



Home

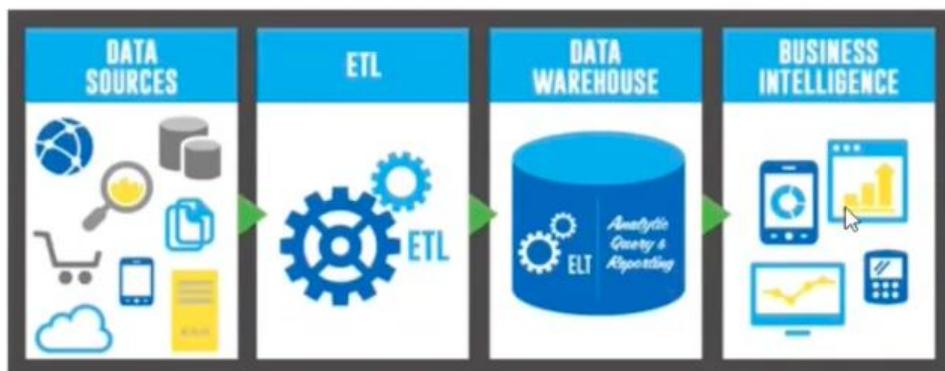
2021 Hot Products

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Home / Etl Machine Learning



ETL Ecosystem \U0026 Tools: In-Depth Guide

★★★★★ (customer review)

\$41.88

Available Options

Size:

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Quantity:

1

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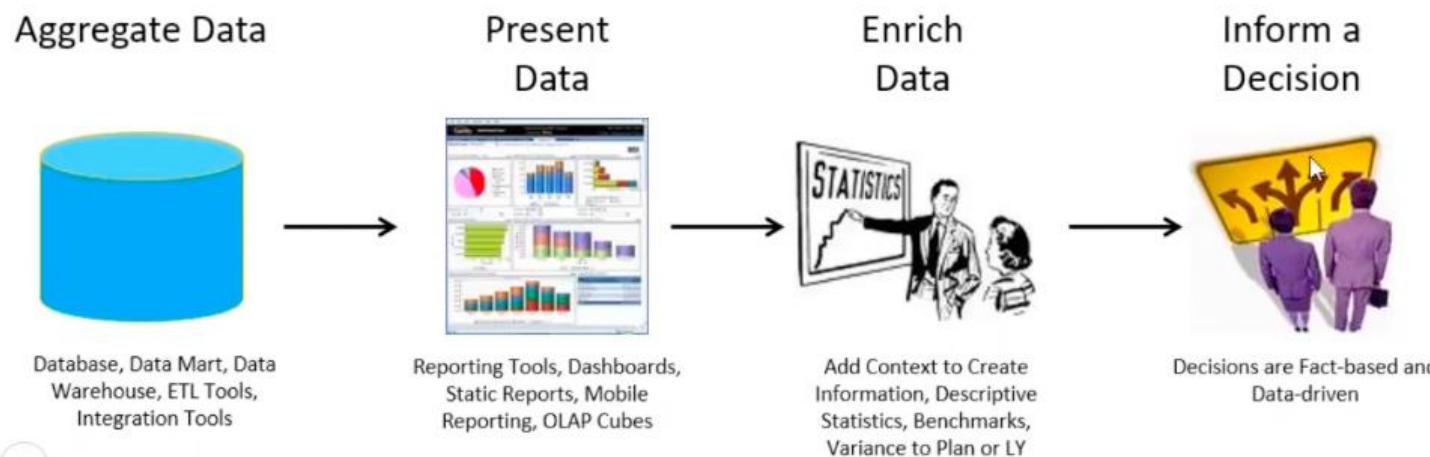


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What is Business Intelligence?

Business Intelligence enables the business to make intelligent, fact-based decisions

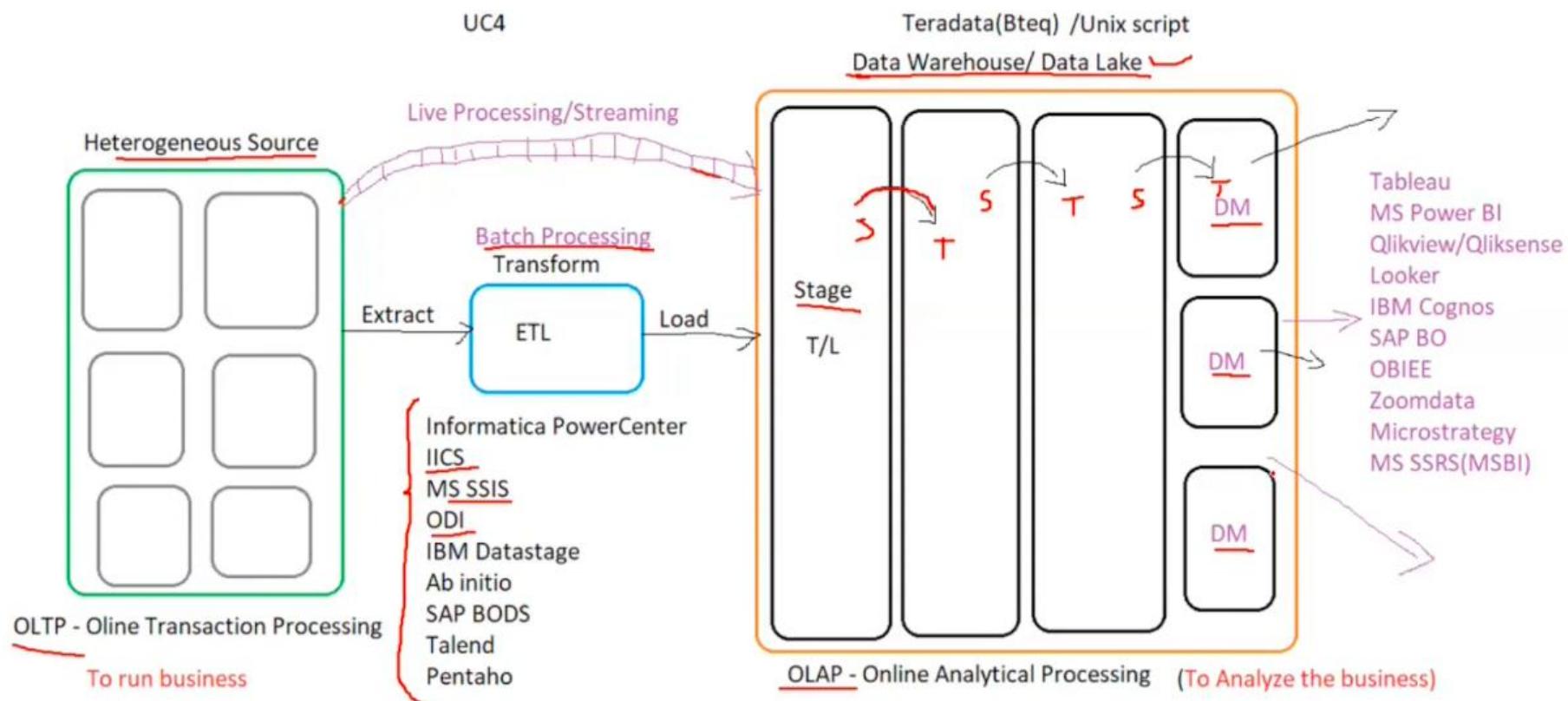


What is ETL?

- ETL is Extract/Transform/Load
- The process that extracts data from source systems, transforms the data into a consistent data type, applies business logic then loads the data into a single repository



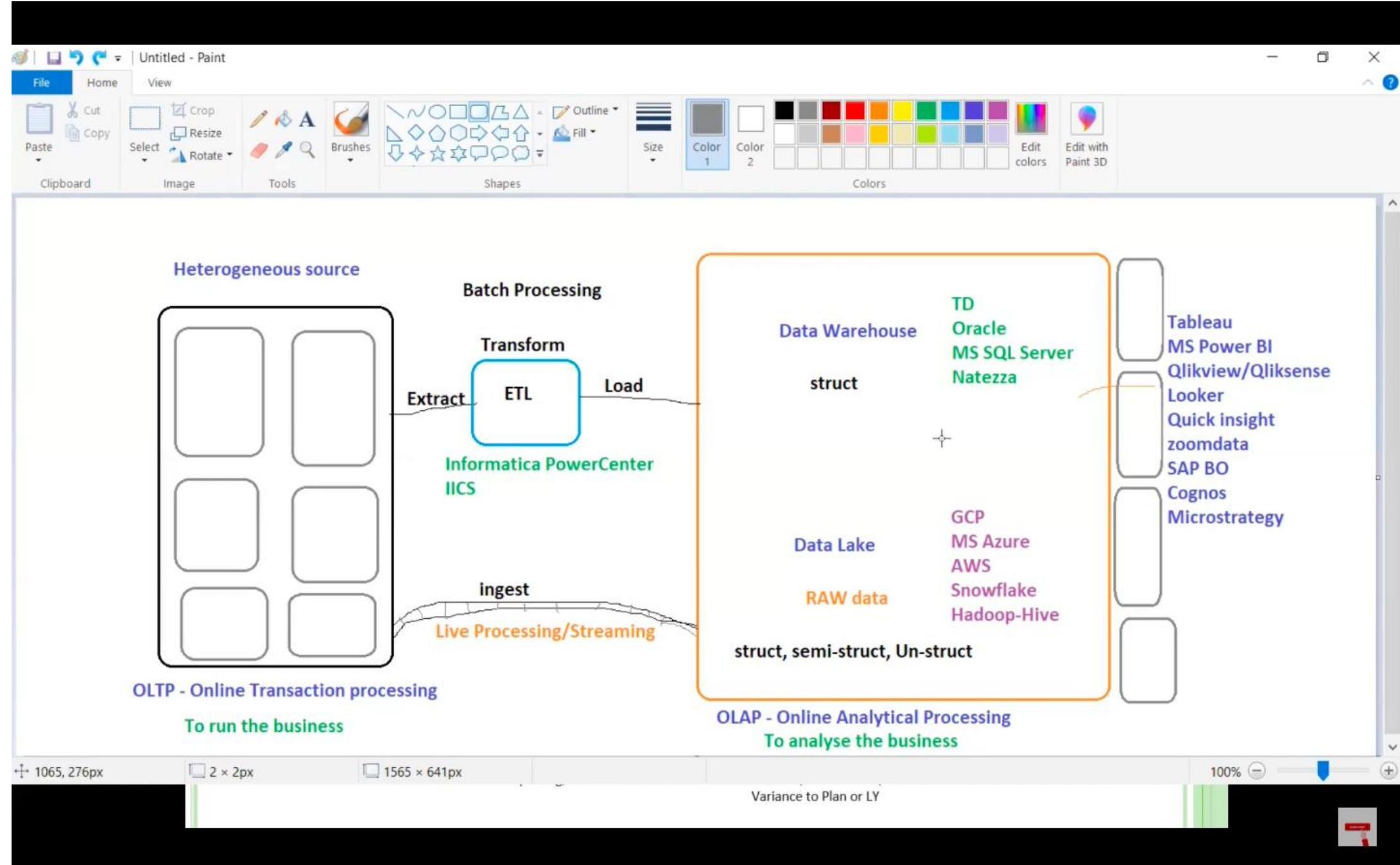
ETL Process



Who is involved in the ETL process?

- **Data Analyst/Business Analyst:** Creates data requirements (source-to-target map or mapping doc)
- **Data Architect/Data modeler:** Models and builds data store (Big Data lake, Data Warehouse, Data Mart, etc.)
- **ETL Developer:** Transforms and loads data from sources to target data stores
- **ETL Tester:** Validates the data, based on mappings, as it moves and transforms from sources to targets





WHAT IS BUSINESS INTELLIGENCE?

Business Intelligence enables the business to make intelligent, fact-based decisions



Aggregate Data



Database, Data Mart, Data Warehouse, ETL Tools, Integration Tools



Present Data



Reporting Tools, Dashboards, Static Reports, Mobile Reporting, OLAP Cubes

Enrich Data



Add Context to Create Information, Descriptive Statistics, Benchmarks, Variance to Plan or LY

Inform a Decision

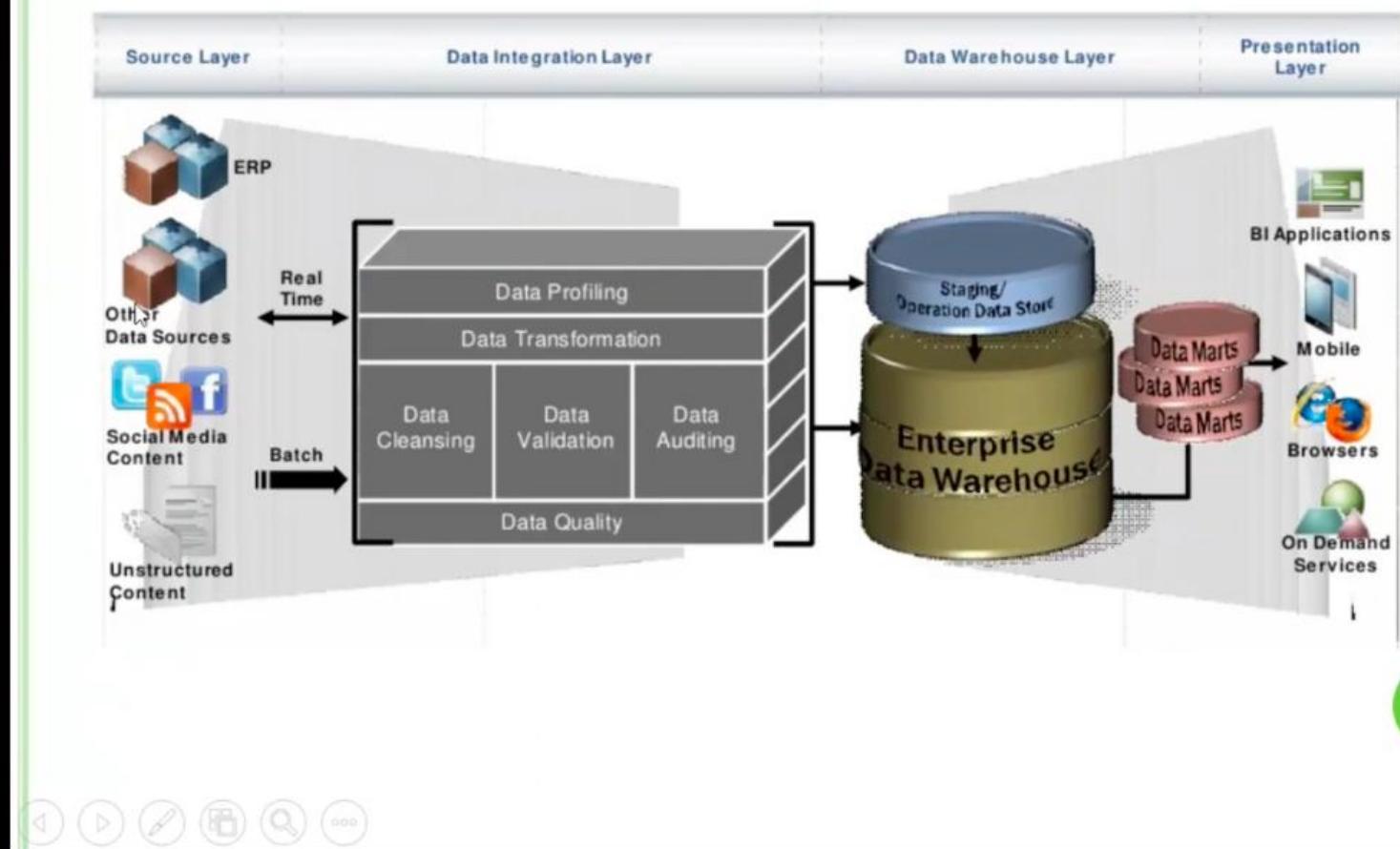


Decisions are Fact-based and Data-driven

2



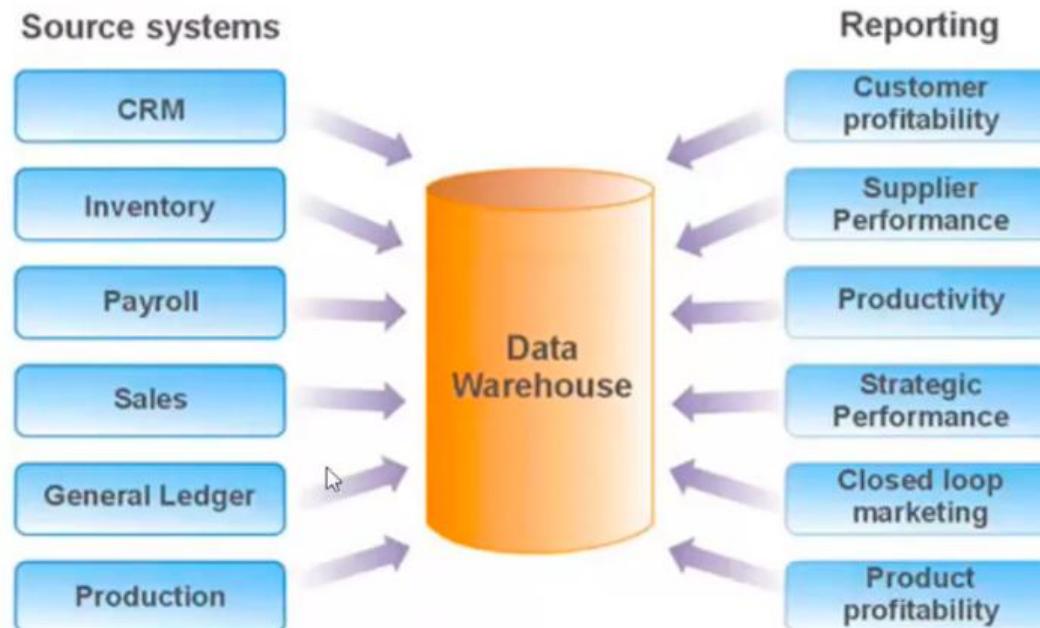
DATA WAREHOUSE ARCHITECTURE



YOUTUBE CHANNEL ANALYTICS



DATA WAREHOUSE



DEFINITION BY W.H. INMON

A Data Warehouse is a subject oriented, integrated, time-variant and nonvolatile collection of data to support management's decision making process

Subject Oriented: - A Data Warehouse is organized around a major subjects, such as customer, supplier, product and sales.

Integrated: - A Data Warehouse is usually constructed by integrating multiple heterogeneous sources.

Time-variant: - Data are stored to provide information from a historical perspective.

Nonvolatile: - meaning that data in the database is never overwritten or deleted, but retained for future reporting



TODAY'S DATA WAREHOUSE - DEFINED

- Data warehousing is the **integrated, architected** and **periodic** copying data from various **heterogeneous sources**, both inside and outside the enterprise into a **centralised repository** optimised for **reporting** and **analytical** processing.



WHY COMPANIES DEPLOY DW

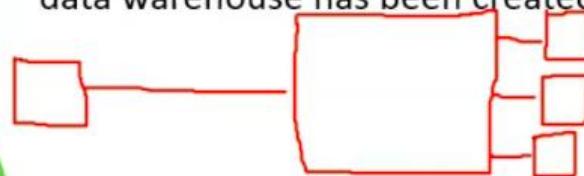
- Operational systems are being impacted because of reporting requests
- Operational systems cannot give a needed historical perspective
- The business is not getting consistent or timely answers (No single view of the “business”)
- Too expensive / Too difficult to tie source systems together for one-off reporting.
- No one knows the rules from legacy reporting systems.
- Because the competition has one.
- Investment in a BI tool wont work without consolidated, rationalized data.



2 DIFFERENT APPROACH IN DATA WAREHOUSE MODELING

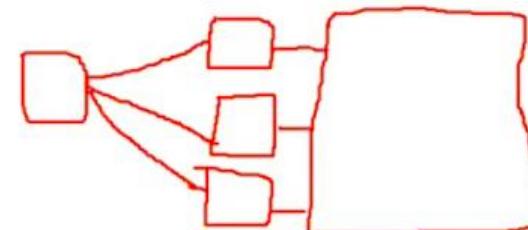
Inmon Model - Top Down Approach

Data marts are created only after the complete data warehouse has been created



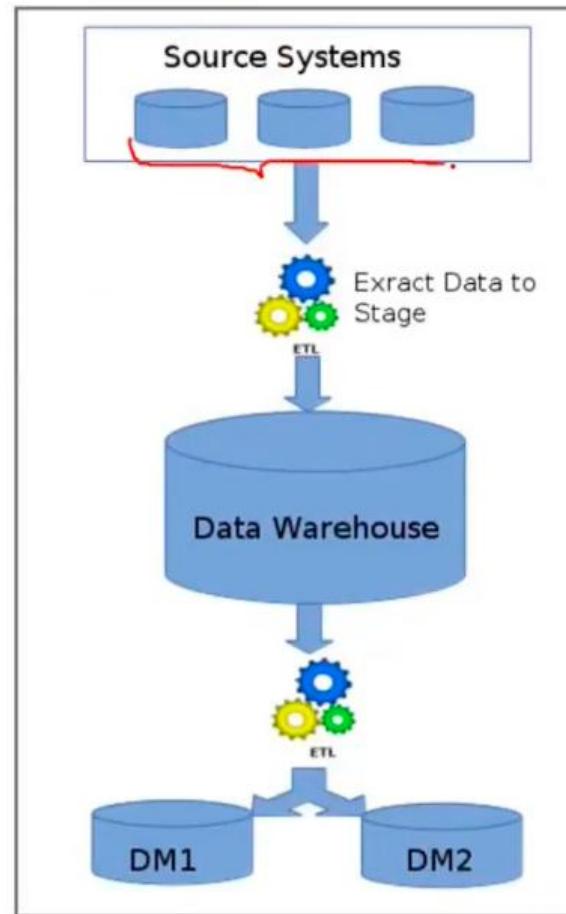
Ralph Kimball Model - Bottom-up approach

Enterprise Data warehouse is create by combining the data marts together



BILL INMON – TOP-DOWN DATA WAREHOUSE DESIGN APPROACH

- In the top-down approach, the data warehouse is designed first and then data mart are built on top of data warehouse

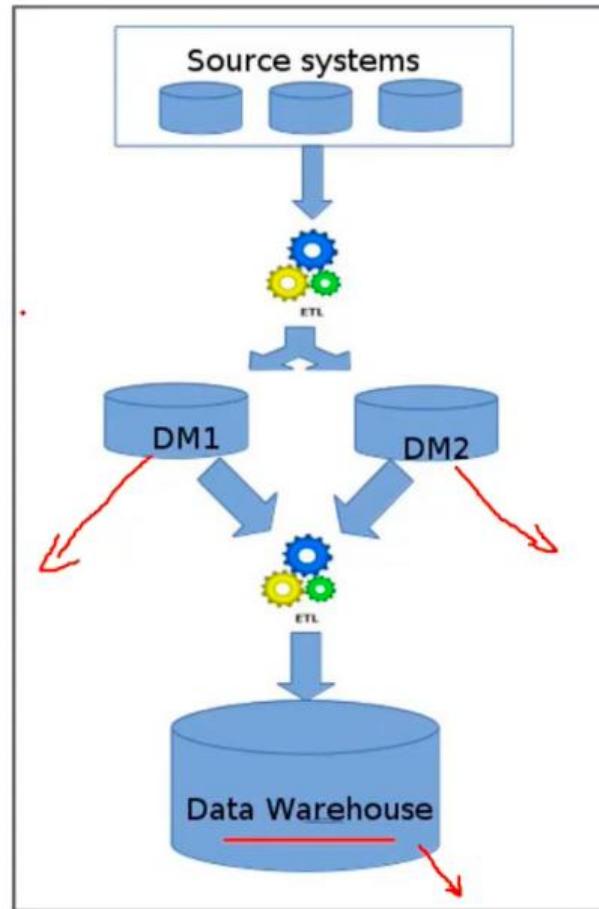


10



RALPH KIMBALL – BOTTOM-UP DATA WAREHOUSE DESIGN APPROACH

- As per this method, data marts are first created to provide the reporting and analytics capability for specific business process, later with these data marts enterprise data warehouse is created



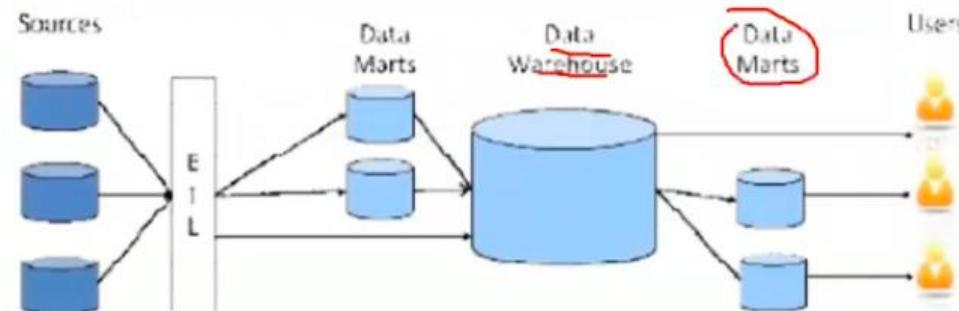
INMON OR KIMBALL: WHICH APPROACH IS SUITABLE FOR YOUR DATA WAREHOUSE?

	Inmon	Kimball
Building Data warehouse	Time Consuming	Takes lesser time
Maintenance	Easy	Difficult, often redundant and subject to revisions
Cost	High initial cost; Subsequent project development costs will be much lower	Low initial cost; Each subsequent phase will cost almost the same
Time	Longer start-up time	Shorter time for initial set-up
Skill Requirement	Specialist team	Generalist team
Data Integration requirements	Enterprise-wide	Individual business areas



HYBRID APPROACH

- Hybrid approach aims to harness the speed of the bottom up approach and user orientation of the top down approach.



