

Sr. No.	Date	Topic	Sign
1	20-12-22	Import the legacy data from different sources such as (excel, sql server, oracle etc.) and load in the target system.	

[A]

Following steps:-

- 1) open ssms (sql server management system)
- 2) click 'connect' for connecting server.
- 3) Right click on database → New database → give the database name EMP1.
- 4) Again click on database and → New database → give the database name EMP2.
- 5) right click on Table → New table → give the ID, name and save it, click 'OK'.
- 6) Refresh the table and right click on dbo.EMP1 → edit Top 200 rows → give S 'ID' and S 'name'.
- 7) open SSDT (sql server Data Tools) → New project → Integration service → Integration service project → Give the name of project 229726-PIA → 'OK'
- 8) Drag and drop 'Data Flow task' in Control Flow → double click on Data Flow task.
- 9) Drag and drop 'OLE DB Source' and OLE DB destination → connect to each other (current Arrow).
- 10) Double click on OLE DB source → New → New → server name → database name → Test connection → OK → OK → OK → OK.
- 11) Double click on OLE DB Destination → New → New → server name → database name EMP2 → Test connection → OK → OK → OK → Create table → edit name → OK → View mapping → OK → run project
- 12) open ssms → Database → EMP2 → table → right click on dbo.EMPLOYEE → select Top 1000 rows → view output.

[B] Following steps:-

- 1) Open Excel file → New → Enter 5 record in it, with ID and Name → save excel file → ok
- 2) Open SSMS → click database right → Database name 'record' → ok.
- 3) Open SSDT → Integration service → Integration Service project → project name 229726-P1B → ok
- 4) Drag and Drop Data Flow task and Data Flow task 1, connect to each other (use arrow).
- 5) right click on connection manager → New Connection manager → click excel type → Add → Click browser, write excel file address → ok
- 6) Double click on Data Flow task → Drag & drop excel source and OLE DB Destination.
- 7) double click on excel source → New → Browser → address file → ok → name of excel sheet → preview → close → ok.
- 8) double click on OLE DB destination → New → New → server name → database name 'record' → test connection → ok → ok → ok → Table view → New → rename 'DATA' → ok → mapping → ok → run project.
- 9) Open SSMS → Database → record → table → right click on abo:DATA → select Top 100 rows and view output.

2	22-12-22	Topic perform the extraction Transformation and Loading (ETL) process to construct the database in the saleserver.	Sign
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Following steps :-

- 1) Open SSMS → Connect server.
- 2) Right click on Database → Database name → 'EMP1' → ok
- 3) right click on Database → Database name 'EMP1' → ok
- 4) EMP1 → right click on tables → give ID, NAME, SM → save the file with name Emp.
- 5) refresh the table → right click on dbo.Emp → edit Top 200 rows → give 5 input data.
- 6) open SSDT → Drag and Drop Data flow task and execute scer task → double click on Data flow task
- 7) Drag and Drop OLEDB Source, Derived Column and OLE DB Destination → Connect the Connection source and column and destination.
- 8) Double click on OLE DB Source → New → New → Server name → database name 'EMP1' → test Connection → ok → ok → ok
- 9) Double click on Derived Column → Derived Column Name 'USD\$AL' → Expression 'SAL/182' → click data type, input will automatically show → ok
- 10) Double click on OLE DB Destination → New → New → Server name → database name 'EMP2' → test Connection → ok → ok → table view → New → edit name → ok → ok → mapping → ok
- 11) Double click on execute scer task → give connection → scer statement 'truncate table EMP2' → Bypass Prepare 'False' → Apply → ok

- run the project
- 12) open ssms → database → Emp2 → tables
 - right click on dbo.EM2 → edit Top 1000 rows → view output.

Indian currency can convert into USD currency

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3	3-1-23	Create the data staging area for the selected database	

Following steps :-

- 1) open ssmsr → Connect server → Database → New database 'Source-Tab' → OK
- 2) right click database → New database 'destination' Tab → OK
- 3) Database → Source tab → right click on table → Give ID, NAME, INDEX → save table → OK
- 4) refresh the table and right click on dbo:myTab → edit top 200 rows → enter some data.
- 5) open ssdt → integration service → integration service project → project Name 229726 - P3 → OK
- 6) Drag and Drop Data Flow task and double click on it.
- 7) Drag and Drop OLE DB source and OLE DB destination and connect to each other (green arrow).
- 8) double click on OLE DB source → New → New → server name → database name 'Source-Tab' → test connection → OK → OK → OK
- 9) double click on OLE DB destination → New → New → server name → database name 'destination' Tab → test connection → OK → OK → OK → View mapping → OK → run project.
- 10) open ssmsr → Database → Destination tab → table → right click on dbo:myTab → select Top 1000 rows → View output.

