

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Data Warehouse Components

The diagram illustrates the architecture of a Data Warehouse (EDWH) across five layers:

- Source systems Layer:** Contains Legacy, External, and Operational systems.
- Staging Area Layer:** Contains an ODS (Operational Data Store).
- ETL Layer:** Manages the Extract, Transform, Load process.
- Data Modeling Layer (Presentation area):** Contains the EDWH and multiple Data Marts.
- BI Layer (Access Tools):** Contains Reporting and Analytics tools.

A central **Metadata repository** is connected to all layers, facilitating data integration and management.

Click to add notes

0:03:17 de 2:21:05

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows
9:22 AM 8/27/2023
Go to Settings to activate Windows
+28

32°C مشمس ENG 3:36 PM 7/28/2024

L M a.alsaghir Mohame... MM A alzahraa... M B bakli.kar... M M mahmou... M B bassama... HA H Hesham... D A ayasheai...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

31 DWH Architecture

32 Data Warehouse Components

33 Data Warehouse Internal Functions

34 Data Warehousing Environment

35 Five Main DW Architectures

36 Five Main DW Architectures

37 Five Main DW Architectures

Independent Data Mart

0:03:30 de 3:00 2:20:52

Type here to search

Activate Windows 9:24 AM 8/27/2023 +28 Go to Settings to activate Windows

32°C مشمس ENG 7:37 PM 7/28/2024

Five Main DW Architectures

(a) Independent Data Marts Architecture

```

graph LR
    SS[Source Systems] --> SA[Staging Area]
    SA --> IDM[Independent data marts  
atomic/summarized data]
    IDM --> EAA[End user access and applications]
    style IDM fill:#f0f0f0
  
```

(b) Data Mart Bus Architecture with Linked Dimensional Data Marts

```

graph LR
    SS[Source Systems] --> SA[Staging Area]
    SA --> DDM[Dimensional data marts  
linked by conformed dimensions  
atomic/summarized data]
    DDM --> EAA[End user access and applications]
    style DDM fill:#f0f0f0
  
```

(c) Hub and Spoke Architecture (Corporate Information Factory)

```

graph LR
    SS[Source Systems] --> SA[Staging Area]
    SA --> NRW[Normalized relational warehouse  
atomic data]
    NRW --> EAA[End user access and applications]
    NRW --> DDM[Dependent data marts  
summarized/some atomic data]
    style NRW fill:#f0f0f0
  
```

L M Lec44 mohame... a.alsaghiir M Mohamed... MM A alzahraa... M B bakli.kar... M M mahmou... M B bassama... HA H Hossam... Hesham... D A dinamor... ayashei...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

31 DWH Architecture

32 Data Warehouse Components

33 Data Warehouse Internal Functions

34 Data Warehousing Environment

35 Five Main DW Architectures

36 Five Main DW Architectures

37 Five Main DW Architectures

Click to add notes

Five Main DW Architectures

(d) Centralized Data Warehouse Architecture

```

graph LR
    A[Source Systems] --> B[ETL]
    B --> C[Staging Area]
    C --> D[Normalized relational warehouse<br/>(atomic/some summarized data)]
    D --> E[End user access and applications]
  
```

(e) Federated Architecture

```

graph LR
    A[Existing data warehouses<br/>Data marts and legacy systems] --> B[Data mapping / metadata]
    B --> C[Logical/physical integration of common data elements]
    C --> D[End user access and applications]
  
```

Activate Windows
Go to Settings to activate Windows
+27

0:08:03 de 2:16:19

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

32°C مشمس ENG 3:39 PM 7/28/2024

Rafael... M Mohamed... MM A Mohamed... M Bakli.kar... M Mela... M mahmou... M Mohamed... B bassama... HA H Hossam... H Hesham... D dinamor... A ayashei...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

31 DWH Architecture

32 Data Warehouse Components

33 Data Warehouse Internal Functions

34 Data Warehousing Environment

35 Five Main DW Architectures

36 Five Main DW Architectures

37 Five Main DW Architectures

Click to add notes

Five Main DW Architectures

(d) Centralized Data Warehouse Architecture

```
graph LR; A[Source Systems] --> B[ETL]; B --> C[Staging Area]; C --> D[Normalized relational warehouse<br/>(atomic/some summarized data)]; D --> E[End user access and applications]
```

(e) Federated Architecture

```
graph LR; A[Existing data warehouses<br/>Data marts and legacy systems] --> B[Data mapping / metadata]; B --> C[Logical/physical integration of common data elements]; C --> D[End user access and applications]
```

0:08:07 de 2:16:15

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:27 AM 8/27/2023 +27 Go to Settings activate Windows

32°C 3:39 PM ENG 7/28/2024

RF رفعت... M Mohamed... MM Mohamed... A alzahraa... M mohamed... B bakli.kar... M melwak... M mahmou... M mohamed... B bassama... HA Hossam... H Hesham... D dinamor... A ayasheai...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

35 Five Main DW Architectures

36 Five Main DW Architectures

37 Five Main DW Architectures

38 Data Warehousing Architectures

39 Data Warehouse Development

40 Hosted Data Warehouses

41 Data Warehouse Components

Data Warehouse Development

Click to add notes

0:08:17 de 2:16:05

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:27 AM 8/27/2023 +27 Go to Settings activate Windows

32°C مشمس ENG 3:40 PM 7/28/2024

- Data warehouse development approaches
 - Inmon Model: EDW approach (top-down)
 - Kimball Model: Data mart approach (bottom-up)
 - Which model is best?
 - There is no one-size-fits-all strategy to DW
 - One alternative is the hosted warehouse
- Data warehouse structure:
 - The Star Schema vs. Relational