DIMENSION AND FACT TABLE

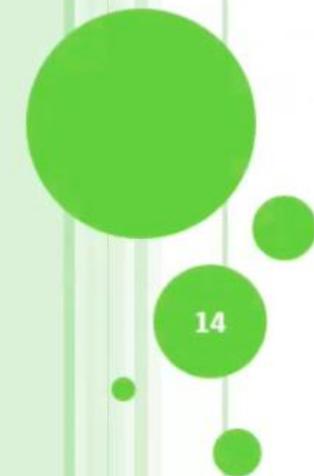
Dimension Table

- ❖ Non measurable
- ❖ Primary Keys

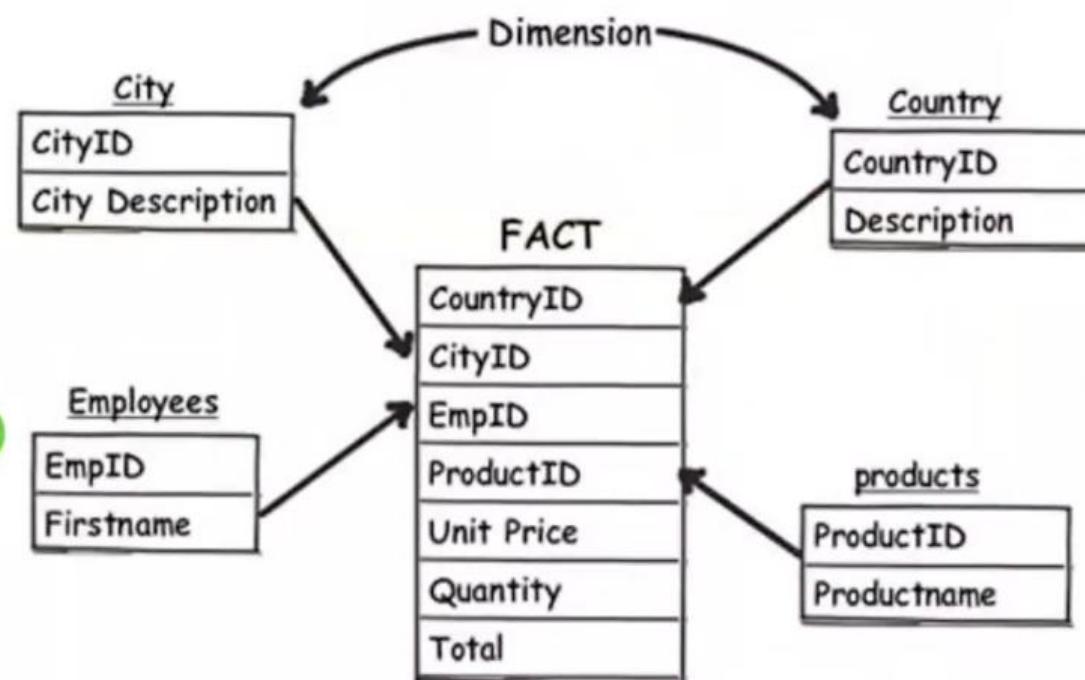
FACT Table

- ❖ Measureable
- ❖ Foreign keys

14

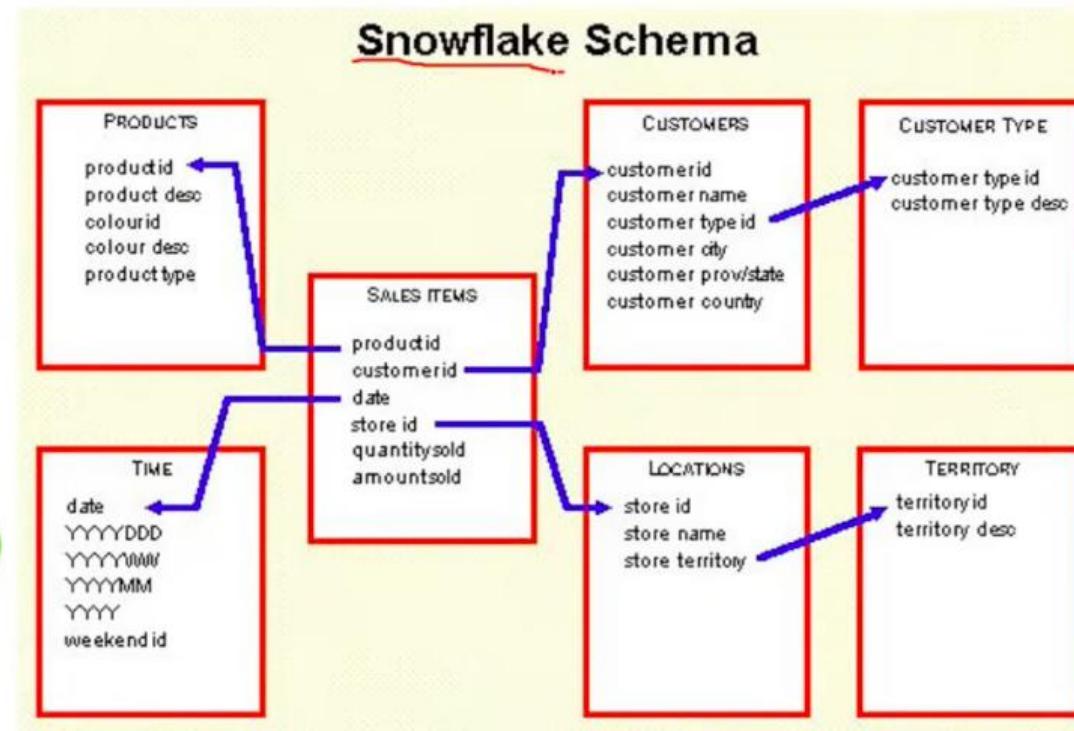


STAR SCHEMA



15

SNOW FLAKE SCHEMA



DATA WAREHOUSE VS DATA LAKE

DATA WAREHOUSE	vs.	DATA LAKE
structured, processed	DATA	structured / semi-structured / unstructured, raw
schema-on-write	PROCESSING	schema-on-read
expensive for large data volumes	STORAGE	designed for low-cost storage
less agile, fixed configuration	AGILITY	highly agile, configure and reconfigure as needed
mature	SECURITY	maturing
business professionals	USERS	data scientists et. al.



DATA WAREHOUSING ROLES:

- **Business Users** --- People with knowledge of the business and needs for reporting
- **Report Writers** --- People who write reports (Developers); tools for writing reports
- **Data Modelers** --- People who create data models from Business Requirements
- **ETL Developers** --- People who write / develop ETL processes
- **DBA** --- People who manage and support databases

POPULAR ETL TOOLS

- ❖ **Informatica - PowerCenter**
- ❖ **IBM - Websphere DataStage**
- ❖ **Microsoft – SQL Server Integrated Services (SSIS)**
- ❖ **SAP – Business Objects Data Services (BODS)**
- ❖ **IBM - Cognos Data Manager**
- ❖ **Oracle - Data Integrator(ODI)**
- ❖ **SAS - Data Integration Studio**
- ❖ **Oracle - Warehouse Builder**
- ❖ **AB Initio**
- ❖ **Talend Open Studio**
- ❖ **Apache NiFi**
- ❖ **Pentaho Data Integration**
- ❖ **Xplenty - cloud-based ETL**



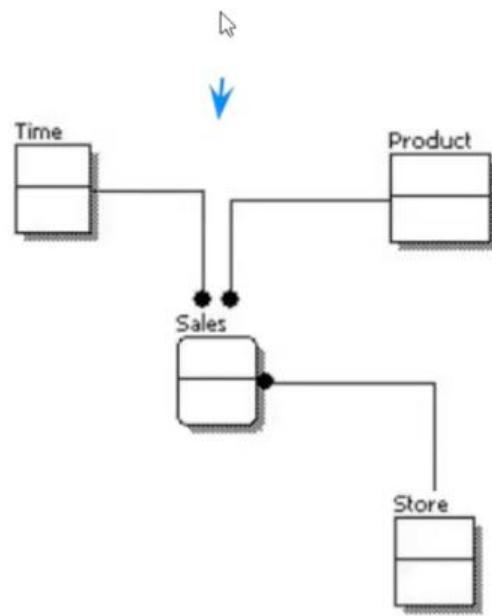
POPULAR DATA VISUALIZATION TOOLS

- ❖ Tableau
- ❖ Microsoft Power BI
- ❖ Qlikview/Qliksense
- ❖ IBM Cognos
- ❖ SAP BO
- ❖ Zoomdata
- ❖ Google Looker
- ❖ SSRS
- ❖ OBIEE
- ❖ TIBCO Spotfire
- ❖ Micro strategy Analytics

20



Conceptual Model Design

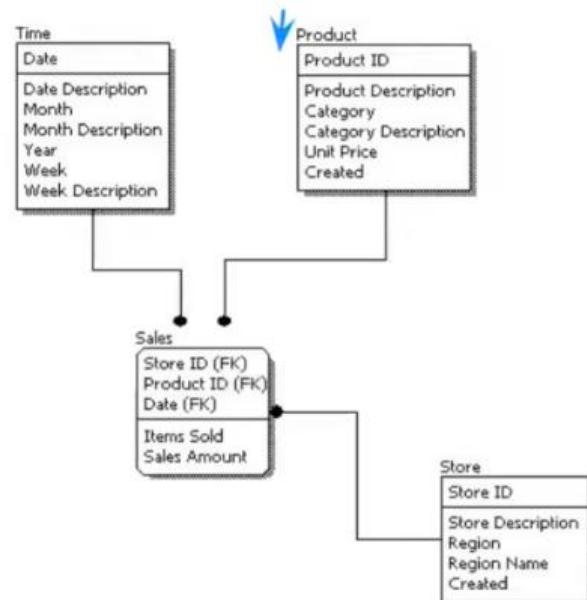


- Includes the important entities and the ↪ relationships among them.
- No attribute is specified.
- No primary key is specified.

Conceptual Model Design

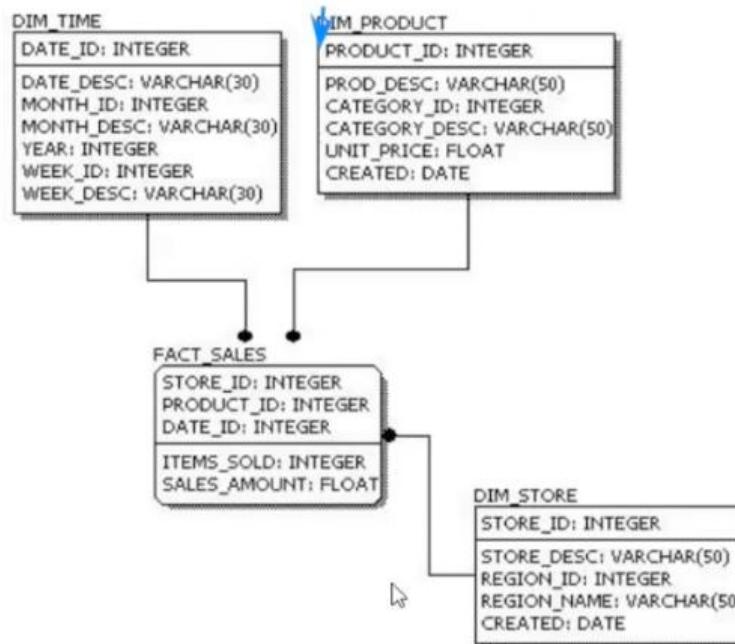
- Highly abstract
- Easily understood
- Easily enhanced
- Only “Entities” visible
- Abstract Relationships
- No software tool is required to define a Conceptual Data Model

Logical Model Design



- Includes all entities and relationships among them.
- All attributes for each entity are specified.
- The primary key for each entity is specified.
- Foreign keys (keys identifying the relationship between different entities) are specified.
- Normalization occurs at this level.

Physical Model Design



- Specification all tables and columns.
- Foreign keys are used to identify relationships between tables.
- Denormalization may occur based on user requirements.
- Physical considerations may cause the physical data model to be quite different from the logical data model.
- Physical data model will be different for different RDBMS. For example, data type for a column may be different between Oracle, DB2 etc.

Physical Model Design

- Entities referred to as Tables
- Attributes referred to as Columns
- Database compatible table names
- Database compatible column names
- Database specific data types
- Difficult for users to understand
- Significantly more effort required to enhance in comparison to Logical Model
- Will include indexes, constraints, triggers & other DB objects
- Difficult to port to a different database, once design is finalized.
- Tools like ERWin and PowerDesigner can help in automatically porting over the Logical Data Model to Physical Data Models of different versions.



OLAP Cube

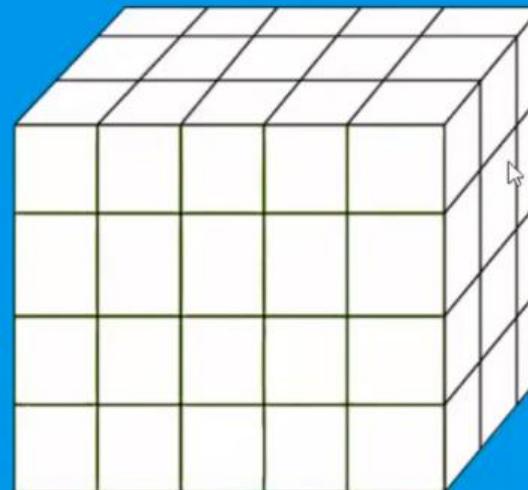
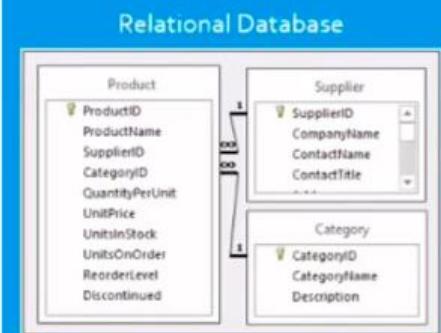
The Multidimensional data

What is OLAP

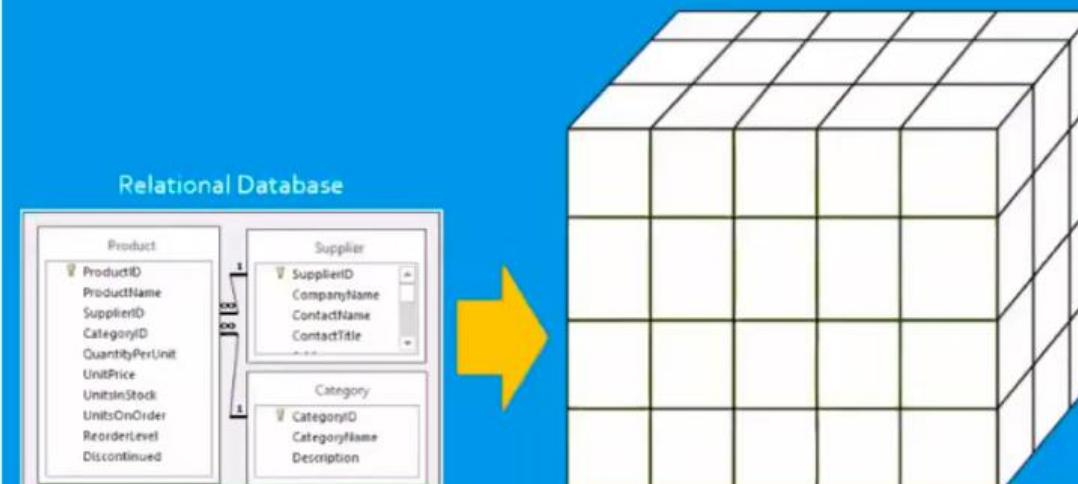
- OLAP is based on the multidimensional data model
- OLAP enables a user to easily and selectively extract and view the data from different point of views
- Helps in decision making of business process