When we can run again the project the data can be increased but they are same as it is for stopping same data we can follow steps.

11) open SSDT → Drag and Drop execute
SQL task → double click on it → Give
Connection → write SQL statement →
Bypass Prepare is false → parse query →
OK → OK → run project again.

After running again project the table will
be updated but not repeated.

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4	5-1-23	a) create the ETL map and setup the schedule for execution. b) create the cube with suitable dimension and fact tables based on ROLAP, MOLAP & HOLAP models, execute the MDX queries to extract the data from data warehouse	

[A] Following steps :-

- 1) open ssmsr → Database management → Integration Services Catalogs right click → Create Catalog → tick enable CLR integration → set password and retype password → OK, SSISDB created
- 2) open SSDT → right click on project name → Deploy → Next → Create folder name → OK → expand SSISDB → OK → server name → set path → Next → Deploy
- 3) preview → OK
- 4) management → select Server Agent right click → New → Job → give name → Description → OK → Steps → New → Give step name → package source → select → package → OK → Schedule → New → Name → Occur daily → Recur every '1' → occurs every '2' 'minutes' → OK → OK
- 5) open ssmsr → New Query → write the query
insert the data → execute, the data will updated in given data

[B] Following steps :-

- 1) open Data warehouse script
- 2) copy the data
- 3) open ssmsr → New Query → past the data → execute, the data will inserted successfully.
- 4) open SSDT → Analysis service → Analysis service → project name → OK

- 4) right click on Data source → new data source → new → server name → select database name → fast connection → ok → ok → next → click inherit → next → Finish
- 5) click right click on Data source view → New Data source view → next → Available object select last 'FactProductSales' and enter include object → all data enter include objects → next
- 6) right click on cube → new cube → select First 'FactProductSales' → next → give cube name 'STUDDW_CUBE' → finish
- 7) double click on 'Dim Product' → select & drop 'productname' in attributes.
- 8) double click on 'Dim Customer.dim' → drop 'Customer ID/Name' in attributes.
- 9) double click on 'Dim Date.dim' → select & prop "Full Date UK, month Name, Quarter Name", "week & month, year" → Create Hierarchy in sequence.
- 10) double click on 'Dim Sales Person.dim' → drop "City, Country, Sales person DO, Sales person Name & State" → Create hierarchy in sequence.
- 11) right click on project name → properties → processing option 'Do not process'; server mode 'Deploy All' → Apply → ok
- 12) right click on project name → Deploy "Successful".

- 13) right click on project name → process → run
" error will come , Double click on OLE DB
error (red error) and copy the details in
notepad " NT Service\mssqlserver\OLTP service "
- 14) Copy the notepad string and past in
the ssms → security → New → login →
past the string login name → Now select
the default database. to
- 15) User mapping → select sales_DW and
select → db_datareader → ok
- 16) Open SSDT → right click on project name
→ process → run → close
- 17) Double click on " sales DW CUBE " →
Browser → enter the data from given in
DW cube .
- 18) Open ssms → select Analysis Service →
Connect → Analysis database → cube →
select the cube → Browser .
- 19) → Display total quantity From sales DW .
→ display total sales Invoice No. From sales DW
→ write a sql query to find all the product
sales by sales person id '3' .
- 20) sales person ID | product Name | quantity ,
take Filter expression → add sales person
ID in dimension .

Sr.No.	Date	Topic	Sign
5	12-1-23	a) Import the Sales-DW in microsoft excel and create pivot table. b) Import the sales-DW in microsoft excel and create pivot chart	

[A] Following steps :-

- 1) Open empty excel sheet.
- 2) Click or open From other sources → From data Connection Wizard → microsoft SQL server → Next... → Server name → Next → Select database 'Sales-DW' → Connect to a specific table → Enable selection of multiple tables → Next → Finish
- 3) Select pivotTable report → Select existing worksheet → OK
- 4) Select the data from pivotTable Fields → row labels → sum of DateKey → sum of productKey → sum of SalesPersonID → sum of storeID

[B] Following steps :-

- 1) Click or open From other sources → From data Connection Wizard → microsoft SQL server → Next... → Server name → Next → Select database 'Sales-DW' → Connect to a specific table → Enable selection of multiple tables → Next → Finish
- 2) Select pivotChart → Select existing worksheet → OK
- 3) Enter the data from pivotChart Field → row labels → sum of DateKey → sum of productKey → sum of SalesPersonID → sum of storeID

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6	2-2-23	Apply the what-if Analysis For data visualization. Design and generate necessary reports based on the datawarehouse data.	