RF رفعت... M Mohamed... MM M alzahraa... M B bakli.kar... M M melwak... M B bassama... HA H Hossam... H Hesham... D dinamor... A ayasheai...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

35 Five Main DW Architectures

36 Five Main DW Architectures

37 Five Main DW Architectures

38 Data Warehousing Architectures

39 Data Warehouse Development

40 Hosted Data Warehouses

41 Data Warehouse Components

Data Warehouse Development

Data Warehouse Development

- Data warehouse development approaches
 - Inmon Model: EDW approach (top-down)
 - Kimball Model: Data mart approach (bottom-up)
 - Which model is best?
 - There is no one-size-fits-all strategy to DW
 - One alternative is the hosted warehouse
- Data warehouse structure:
 - The Star Schema vs. Relational

Click to add notes

0:08:52 de 2:15:30

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:27 AM 8/27/2023 +27 Go to Settings to activate Windows

32°C مشمس ENG 3:40 PM 7/28/2024

RF رفع... M Mohamed... MM A Mohamed... M Bakli.kar... M melwak... M mahmou... M Bassama... HA H Hossam... H Hesham... D dinamor... A ayasheai...

Media Player

Inmon Model Vs. Kimball Model.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

kimball architecture

The diagram illustrates the Kimball Architecture. At the center is a large green cylinder labeled "Data Warehouse". Inside the Data Warehouse are two yellow cylinders labeled "Data mart". To the left of the Data Warehouse is a grey vertical rectangle labeled "ETL". On the far left, there are three grey cylinders labeled "ERP", "CRM", and "OTHERS". Below these cylinders are three boxes labeled "Operational", "Departmental", and "Individual". Lines connect the cylinders on the left to the ETL process, and the ETL process to the Data Warehouse. The Data Warehouse also has lines connecting it to two orange circles labeled "Data access tools".

Commons between Kimball and Inmon

Kimball Model Data mart approach (bottom-up)

Kimball architecture

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows
Go to Settings to activate Windows

32°C مشمس ENG 3:40 PM 7/28/2024

L M رف ع... M MM A M B M M melwake... M M B M mohame... B HA H H D A

Media Player

Inmon Model Vs. Kimball Model.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

1 Inmon Model vs. Kimball Model

2 How to architect the data warehouse?

3 Commons between Kimball and Inmon

4 Kimball Model Data mart approach (bottom-up)

5 Kimball architecture

6 Kimball architecture

7 Dimensional Model Architecture Approach

kimball architecture

The diagram illustrates the Kimball Architecture. It features a central green cylinder labeled "Data Warehouse" containing two yellow cylinders labeled "Data mart". To the left, three boxes represent different source environments: "Operational" (containing "ERP", "CRM", and "OTHERS"), "Departmental", and "Individual". Arrows from these boxes point to a grey vertical bar labeled "ETL". From the ETL bar, arrows point to the Data Warehouse. On the right side, two orange circles labeled "Data access tools" have arrows pointing towards the Data Warehouse.

Click to add notes

0:09:40 de 2:14:42

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:28 AM 8/27/2023 +27 Go to Settings activate Windows

32°C مشمس ENG 3:40 PM 7/28/2024

Mohame... M رف ع... Mohame... MM A Mohame... alzahraa... M B mohame... bakli.kar... M M melwake... mahmou... M B mohame... bassama... HA H Hossam ... Hesham... D A dinamor... ayashei...

Media Player

Inmon Model Vs. Kimball Model.pptx - PowerPoint

Abdelwahed Ashraf AA

L Lec44 mohame...

رفعه... M Mohame...

MM A Mohame... alzahra...

M B mohame... bakli.kar...

M M melwake... mahmou...

M B mohame... bassama...

HA H Hossam... Hesham...

D A dinamor... ayashei...

kimball architecture

- The data warehouse is a set of small data marts for each department.
- These data mart stored in a dimensional model (star or snowflake schema).
- According to this approach, the data warehouse is essentially a union of all data marts.

Click to add notes

0:09:42 de 2:14:40

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:28 AM 8/27/2023 +27 Go to Settings activate Windows

32°C مشمس ENG 3:40 PM 7/28/2024

Media Player

Inmon Model Vs. Kimball Model.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

OLTP Data Sources

Data Warehouse (3NF)

ETL

Datamart 1 (3NF)

OLAP Cube 1

Cube Browser

Datamart n (3NF)

OLAP Cube n

Cube Browser

Reporting Layer

Click to add notes

0:09:54 de 2:14:28

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows

32°C مشمس ENG 9:29 AM 8/27/2023 +24

Go to Settings to activate Windows

3:41 PM 7/28/2024

The diagram illustrates the Inmon Model architecture. It begins with a yellow vertical bar labeled "OLTP Data Sources". An arrow labeled "ETL" points from this bar to a large green cylinder labeled "Data Warehouse (3NF)". From the Data Warehouse, two arrows labeled "ETL" point to two separate components: "Datamart 1 (3NF)" and "Datamart n (3NF)". Each of these datamarts has a corresponding red cube icon labeled "OLAP Cube 1" and "OLAP Cube n" respectively. Arrows labeled "Cube Browser" connect the datamarts and cubes to a purple vertical bar labeled "Reporting Layer". The slide also includes a navigation bar with slides 5 through 11, a notes section, and a media player at the bottom.