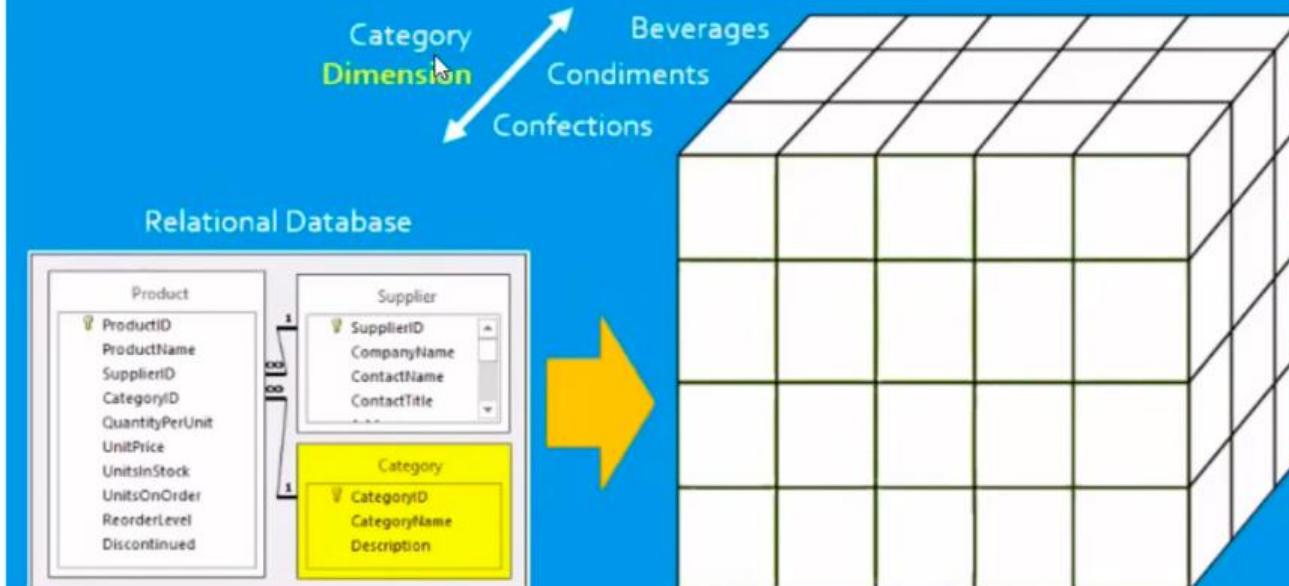
How an OLAP cube works



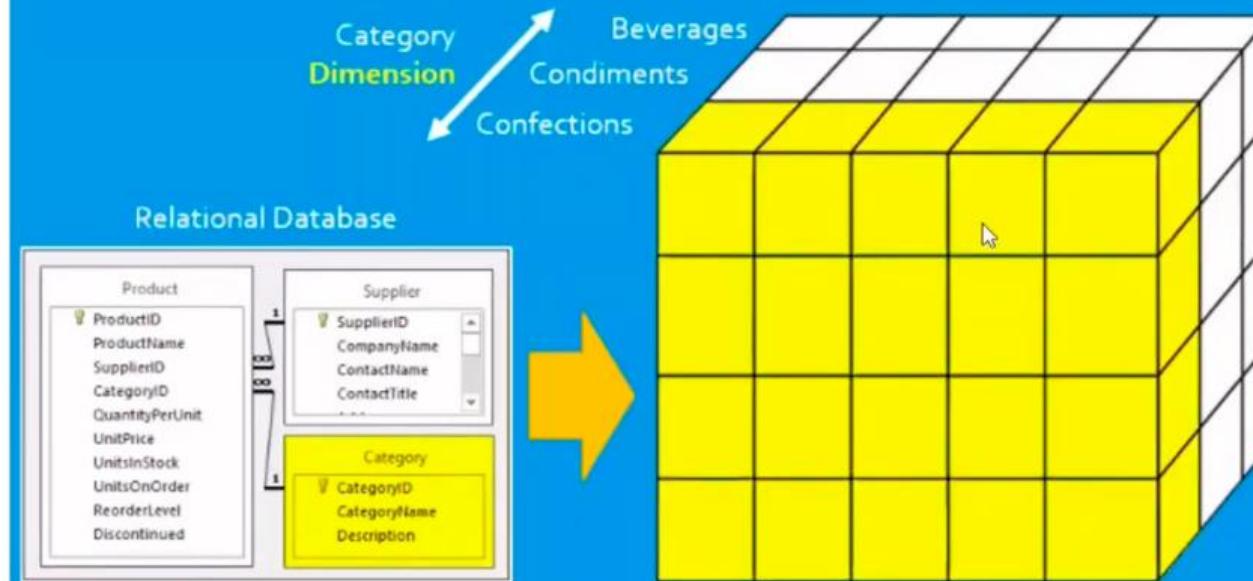
How an OLAP cube works



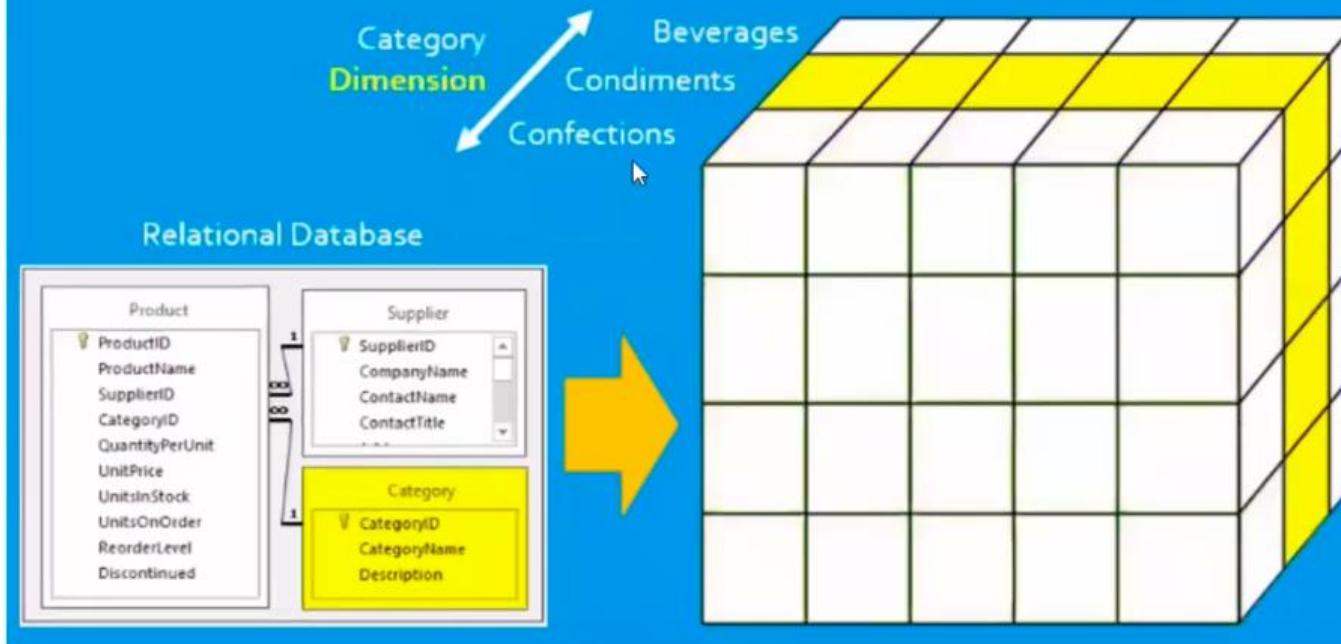
How an OLAP cube works



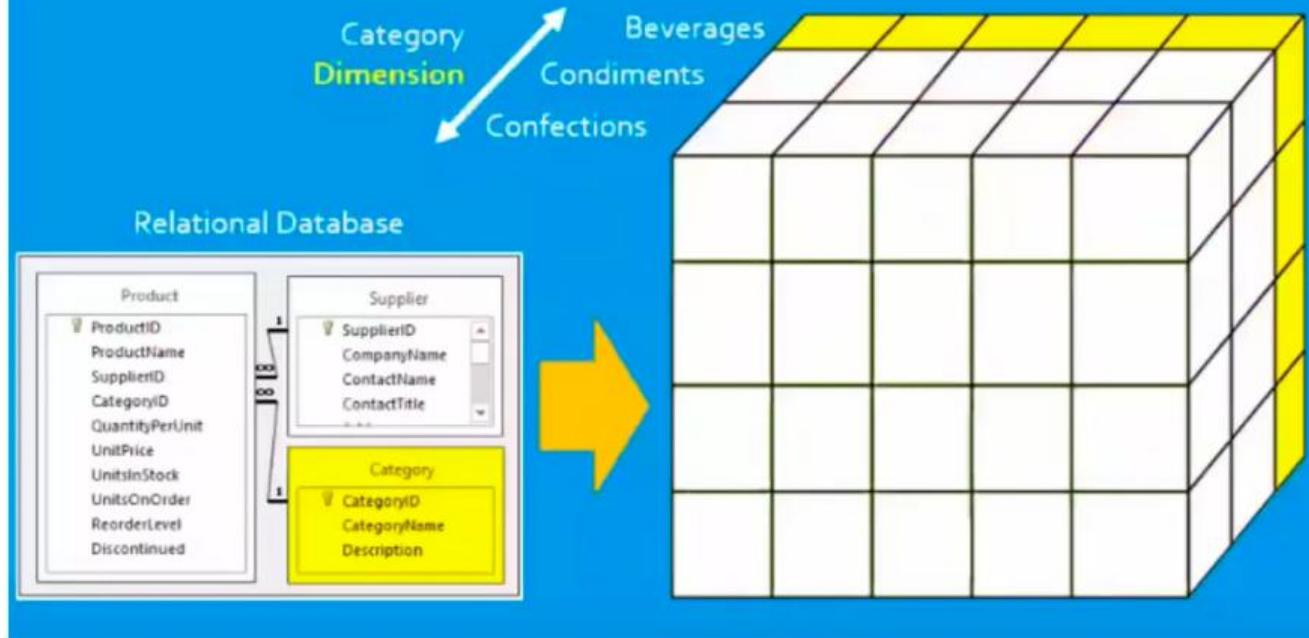
How an OLAP cube works



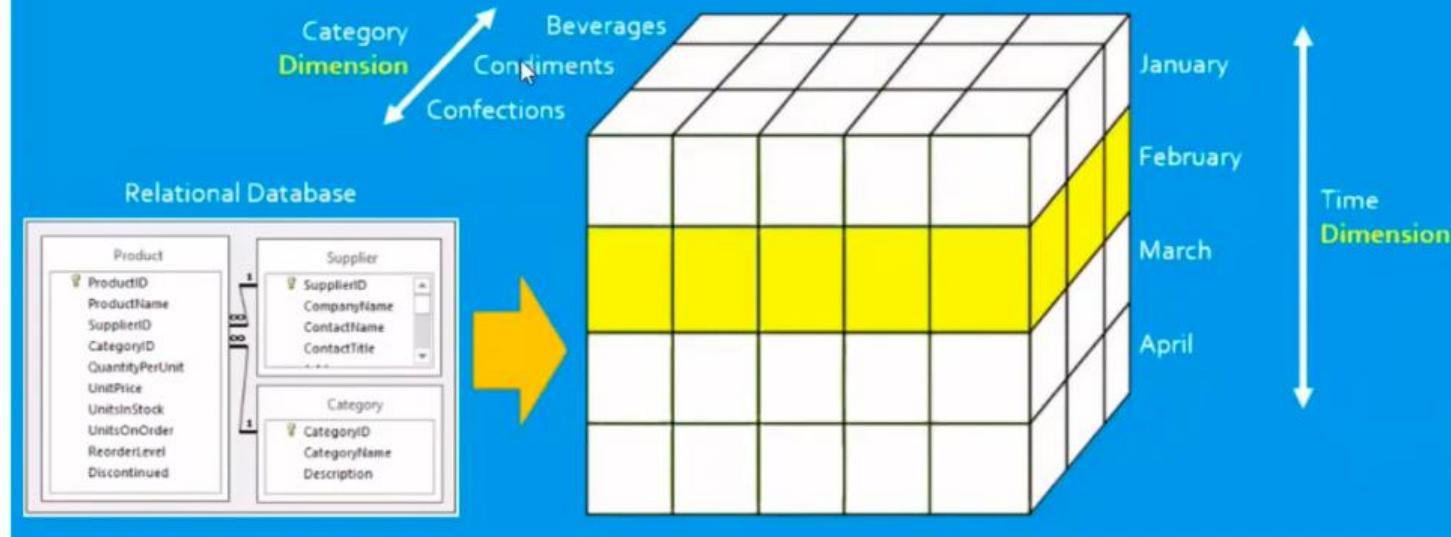
How an OLAP cube works



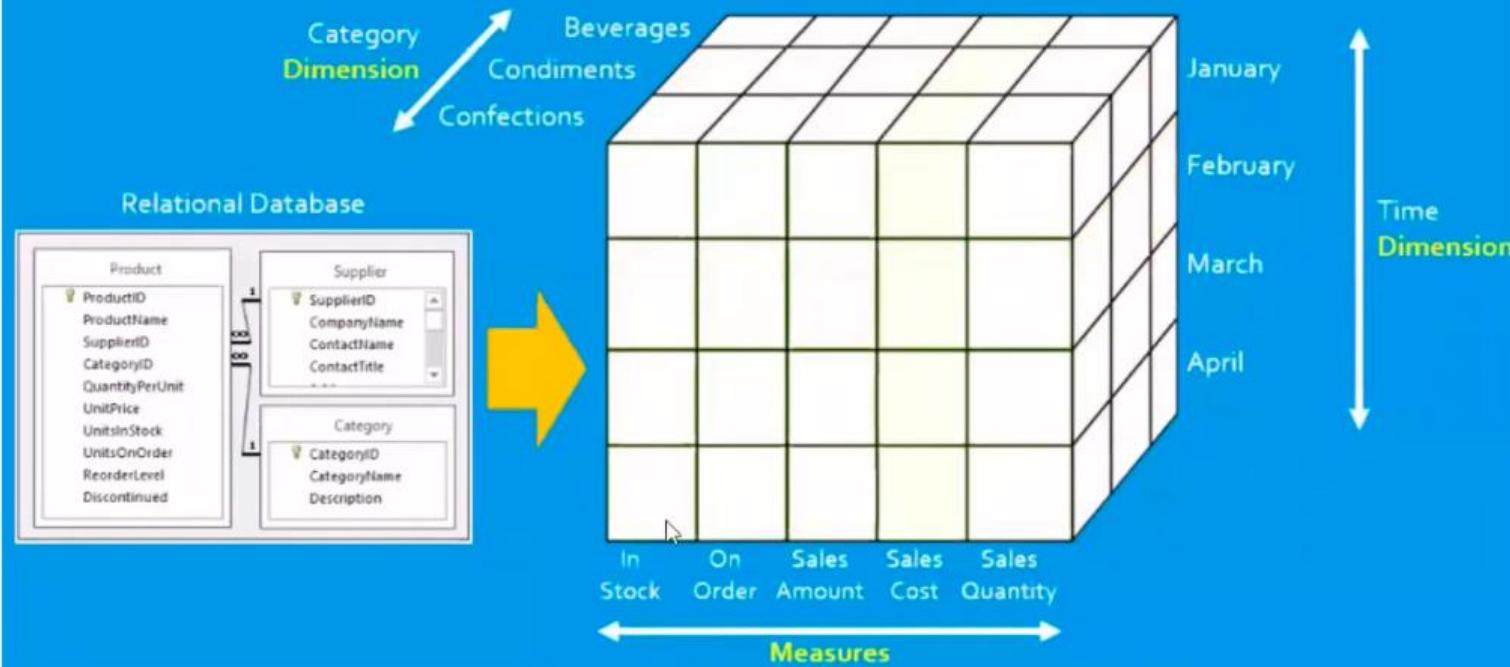
How an OLAP cube works

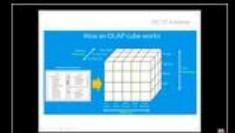
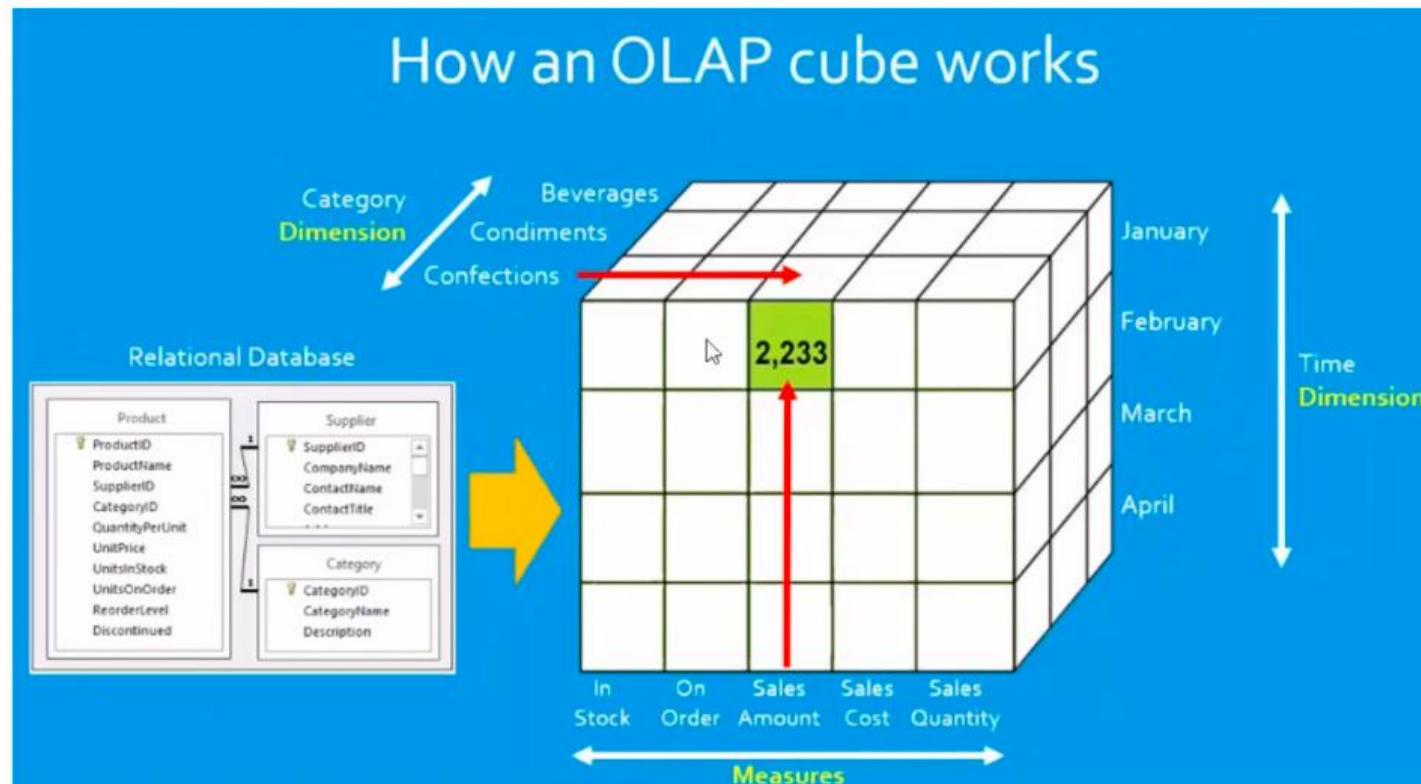


How an OLAP cube works

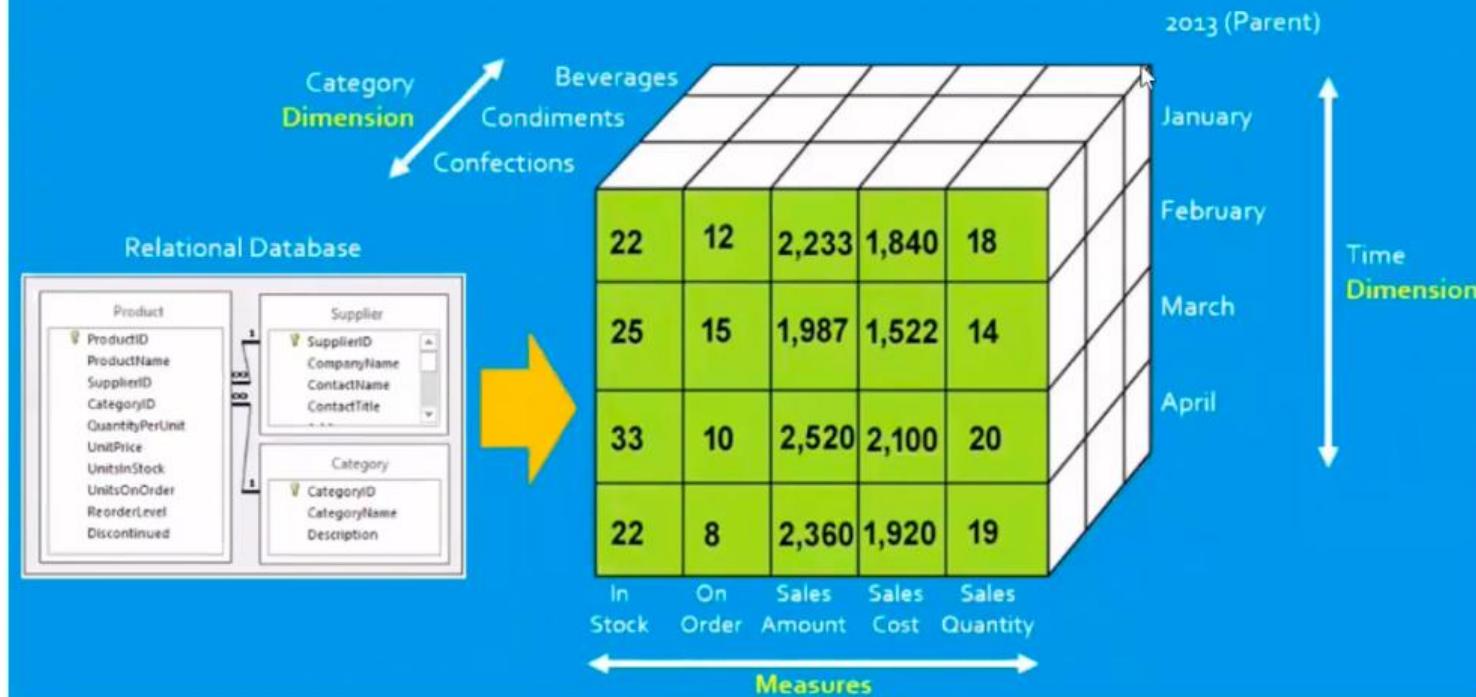


How an OLAP cube works

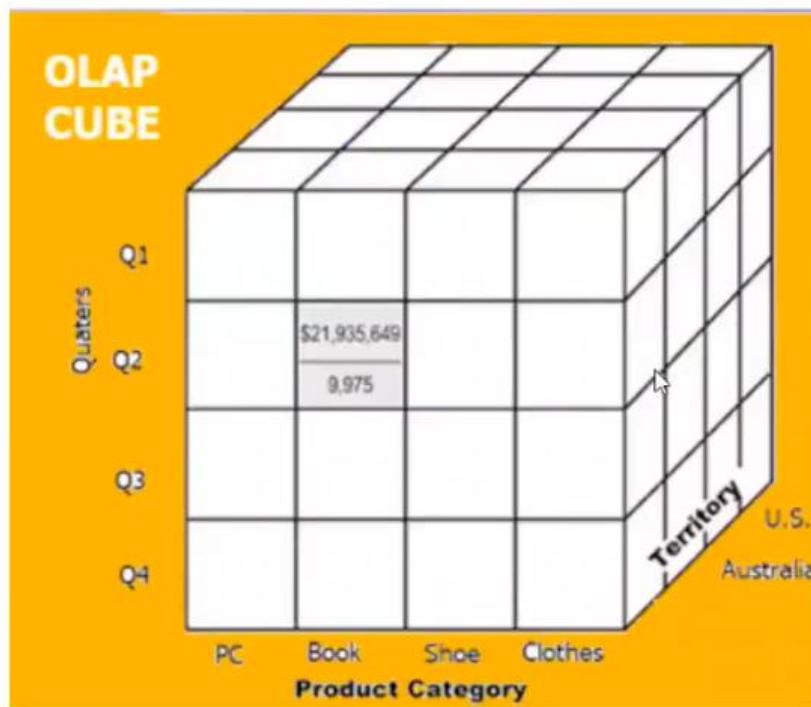




How an OLAP cube works



Example



OLAP Operations

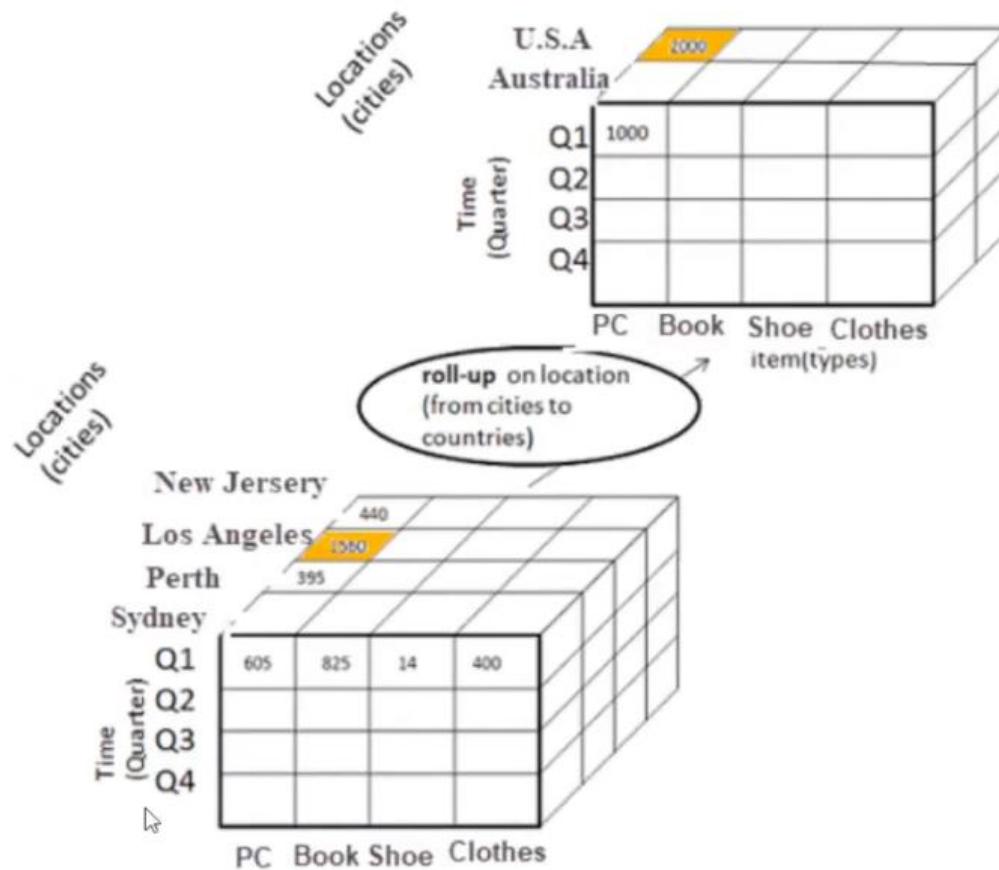
Four types of analytical operations in OLAP are:

- Roll-up - Summarize the data
- Drill-down - Reverse of Roll up
- Slice and dice – Project and Select
- Pivot (rotate) – Re-orient the cube

Roll-up:

- Roll-up is also known as "consolidation" or "aggregation." The Roll-up operation can be performed in 2 ways
- Reducing dimensions
- Climbing up concept hierarchy. Concept hierarchy is a system of grouping things based on their order or level.

Roll-up:



Drill-down

- In drill-down data is fragmented into smaller parts. It is the opposite of the rollup process. It can be done via
 - Moving down the concept hierarchy
 - Increasing a dimension

Drill-down

		Locations (cities)			
		New Jersey	Los Angeles	Perth	Sydney
		440	1560	395	
Time (Quarter)		Q1	605	825	14
Q2					400
Q3					
Q4					
		PC	Book	Shoe	Clothes
					item(types)

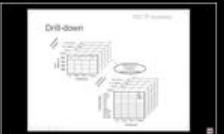
Drill down on time(from quarters to month)

		Locations (countries)			
		New Jersey	Los Angeles	Perth	Sydney
		440	1560	395	
Time (months)		January			
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
		PC	Book	Shoe	Clothes
					item(types)

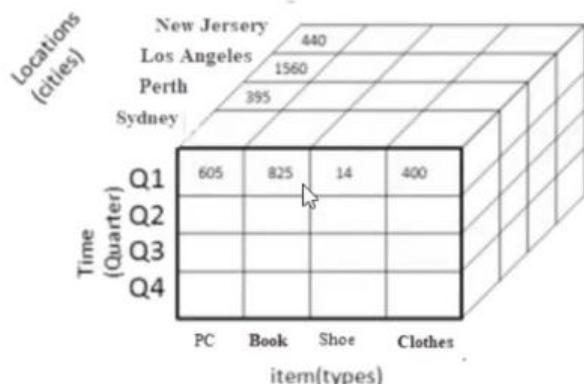


Slice:

- Here, one dimension is selected, and a new sub-cube is created.



Slice

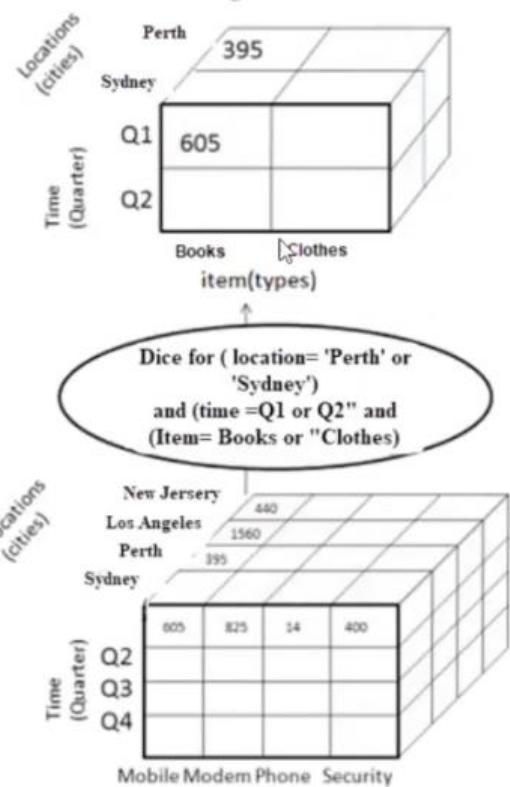


- Take only one dimension from cube
- Dimension Time is Sliced with Q1 as the filter.
- A new cube is created altogether.

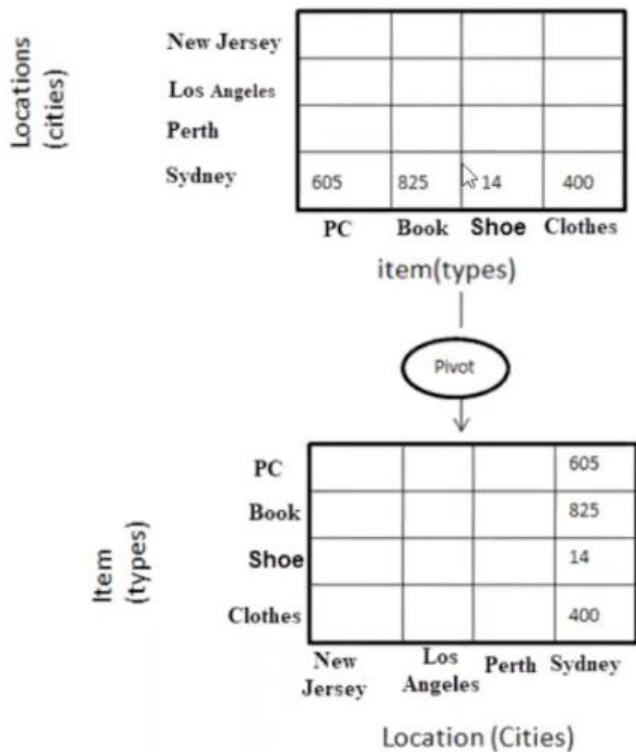
New Jerseyy			
Los Angeles			
Perth			
Sydney			
	PC	Book	Shoe
	605	825	14
			400
	Clothes		

Dice:

- Large cube to small two dimensional cube

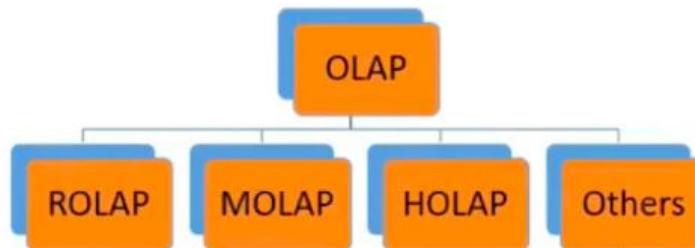


Pivot



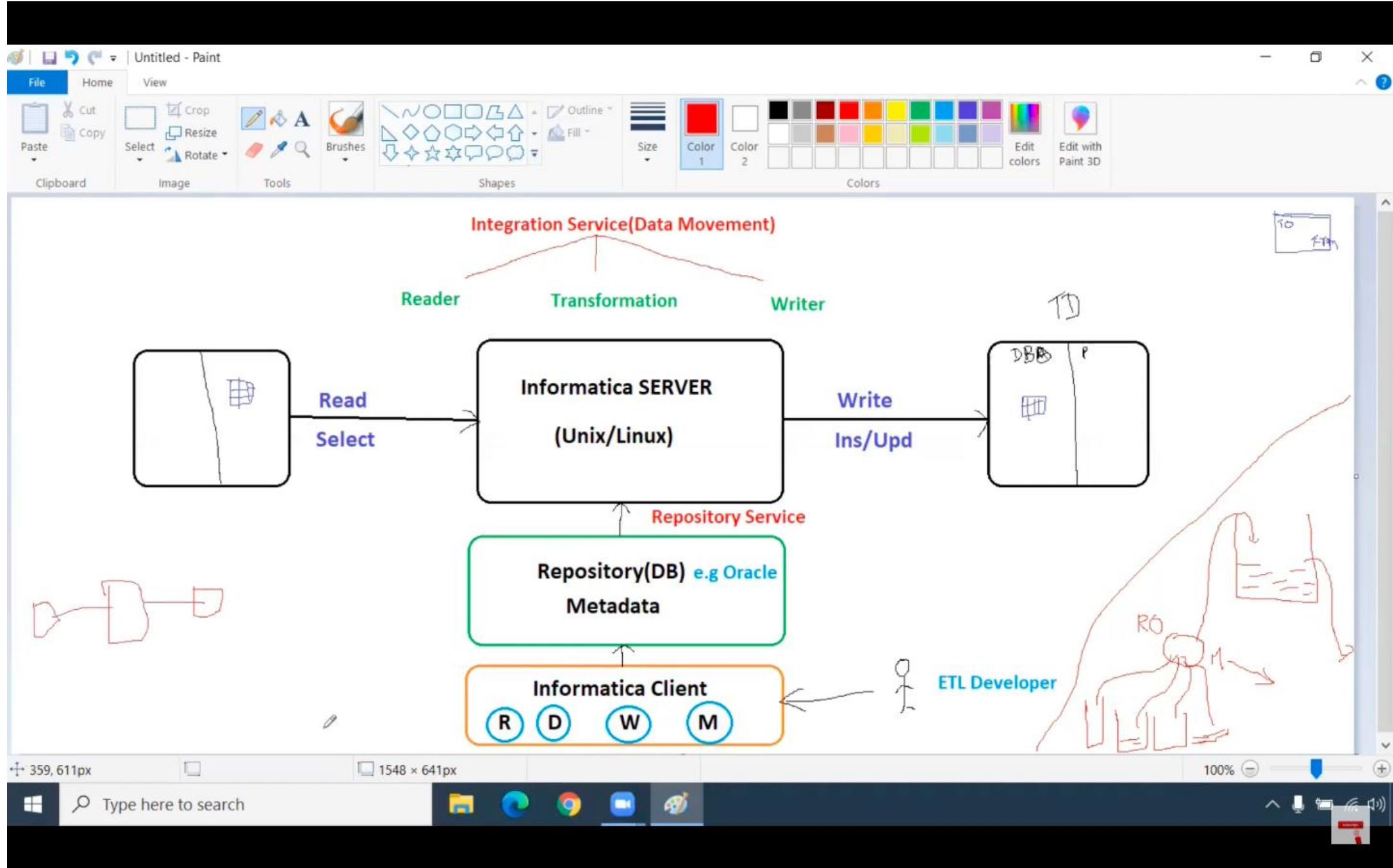
- Rotate the data axes to provide a substitute presentation of data.

Types of OLAP systems



Type of OLAP	Explanation
Relational OLAP(ROLAP): →	ROLAP is an extended RDBMS along with multidimensional data mapping to perform the standard relational operation.
Multidimensional OLAP (MOLAP)	MOLAP Implements operation in multidimensional data.
Hybrid OnlineAnalytical Processing (HOLAP)	In HOLAP approach the aggregated totals are stored in a multidimensional database while the detailed data is stored in the relational database. This offers both data efficiency of the ROLAP model and the performance of the MOLAP model.





Informatica PowerCenter Client Components - 4 Tools

- 1) Repository Manager - R
- 2) Designer - D
- 3) Workflow Manager - W
- 4) Workflow Monitor M

1) Repository Manager - R - Admin related task

- * Folder creation/deletion
- * Access /Privileged

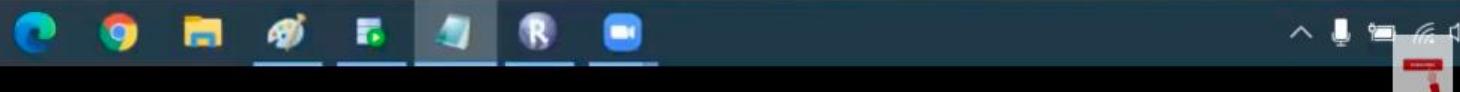


1) Repository Manager - R - Admin related task

- * Folder creation/deletion
- * Access /Privileged
- * Code Migration (xml import/export)
- * Historical run status

2) Designer - D - Developer

- * Source Definition
- * Target Definition
- * Mapping (Business logic)



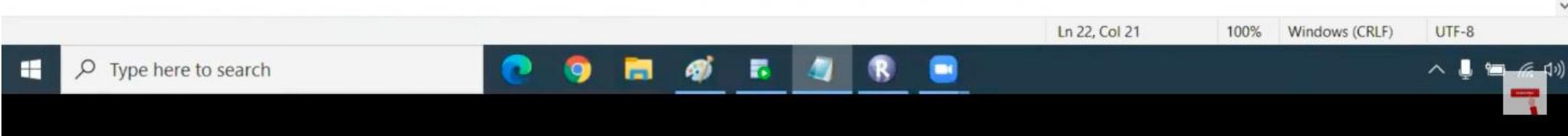
2) Designer - D - Developer

- * Source Definition
- * Target Definition
- * Mapping (Business logic)

3) Workflow Manager - W

- * Session
- * Connection
- * Workflow

4) Workflow Monitor M - Monitoring



5 Component of Designer

1) Source Analyzer - Source Definition

- * Relational DB table
- * Flat Files (txt/csv)
- * Cobol
- * Xml Files

2) Target Designer -Target Definition

- * Relational DB table
- * Flat Files (txt/csv)
- * Xml Files



Type here to search



3) Transformation Developer

- * Reusable Transformation
- * Single Transformation
- * Can be re-used in multiple mapping

4) Maplet Designer

- * Reusable Transformation
- * Set of Transformation - to create a reusable logic
- * Can be re-used in multiple mapping

5) Mapping Designer - Business logic



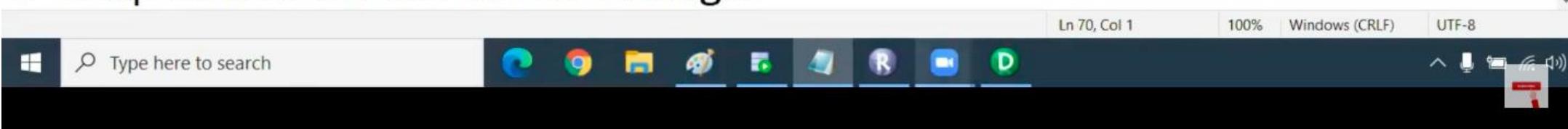
4) Maplet Designer

- * Reusable Transformation
- * Set of Transformation - to create a reusable logic
- * Can be re-used in multiple mapping