Following steps :-

- 1) Open empty excel sheet.
- 2) Enter some data like "product Name" and it's "price".
- 3) Click on 'What-if Analysis' → Scenario Manager → Add → Scenario name → Changing cells → OK
- 4) Enter the value if the value are 'maximum', 'minimum' and Average price → OK
- 5) After adding three value we click on Summary → Click scenario summary → result cells → OK

Use goal seek :-

- 6) Click What-if Analysis → Goal seek → Set cell 'What I am changing' → To value 'What do you want value' → By changing cell 'Replacing the value' → OK

Sl. No.	Date	Topic	Sign
7	11-2-23	perform the data classification using classification algorithm	

Code :-

```
rainfall = c(799, 1174.8, 865.1, 1334.6, 635.4, 918.5,
           685.5, 998.6, 784.2, 985, 882.8, 1071)
```

```
rainfall.timeseries = ts(rainfall, start = c(2012, 1))
Frequency = 12
```

```
print(rainfall.timeseries)
```

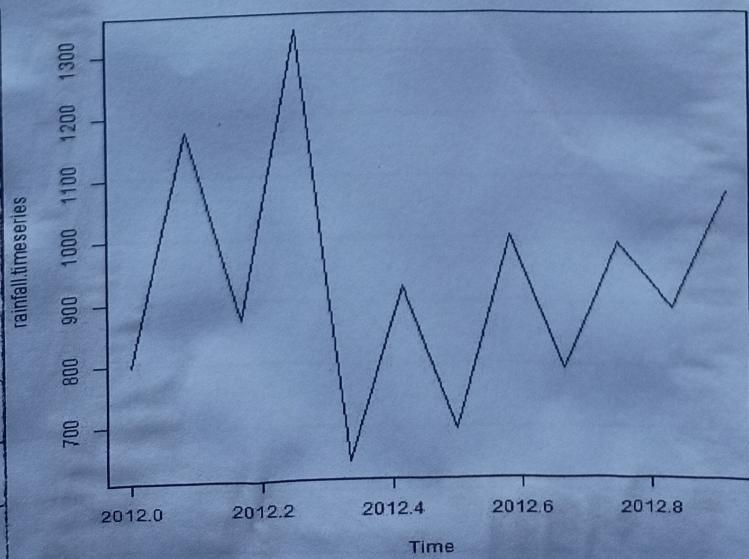
```
jpeg(file = "rainfall.jpeg")
```

```
plot(rainfall.timeseries)
```

```
dev.off()
```

Output :-

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
2012	799.0	1174.8	865.1	1334.6	635.4	918.5	685.5	998.6
Sep	Oct	Nov	Dec					
784.2	985.0	882.8	1071.0					



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8	0-3-23	perform the data clustering using clustering algorithm	

Code :-

newiris = iris

print (newiris)

newiris\$Species = NULL

kc = kmeans (newiris, 3)

table (iris\$species . kcluster)

plot (newiris [c ("Sepal.Length", "Sepal.Width")])

points (kc\$centers [c ("Sepal.Length", "Sepal.Width")],

col = 1:3, pch = 8, cex = 2)

Output :-

	Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
1)	5.1	3.5	1.4	0.2	setosa
2)	4.9	3.0	1.4	0.2	setosa
3)	4.7	3.2	1.3	0.2	setosa
4)	4.6	3.1	1.5	0.2	setosa
5)	5.0	3.6	1.4	0.2	setosa
51)	7.0	3.2	1.1	1.0	versicolor
52)	6.4	3.2	1.5	1.5	versicolor
53)	6.9	3.1	1.9	1.5	versicolor
54)	5.5	2.3	1.0	1.3	versicolor
55)	6.5	2.8	1.6	1.5	versicolor
146)	6.7	3.0	2.2	2.3	virginica
147)	6.3	2.8	2.0	1.9	virginica
148)	6.5	3.0	2.2	2.0	virginica
149)	6.2	3.0	1.8	2.3	virginica
150)	5.9	3.0	1.8	1.8	virginica

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3	14-3-23	perform the linear regression on the given data & check the data.	

Code:-

```

x = c(157, 174, 138, 186, 128, 136, 179, 163, 152, 131)
y = c(63, 81, 58, 91, 77, 57, 76, 72, 62, 48)
relation = lm(y ~ x)
a = data.frame(x = 170)
result = predict(relation, a)
print(result)

jpeg(file = "karish.jpeg")
plot(y, x, col = "Blue", main = "weight and Height in Regression", abline(lm(y ~ x)), cex = 1, pch = 15,
      xlab = "weight in kg", ylab = "Height in cm")
dev.off()

```

Output :-

1

76.22869

null device