Media Player

Inmon Model Vs. Kimball Model.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

OLTP Data Sources

Data Warehouse (3NF)

ETL

Datamart 1 (3NF)

OLAP Cube 1

Cube Browser

Datamart n (3NF)

OLAP Cube n

Cube Browser

Reporting Layer

Initial architecture

Kimball architecture

Dimensional Model Architecture Approach

Disadvantages of Kimball's paradigm

Inmon's paradigm (top-down)

Inmon Model

Click to add notes

Notes Comments

Activate Windows +24

32°C مشمس ENG 3:41 PM 7/28/2024

0:10:51 2:13:31

Type here to search

Slide 10 of 14 English (United States)

DWH_Day03-20230827_091858-Meeting Recording

Lec44

A M ayasheil... M Mohamed... MM A Mohamed... M A alzahraa... M B mohame... B bakli.kar... M M melwak... M mahmou... M A mohame... A abdullah... HA H Hossam... H Hesham... D A dinamor... A ali.abdull...

```
graph LR; OLTP[OLTP Data Sources] -- ETL --> DW((Data Warehouse (3NF))); DW -- ETL --> DM1[Datamart 1 (3NF)]; DW -- ETL --> DMn[Datamart n (3NF)]; DW -- ETL --> OC1[OLAP Cube 1]; DW -- ETL --> OCn[OLAP Cube n]; DM1 --> CB1[Cube Browser]; DMn --> CBn[Cube Browser]; OC1 --> CB1; OCn --> CBn; CB1 --> RL[Reporting Layer]; CBn --> RL;
```

Media Player

Inmon Model Vs. Kimball Model.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

OLTP Data Sources

Data Warehouse (3NF)

ETL

Datamart 1 (3NF)

OLAP Cube 1

Cube Browser

Datamart n (3NF)

OLAP Cube n

Cube Browser

Reporting Layer

Click to add notes

0:10:57 de 2:13:25

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows +24

32°C مشمس ENG 9:29 AM 8/27/2023 Go to Settings

3:41 PM 7/28/2024

```
graph LR; A[OLTP Data Sources] -- ETL --> B[Data Warehouse 3NF]; B -- ETL --> C1[Datamart 1 3NF]; B -- ETL --> Cn[Datamart n 3NF]; C1 -- Cube Browser --> D1[OLAP Cube 1]; Cn -- Cube Browser --> Dn[OLAP Cube n]; D1 -- Cube Browser --> E[Reporting Layer]; Dn -- Cube Browser --> E;
```

Media Player

Inmon Model Vs. Kimball Model.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

5 Initial architecture

6 Kimball architecture

7 Dimensional Model Architecture Approach

8 Disadvantages of Kimball's paradigm

9 Inmon's paradigm (top-down)

10 Inmon Model

11 Disadvantages of Inmon's paradigm

Inmon Model

The diagram illustrates the Inmon Model architecture. It starts with a yellow vertical bar labeled "OLTP Data Sources". An arrow labeled "ETL" points from this bar to a large green cylinder labeled "Data Warehouse (3NF)". From the Data Warehouse, two arrows labeled "ETL" point to two separate stacks of cylinders: one stack for "Datamart 1 (3NF)" and another for "Datamart n (3NF)". Each stack then has an arrow labeled "Cube Browser" pointing to a red cube icon labeled "OLAP Cube 1" and "OLAP Cube n" respectively. Finally, an arrow labeled "Cube Browser" points from the cubes to a purple vertical bar labeled "Reporting Layer".

Click to add notes

0:11:01 2:13:21

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows
Go to Settings to activate Windows

32°C 9:30 AM 8/27/2023 ENG

3:41 PM 7/28/2024 ENG

Mohame... A ayasheai... M Mohamed... MM A alzahraa... M B mohame... Bakli.kar... M M mahmou... M A abdullah... HA H Hesham... D dinamor... A ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

35 Five Main DW Architectures

36 Five Main DW Architectures

37 Five Main DW Architectures

38 Data Warehousing Architectures

39 Data Warehouse Development

40 Hosted Data Warehouses

41 Data Warehouse Components

Data Warehouse Development

- Data warehouse development approaches
 - Inmon Model: EDW approach (top-down)
 - Kimball Model: Data mart approach (bottom-up)
 - Which model is best?
 - There is no one-size-fits-all strategy to DW
 - One alternative is the hosted warehouse
- Data warehouse structure:
 - The Star Schema vs. Relational

Click to add notes

0:11:19 2:13:03

Type here to search

Notes Comments

Activate Windows 9:30 AM 8/27/2023 +24 Go to Settings to activate Windows

DWH_Day03-20230827_091858-Meeting Recording Lec44

32°C 3:42 PM ENG 7/28/2024

L M ayasheil... M Mohamed... MM A Mohamed... A alzahraa... M B mohame... Bakli.kar... M M melwake... mahmou... M A mohame... abdullah... HA H Hossam... Hesham... D A dinamor... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

35 Five Main DW Architectures

36 Five Main DW Architectures

37 Five Main DW Architectures

38 Data Warehousing Architectures

39 Data Warehouse Development

40 Hosted Data Warehouses

41 Data Warehouse Components

Data Warehouse Development

- Data warehouse development approaches
 - Inmon Model: EDW approach (top-down)
 - Kimball Model: Data mart approach (bottom-up)
 - Which model is best?
 - There is no one-size-fits-all strategy to DW
 - One alternative is the hosted warehouse
- Data warehouse structure:
 - The Star Schema vs. Relational

Click to add notes

0:11:50 de 2:12:32

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:32 AM 8/27/2023 +24 Go to Settings activate Windows

