int	Yes
QuantityPerUnit	nvarchar(20)	Yes
UnitPrice	money	Yes
UnitsInStock	smallint	Yes
UnitsOnOrder	smallint	Yes
ReorderLevel	smallint	Yes
Discontinued	bit	No

Suppliers

Column Name	Condensed Type	Nullable
SupplierID	int	No
CompanyName	nvarchar(40)	No
ContactName	nvarchar(30)	Yes
ContactTitle	nvarchar(30)	Yes
Address	nvarchar(60)	Yes
City	nvarchar(15)	Yes
Region	nvarchar(15)	Yes
PostalCode	nvarchar(10)	Yes
Country	nvarchar(15)	Yes
Phone	nvarchar(24)	Yes
Fax	nvarchar(24)	Yes
HomePage	ntext	Yes

Region

Column Name	Condens....	Null....
RegionID	int	No
RegionDescription	nchar(50)	No

Orders

Column Name	Condensed Type	Nullable
OrderID	int	No
CustomerID	nchar(5)	Yes
EmployeeID	int	Yes
OrderDate	datetime	Yes
RequiredDate	datetime	Yes
ShippedDate	datetime	Yes
ShipVia	int	Yes
Freight	money	Yes
ShipName	nvarchar(40)	Yes
ShipAddress	nvarchar(60)	Yes
ShipCity	nvarchar(15)	Yes
ShipRegion	nvarchar(15)	Yes
ShipPostalCode	nvarchar(10)	Yes
ShipCountry	nvarchar(15)	Yes

Order Details

Column Name	Condensed Type	Nullable
OrderID	int	No
ProductID	int	No
UnitPrice	money	No
Quantity	smallint	No
Discount	real	No

Categories

Column Name	Condensed Type	Nullable
CategoryID	int	No
CategoryName	nvarchar(15)	No
Description	ntext	Yes
Picture	image	Yes

Employees

Column Name	Condensed Type	Nullable
EmployeeID	int	No
LastName	nvarchar(20)	No
FirstName	nvarchar(10)	No
Title	nvarchar(30)	Yes
TitleOfCourtesy	nvarchar(25)	Yes
BirthDate	datetime	Yes
HireDate	datetime	Yes
Address	nvarchar(60)	Yes
City	nvarchar(15)	Yes
Region	nvarchar(15)	Yes
PostalCode	nvarchar(10)	Yes
Country	nvarchar(15)	Yes
HomePhone	nvarchar(24)	Yes
Extension	nvarchar(4)	Yes
Photo	image	Yes
Notes	ntext	Yes
ReportsTo	int	Yes
PhotoPath	nvarchar(255)	Yes

Territories

Column Name	Condensed ...	N....
TerritoryID	nvarchar(20)	No
TerritoryDescript...	nchar(50)	No
RegionID	int	No

EmployeeTerritories

Column Name	Condensed ...	N....
EmployeeID	int	No
TerritoryID	nvarchar(20)	No

Shippers

Column Name	Condensed ...	Null....
ShipperID	int	No
CompanyName	nvarchar(40)	No
Phone	nvarchar(24)	Yes

CustomerDemographics

Column Name	Condens...	Null....
CustomerTypeID	nchar(10)	No
CustomerDesc	ntext	Yes

CustomerCustomerDemo

Column Name	Condensed	Nullable
CustomerID	nchar(5)	No
CustomerType...	nchar(10)	No

Customers

Column Name	Condensed	Null....
CustomerID	nchar(5)	No
CompanyName	nvarchar(40)	No
ContactName	nvarchar(30)	Yes
ContactTitle	nvarchar(30)	Yes
Address	nvarchar(60)	Yes
City	nvarchar(15)	Yes
Region	nvarchar(15)	Yes
PostalCode	nvarchar(10)	Yes
Country	nvarchar(15)	Yes
Phone	nvarchar(24)	Yes
Fax	nvarchar(24)	Yes

DBS Grade Assessment Policy (B8IT104)

Module Descriptor	Mark Band	Criteria	Determinator within grade band
A (Outstanding)	80-100	- Displays a thorough and systematic knowledge of module content, solution and handover process and documentation. - Clear grasp of the issues involved, with evidence of innovative and original use of learning resources. - Knowledge beyond module content. - Clear evidence of independence of thought and originality - Methodological rigour - High critical judgement and confident grasp of complex issues	Excellent insight into business drivers / data modelling / ETL / Reporting.
A (Clear**)**	70-79	- Methodological rigour - Originality - Critical judgement - Use of additional learning resources	Evidence of a thorough, inquiring and rigorous approach in applying tools and techniques.
B	60-69	- Very good knowledge and understanding of the module content. - Well-argued answer - Some evidence of originality and critical judgement - Sound methodology - Critical judgement and some grasp of complex issues.	Evidence of making good use of all available learning materials.
C	50-59	- Good knowledge and understanding of the module content. - Reasonably well-argued answer - Largely descriptive or narrative in focus - Methodological application is not consistent or thorough	Mastery of the fundamentals of technique and tool application.
D	40-49	- Lacking methodological application - Adequately argued - Basic understanding and knowledge - Gaps or inaccuracies but not damaging	Satisfactory application of tools and techniques in attempting all questions
E (Fail)	0-39		Lack of understanding of theory, techniques and ability to apply tools.

General Requirements for Students:

PLEASE READ CAREFULLY

1. It is your responsibility to ensure your file is uploaded correctly.
2. Students are required to retain a copy of each assignment.
3. When an assignment is submitted, it is the student's responsibility to ensure that the file is in the correct format and opens correctly.
4. Students should refer to the assessment regulations in their Course Guide.
5. DBS penalises students who engage in academic impropriety (i.e. plagiarism, Collusion and / or copying). Please refer to the referencing guidelines on Moodle for information on correct referencing.
6. All relevant provisions of the Assessment Regulations must be complied with.
7. Penalties for late submission of assignments are as follows:
    a. 25% penalty for assignments submitted within 5 working days of the deadline.
    b. No marks for assignments submitted more than 5 working days after the deadline.
8. Extensions to assignment submission deadlines will be granted in exceptional circumstances only. The appropriate "Application for Extension" form must be used and supporting documentation (e.g. medical certificate) must be attached. Applications for extensions should be made directly to the Head of Year or Programme Leader in advance of the deadline date.