5) Mapping Designer - Business logic

- * Mapping

3 Components in Workflow Manager



3 Components in Workflow Manager

1) Task Developer

- * Session (Reusable Session)
- * Connections definition

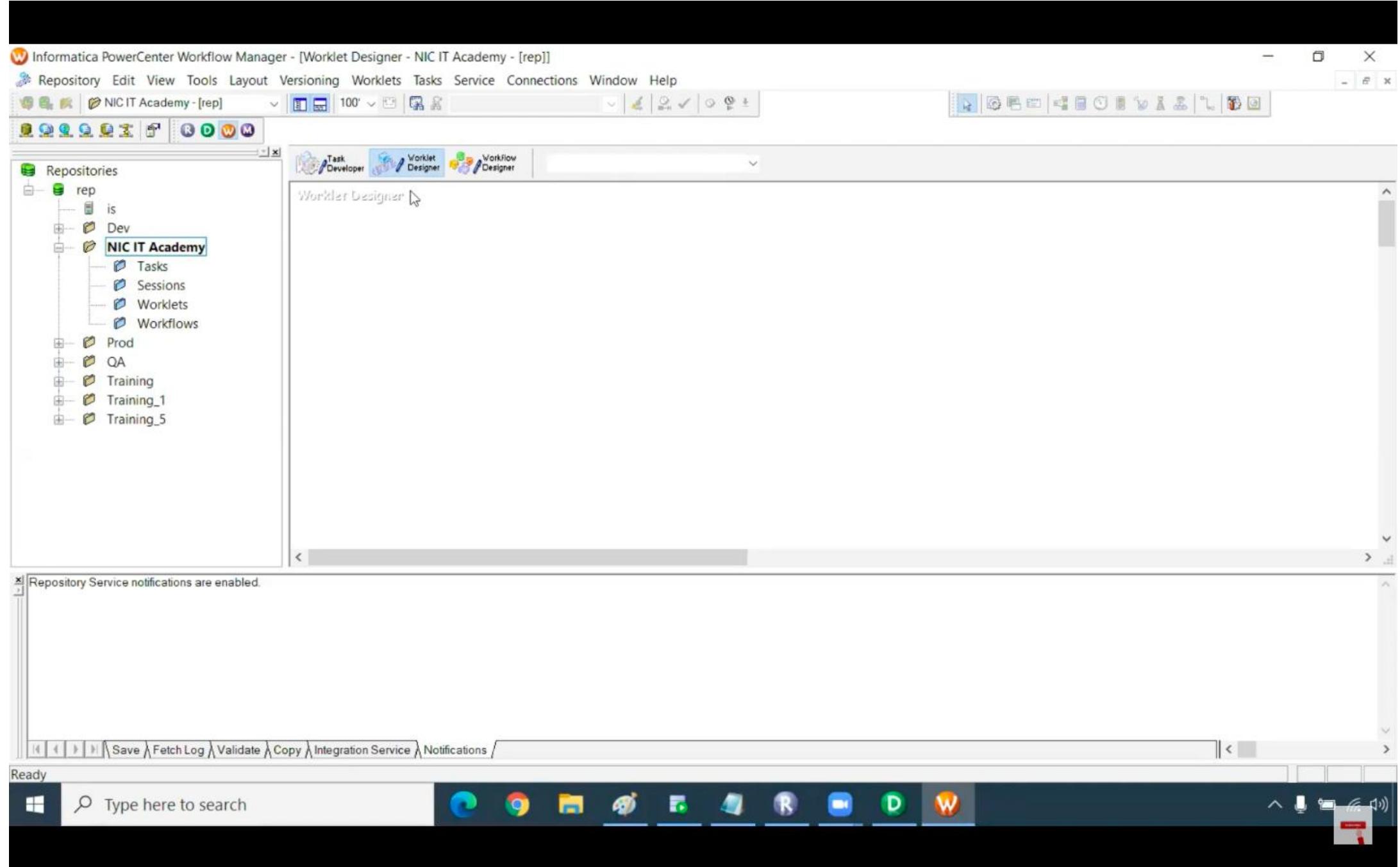
2) Worklet Designer

- * Re-usable component
- * Session level
- * Set of sessions



Type here to search





3) Workflow Manager - W

- * Session
- * Connection
- * Workflow

4) Workflow Monitor M - Monitoring

- * Run status (Running/succeeded/failed/aborted/stopped)
- * Row count(Source/target)
- * Throughput (record/sec)
- * Session log -- Important



Steps to create a workflow

- 1) Source Definition - Source Analyzer - Designer D
- 2) Target Definition - Target Designer - Designer D
- 3) Mapping - Mapping Designer - Designer D
- 4) Session(Reusable) - Task Developer - Workflow Manager W
- 5) Connections - Task Developer - Workflow Manager W
- 6) Workflow -- Workflow Designer - Workflow Manager W
- 7) Monitoring - Workflow Monitor - M



Type here to search



Naming conventions:

mapping --> **m_Table_name** e.g m_Employees_Details

session --> s_mapping_name e.g s_m_Employees_Details

workflow --> wkf (or) wf_session_name e.g wf_Employees_Details

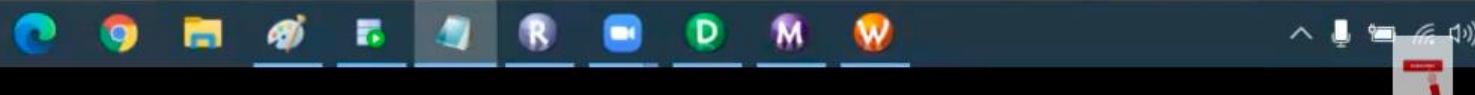
maplet --> mplt (or) ml

worklet --> wklt (or) wl

Dimension table --> dim_ (or) d_

Fact Table --> fact_ (or) f_

Views --> table_name_v



*Untitled - Notepad

File Edit Format View Help

Different Types of Data Load:

1. Table to Table

2. Flat file to Table

3. Table to Flat File



Ln 4, Col 6

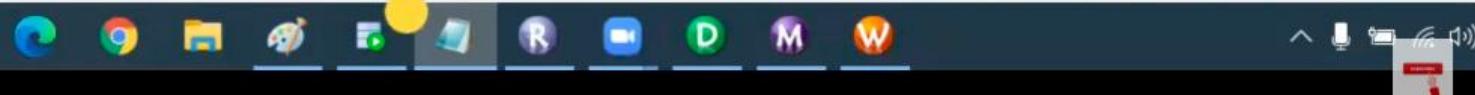
80%

Windows (CRLF)

UTF-8



 Type here to search



Active Transformation:

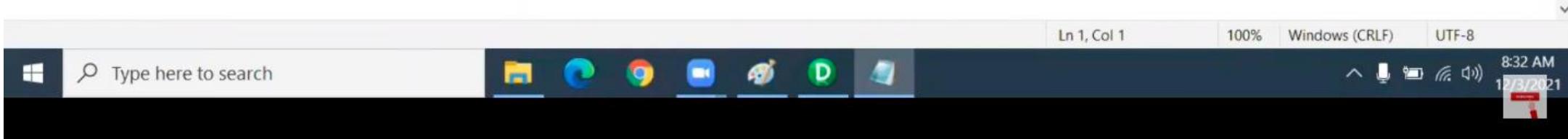
=====

A transformation does change the number of records passed through it

Passive Transformation:

=====

A transformation does not change the number of records passed through it



A transformation does not change the number of records passed through it

Connected:

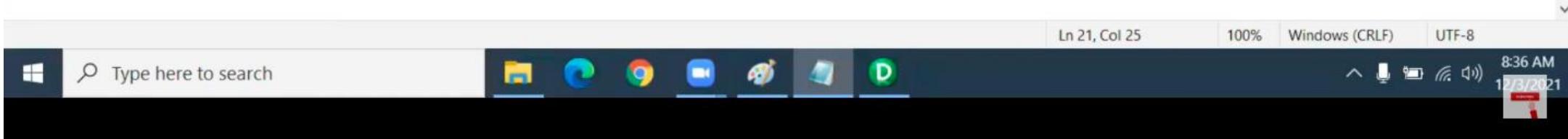
=====

Transformation will be in pipeline

Unconnected:

=====

Transformation will not be in pipeline



1. Source Qualifier:

=====

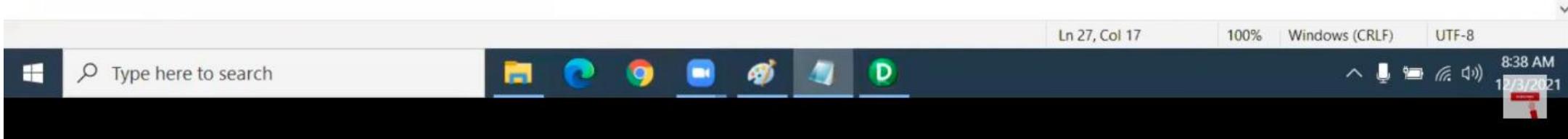
-An Active, connected

It converts Source Datatype into Informatica native data type

Properties:

select all_columns from table_name;

1. SQL query: Sql override, --> by writing sql query, we can filter/restrict the data from source itself --- 2



 Transformation Notes - Notepad

File Edit Format View Help

Properties:

NIC IT Academy

select all columns from table name;

1

1. SQL query: Sql override, --> by writing sql query, we can filter/restrict the data from source itself --- 2
 2. User defined join: Homogeneous join - tables from same type of database
 3. Source filter: filter condition (salary is not null)
 4. select distinct: enable/disable -- full row duplicate
 5. Pre-SQL: SQL, before data fetch (e.g index creation in source)

- - - 1

Ln 35, Col 1

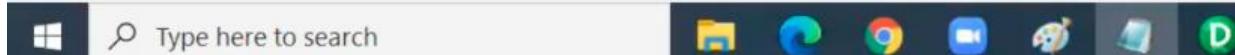
90%

Windows (CRLF)

UTF-8

8:39 AM

1238021



```
select all_columns from table_name;
```

1. SQL query: Sql override, --> by writing sql query, we can filter/restrict the data from source itself --- 2

2. User defined join: Homogeneous join - tables from same type of database

3. Source filter: filter condition (salary is not null)

4. select distinct: enable/disable -- full row duplicate

5. Pre-SQL: SQL, before data fetch (e.g index creation in source)
--- 1

6. Post-SQL: SQL, After data fetch (e.g index drop in source)
--- 3

5. Pre-SQL: SQL, before data fetch (e.g index creation in source) ---

1

6. Post-SQL: SQL, After data fetch (e.g index drop in source) ---

3

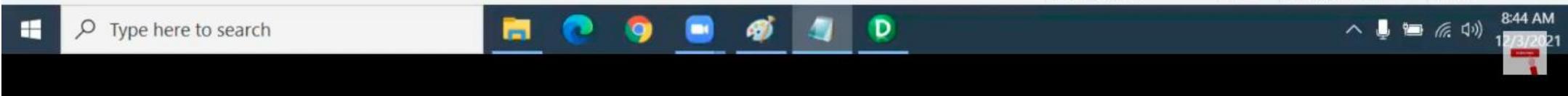
7. Number of sorted port: 2 (1,2)

Date Format: dd-MON-yy

If source is FF, all of the above properties are disabled

--Core schema create new target table:

NiC IT Academy



Connections

+ Oracle Connections

+ ABC

+ ADMIN

+ CORE

+ HR

- + Tables (Filtered)
- + Views
- + Indexes
- + Packages
- + Procedures
- + Functions
- + Operators
- + Queues
- + Queues Tables
- + Triggers
- + Types
- + Sequences
- + Materialized Views
- + Materialized View Logs
- + Synonyms
- + Public Synonyms
- + Database Links
- + Public Database Links
- + Directories
- + Editions
- + Application Express
- + XML Schemas
- + XML DB Repository
- + Scheduler
- + Recycle Bin
- + Other Users

+ WORK

+ Oracle NoSQL Connections

+ Database Schema Service Connections

Worksheet | Query Builder

```
SELECT EMPLOYEES.EMPLOYEE_ID, EMPLOYEES.FIRST_NAME, EMPLOYEES.LAST_NAME,
EMPLOYEES.EMAIL, EMPLOYEES.PHONE_NUMBER, EMPLOYEES.HIRE_DATE,
EMPLOYEES.JOB_ID, EMPLOYEES.SALARY, EMPLOYEES.COMMISSION_PCT,
EMPLOYEES.MANAGER_ID, EMPLOYEES.DEPARTMENT_ID FROM EMPLOYEES
where commission_pct is not null and salary>8000;
```

Query Result x

All Rows Fetched: 20 in 0.013 seconds

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
1	145 John	Russell	JRUSSEL	011.44.1344.429268	01-OCT-04	SA	MAN 40000	0.4	100	80
2	146 Karen	Partners	KPARTNER	011.44.1344.467268	05-JAN-05	SA	MAN 50000	0.3	100	80
3	147 Alberto	Errazuriz	AERRAZUR	011.44.1344.429278	10-MAR-05	SA	MAN 12000	0.3	100	80
4	148 Gerald	Cambrault	GCAMBRAU	011.44.1344.619268	15-OCT-07	SA	MAN 11000	0.3	100	80
5	149 Eleni	Zlotkey	EZLOTKEY	011.44.1344.429018	29-JAN-08	SA	MAN 10500	0.2	100	80
6	150 Peter	Tucker	PTUCKER	011.44.1344.129268	30-JAN-05	SA	REP 10000	0.3	145	80
7	151 David	Bernstein	DBERNSTE	011.44.1344.345268	24-MAR-05	SA	REP 9500	0.25	145	80
8	152 Peter	Hall	PHALL	011.44.1344.478968	20-AUG-05	SA	REP 9000	0.25	145	80
9	156 Janette	King	JKING	011.44.1345.429268	30-JAN-04	SA	REP 10000	0.35	146	80
10	157 Patrick	Sully	PSULLY	011.44.1345.929268	04-MAR-04	SA	REP 9500	0.35	146	80
11	158 Allan	McEwen	AMCEEWEN	011.44.1345.829268	01-AUG-04	SA	REP 9000	0.35	146	80
12	162 Clara	Vishney	CVISHNEY	011.44.1346.129268	11-NOV-05	SA	REP 10500	0.25	147	80
13	163 Danielle	Greene	DGREENE	011.44.1346.229268	19-MAR-07	SA	REP 9500	0.15	147	80



Type here to search

8:53 AM
12/3/2021

D Informatica PowerCenter Designer - [Mapping Designer - 8:15 am IST - [rep]]

Repository Edit View Tools Layout Versioning Mappings Transformation Window Help

Edit Transformations

Transformation | Ports Properties Sources Metadata Extensions |

Select transformation: **SQ SQ_EMPLOYEES**

Transform

SQL Editor - SQ_EMPLOYEES (Expression)

Ports Variables

EMPLOYEES

- EMPLOYEE_ID
- FIRST_NAME
- LAST_NAME
- EMAIL
- PHONE_NUMBER
- HIRE_DATE
- JOB_ID
- SALARY
- COMMISSION_PCT
- MANAGER_ID
- DEPARTMENT_ID

SQL:

```
SELECT EMPLOYEES.EMPLOYEE_ID, EMPLOYEES.FIRST_NAME,  
EMPLOYEES.LAST_NAME,  
EMPLOYEES.EMAIL, EMPLOYEES.PHONE_NUMBER, EMPLOYEES.HIRE_DATE,  
EMPLOYEES.JOB_ID, EMPLOYEES.SALARY, EMPLOYEES.COMMISSION_PCT,  
EMPLOYEES.MANAGER_ID, EMPLOYEES.DEPARTMENT_ID FROM EMPLOYEES  
where commission_pct is not null and salary>8000
```

...data flow ...parsing map ...parsing co
***** Map mapping m

Sql Que User-def

Instance Name: **EMPLOYEES**

Transformation Type: **Source Definition**

Connect to database:

ODBC data source: Excel Files (Microsoft Excel Driver (*.xls, *.xlsx, *.xslm, *.xlst))

Use Kerberos Authentication

Username: _____

Password: _____

OK Cancel Generate SQL Validate Help

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EMPLOYEES (Target Definition)

Name
EMPLOYEE_ID
FIRST_NAME
LAST_NAME
EMAIL
PHONE_NUMB...
HIRE_DATE

Ready

Type here to search

8:15 AM 12/3/2021

W Informatica PowerCenter Workflow Manager - [Workflow Designer - 8:15 am IST - [rep]]

Repository Edit View Tools Layout

8:15 am IST - [rep]



Repositories

- rep
 - is
 - 8 am IST
 - 8 pm IST
 - 8:15 am IST**
 - Tasks
 - Sessions
 - Worklets
 - Workflows
 - Dev
 - Int
 - NIC IT Academy
 - Prod
 - QA

Edit Tasks

Select task: **s_m_SQL_Transformation**

Task type: Session

m_SQL_Transformation SQ_EMPLOYEES

Instance	Readers
\$SQ_EMPLOYEES	Relational Reader

Connections

Type	Value	Connections
\$SQ_EMPLOYEES - DB Connection	Relational	Oracle_Src

Properties

Attribute	Value
Pre SQL	
Post SQL	
Sql Query	SELECT EMPLOYEES.EMPLOYEE_ID, EMPLOYEES.FIRST_NAME, EMPLOYEES.LAST_NAME, EMPLOYEES.HIRE_DATE, EMPLOYEES.SALARY, EMPLOYEES.COMMISSION_PCT, EMPLOYEES.JOB_ID, EMPLOYEES.MANAGER_ID, EMPLOYEES.DEPARTMENT_ID FROM EMPLOYEES
Source Filter	

SQ_EMPLOYEES - Source Qualifier

OK Cancel Apply Help

12/3/2021 8:46:06 AM ** Fetching session info

Refresh has been completed successfully!
The following objects have been reverted:
Session s_m_SQL_Transformation

Save Fetch Log Validate Copy Integration Service Notifications



Type here to search



8:56 AM

12/3/2021

W Informatica PowerCenter Workflow Manager - [Workflow Designer - 8:15 am IST - [rep]]

Repository Edit View Tools Layout

8:15 am IST - [rep]

R D W M

Repositories

- rep
 - is
 - 8 am IST
 - 8 pm IST
 - 8:15 am IST**
 - Tasks
 - Sessions
 - Worklets
 - Workflows
- Dev
- Int
- NIC IT Academy
- Prod
- QA

Edit Tasks

General Properties Config Object Mapping Components Metadata Extensions

s_m_SQ_Transformation

Select tasks

Task type

- Ports
- Variables
- EMPLOYEES
 - EMPLOYEE_ID
 - FIRST_NAME
 - LAST_NAME
 - EMAIL
 - PHONE_NUMBER
 - HIRE_DATE
 - JOB_ID
 - SALARY
 - COMMISSION_PCT
 - MANAGER_ID
 - DEPARTMENT_ID

```
SELECT EMPLOYEES.EMPLOYEE_ID, EMPLOYEES.FIRST_NAME,  
EMPLOYEES.LAST_NAME,  
EMPLOYEES.EMAIL, EMPLOYEES.PHONE_NUMBER,  
EMPLOYEES.HIRE_DATE,  
EMPLOYEES.JOB_ID, EMPLOYEES.SALARY,  
EMPLOYEES.COMMISSION_PCT,  
EMPLOYEES.MANAGER_ID, EMPLOYEES.DEPARTMENT_ID FROM  
EMPLOYEES  
where commission_pct is not null and salary>10000
```

Transformation Name:

EMPLOYEES

Transformation Type: **Source Definition**

Connect to database:

ODBC data source: Excel Files (Microsoft Excel Dr ...)

Use Kerberos Authentication

Username:

Password:

OK

Cancel

Generate SQL

Validate

Help

User-defined SQL statement

OK

Cancel

Apply

Help

12/3/2021 8:46:06 AM ** Fetching session info

Refresh has been completed successfully!
The following objects have been reverted:
Session s_m_SQ_Transformation

Save Fetch Log Validate Copy Integration Service Notifications

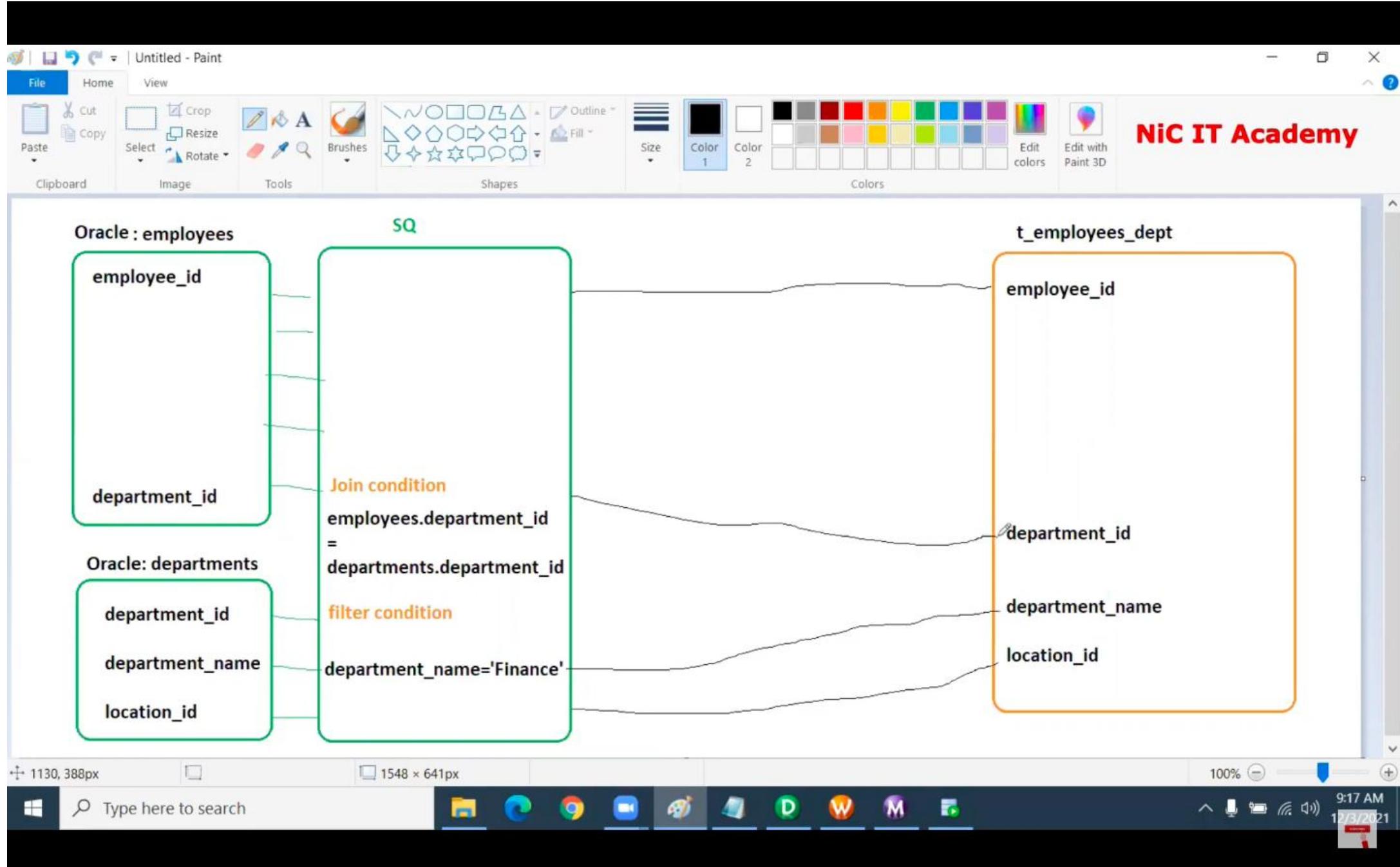
Ready



Type here to search



8:56 AM
12/3/2021



3. Expression Transformation:

I
-- Passive, connected
-- Business logic

	input	output	variable	expression(not a port)
salary	*	*		
new_salary		*		salary+(salary*0.1)

variable: intermediate calculation -- you can't take variable port as output

```
v_c=a+b;  
o_c=v_c  
e=d+v_c;
```



Type here to search



*Transformation Notes - Notepad

File Edit Format View Help

new_salary

*

salary+(salary*0.1)

variable: intermediate calculation -- you can't take variable port as output

```
v_c=a+b;  
o_c=v_c  
e=d+v_c;
```

Order of execution:

1. Input
2. Variable
3. Output

Can't filter record in expression transformation -- passive

```
if salary > 10000    10%  
if salary < 10000    20%
```

Ln 131, Col 20

70%

Windows (CRLF)

UTF-8



Type here to search



Expression Transformation

salary 10000

salary 10000

salary+(slaary*0.1) 11000

o_incr_salary

v_salary

Type here to search

100%

4. Joiner:

=====

An active, connected

-- heterogeneous join, sources from various data bases

SQ Joiner: Homogeneous sources (sources from same type of data bases)

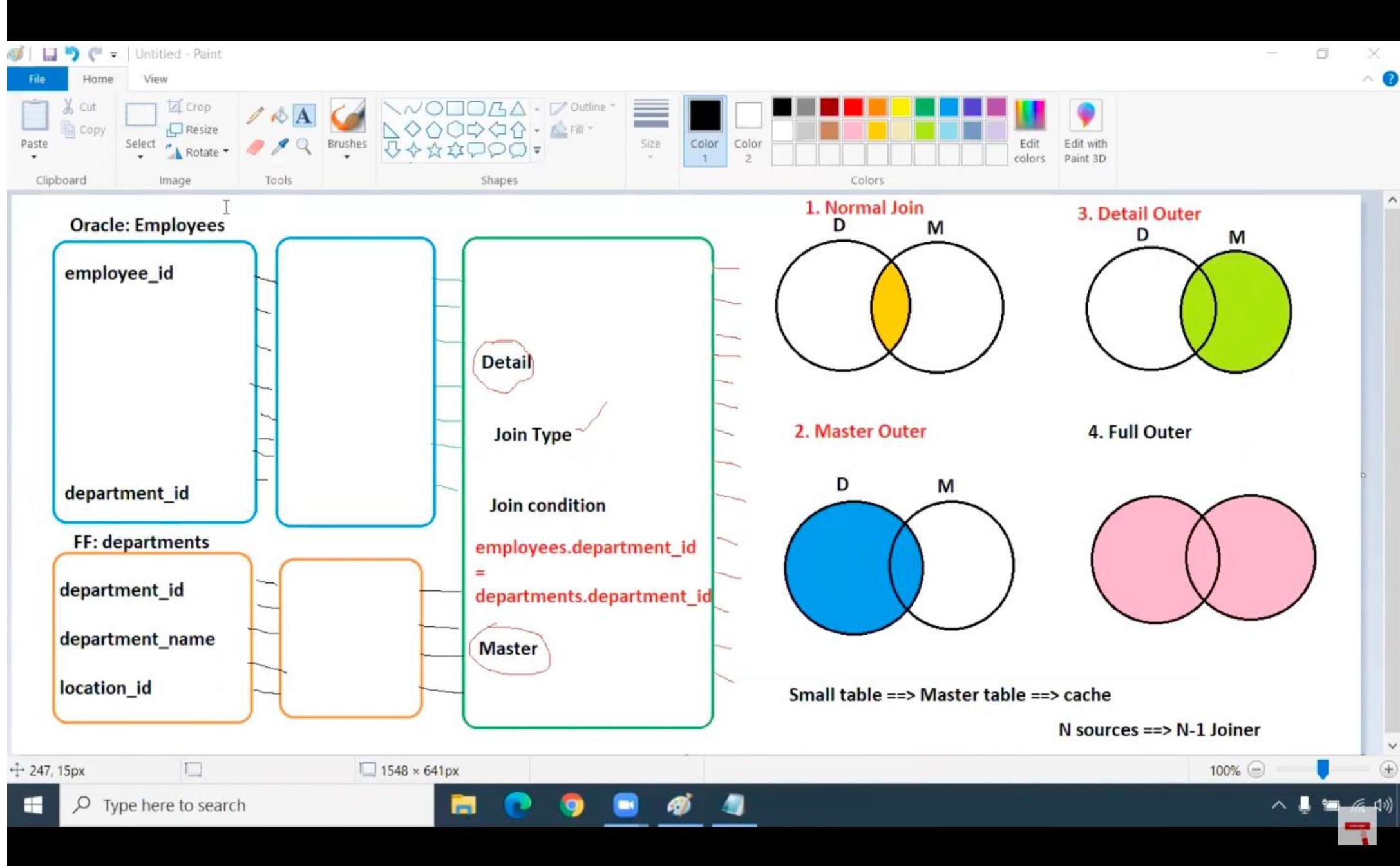
4 Types of join:

1. Normal join
2. Master Outer
3. Detail Outer
4. Full Outer Join



Type here to search

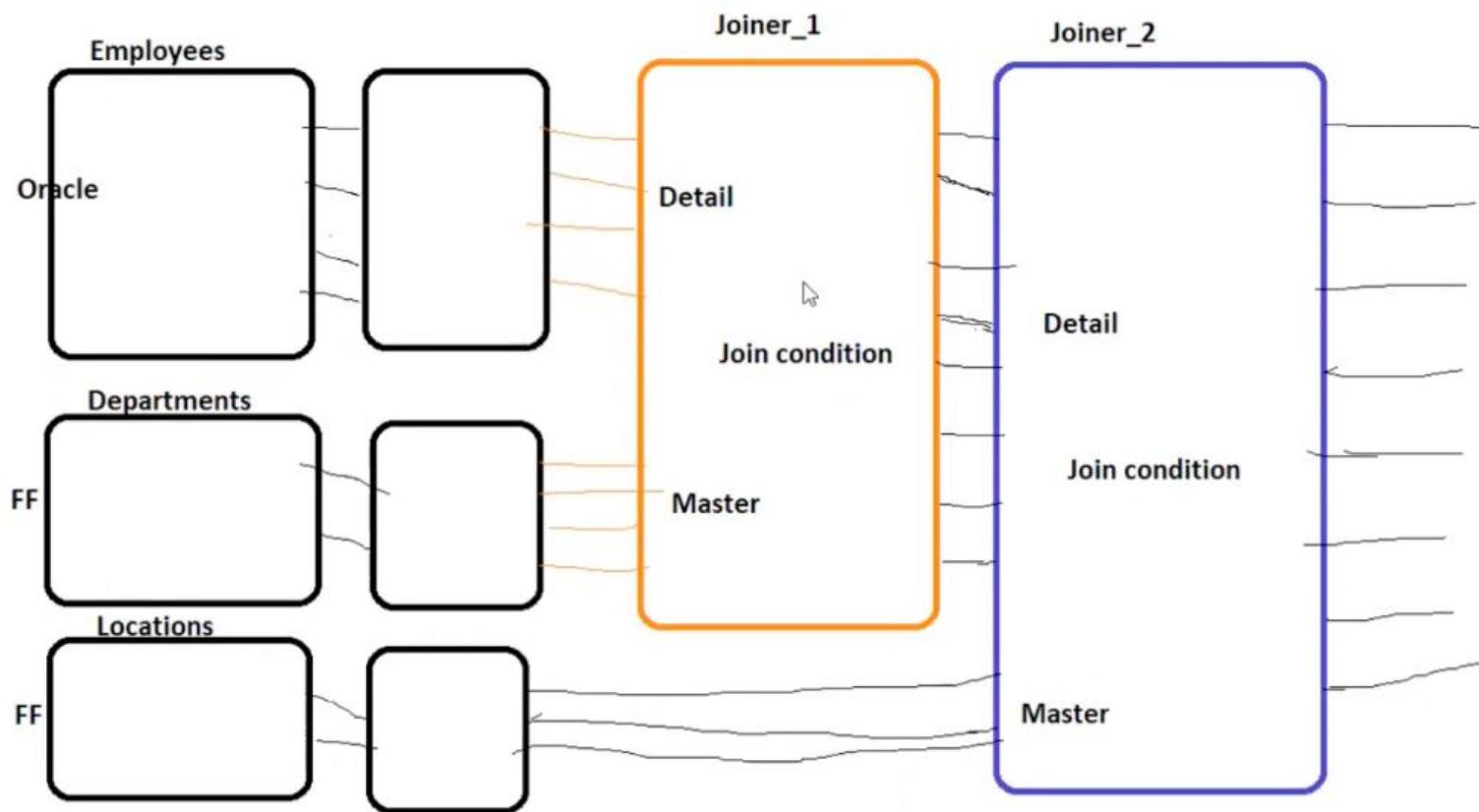




[See all photos](#)[Add to](#)

Edit & Create

Share



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*Transformation Notes - Notepad

File Edit Format View Help



5. Sorter Transformation:

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--An Active, Connected

SQL: Order by

```
select * from employees order by salary;  
select * from employees order by salary desc;  
select * from employees order by salary desc, hire_date;
```

Informatica: Sorter

Ln 177, Col 1

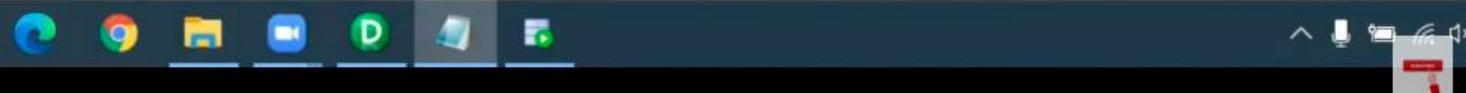
80%

Windows (CRLF)

UTF-8



Type here to search



*Transformation Notes - Notepad

File Edit Format View Help

6. Aggregator Transformation:

--An Active, connected

min()

max()

I

sum()

avg()

count()

Irrespective of number of record --> you will get only one record in output
--> last record will get aggregate value

Group by:

sum(salary) group by department_id

Properties:

sorted input: enable

Ln 245, Col 11

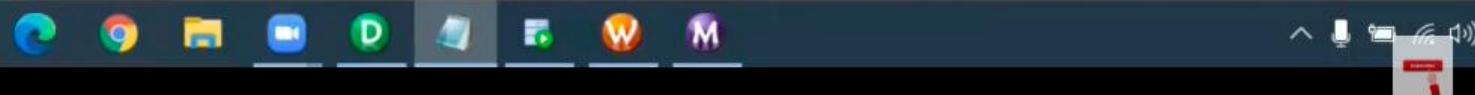
70%

Windows (CRLF)

UTF-8



Type here to search



*Transformation Notes - Notepad

File Edit Format View Help

avg()

count()

Irrespective of number of record --> you will get only one record in output
--> last record will get aggregate value

Group by:

```
sum(salary)      group by department_id
```

Properties:

sorted input: enable

Aggregator ==> Sorting + aggregation

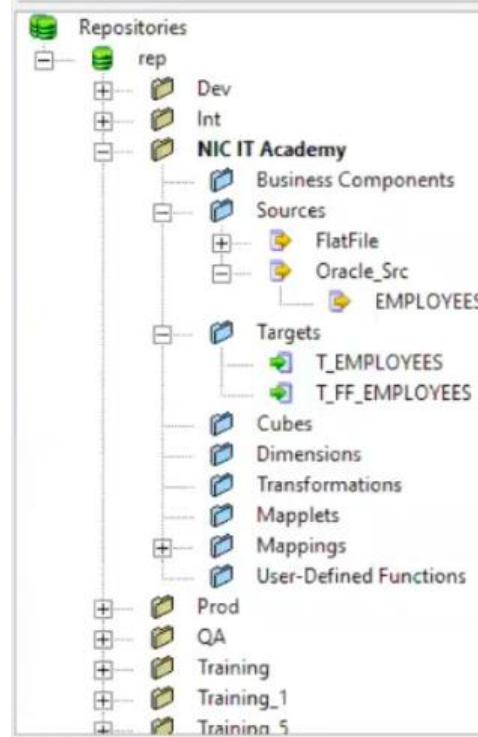
NiC IT Academy

The image shows the Windows 10 taskbar. On the left is the Start button. Next is a search bar with the placeholder "Type here to search". To the right are nine pinned app icons: Mail (blue circle), Chrome (red circle), File Explorer (yellow folder), Photos (green video camera), Microsoft Word (orange W), Microsoft Excel (green X), Microsoft Powerpoint (blue P), Microsoft Word (orange W), and Microsoft Word (orange W). On the far right are system icons for volume, battery, signal strength, and a small red notification badge.

D Informatica PowerCenter Designer - [Mapping Designer - NIC IT Academy - [rep]]

Repository Edit View Tools Layout Versioning Mappings Transformation Window Help

NIC IT Academy - [rep]



m_Aggregator_Transformation

Mapping Designer

SQ_EMPLOYEES Source Qualifier		
Name	Datatype	L
EMPLOYEE_ID	decimal	6
FIRST_NAME	nstring	20
LAST_NAME	nstring	25
EMAIL	nstring	25
PHONE_NUM...	nstring	20
HIRE_DATE	date/time	25
JOB_ID	nstring	10
SALARY	decimal	8
COMMISSION...	decimal	2
MANAGER_ID	decimal	6
DEPARTMEN...	decimal	4

AGGTRANS Aggregator		
Name	Expression	Group
EMPLOYEE_ID	EMPLOYEE_ID	
FIRST_NAME	FIRST_NAME	
LAST_NAME	LAST_NAME	
EMAIL	EMAIL	
PHONE_NUM...	PHONE_NUMB...	
HIRE_DATE	HIRE_DATE	
JOB_ID	JOB_ID	
SALARY	o_sum_SALARY	
COMMISSION...	COMMISSION...	
MANAGER_ID	MANAGER_ID	
DEPARTMEN...	DEPARTMENT...	

EMPLOYEES (Oracle) Target Definition		
K.	Name	Datatype
	EMPLOYEE_ID	number(p,s)
	FIRST_NAME	nvarchar2
	LAST_NAME	nvarchar2
	EMAIL	nvarchar2
	PHONE_NUMB...	nvarchar2
	HIRE_DATE	date
	JOB_ID	nvarchar2
	SALARY	number(p,s)
	COMMISSION...	number(p,s)
	MANAGER_ID	number(p,s)
	DEPARTMENT...	number(p,s)

***** Mapping m_Aggregator_Transformation is VALID *****
mapping m_Aggregator_Transformation inserted.

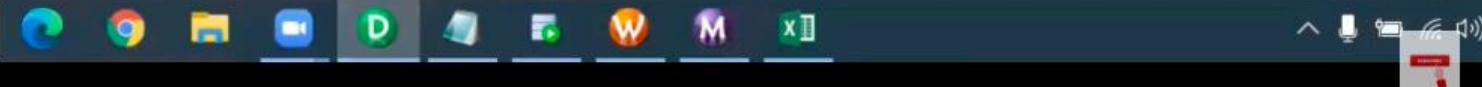
NiC IT Academy

Save Fetch Log Generate Validate Debugger Session Log Notifications

Ready



Type here to search



Oracle SQL Developer : CORE

File Edit View Navigate Run Source Team Tools Window Help

Connections HR CORE

Worksheet Query Builder

```
select * from t_employees;
```

Script Output Query Result

All Rows Fetched: 1 in 0.013 seconds

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPAR
1	206	William	Gietz	WGIETZ	515.123.8181	07-JUN-02	AC_ACCOUNT	774415	(null)	205	

Messages - Log

NiC IT Academy

Messages Logging Page

Type here to search

Line 1 Column 28 | Insert | Modified | Windows: C6

Windows Start button

Taskbar icons: File Explorer, Google Chrome, File Manager, Camera, Microsoft Edge, Microsoft Word, Microsoft Excel, Microsoft Powerpoint, Microsoft Word, Microsoft Excel.

7. Router Transformation:

- An Active, connected
 - single source pipeline to multiple pipeline
 - default group
 - multiple filter in single transformation
-



Type here to search



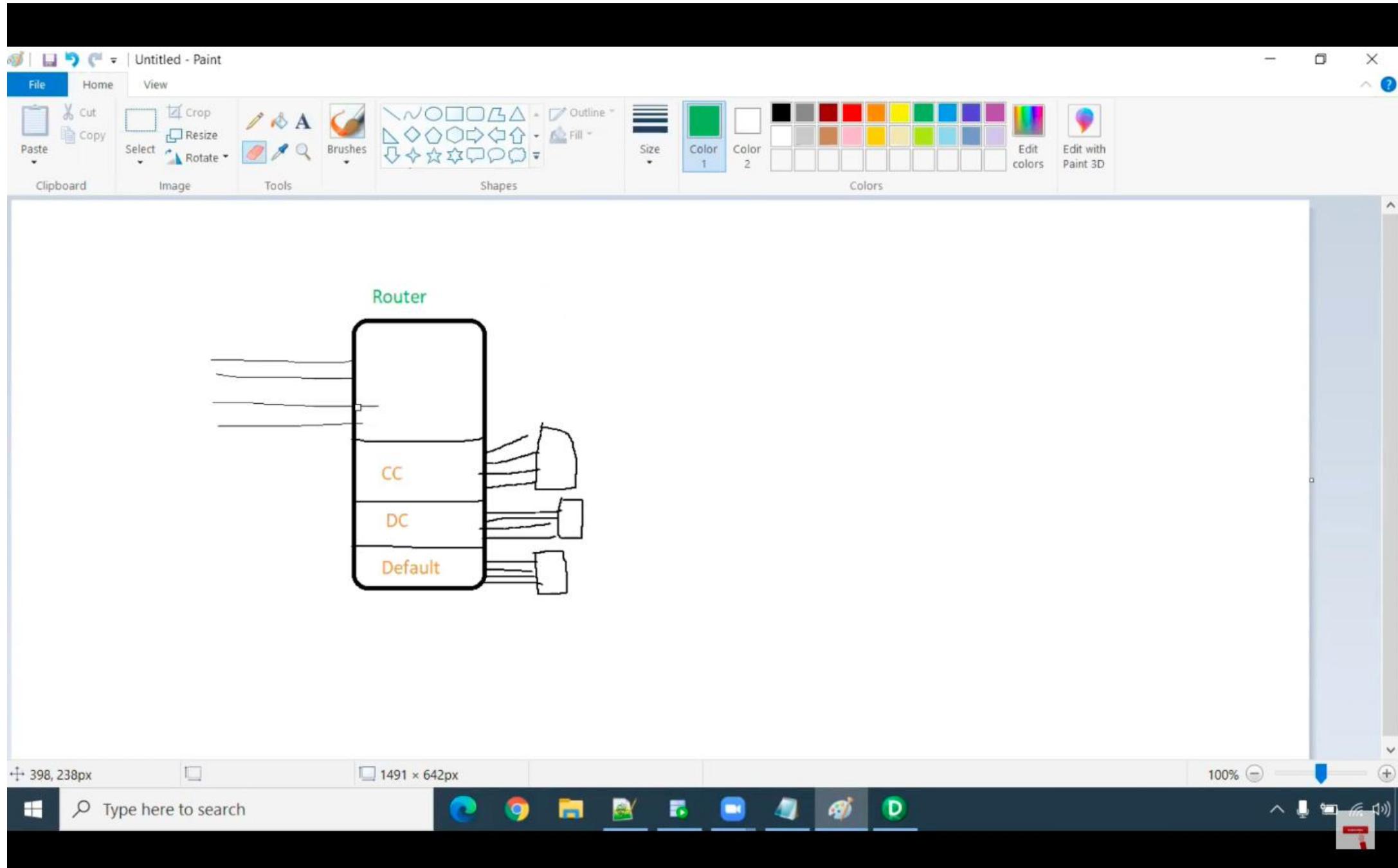
Ln 9, Col 6

100%

Windows (CRLF)

UTF-8





8. Rank Transformation:

NiC IT Academy

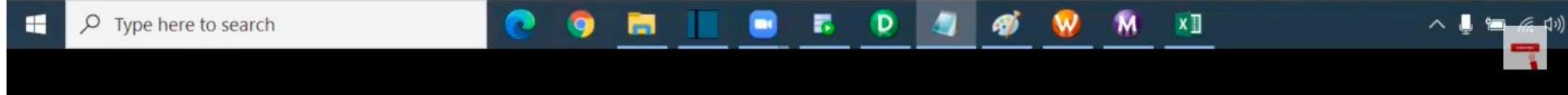
=====

-- An Active, connected

-- Rank on only one column

	input	output	rank	group by
salary	*	*	*	

department_id	*
---------------	---



department_id

*

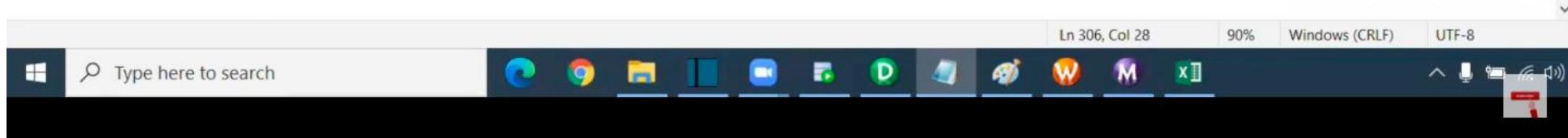
Properties:

=====

Top/Bottom: Top
Number of Rank: 5

NiC IT Academy

Can't do dense rank by using Rank transformation,
instead we can do by using expression transformation



Transformation Notes - Notepad

File Edit Format View Help

9. Sequence Generator:

```
=====
-- Passive, Connected
-- Auto increment numbers
```

Properties:

- ```

1. Start value: 10000000
2. increment by: 1
3. End value: 92142342353544454
4. current value: 10000000
5. cycle: enable/disable
6. Reset: enable/disable
7. Number cached values: 1000
```

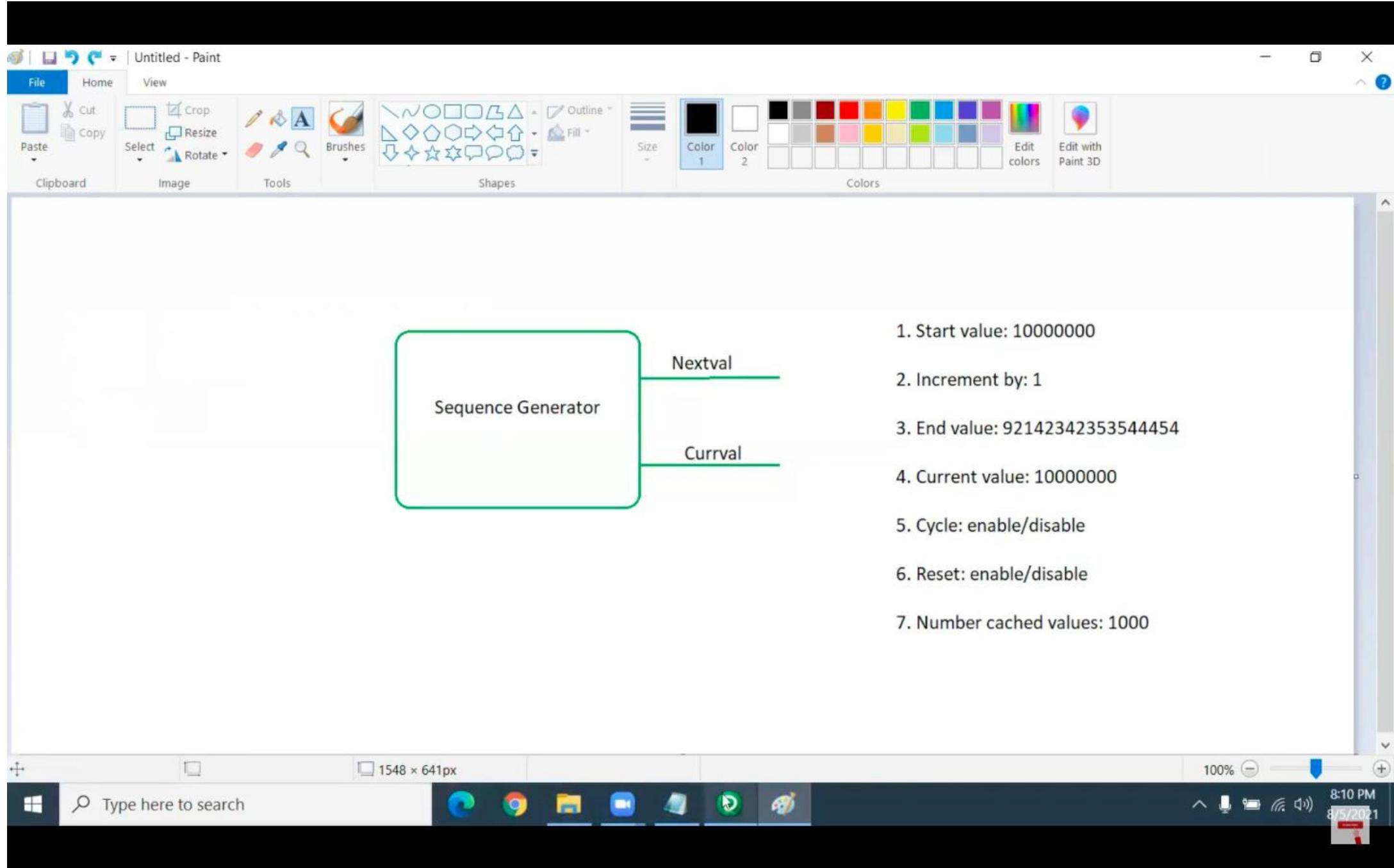
NiC IT Academy

10000000  
10000100

10000000  
10000200

1 4

Ln 343, Col 25 60% Windows (CRLF) UTF-8  
Type here to search 8:05 PM 8/5/2021



\*Transformation Notes - Notepad

File Edit Format View Help

## 10: Union Transformation:

---

-An Active, connected

same structured table

Heterogeneous source

NiC IT Academy

Infa ---> Union acts as Union ALL --> it will not remove duplicate  
Union ==> Union + Sorter(distinct)

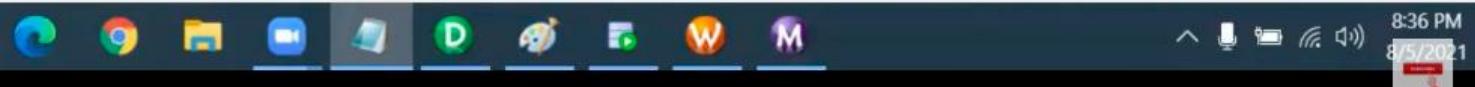
Exactly opposite to router

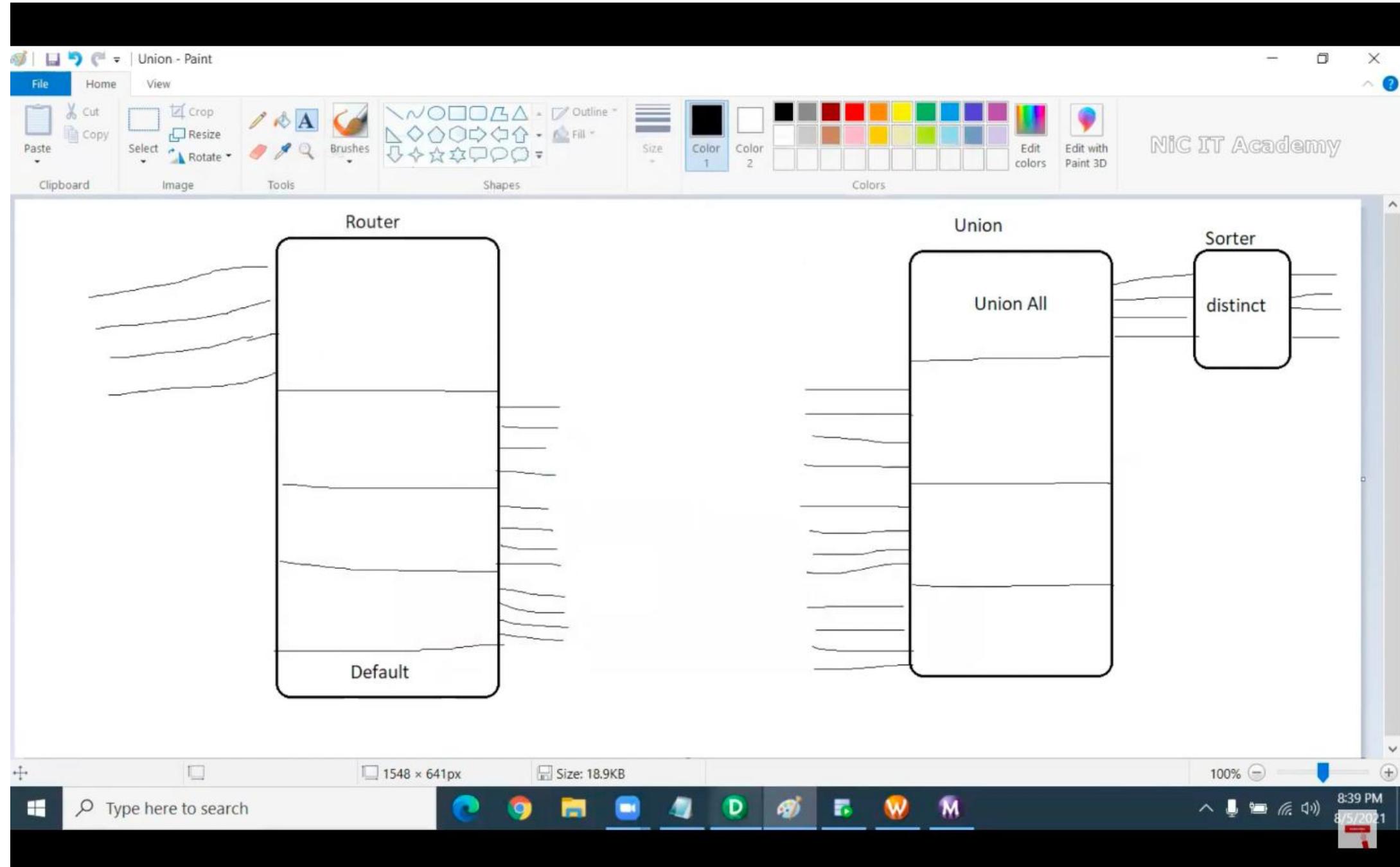
multiple pipeline input ---> Single pipeline output

---



Type here to search





## Day 7 - SET Operations - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW Sign in

Cut Copy Paste Format Painter Clipboard Calibri 11 A A Wrap Text General Conditional Format as Cell Merge & Center \$ % , 0.00 0.00 Insert Delete Format AutoSum Fill Clear Sort & Find & Filter Select

J10 : cust\_id

| A  | B | C | D | E | F | G | H | I | J | K | L | M |
|----|---|---|---|---|---|---|---|---|---|---|---|---|
| 9  |   |   |   |   |   |   |   |   |   |   |   |   |
| 10 |   |   |   |   |   |   |   |   |   |   |   |   |
| 11 |   |   |   |   |   |   |   |   |   |   |   |   |
| 12 |   |   |   |   |   |   |   |   |   |   |   |   |
| 13 |   |   |   |   |   |   |   |   |   |   |   |   |
| 14 |   |   |   |   |   |   |   |   |   |   |   |   |
| 15 |   |   |   |   |   |   |   |   |   |   |   |   |
| 16 |   |   |   |   |   |   |   |   |   |   |   |   |
| 17 |   |   |   |   |   |   |   |   |   |   |   |   |
| 18 |   |   |   |   |   |   |   |   |   |   |   |   |
| 19 |   |   |   |   |   |   |   |   |   |   |   |   |
| 20 |   |   |   |   |   |   |   |   |   |   |   |   |
| 21 |   |   |   |   |   |   |   |   |   |   |   |   |
| 22 |   |   |   |   |   |   |   |   |   |   |   |   |
| 23 |   |   |   |   |   |   |   |   |   |   |   |   |
| 24 |   |   |   |   |   |   |   |   |   |   |   |   |
| 25 |   |   |   |   |   |   |   |   |   |   |   |   |
| 26 |   |   |   |   |   |   |   |   |   |   |   |   |
| 27 |   |   |   |   |   |   |   |   |   |   |   |   |

Sheet1 Sheet2 Sheet3 How to find duplicate record How to delete duplicate record

AVERAGE: 28641783 COUNT: 12 SUM: 114567132

Type here to search

8:40 PM 8/5/2021

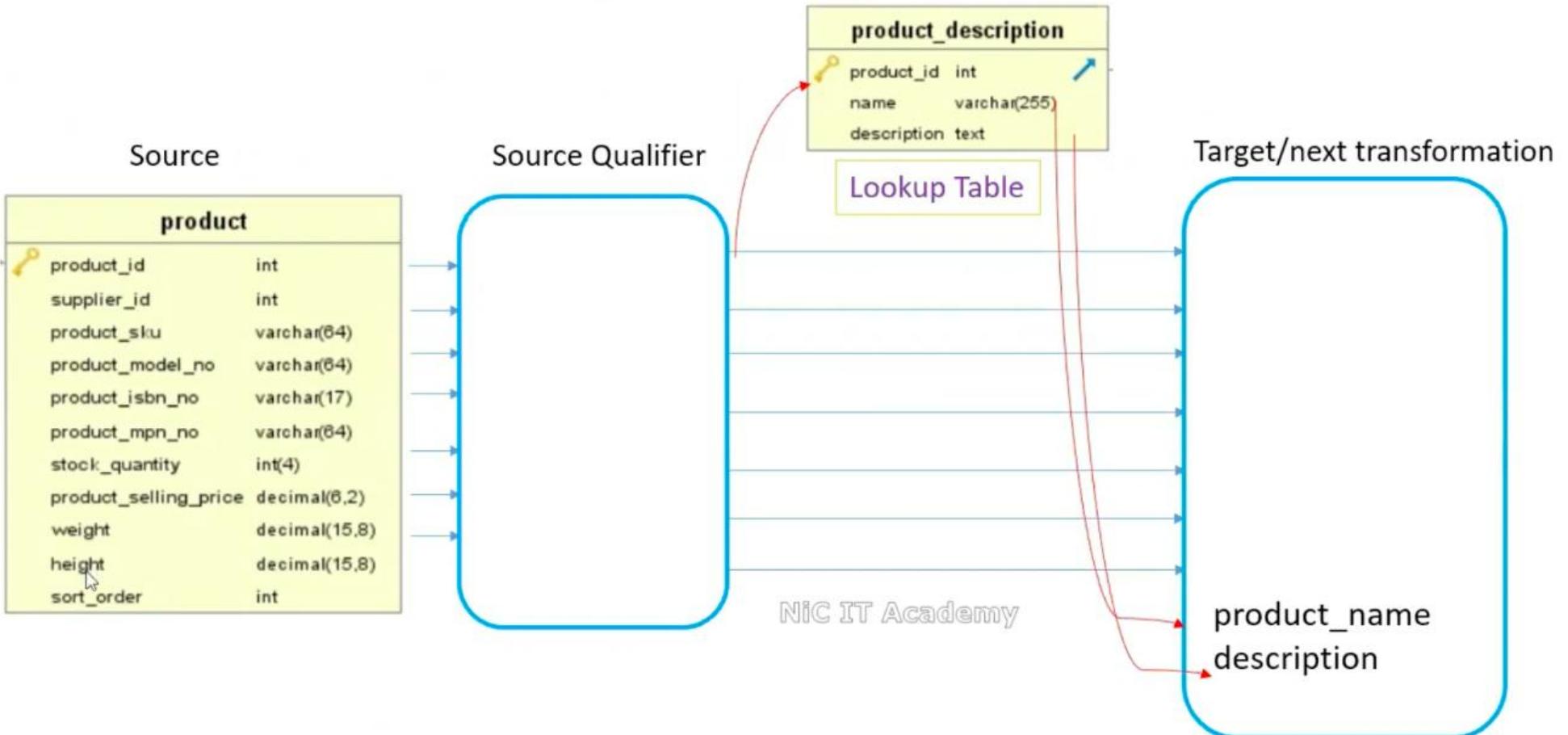
# Lookup transformation

- **Lookup transformation** is used to retrieve data based on a specified lookup condition.
- For example, you can use a Lookup transformation to retrieve values from a database table for codes used in source data
- Types of Lookup Transformation
  - **Connected Lookup**
  - **Unconnected lookup**