32°C مشمس ENG 3:42 PM 7/28/2024

L M ayasheil... M Mohamed... MM A Mohamed... alzahraa... M B mohame... bakli.kar... M M melwake... mahmou... M A mohame... abdullah... HA H Hossam... Hesham... D A dinamor... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

37 Data Warehouse Components

38 Data Warehousing Architectures

39 Data Warehouse Development

40 Integrated Data Warehouses

41 Data Marts Components

42 Data Warehousing Components

43 Data Architecture Types

Click to add notes

Source systems Layer

Staging Area Layer

ETL Layer

Data Modeling Layer (Presentation area)

BI Layer (Access Tools)

Legacy

External

Operational

ODS

EDWH

Data Mart

Reporting

Analytics

Metadata repository

The diagram illustrates the architecture of a Data Warehouse. It consists of five main layers connected sequentially by arrows: 1. Source systems Layer, which includes Legacy, External, and Operational components; 2. Staging Area Layer, represented by a cylinder containing a worker icon; 3. ETL Layer, represented by a gear icon; 4. Data Modeling Layer (Presentation area), represented by a dashed box containing three cylinders labeled Data Mart; and 5. BI Layer (Access Tools), represented by a cylinder containing a person icon and a chart icon. A Metadata repository layer is shown at the bottom, connected to all layers above it. The BI layer also has a connection to the Analytics component.

0:13:12 de 4 2:11:10

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:33 AM 8/27/2023 +24 Go to Settings | activate Windows

32°C 3:43 PM 7/28/2024 ENG

Mohamed... Aya... Mohamed... Alzahraa... Mohamed... Bakli.kar... Mohamed... Mahmou... Mohamed... Abdulla... Hossam... Hesham... Dinamor... Ali.abdull...

L M A M MM A M B M M A M A HA H D A

Menu

ITI Business Intelligence - Y | Business Intelligence Analy X G Banks no Cloud computing X +

www.google.com/search

Banks no Cloud computing

All Images News Videos Shopping Books Web More Tools

Doxee https://www.doxee.com › Blog › Technology

Why the banking sector can't do without Cloud Computing?

Apr 29, 2022 — The answer is simple: Relying on **cloud service providers** means, first of all, not having to buy expensive hardware and software, which take up ...

People also ask :

Why banks don't use cloud computing? ▾

Are banks in the cloud? ▾

Why are banks slow to embrace cloud computing? ▾

What if there is no cloud computing? ▾

Feedback

Fortune https://fortune.com › business-in-the-cloud-finance

Banks are more clear on cloud tech, but there's room for ...

Jul 14, 2023 — **Banks**, payment providers, and private equity firms have recently accelerated their embrace of **cloud computing**. But the early adoption often ...

The New York Times https://www.nytimes.com › wall-street-cloud-computing

Banks Tiptoe Toward Their Cloud-Based Future

Activate Windows Go to Settings to activate Windows.

32°C مشمس ENG 3:44 PM 7/28/2024

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

37 Data Warehouse Components

38 Data Warehousing Architectures

39 Data Warehouse Development

40 Hosted Data Warehouses

41 Data Warehouse Components

42 Data Warehouse Components

43 Data Warehouse Components

Click to add notes

0:14:33 de 2:09:49

Type here to search

Activate Windows 9:33 AM 8/27/2023 Go to Settings to activate Windows +24

DWH_Day03-20230827_091858-Meeting Recording Lec44

32°C مشمس ENG 3:44 PM 7/28/2024

The diagram illustrates the architecture of a Data Warehouse. It starts with 'Data Sources' (green cylinders) on the left, which feed into an 'Enterprise Data warehouse' (blue cylinder). The 'Enterprise Data warehouse' contains 'Metadata' and is connected to a 'Replication' component. An 'ETL Process' (Extract, Transform, Load) is shown moving data from the sources to the enterprise warehouse. The enterprise warehouse then feeds into several 'Data marts' (orange cylinders), which are categorized by 'Access' (Marketing, Engineering, Finance, ...). These data marts are connected to an 'API / Middleware'. Finally, the data marts are accessed by various 'Applications (Visualization)' such as 'Routine Business Reporting', 'Data/text mining', 'OLAP, Dashboard, Web', and 'Custom built applications'.

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

37

38

39

40

41

42

43

Click to add notes

0:14:33 de 2:09:49

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 9:33 AM 8/27/2023 Go to Settings to activate Windows +24

32°C 3:44 PM 7/28/2024 ENG

Data Warehouse Components

```

graph LR
    DS[Data Sources] --> ETL[ETL Process]
    ETL --> EDW[Enterprise Data warehouse]
    EDW --> DM[Data marts]
    EDW --> API[API / Middleware]
    DM --> Access[Access]
    API --> Access
    Access --> Apps[Applications (Visualization)]
    Access --> DR[Routine Business Reporting]
    Access --> DTM[Data/text mining]
    Access --> OLAP[OLAP, Dashboard, Web]
    Access --> Custom[Custom built applications]
    
```

The diagram illustrates the architecture of a Data Warehouse. It starts with 'Data Sources' (green cylinders) on the left, which feed into an 'ETL Process' (yellow box). The ETL process consists of five steps: Select, Extract, Transform, Integrate, and Load. The output of the ETL process goes to the 'Enterprise Data warehouse' (blue cylinder). The Enterprise Data warehouse also receives 'Replication' from another source. From the Enterprise Data warehouse, data flows to several 'Data marts' (orange cylinders), which are categorized under 'No data marts option'. These data marts then provide 'Access' to various 'Applications (Visualization)' (laptop icons) such as Routine Business Reporting, Data/text mining, OLAP, Dashboard, Web, and Custom built applications. There is also a direct connection from the Enterprise Data warehouse to 'API / Middleware', which then connects to the same set of applications.

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

39 Data Warehouse Development

40 Integrated Data Warehouses

41 Data Warehouse Components

42 Data Warehouse Components

43 DWH Architecture Layers

44 Data Warehouse & Integration Process

45 Data Warehouse & Integration Process

DWH Architecture Layers

- DWH architecture contains the following layers:
 - Source system layer.
 - Extraction layer.
 - Staging Area.
 - Data Modeling.
 - ETL layer.
 - Storage layer.
 - Reporting (UI) layer.
 - Metadata layer.

Click to add notes

0:14:50 2:09:32

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:33 AM 8/27/2023 Go to Settings to activate Windows +25

32°C مشمس ENG 3:45 PM 7/28/2024

L M ayasheil... M Mohamed... MM A Mohamed... alzahraa... M B mohame... bakli.kar... M M melwake... mahmou... M A mohame... abdullah... HA H Hossam ... Hesham... D A dinamor... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

91

92

93

94

95

96

97

Schema Types

Click to add notes

0:16:52 de 2:07:30

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows +23

9:35 AM 8/27/2023 Go to Settings & activate Windows

32°C مشمس ENG 3:47 PM 7/28/2024

L M mohame... A M ayasheil... Mohame... MM A Mohame... alzahraa... M B bakli.kar... M M melwake... mahmou... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