NiC IT Academy



# Connected Lookup Example



## 11. Lookup Transformation:

---

--An active, connected, unconnected

NIC IT Academy

### Connected lookup:

---

It will be in the pipeline

| input | output | lookup | return |
|-------|--------|--------|--------|
|-------|--------|--------|--------|

lookup sql override: by writing sql query we can restrict the data from  
lookup table itself

lookup filter:



Type here to search



It will be in the pipeline

input    output    lookup    return

I

lookup sql override: by writing sql query we can restrict the data from lookup table  
itself

NIC IT Academy

lookup filter:

can take multiple return port:

Lookup policy on multiple match:

Use Any value(default)

Use first value

Use last value

report error    - session failed



Type here to search



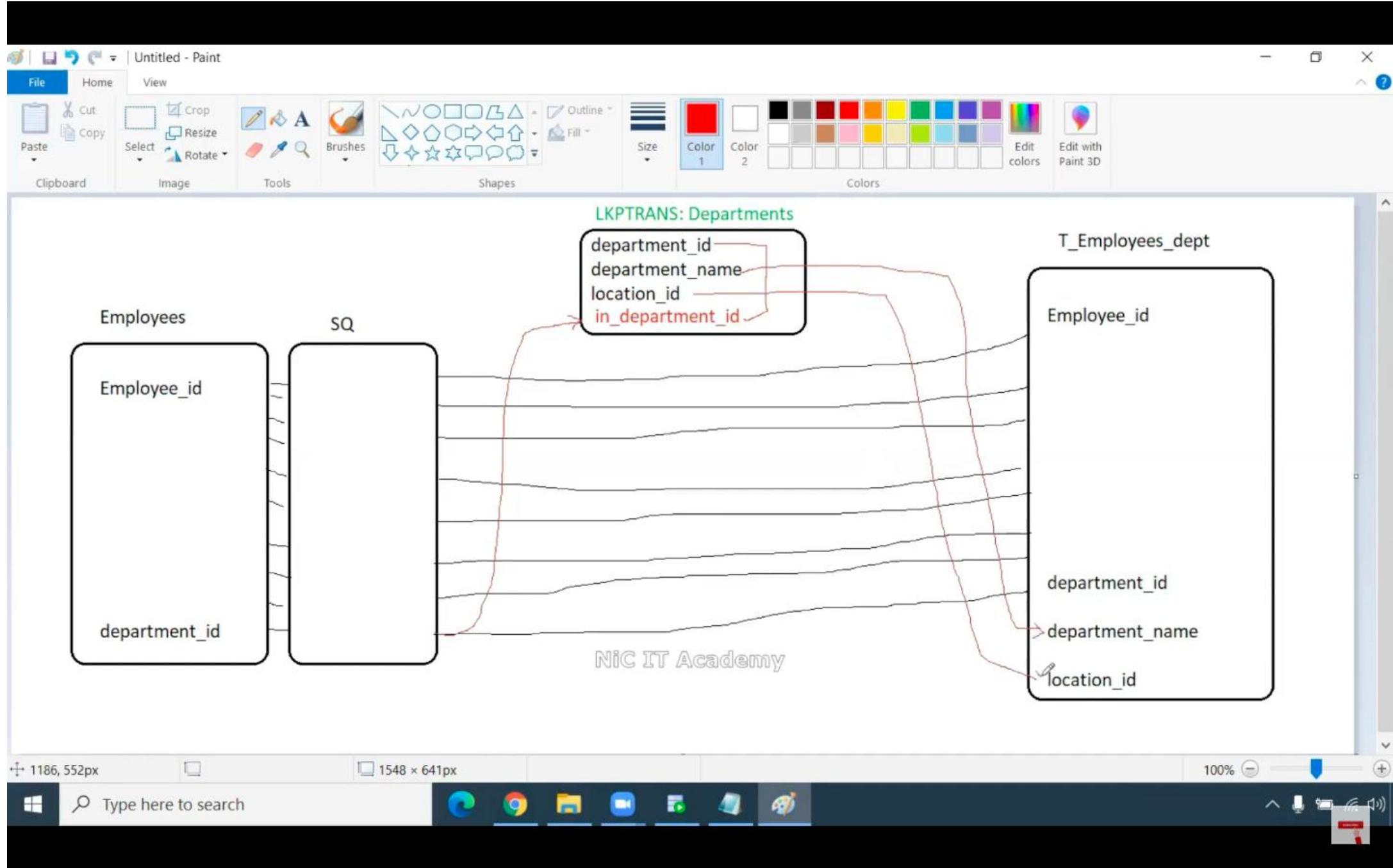
Ln 436, Col 66

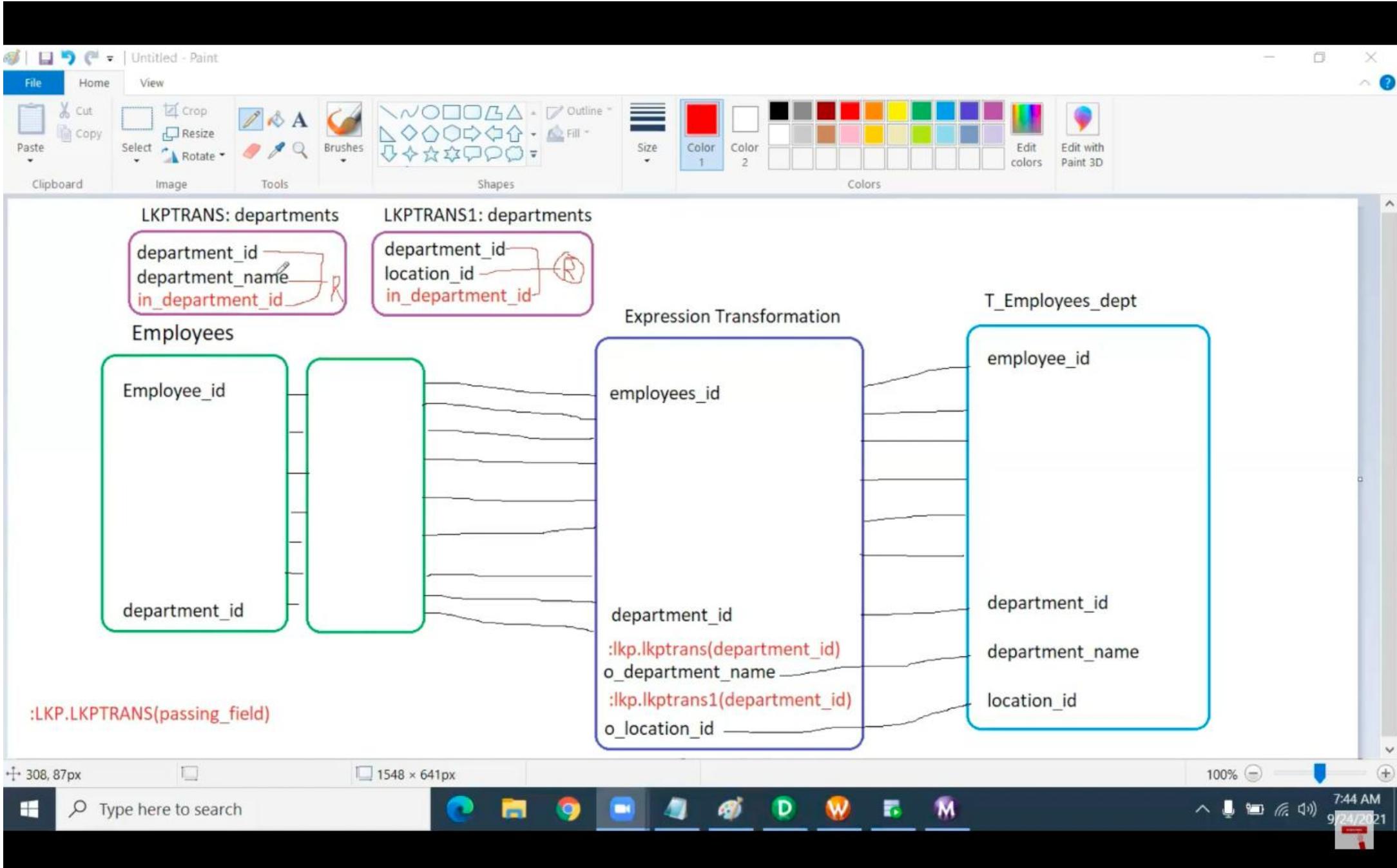
70%

Windows (CRLF)

UTF-8







Lookup Policy on multiple match

Source

20

Lookup Table

|    |           |
|----|-----------|
| 10 | HR        |
| 20 | Admin     |
| 30 | Insurance |
| 40 | Finance   |
| 20 | Sales     |

Use Any value(default)

Use first value

Use last value

report error - session failed

lookup import ----- return All values on multiple match

20 Admin

20 Sales

## 12. Update Strategy:

---

- An Active, Connected

dd - Data Driven

dd\_insert 0

dd\_update 1

dd\_delete 2 (instead of delete, we will soft delete

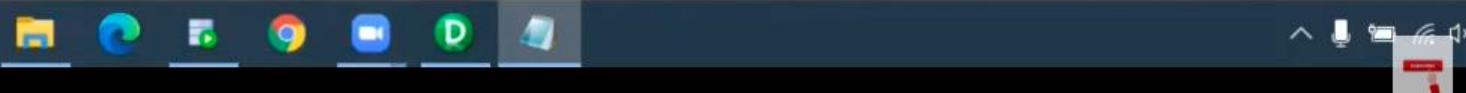
-- Inactive)

dd\_reject 3

Target ---> Primary key



Type here to search



upd strategy - Excel

CUSTOMER

DIM\_CUSTOMER

|   | cust_id | cust_name | email            | mobile    | city      | country | insert_flag | update_flag | cust_id(PK) | cust_name | email | mobile | city |
|---|---------|-----------|------------------|-----------|-----------|---------|-------------|-------------|-------------|-----------|-------|--------|------|
| 6 | 1001    | Ramesh    | ramesh@gmail.com | 7.879E+09 | Chennai   | India   |             |             |             |           |       |        |      |
| 7 | 1002    | Vijay     | vijay@gmail.com  | 9.032E+09 | Bangaluru | India   |             |             |             |           |       |        |      |
| 8 | 1003    | Ajith     | ajith@gmail.com  | 2.432E+09 | Mumbai    | India   |             |             |             |           |       |        |      |
| 9 | 1004    | Vishal    | vishal@yahoo.com | 7.879E+09 | Hydabad   | India   |             |             |             |           |       |        |      |

insert\_flag IIF(ISNULL(lkp\_cust\_id),true,false)

update\_flag IIF(cust\_id=lkp\_cust\_id AND cust\_name!=lkp\_cust\_name OR email!=lkp\_email,true,false)

Update strategy

READY

AVERAGE: 3402796055 COUNT: 16 SUM: 27222368442

Type here to search

upd strategy - Excel

CUSTOMER

|    | A                                                      | B         | C                                                                                    | D         | E         | F       | G           | H           | I           | J | K              | L     | M      | N    | O |  |
|----|--------------------------------------------------------|-----------|--------------------------------------------------------------------------------------|-----------|-----------|---------|-------------|-------------|-------------|---|----------------|-------|--------|------|---|--|
| 1  |                                                        |           |                                                                                      |           |           |         |             |             |             |   | DIM_CUSTOMER   |       |        |      |   |  |
| 2  | 1001                                                   |           |                                                                                      |           |           |         |             |             |             |   | null           |       |        |      |   |  |
| 3  |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 4  |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 5  | cust_id                                                | cust_name | email                                                                                | mobile    | city      | country | insert_flag | update_flag | cust_id(PK) |   | cust_name      | email | mobile | city |   |  |
| 6  | 1001                                                   | Ramesh    | ramesh@gmail.com                                                                     | 7.879E+09 | Chennai   | India   | TRUE        | FALSE       |             |   |                |       |        |      |   |  |
| 7  | 1002                                                   | Vijay     | vijay@gmail.com                                                                      | 9.032E+09 | Bangaluru | India   | TRUE        | FALSE       |             |   |                |       |        |      |   |  |
| 8  | 1003                                                   | Ajith     | ajith@gmail.com                                                                      | 2.432E+09 | Mumbai    | India   | TRUE        | FALSE       |             |   |                |       |        |      |   |  |
| 9  | 1004                                                   | Vishal    | vishal@yahoo.com                                                                     | 7.879E+09 | Hydrabad  | India   | TRUE        | FALSE       |             |   |                |       |        |      |   |  |
| 10 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 11 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 12 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 13 |                                                        |           |                                                                                      |           |           |         |             |             |             |   | NiC IT Academy |       |        |      |   |  |
| 14 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 15 | insert_flag                                            |           | IIF(ISNULL(lkp_cust_id),true,false)                                                  |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 16 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 17 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 18 | update_flag                                            |           | IIF(cust_id=lkp_cust_id AND cust_name!=lkp_cust_name OR email!=lkp_email,true,false) |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 19 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
| 20 |                                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
|    | Update strategy                                        |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
|    | READY                                                  |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
|    | COUNT: 4                                               |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
|    | Type here to search                                    |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
|    | File Home Insert Page Layout Formulas Data Review View |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |
|    | Sign in                                                |           |                                                                                      |           |           |         |             |             |             |   |                |       |        |      |   |  |

NiC IT Academy

upd strategy - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW Sign in

Cut Copy Paste Format Painter Clipboard Font Alignment Number Styles Cells Editing

K6 : X ✓ fx 1001

|    | A              | B         | C                                                                                    | D         | E         | F       | G           | H           | I | J | K            | L         | M                | N         | O         |
|----|----------------|-----------|--------------------------------------------------------------------------------------|-----------|-----------|---------|-------------|-------------|---|---|--------------|-----------|------------------|-----------|-----------|
| 1  | CUSTOMER       |           |                                                                                      |           |           |         |             |             |   |   | DIM_CUSTOMER |           |                  |           |           |
| 2  |                |           |                                                                                      |           |           |         |             |             |   |   | 1001         | null      |                  |           |           |
| 3  | cust_id        | cust_name | email                                                                                | mobile    | city      | country | insert_flag | update_flag |   |   | cust_id(PK)  | cust_name | email            | mobile    | city      |
| 6  | 1001           | Ramesh    | ramesh@gmail.com                                                                     | 7.879E+09 | Chennai   | India   | TRUE        | FALSE       |   |   | 1001         | Ramesh    | ramesh@gmail.com | 7.879E+09 | Chennai   |
| 7  | 1002           | Vijay     | vijay@gmail.com                                                                      | 9.032E+09 | Bangaluru | India   | TRUE        | FALSE       |   |   | 1002         | Vijay     | vijay@gmail.com  | 9.032E+09 | Bangaluru |
| 8  | 1003           | Ajith     | ajith@gmail.com                                                                      | 2.432E+09 | Mumbai    | India   | TRUE        | FALSE       |   |   | 1003         | Ajith     | ajith@gmail.com  | 2.432E+09 | Mumbai    |
| 9  | 1004           | Vishal    | vishal@yahoo.com                                                                     | 7.879E+09 | Hydrabad  | India   | TRUE        | FALSE       |   |   | 1004         | Vishal    | vishal@yahoo.com | 7.879E+09 | Hydrabad  |
| 10 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 11 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 12 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 13 | NiC IT Academy |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 14 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 15 | insert_flag    |           | IIF(ISNULL(lkp_cust_id),true,false)                                                  |           |           |         |             |             |   |   |              |           |                  |           |           |
| 16 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 17 | update_flag    |           | IIF(cust_id=lkp_cust_id AND cust_name!=lkp_cust_name OR email!=lkp_email,true,false) |           |           |         |             |             |   |   |              |           |                  |           |           |
| 18 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 19 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |
| 20 |                |           |                                                                                      |           |           |         |             |             |   |   |              |           |                  |           |           |

Update strategy

Select destination and press ENTER or choose Paste

AVERAGE: 3402796055 COUNT: 24 SUM: 27222368442

Type here to search





upd strategy - Excel

Sign in

**FILE** **HOME** **INSERT** **PAGE LAYOUT** **FORMULAS** **DATA** **REVIEW** **VIEW**

Cut **Font** **Wrap Text** **General** **Conditional Formatting** **Insert** **AutoSum**  
 Copy **Format Painter** **B I U** **Merge & Center** **Format as Table** **Delete** **Fill**  
 Paste **Font** **Font** **Number** **Cell Styles** **Cells** **Sort & Find & Filter** **Select**

Clipboard Alignment Number Styles Cells Editing

I7 : TRUE

| A  | B                                                 | C         | D                | E           | F         | G       | H                                                                                    | I           | J                                | K         | L         | M          | N         | O       | P | Q |  |  |
|----|---------------------------------------------------|-----------|------------------|-------------|-----------|---------|--------------------------------------------------------------------------------------|-------------|----------------------------------|-----------|-----------|------------|-----------|---------|---|---|--|--|
| 1  | CUSTOMER                                          |           |                  |             |           |         |                                                                                      |             | DIM_CUSTOMER                     |           |           |            |           |         |   |   |  |  |
| 2  |                                                   |           |                  |             |           |         |                                                                                      |             | 1001                             | null      |           |            |           |         |   |   |  |  |
| 3  | cust_id                                           | cust_name | email            | mobile      | city      | country | insert_flag                                                                          | update_flag | cust_id(PK)                      | cust_name | email     | mobile     | city      | country |   |   |  |  |
| 4  | 1001                                              | Ramesh    | ramesh@gmail.com | 7878787878  | Chennai   | India   | FALSE                                                                                | FALSE       | 1001                             | Ramesh    | ramesh@g  | 7878787878 | Chennai   | India   |   |   |  |  |
| 5  | 1002                                              | Vijay     | vijay@gmail.com  | 8934545943  | Bangaluru | India   | FALSE                                                                                | TRUE        | 1002                             | Vijay     | vijay@gm  | 9032434343 | Bangaluru | India   |   |   |  |  |
| 6  | 1003                                              | Ajith     | ajith@gmail.com  | 2432434333  | Mumbai    | India   | FALSE                                                                                | FALSE       | 1003                             | Ajith     | ajith@gm  | 2432434333 | Mumbai    | India   |   |   |  |  |
| 7  | 1004                                              | Vishal    | vishal@yahoo.com | 7878707878  | Hydrabad  | India   | FALSE                                                                                | FALSE       | 1004                             | Vishal    | vishal@ya | 7878707878 | Hydrabad  | India   |   |   |  |  |
| 8  |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 9  |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 10 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 11 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 12 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 13 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 14 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 15 |                                                   |           | insert_flag      |             |           |         | IIF(ISNULL(lkp_cust_id),true,fal                                                     | e)          |                                  |           |           |            |           |         |   |   |  |  |
| 16 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 17 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 18 |                                                   |           |                  | update_flag |           |         | IIF(cust_id=lkp_cust_id AND cust_name!=lkp_cust_name OR email!=lkp_email,true,false) |             |                                  |           |           |            |           |         |   |   |  |  |
| 19 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 20 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 21 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 22 |                                                   |           |                  |             |           |         |                                                                                      |             |                                  |           |           |            |           |         |   |   |  |  |
| 23 | CREATE TABLE HR.S_CUSTOMER_UPD<br>Update strategy |           |                  |             |           |         |                                                                                      |             | CREATE TABLE CORE.T_CUSTOMER_UPD |           |           |            |           |         |   |   |  |  |

READY Type here to search

## Java Transformation:

The Java transformation provides a simple, native programming interface to define transformation functionality with the Java programming language.

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### Active or Passive?

If active, the transformation can generate more than one output row for each input row.

If passive, the transformation generates one output row for each input row.



## Parameter and Variables:

Nic IT Academy

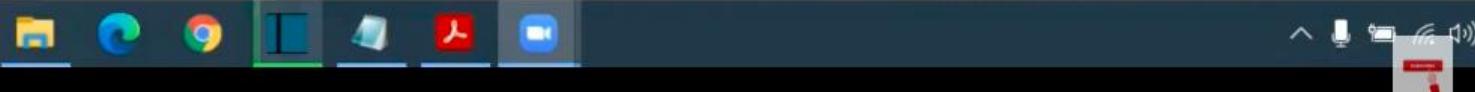
=====

In this video

- Parameters and Variable
- Parameter file overview and significance in PowerCenter
- Parameter file structure
- Configuring the parameter files in workflow and session
- Example



Type here to search



\*Untitled - Notepad

File Edit Format View Help

## Parameter and Variable:

---

\$\$ - Mapping level parameter

\$ - Session level

\$PMSourceFileDir\ =

Parameter - it will not change the value during run time

\$\$salary = 10000

Variable - it may change the value during run time

\$\$count = \$\$count+1

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Ln 19, Col 1

80%

Windows (CRLF)

UTF-8



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5:38 PM  
8/2/2021

## Edit Transformations

Transformation | Ports Properties Sources Metadata Extensions

SQL Editor - SQ\_EMPLOYEES (Expression)

|                  | Ports          | Variables |
|------------------|----------------|-----------|
| EMPLOYEES        |                |           |
| ↳ EMPLOYEE_ID    | EMPLOYEE_ID    |           |
| ↳ FIRST_NAME     | FIRST_NAME     |           |
| ↳ LAST_NAME      | LAST_NAME      |           |
| ↳ EMAIL          | EMAIL          |           |
| ↳ PHONE_NUMBER   | PHONE_NUMBER   |           |
| ↳ HIRE_DATE      | HIRE_DATE      |           |
| ↳ JOB_ID         | JOB_ID         |           |
| ↳ SALARY         | SALARY         |           |
| ↳ COMMISSION_PCT | COMMISSION_PCT |           |
| ↳ MANAGER_ID     | MANAGER_ID     |           |
| ↳ DEPARTMENT_ID  | DEPARTMENT_ID  |           |

Instance Name: EMPLOYEES

Transformation Type: Source Definition

```
SELECT EMPLOYEES.EMPLOYEE_ID, EMPLOYEES.FIRST_NAME,
EMPLOYEES.LAST_NAME, EMPLOYEES.EMAIL,
EMPLOYEES.PHONE_NUMBER, EMPLOYEES.HIRE_DATE,
EMPLOYEES.JOB_ID, EMPLOYEES.SALARY,
EMPLOYEES.COMMISSION_PCT, EMPLOYEES.MANAGER_ID,
EMPLOYEES.DEPARTMENT_ID
FROM
EMPLOYEES
$WHERE
```

Connect to database:

ODBC data source: Excel Files (Microsoft Excel Driver (\*.xls, \*.

 Use Kerberos Authentication

Username:

Password:

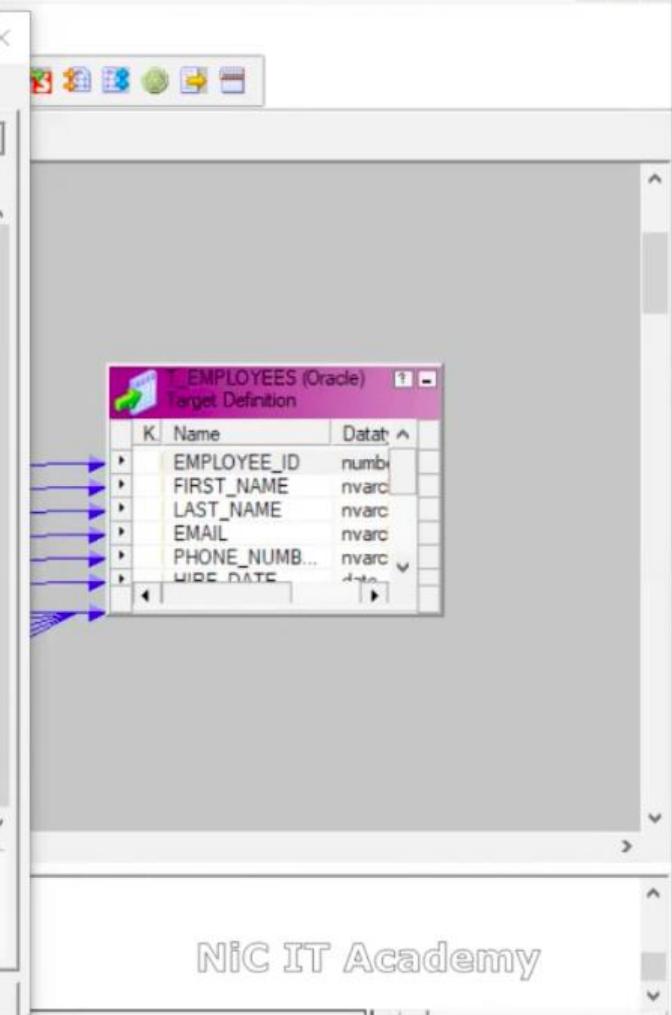
OK

Cancel

Generate SQL

Validate

Help



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Ready



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D Informatica PowerCenter Designer - [Mapping Designer - Training\_5 - [rep]]

Repository Edit View Tools Layout Versioning Mappings Transformation Window Help

Training\_1

Training\_5

- Business Components
- Sources
  - FlatFile
  - Oracle\_Src
    - DEPARTMENTS
    - EMPLOYEES
    - EMPLOYEES\_1
    - EMPLOYEES\_COUNTRIES
    - LOCATIONS
    - S\_CUSTOMER\_SCD
    - S\_CUSTOMER\_UPD
    - S\_SALES\_NRM
    - S\_STUDENT\_EPOCH
- Targets
  - T\_CUSTOMER\_SCD\_DATE
  - T\_CUSTOMER\_UPD
  - T\_EMPLOYEES
  - T\_EMPLOYEES\_DEFAULT
  - T\_EMPLOYEES\_DEPT
  - T\_EMPLOYEES\_DEPT\_LOC
  - T EMPLOYEES INDIA

Training\_5 - [rep]

Create... Copy As... Edit... Close Delete Validate Dependencies... Propagate Attributes... Expand/UnExpand... Compare... Parameters and Variables... Metadata Extensions... Target Load Plan... Stored Procedures Plan... Generate Workflow... Create Web Service Mapping Import Mapping Template... Mapping Template Wizards Wizards Debugger

SO SQL APP HQ RMS CDC SQL U

EMPLOYEES Source Qualifier

| Name          | Datatype  |
|---------------|-----------|
| EMPLOYEE_ID   | decimal   |
| FIRST_NAME    | nstring   |
| LAST_NAME     | nstring   |
| EMAIL         | nstring   |
| PHONE_NUM...  | nstring   |
| HIRE_DATE     | date/time |
| JOB_ID        | nstring   |
| SALARY        | decimal   |
| COMMISSION... | decimal   |

EMPLOYEES (Oracle) Target Definition

| K | Name          | Datatype |
|---|---------------|----------|
|   | EMPLOYEE_ID   | number   |
|   | FIRST_NAME    | nvarchar |
|   | LAST_NAME     | nvarchar |
|   | EMAIL         | nvarchar |
|   | PHONE_NUMB... | nvarchar |
|   | HIRE_DATE     | date     |

\*\*\*\*\* Mapping m\_Parameter is VALID \*\*\*\*\*  
mapping m\_Parameter inserted.