98 Schema Types: Star Schema

99 Star Schema Example

100 Star Schema Characteristics

101 Star Schema Characteristics

102 Star Schema Examples

103 Schema Types: Snowflake Schema

104 Snowflake Schema

Click to add notes

Schema Types: Star Schema

0:17:26 2:06:56

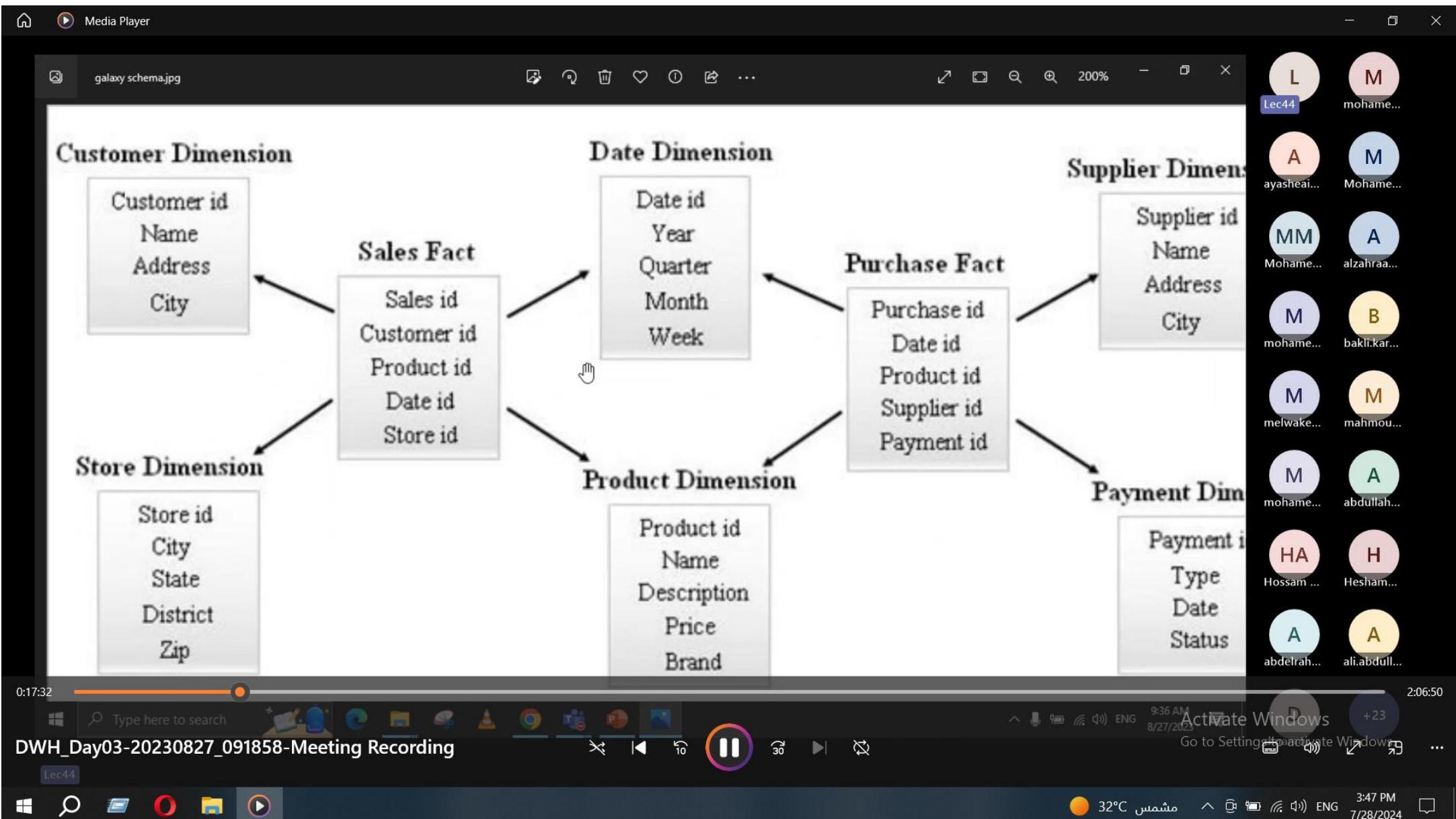
Type here to search

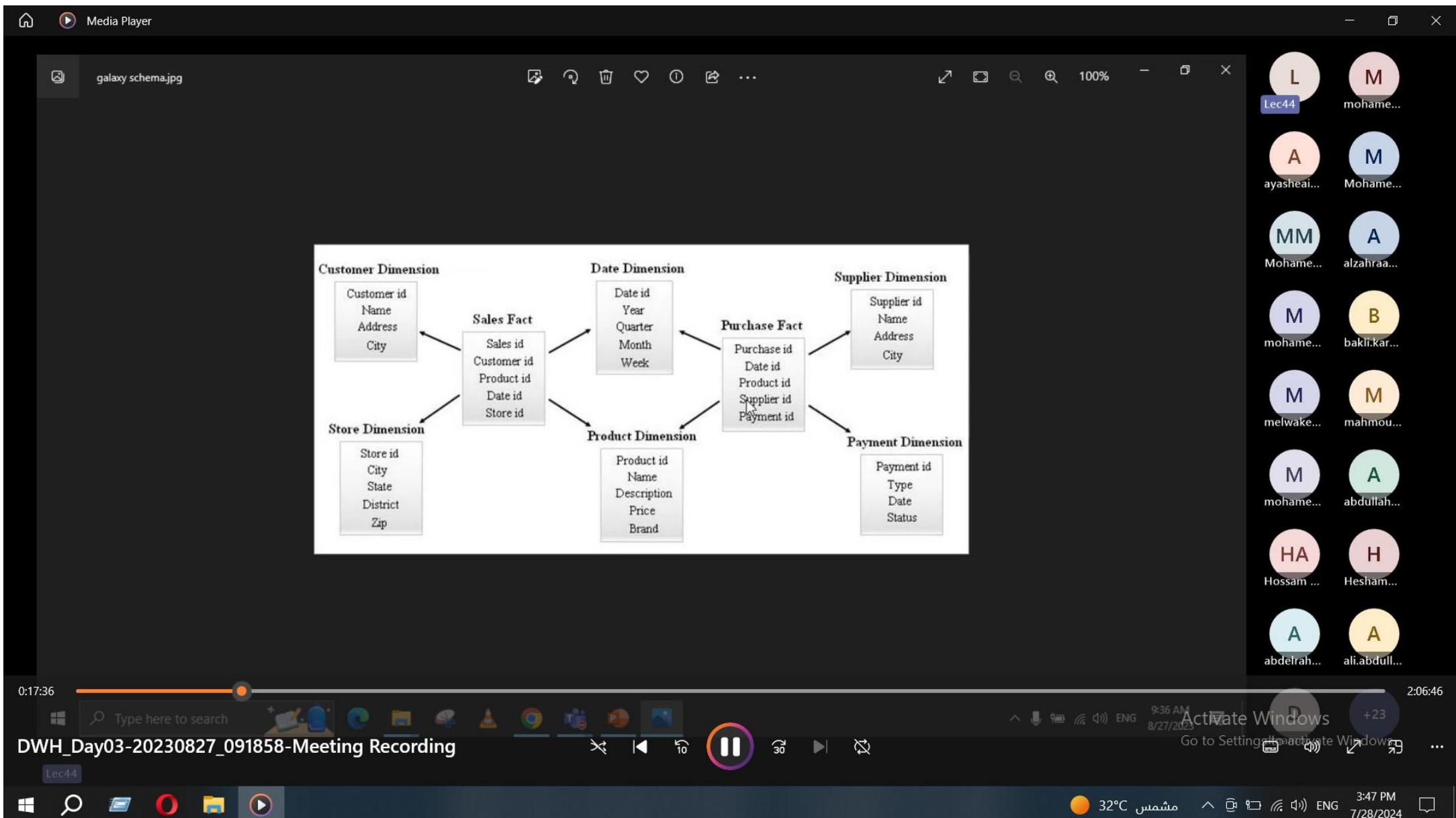
DWH_Day03-20230827_091858-Meeting Recording Lec44