NiC IT Academy

Save Fetch Log Generate Validate Debugger Session Log Notifications

Edit variables for the current mapping/mapplet

Type here to search

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```
graph LR; SQ[SO EMPLOYEES Source Qualifier] --> T[EMPLOYEES Oracle Target Definition];
```

D Informatica PowerCenter Designer - [Mapping Designer - Training\_5 - [rep]]

Repository Edit View Tools Layout Versioning Mappings Transformation Window Help

Training\_5 - [rep]

R W M f(x) P W SQL XML RPP HQ RMG CDC U SQL U G D

Training\_1

Training\_5

Business Components

Sources

FlatFile

Oracle\_Src

- DEPARTMENTS
- EMPLOYEES
- EMPLOYEES\_1
- EMPLOYEES\_COUNTRIES
- LOCATIONS
- S\_CUSTOMER\_SCD
- S\_CUSTOMER\_UPD
- S\_SALES\_NRM
- S\_STUDENT\_EPOCH

Targets

- T\_CUSTOMER\_SCD\_DATE
- T\_CUSTOMER\_UPD
- T\_EMPLOYEES
- T\_EMPLOYEES\_DEFAULT
- T\_EMPLOYEES\_DEPT
- T\_EMPLOYEES\_DEPT\_LOC
- T EMPLOYEES INDIA

Mapping m\_Parameter

Declare Parameters and Variables

Declare the parameters and variables you want to use in the mapping or mapplet.  
A parameter represents a constant value defined before mapping run.  
A variable represents a value that can be changed during mapping run.

Add a new variable to this table.

| Name         | Type    | Datatype | Prec | Scale | Aggregation |
|--------------|---------|----------|------|-------|-------------|
| EMPLOYEE_ID  | number  | number   | 10   | 0     |             |
| FIRST_NAME   | varchar | varchar  | 50   | 0     |             |
| LAST_NAME    | varchar | varchar  | 50   | 0     |             |
| EMAIL        | varchar | varchar  | 50   | 0     |             |
| PHONE_NUMBER | varchar | varchar  | 50   | 0     |             |
| HIRE_DATE    | date    | date     | 10   | 0     |             |

Initial value:

Description:

OK Cancel Help

EMPLOYEES (Oracle) Target Definition

NiC IT Academy

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Ready

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Training\_5 - [rep]

R W M f(x) P W SQ HTML APP HQ RMS CDC SQL U

Training\_1

Training\_5

Business Components

Sources

FlatFile

Oracle\_Src

- DEPARTMENTS
- EMPLOYEES
- EMPLOYEES\_1
- EMPLOYEES\_COUNTRIES
- LOCATIONS
- S\_CUSTOMER\_SCD
- S\_CUSTOMER\_UPD
- S\_SALES\_NRM
- S\_STUDENT\_EPOCH

Targets

- T\_CUSTOMER\_SCD\_DATE
- T\_CUSTOMER\_UPD
- T\_EMPLOYEES
- T\_EMPLOYEES\_DEFAULT
- T\_EMPLOYEES\_DEPT
- T\_EMPLOYEES\_DEPT\_LOC
- T EMPLOYEES INDIA

Mapping m\_Parameter

Declare Parameters and Variables

Declare the parameters and variables you want to use in the mapping or mapplet. A parameter represents a constant value defined before mapping run. A variable represents a value that can be changed during mapping run.

| Name    | Type     | Datatype | Prec | Scale | Aggregation | IsExprVar |
|---------|----------|----------|------|-------|-------------|-----------|
| SSWHERE | Variable | string   | 10   | 0     | Max         | FALSE     |

Initial value:

Description:

OK Cancel Help

EMPLOYEES (Oracle) Target Definition

| K            | Name     | Datatype |
|--------------|----------|----------|
| EMPLOYEE_ID  | number   |          |
| FIRST_NAME   | nvarchar |          |
| LAST_NAME    | nvarchar |          |
| EMAIL        | nvarchar |          |
| PHONE_NUMBER | nvarchar |          |
| HIRE_DATE    | date     |          |

\*\*\*\*\* Mapping m\_Parameter is VALID \*\*\*\*\*  
mapping m\_Parameter inserted.

Save Fetch Log Generate Validate Debugger Session Log Notifications

Ready

Type here to search

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Repository Edit View Tools Layout Versioning Mappings Transformation Window Help

Training\_5 - [rep]

R W M f(x) P W SQ HTML APP HQ RMS CDC SQL U

Training\_1

Training\_5

Business Components

Sources

FlatFile

Oracle\_Src

- DEPARTMENTS
- EMPLOYEES
- EMPLOYEES\_1
- EMPLOYEES\_COUNTRIES
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Targets

- T\_CUSTOMER\_SCD\_DATE
- T\_CUSTOMER\_UPD
- T\_EMPLOYEES
- T\_EMPLOYEES\_DEFAULT
- T\_EMPLOYEES\_DEPT
- T\_EMPLOYEES\_DEPT\_LOC
- T EMPLOYEES INDIA

Mapping m\_Parameter

Declare Parameters and Variables

Declare the parameters and variables you want to use in the mapping or mapplet. A parameter represents a constant value defined before mapping run. A variable represents a value that can be changed during mapping run.

| Name    | Type  | Datatype | Prec | Scale | Aggregation | IsExprVar |
|---------|-------|----------|------|-------|-------------|-----------|
| SSWHERE | Param | string   | 10   | 0     |             | FALSE     |

Initial value:

Description:

OK Cancel Help

EMPLOYEES (Oracle) Target Definition

| K | Name         | Datatype |
|---|--------------|----------|
|   | EMPLOYEE_ID  | number   |
|   | FIRST_NAME   | nvarchar |
|   | LAST_NAME    | nvarchar |
|   | EMAIL        | nvarchar |
|   | PHONE_NUMBER | nvarchar |
|   | HIRE_DATE    | datetime |

\*\*\*\*\* Mapping m\_Parameter is VALID \*\*\*\*\*  
mapping m\_Parameter inserted.

NiC IT Academy

Save Fetch Log Generate Validate Debugger Session Log Notifications

Ready

Type here to search

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Repository Edit View Tools Layout Versioning Mappings Transformation Window Help

Training\_5 - [rep]

R W M f(x) P W SQ XML APP HQ RMG CDC SQL U

Training\_1

Training\_5

Business Components

Sources

FlatFile

Oracle\_Src

- DEPARTMENTS
- EMPLOYEES
- EMPLOYEES\_1
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- S\_STUDENT\_EPOCH

Targets

- T\_CUSTOMER\_SCD\_DATE
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- T\_EMPLOYEES
- T\_EMPLOYEES\_DEFAULT
- T\_EMPLOYEES\_DEPT
- T\_EMPLOYEES\_DEPT\_LOC
- T EMPLOYEES INDIA

Mapping m\_Parameter

Declare Parameters and Variables

Declare the parameters and variables you want to use in the mapping or mapplet.  
A parameter represents a constant value defined before mapping run.  
A variable represents a value that can be changed during mapping run.

| Name    | Type     | Datatype | Prec | Scale | Aggregation | IsExprVar |
|---------|----------|----------|------|-------|-------------|-----------|
| SSWHERE | Param... | string   | 1... | 0     |             | TRUE      |

Initial value:

Description:

OK Cancel Help

EMPLOYEES (Oracle) Target Definition

| K | Name         | Datatypes |
|---|--------------|-----------|
|   | EMPLOYEE_ID  | number    |
|   | FIRST_NAME   | nvarchar  |
|   | LAST_NAME    | nvarchar  |
|   | EMAIL        | nvarchar  |
|   | PHONE_NUMBER | nvarchar  |
|   | HIRE_DATE    | datetime  |

\*\*\*\*\* Mapping m\_Parameter is VALID \*\*\*\*\*  
mapping m\_Parameter inserted.

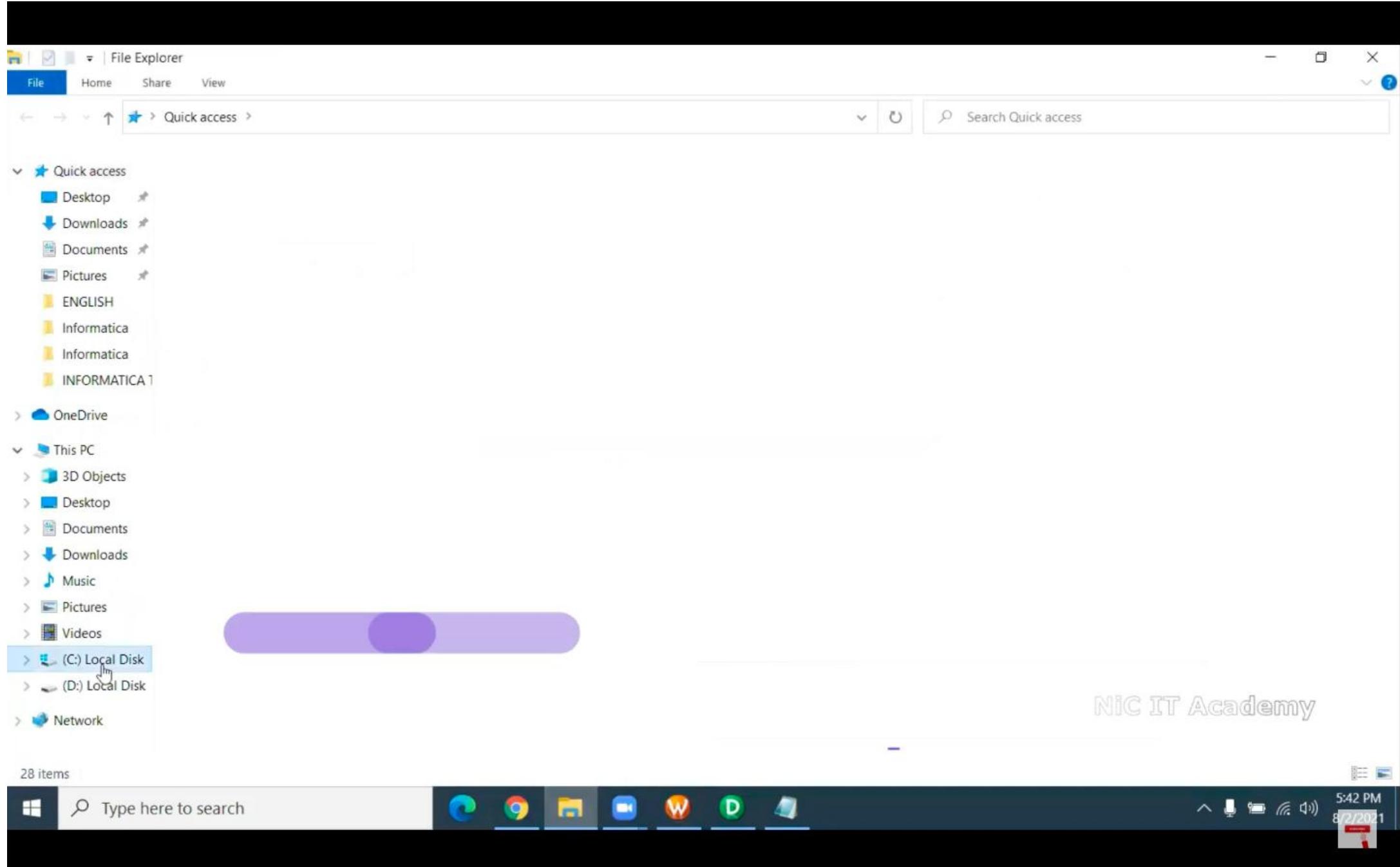
NiC IT Academy

Save Fetch Log Generate Validate Debugger Session Log Notifications

Ready

Type here to search

5:41 PM 8/2/2021



File Home Share View Manage (C:) Local Disk

← → ⌂ ⌃ ⌄ This PC > (C:) Local Disk >

Search (C:) Local Disk

| Name                             | Date modified      | Type               | Size       |
|----------------------------------|--------------------|--------------------|------------|
| ADE                              | 5/22/2021 12:28 PM | File folder        |            |
| app                              | 5/22/2021 12:11 PM | File folder        |            |
| Informatica                      | 7/27/2021 5:48 PM  | File folder        |            |
| Intel                            | 3/10/2021 1:09 AM  | File folder        |            |
| oraclexe                         | 6/8/2021 12:21 AM  | File folder        |            |
| PerfLogs                         | 3/14/2021 2:18 PM  | File folder        |            |
| Program Files                    | 6/30/2021 8:56 PM  | File folder        |            |
| Program Files (x86)              | 7/4/2021 6:48 PM   | File folder        |            |
| SWSetup                          | 3/10/2021 1:33 AM  | File folder        |            |
| Users                            | 3/10/2021 12:58 AM | File folder        |            |
| Windows                          | 7/9/2021 11:32 PM  | File folder        |            |
| Project                          | 3/10/2021 12:58 AM | Text Document      | 13 KB      |
| sqldeveloper-20.4.1.407.0006-x64 | 3/30/2021 6:29 AM  | WinRAR ZIP archive | 432,884 KB |

13 items

Type here to search

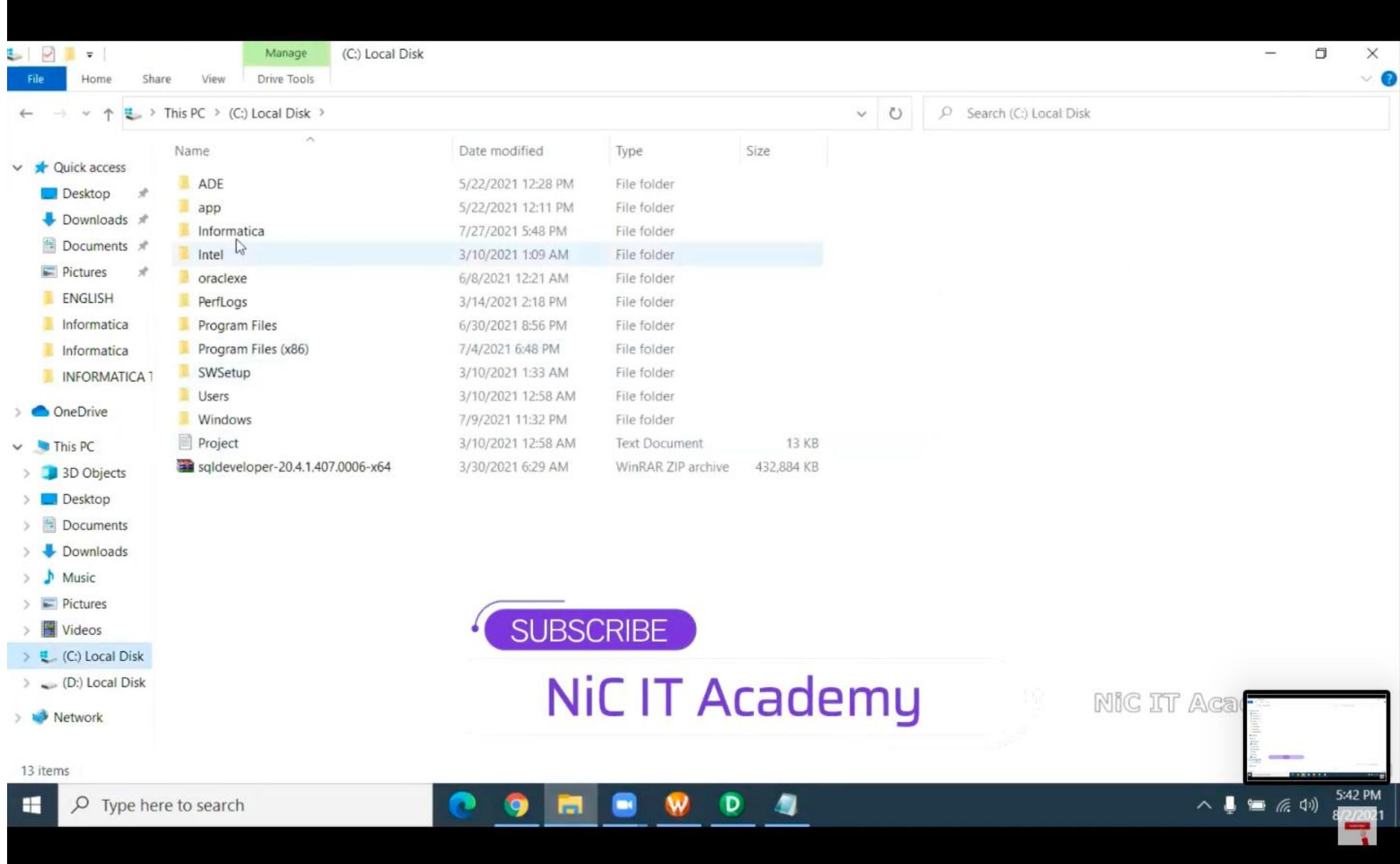
Windows Taskbar icons: File Explorer, Google Chrome, File Manager, Microsoft Edge, Microsoft Word, Microsoft Excel, Microsoft Powerpoint.

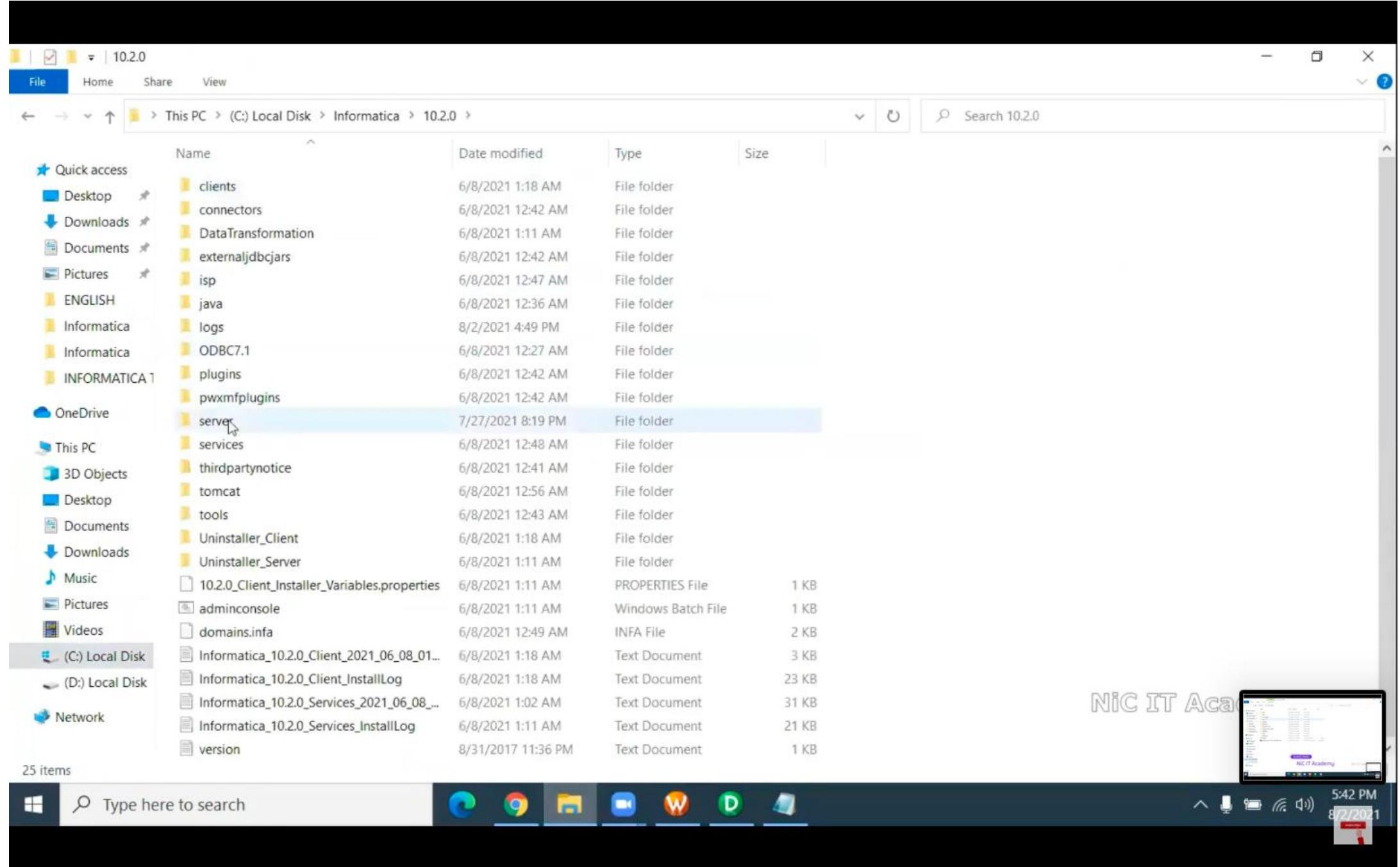
System tray: 5:42 PM, 8/2/2021.

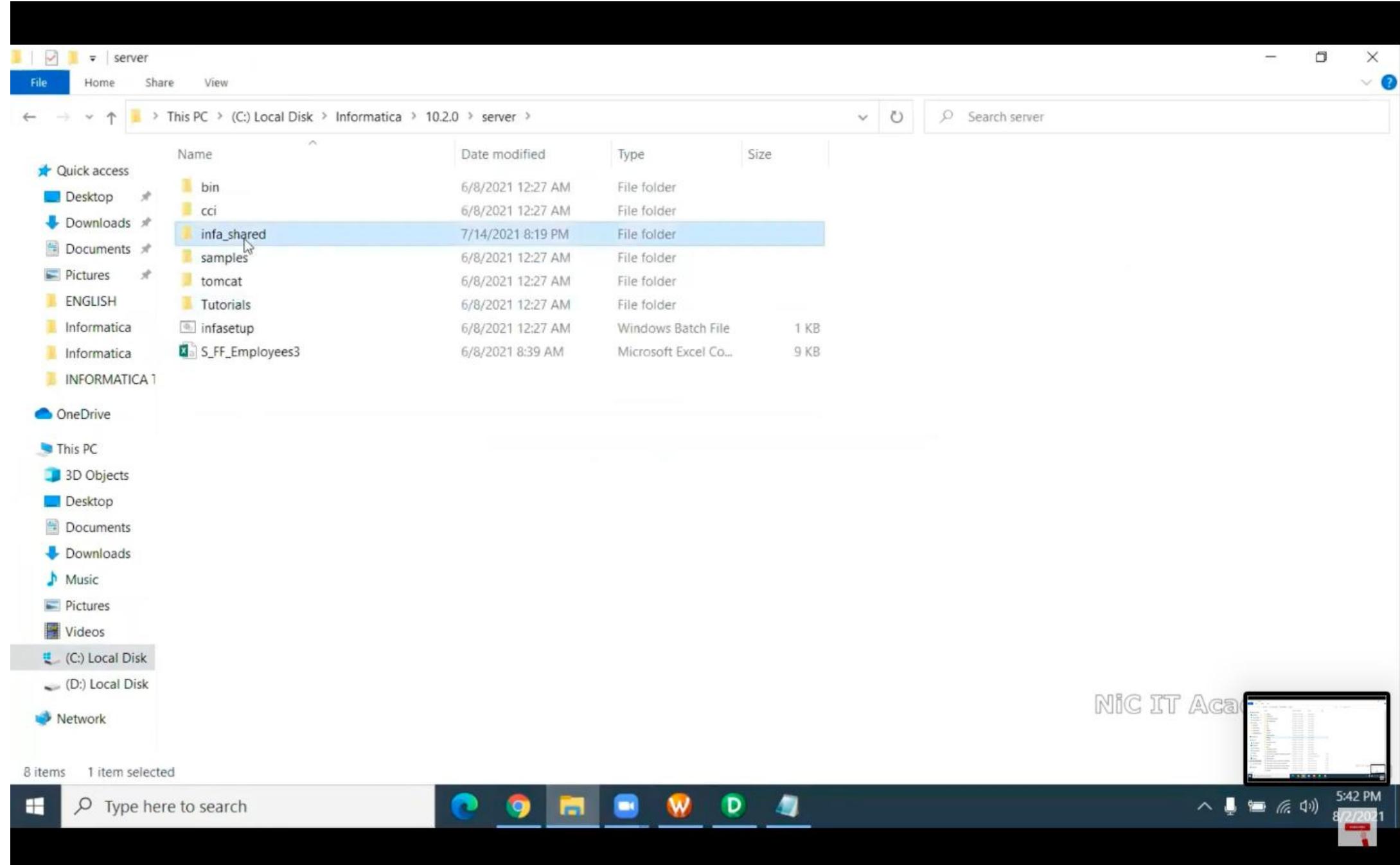
**SUBSCRIBE**

**NiC IT Academy**

NiC IT Academy







File | Home | Share | View | ?

This PC > (C:) Local Disk > Informatica > 10.2.0 > server > infa\_shared >

Search infa\_shared

| Name           | Date modified     | Type        |
|----------------|-------------------|-------------|
| Backup         | 6/8/2021 12:27 AM | File folder |
| BadFiles       | 7/26/2021 8:32 PM | File folder |
| <b>BWParam</b> | 6/26/2021 8:20 AM | File folder |
| cache          | 8/2/2021 4:59 PM  | File folder |
| LkpFiles       | 6/8/2021 12:27 AM | File folder |
| log            | 6/8/2021 12:27 AM | File folder |
| SessLogs       | 7/30/2021 8:14 AM | File folder |
| SrcFiles       | 7/28/2021 8:11 AM | File folder |
| Storage        | 6/8/2021 12:27 AM | File folder |
| Temp           | 8/2/2021 4:59 PM  | File folder |
| TgtFiles       | 7/29/2021 8:09 PM | File folder |
| WorkflowLogs   | 8/2/2021 8:39 AM  | File folder |

Quick access:

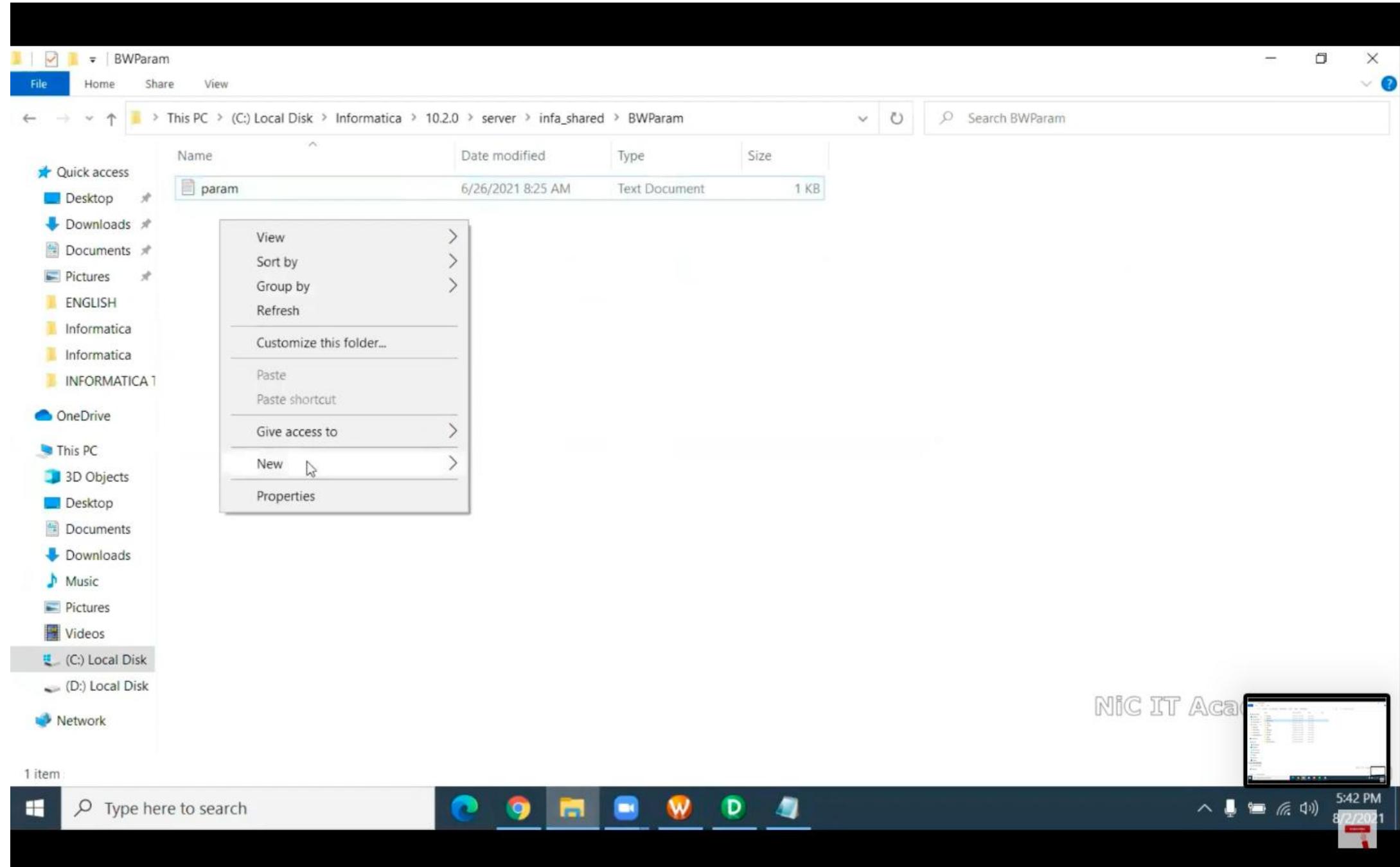
- Desktop
- Downloads
- Documents
- Pictures
- ENGLISH
- Informatica
- Informatica
- INFORMATICA 1
- OneDrive
- This PC
- 3D Objects
- Desktop
- Documents
- Downloads
- Music
- Pictures
- Videos
- (C:) Local Disk
- (D:) Local Disk
- Network

12 items 1 item selected

Type here to search

NiC IT Aca

5:42 PM 8/2/2021



## W Informatica PowerCenter Workflow Manager - [Workflow Designer - Training\_5 - [rep]]

Repository Edit View Tools Layout Versioning Workflows Tasks Service Connections Window Help



Training\_5-[rep]

Tasks

Repositories

- rep
  - is
  - Dev
  - Int
  - NIC IT Academy
  - Prod
  - QA
  - Training
  - Training\_1
  - Training\_5**
    - Tasks
    - Sessions
    - Worklets
    - Workflows
  - Training\_8
  - Training\_8am
  - Training\_8pm

Edit Tasks

General Properties Config Object Mapping Components Metadata Extensions

Select task: s\_m\_Parameter

Task type: Session

| Attribute                                  | Value                               |
|--------------------------------------------|-------------------------------------|
| <b>General Options</b>                     |                                     |
| Write Backward Compatible Session Log File | <input type="checkbox"/>            |
| Session Log File Name                      | s_m_Parameter.log                   |
| Session Log File directory                 | \$SPMSessionLogDir\                 |
| Parameter Filename                         |                                     |
| Enable Test Load                           | <input type="checkbox"/>            |
| Number of rows to test                     | 1                                   |
| \$Source connection value                  |                                     |
| \$Target connection value                  |                                     |
| Treat source rows as                       | Insert                              |
| Commit Type                                | Target                              |
| Commit Interval                            | 10000                               |
| Commit On End Of File                      | <input checked="" type="checkbox"/> |
| Rollback Transactions on Errors            | <input type="checkbox"/>            |
| Recovery Strategy                          | Fail task and continue workflow     |
| Java Classpath                             |                                     |
| <b>Performance</b>                         |                                     |
| DTM buffer size                            | Auto                                |
| Collect performance data                   | <input type="checkbox"/>            |
| Write performance data to repository       | <input type="checkbox"/>            |
| <b>Parameter Filename</b>                  |                                     |
| Session parameter filename                 |                                     |

OK Cancel Apply

8/2/2021 5:35:12 PM \*\* Fetching session s\_m\_Filter\_Tra

8/2/2021 5:42:07 PM \*\* Fetching session instance s\_m\_

NiC IT Academy

Ready



Type here to search

5:43 PM  
8/2/2021

## W Informatica PowerCenter Workflow Manager - [Workflow Designer - Training\_5 - [rep]]

Repository Edit View Tools Layout Versioning Workflows Tasks Service Connections Window Help

Training\_5-[rep]

## Edit Tasks

General Properties Config Object Mapping Components Metadata Extensions

Select task: s\_m\_Parameter

Task type: Session

| Attribute                                           | Value                                            |
|-----------------------------------------------------|--------------------------------------------------|
| <input checked="" type="checkbox"/> General Options |                                                  |
| Write Backward Compatible Session Log File          | <input type="checkbox"/>                         |
| Session Log File Name                               | s_m_Parameter.log                                |
| Session Log File directory                          | \$PMSessionLogDir\                               |
| Parameter Filename                                  | C:\Informatica\10.2.0\server\infa_shared\BWParam |
| Enable Test Load                                    | <input type="checkbox"/>                         |
| Number of rows to test                              | 1                                                |
| \$Source connection value                           |                                                  |
| \$Target connection value                           |                                                  |
| Treat source rows as                                | Insert                                           |
| Commit Type                                         | Target                                           |
| Commit Interval                                     | 10000                                            |
| Commit On End Of File                               | <input checked="" type="checkbox"/>              |
| Rollback Transactions on Errors                     | <input type="checkbox"/>                         |
| Recovery Strategy                                   | Fail task and continue workflow                  |
| Java Classpath                                      |                                                  |
| <input checked="" type="checkbox"/> Performance     |                                                  |
| DTM buffer size                                     | Auto                                             |
| Collect performance data                            | <input type="checkbox"/>                         |
| Write performance data to repository                | <input type="checkbox"/>                         |

## Parameter Filename

Session parameter filename

OK

Cancel

Apply

8/2/2021 5:35:12 PM \*\* Fetching session s\_m\_Filter\_Tra

8/2/2021 5:42:07 PM \*\* Fetching session instance s\_m

Ready



Type here to search



5:43 PM

8/2/2021

W Informatica PowerCenter Workflow Manager - [Workflow Designer - Training\_5 - [rep]]

Repository Edit View Tools Layout Versioning Workflows Tasks Service Connections Window Help

Training\_5-[rep] 100% |

Edit Tasks

General Properties Config Object Mapping Components Metadata Extensions

Select task: s\_m\_Parameter

Task type: Session

| Attribute                                  | Value                                                      |
|--------------------------------------------|------------------------------------------------------------|
| <b>General Options</b>                     |                                                            |
| Write Backward Compatible Session Log File | <input type="checkbox"/>                                   |
| Session Log File Name                      | s_m_Parameter.log                                          |
| Session Log File directory                 | \$PMSessionLogDir\                                         |
| Parameter Filename                         | C:\Informatica\10.2.0\server\infa_shared\BWParam\param.txt |
| Enable TestLoad                            | <input type="checkbox"/>                                   |
| Number of rows to test                     | 1                                                          |
| \$Source connection value                  |                                                            |
| \$Target connection value                  |                                                            |
| Treat source rows as                       | Insert                                                     |
| Commit Type                                | Target                                                     |
| Commit Interval                            | 10000                                                      |
| Commit On End Of File                      | <input checked="" type="checkbox"/>                        |
| Rollback Transactions on Errors            | <input type="checkbox"/>                                   |
| Recovery Strategy                          | Fail task and continue workflow                            |
| Java Classpath                             |                                                            |
| <b>Performance</b>                         |                                                            |
| DTM buffer size                            | Auto                                                       |
| Collect performance data                   | <input type="checkbox"/>                                   |
| Write performance data to repository       | <input type="checkbox"/>                                   |
| <b>Parameter Filename</b>                  |                                                            |
| Session parameter filename                 |                                                            |

OK Cancel Apply

8/2/2021 5:35:12 PM \*\* Fetching session s\_m\_Filter\_Tra

8/2/2021 5:42:07 PM \*\* Fetching session instance s\_m\_

Save Fetch Log Validate Copy Integration Service Notifications

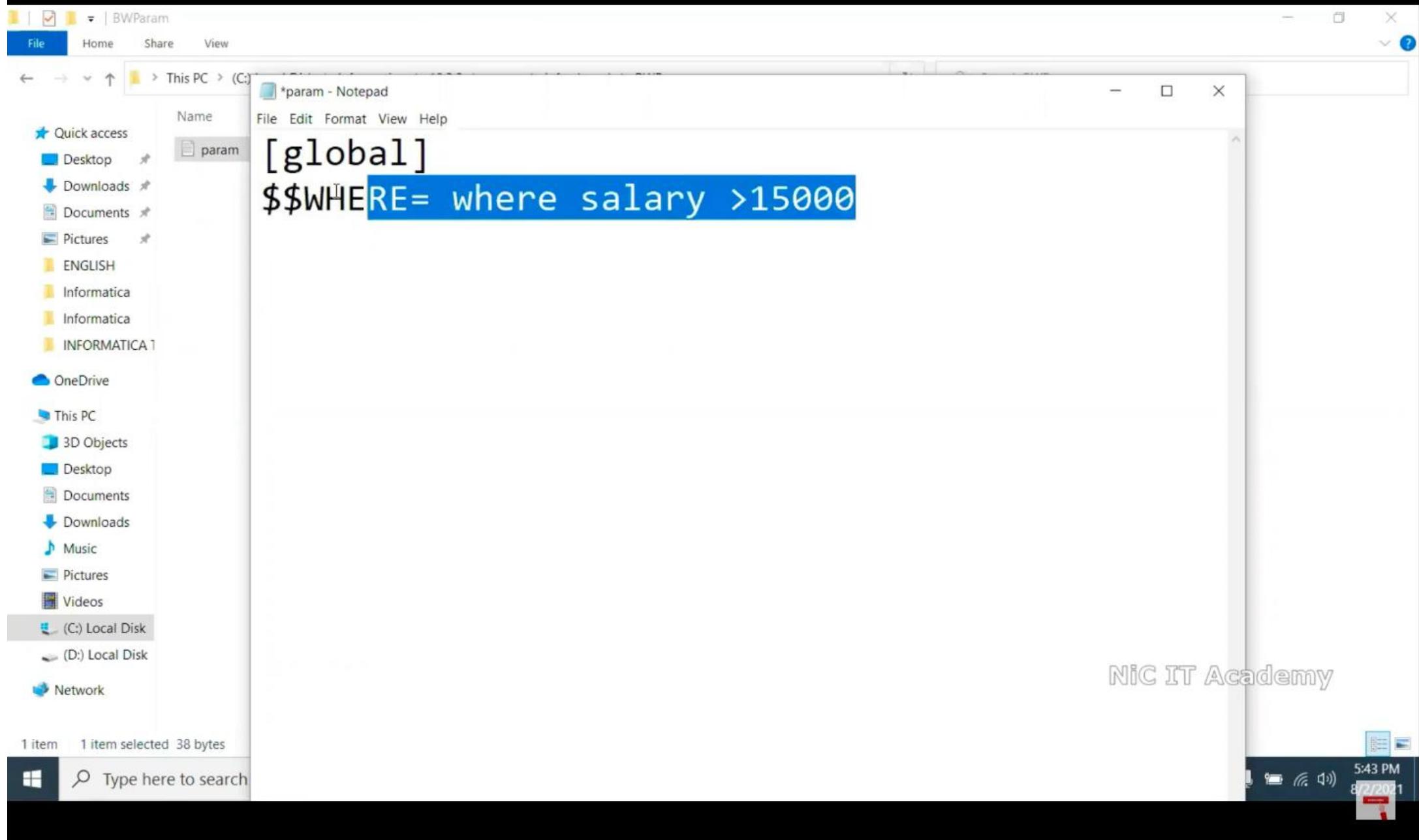
Ready

Type here to search

NIC IT Acad

5:43 PM 8/2/2021

This web page is using significant memory. Closing it may improve the responsiveness of your Mac.



W Informatica PowerCenter Workflow Manager - [Workflow Designer - Training\_5 - [rep]]

Repository Edit View Tools Layout Versioning Workflows Tasks Service Connections Window Help

\*param - Notepad

File Edit Format View Help

[global]  
[Training\_5.WF:wf\_Parameter.ST:s\_m\_Parameter]  
\$\$WHERE= where job\_id='SA\_REP'

Repositories

- rep
  - is
  - Dev
  - Int
  - NIC IT Academy
  - Prod
  - QA
  - Training
  - Training\_1
  - Training\_5**
    - Tasks
    - Sessions
    - Worklets
    - Workflows
  - Training\_8
  - Training\_8am
  - Training\_8pm

8/2/2021 5:35:12 PM \*\* Fetching session s...

8/2/2021 5:42:07 PM \*\* Fetching session in...

Save Fetch Log Validate

Ready

Type here to search

5:53 PM 8/2/2021

## Performance Tuning:

If we are using any of the below transformation, then we may face the performance issue.

Aggregator

Sorter

Rank

Lookup

Joiner

Long running:

Timeout

session failed

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Type here to search



informatica performance tuning - Notepad

File Edit Format View Help

face the performance issue.

Aggregator

Sorter

Rank

Lookup

Joiner

Long running:

Timeout

session failed

CPU consumption

NiC IT Academy

Metadata queries -- Repository database

Ln 5, Col 1

100%

Windows (CRLF)

UTF-8



Type here to search



Long running:  
Timeout  
session failed  
CPU consumption

Metadata queries -- Repository database

Use the below repository query which results folder name , workflow Name , session Name and number of minutes the session taken to complete the run.

SELECT DISTINCT



Type here to search



Speakers: 100%

## informatica performance tuning - Notepad

File Edit Format View Help

```
AND OPB_WFLOW_RUN.WORKFLOW_ID = OPB_SESS_TASK_LOG.WORKFLOW_ID
AND OPB_WFLOW_RUN.WORKFLOW_RUN_ID = OPB_SESS_TASK_LOG.WORKFLOW_RUN_ID
AND OPB_TASK_INST_RUN.WORKLET_RUN_ID = OPB_SESS_TASK_LOG.WORKLET_RUN_ID
AND OPB_TASK_INST_RUN.INSTANCE_ID = OPB_SESS_TASK_LOG.INSTANCE_ID;
```

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Session log:

session Load summary

| Reader | Transformation | Writer |
|--------|----------------|--------|
|--------|----------------|--------|

Idle time

Busy % ~90%

busy ~ 100 % --> bottleneck -[Timeout based commit point](#)

I

Sample log:

=====

```
MASTER> PETL_24018 Thread [READER_1_1_1] created for the read stage of partition point [sq] has completed: Total Run Time = [415.515955] secs, Total Idle Time = [0.000000] secs, Busy Percentage = [100.000000].
```

```
MASTER> PETL_24024 Thread [TRANSF_1_1_1] created for the transformation stage of partition point [sq] has completed. The total run time was insufficient for any meaningful statistics.
```

Ln 54, Col 58

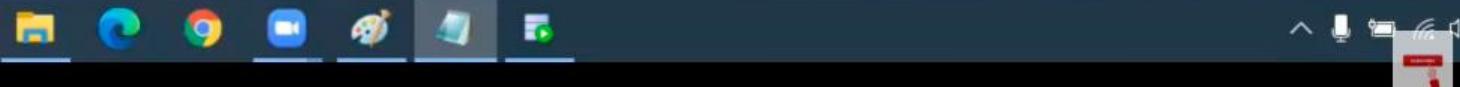
50%

Windows (CRLF)

UTF-8



Type here to search



## informatica performance tuning - Notepad

File Edit Format View Help

Reader

Transformation

Writer



Idle time

Busy % ~90%

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busy ~ 100 % --> bottleneck -Timeout based commit point

Sample log:

=====

MASTER> PETL\_24018 Thread [READER\_1\_1\_1] created for the read stage of partition point [sq] has completed: Total Run Time = [415.515955] secs, Total Idle Time = [0.000000] secs, Busy Percentage = [100.000000].

MASTER> PETL\_24024 Thread [TRANSF\_1\_1\_1] created for the transformation stage of partition point [sq] has completed. The total run time was insufficient for any meaningful statistics.

MASTER> PETL\_24022 Thread [WRITER\_1\_\*\_1] created for the write stage of partition point(s) [tgt1, tgt2, tgt3, tg4] has completed: Total Run Time = [355.513651] secs, Total Idle Time = [355.513651] secs, Busy Percentage = [0.000000].

Source:

-----

Optimize SQ Query

Optimize lookup

Index

collect stats

Partitioning

Ln 61, Col 41

50%

Windows (CRLF)

UTF-8



Type here to search



informatica performance tuning - Notepad

File Edit Format View Help

=====

MASTER> PETL\_24018 Thread [READER\_1\_1\_1] created for the read stage of partition point [sq] has completed: Total Run Time = [415.515955] secs, Total Idle Time = [0.000000] secs, Busy Percentage = [100.000000].

MASTER> PETL\_24024 Thread [TRANSF\_1\_1\_1] created for the transformation stage of partition point [sq] has completed. The total run time was insufficient for any meaningful statistics.

MASTER> PETL\_24022 Thread [WRITER\_1\_\*\_1] created for the write stage of partition point(s) [tgt1, tgt2, tgt3, tgt4] has completed: Total Run Time = [355.513651] secs, Total Idle Time = [355.513651] secs, Busy Percentage = [0.000000].

Source:

-----

Optimize SQ Query I

Optimize lookup

Index

collect stats

Partitioning

Target:

-----

drop index

create INDEX

Partitioning

Ln 70, Col 18

50%

Windows (CRLF)

UTF-8



Type here to search



informatica performance tuning - Notepad

File Edit Format View Help

```

drop index
create INDEX
Partitioning
```

```
=====
```

Two methods:

- 1. Pushdown optimization**
  - 2. Partitioning
- ```
=====
```

1. Pushdown optimization (PDO) - Licenced property

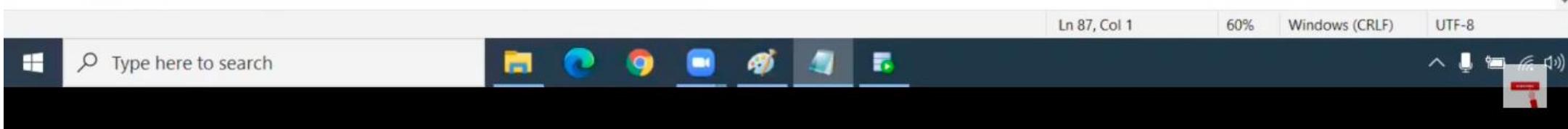
```
=====
```

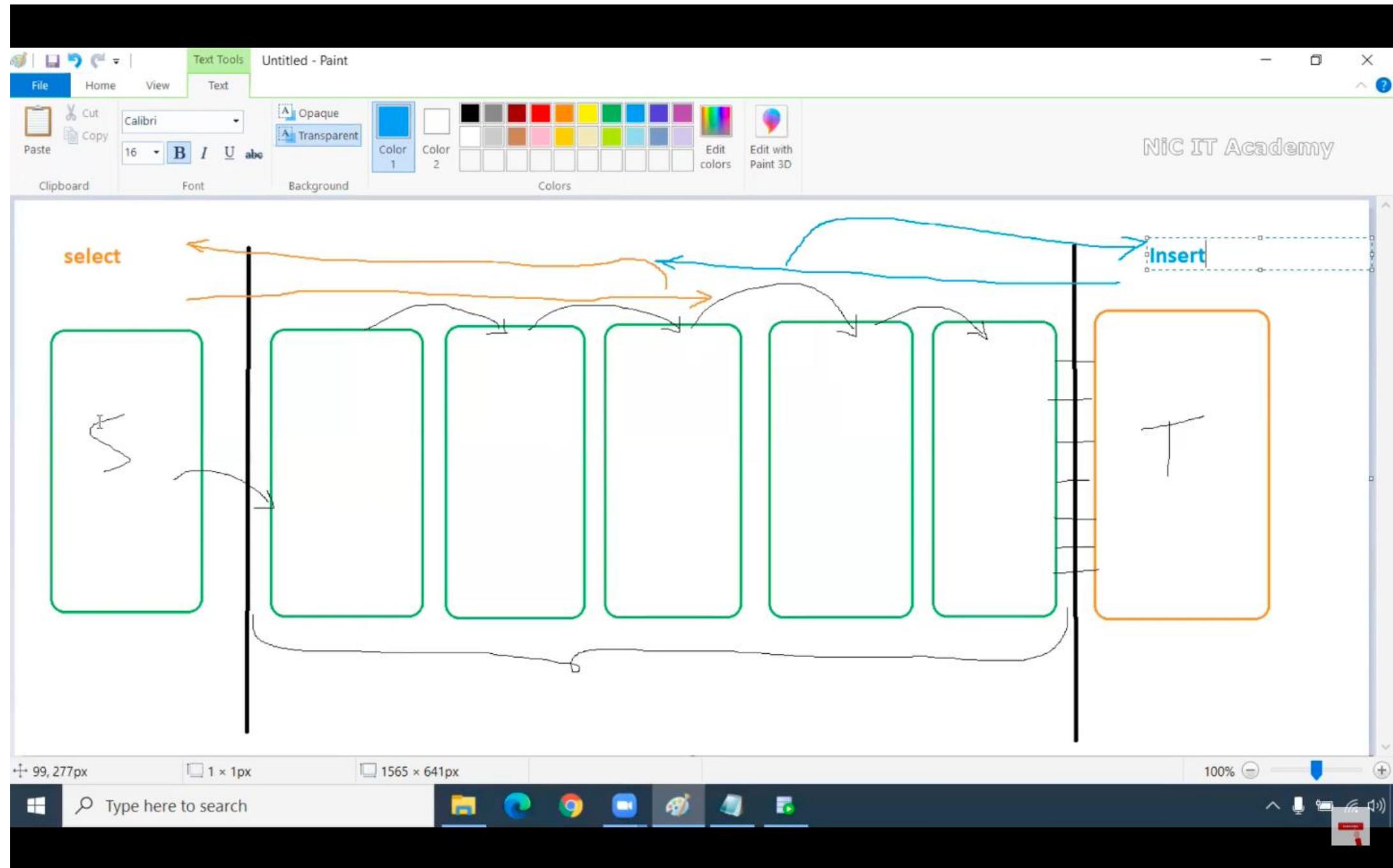
I

Converting transformation logic into sql query and pushing down to the source or target or both

- 1. source (select)
- 2. Target (insert into)
- 3. Full (insert into (select))

session level:







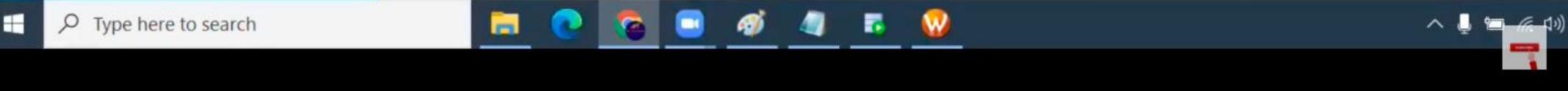
Different Type Pushdown Optimization

You can configure pushdown optimization in the following ways.

- i. [Source-side pushdown optimization](#)
- ii. [Target-side pushdown optimization](#)
- iii. [Full pushdown optimization](#)

Source-side pushdown optimization

When you run a session configured for source-side pushdown optimization, the Integration Service analyzes the mapping from the source to the target or until it reaches a downstream transformation it cannot push to the database.



The Integration Service generates a **SELECT statement based** on the transformation logic for each transformation it can push to the database. When you run the session, the Integration Service pushes all transformation logic that is valid to push to the database by executing the generated SQL statement. Then, it reads the results of this SQL statement and continues to run the session.



If you run a session that contains an SQL override or lookup override, the Integration Service generates a view based on the override. It then generates a SELECT statement and runs the SELECT statement against this view. When the session completes, the Integration Service drops the view from the database.

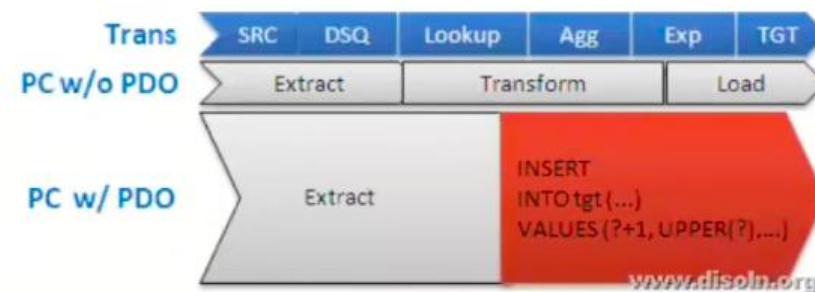
Jet-side pushdown optimization



SELECT statement against this view. When the session completes, the Integration Service drops the view from the database.

Target-side pushdown optimization

When you run a session configured for target-side pushdown optimization, the Integration Service analyzes the mapping from the target to the source or until it reaches an upstream transformation it cannot push to the database.



The Integration Service generates an INSERT, DELETE, or UPDATE statement based on the transformation logic for each transformation it can push to the database, starting with the first transformation in the pipeline it can push to the database. The Integration Service processes the transformation logic up to the point that it can push the transformation logic to

lh4.ggpht.com/-t23k86bVtOM/UfnqFS9J-NI/.../image%25255B100%25255D...

informatica performance tuning - Notepad

File Edit Format View Help

Partitioning: - Licenced property

I

=====

-- Parallel processing

30 mins Reader transformation writer

10 mins Reader1 transformation1 writer1
 Reader2 transformation2 writer2
 Reader3 transformation3 writer3

1. Number of partition (thread)
2. Partition type
3. Partition point

Partition type

1. DB Level partition (at db level - not in informatica)
2. Range Partition

Ln 109, Col 35

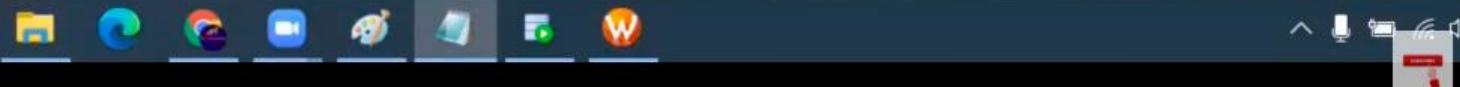
60%

Windows (CRLF)

UTF-8



Type here to search



10 mins	Reader1	transformation1	writer1
	Reader2	transformation2	writer2
	Reader3	transformation3	writer3

1. Number of partition (thread)

2. Partition type

3. Partition point

Partition type

1. DB Level partition (at db level - not in informatica)
2. Range Partition
3. Passthrough partition
4. Round robin
5. Hash Auto key
6. Hash user key

Partition point



Type here to search



1. DB Level partition (at db level - not in informatica)
2. Range Partition
3. Passthrough partition
4. Round robin
5. Hash Auto key
6. Hash user key

Partition point I

cache:

sorter

aggregator

Joiner

Lookup

Rank

Look up -- Cache

1. Static(default)



Type here to search



SCD - Notepad

File Edit Format View Help

SCD: Slowly Changing Dimension:

Dimension table: (PK+Attributes)

customer

product

account

user

employee

region

location

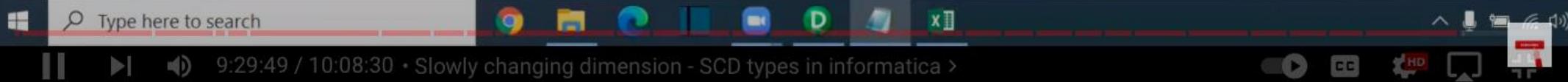
time

store

merchant

Ln 1, Col 32

100% Windows (CRLF) UTF-8



Type: 1 - No history will be maintained
Simple update

Type: 2 - History will be maintained
Row level history

Method - 1 - Flag
Method - 2 - Version
Method - 3 - Date

Type: 3 - Recent history will be maintained
Column level history