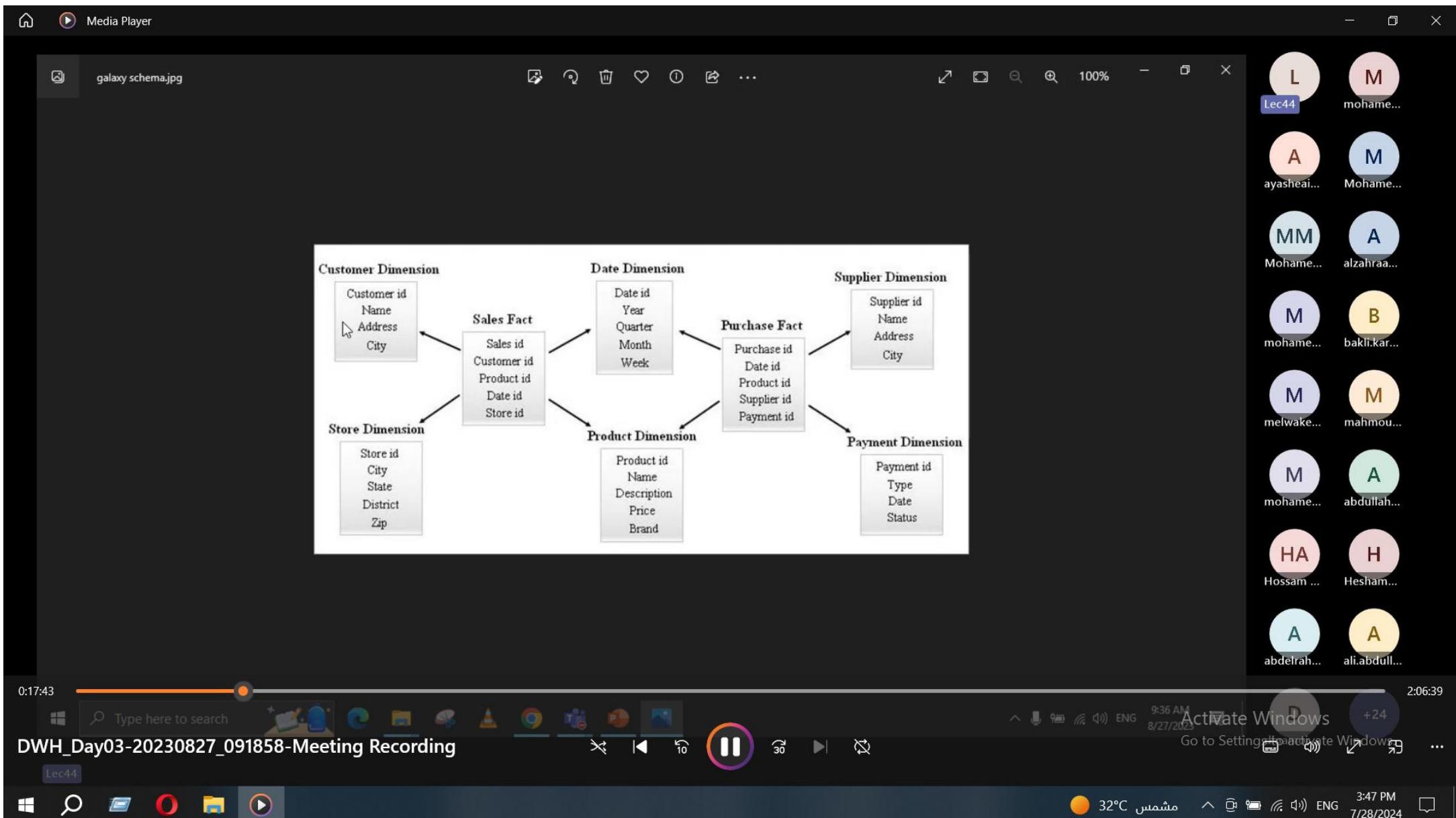
Activate Windows 9:36 AM 8/27/2023 +23 Go to Settings & activate Windows

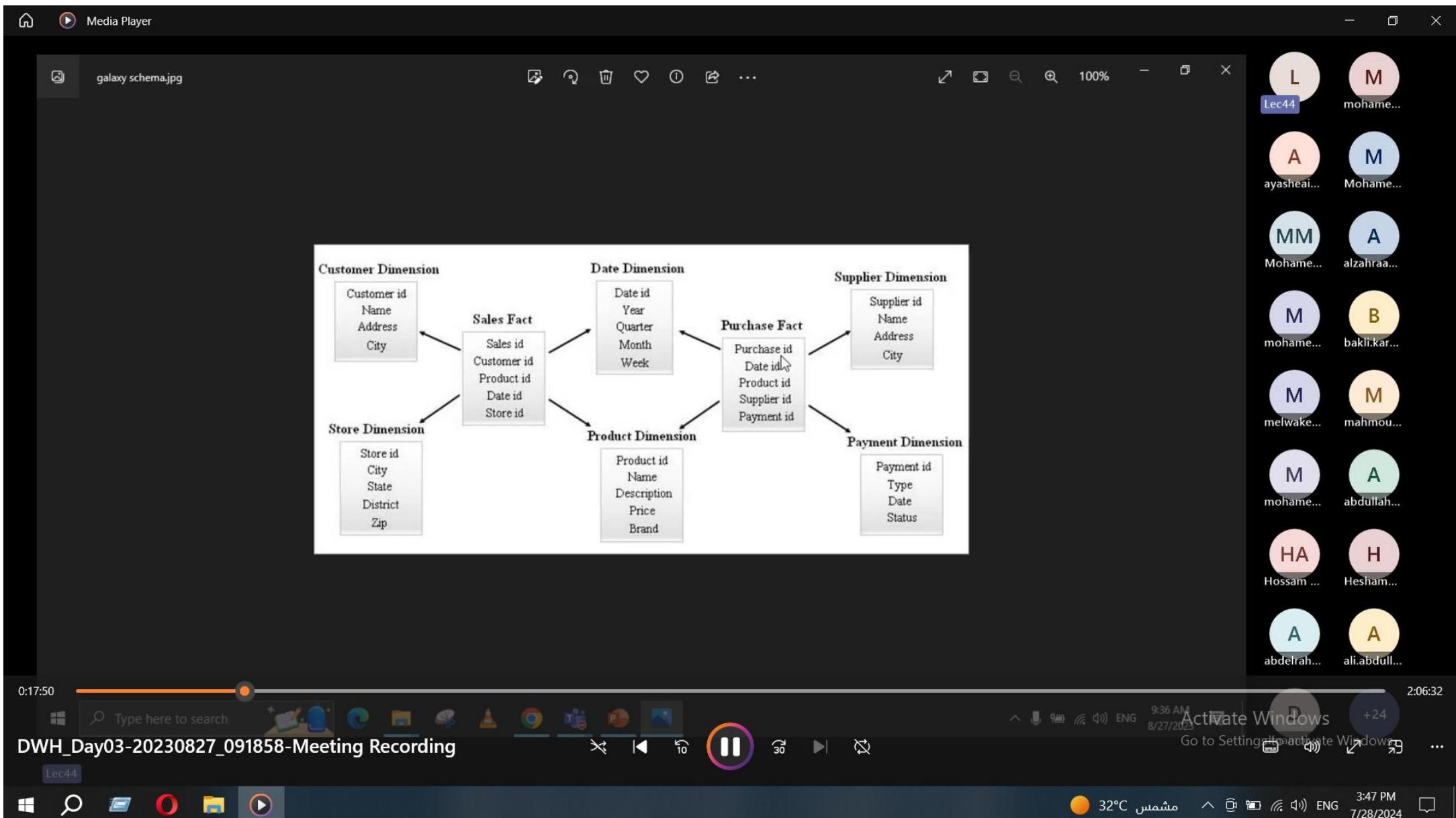
32°C مشمس ENG 3:47 PM 7/28/2024

L M mohame... A M ayasheil... Mohame... MM A Mohame... alzahraa... M B mohame... bakli.kar... M M melwake... mahmou... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...









Menu ITI Business Intelligence - Y Business Intelligence Analy linked dimensions galaxy s +

www.google.com/search

linked dimensions galaxy schema

All Images Videos Shopping News Books Web More Tools

Did you mean: [linkedin dimensions galaxy schema](#)

The constellation schema, also known as the galaxy schema, is a collection of simple star schemas. It ties together all the fact tables and dimension tables contained within all data marts representing historical data. **The connections link fact tables to corresponding dimension tables.**

ResearchGate https://www.researchgate.net/figure/Constellation-schema-for-historical-data-The-constellation-schema-is-a-collection-of-simple-star-schemas-it-links-fact-tables-to-corresponding-dimension-tables-which-are-contained-within-all-data-marts-representing-historical-data_3230000000000000000

Constellation schema for historical data. The ... - ResearchGate

About featured snippets · Feedback

Images :

Galaxy Schema

Galaxy Schema | Learn How ...

EDUCBA

Galaxy Schema | Learn How ...

EDUCBA

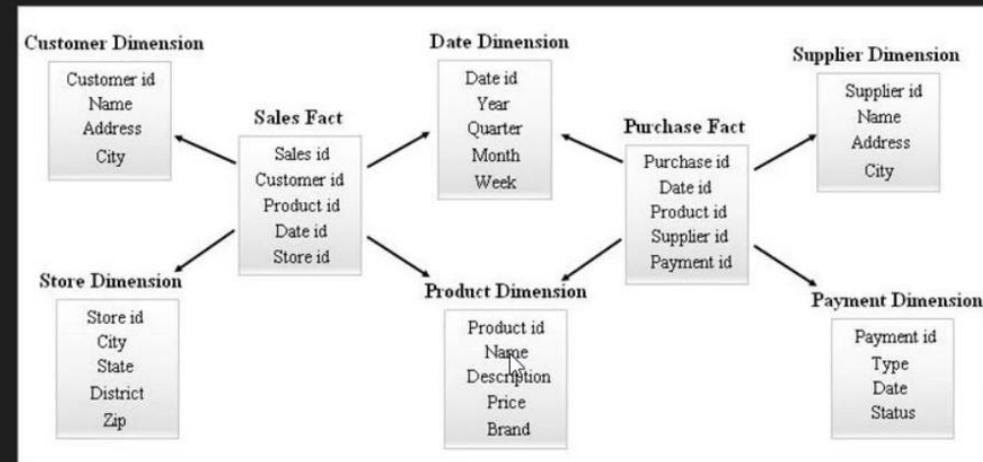
Star schema: Architecture f...

Starburst

Activate Windows

Go to Settings to activate Windows.

32°C مشمس ENG 3:48 PM 7/28/2024



0:18:29

Type here to search



ENG

9:37 AM
Activate Windows

2:05:53

DWH_Day03-20230827_091858-Meeting Recording



32°C . موسى

3:49 PM
7/26/2021

1

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

Star Schema Example

● **Star Schema:** the most commonly used and the simplest style of dimensional modeling

Click to add notes

0:19:00 2:05:22

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:37 AM 8/27/2023 +23 Go to Settings & activate Windows

32°C مشمس ENG 3:49 PM 7/28/2024

L M ayasheil... Mohamed... MM I ibrahem... M B bakli.kar... M رف melwake... ع رحاب... M A mohamed... abdullah... HA H Hossam... Hesham... A A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA Share Lec44

102 103 104 105 Modular Schema Definition: • Snowflake Schema is an extension of the Star Schema. • It is used when there are many dimensions very related to each other. • This is known as snowflake schema. • It is used when there are many dimensions very related to each other. • Example: Snowflake schema can be used to store data in a more organized way. 106 107 108

Snowflakes Example

```

graph TD
    CDT[Category Dimension Table] --> SFT
    PDT[Product Dimension Table] --> SFT
    CD[Customer Dimension Table] --> SFT
    DDT[Date Dimension Table] --> SFT
    SDT[Store Dimension Table] --> SFT
    SFT --> CDT
    SFT --> PDT
    SFT --> CD
    SFT --> DDT
    SFT --> SDT
  
```

Category Dimension Table

- Category_ID (pk)
- Category_Name
- Description

Product Dimension Table

- Product_ID (pk)
- Category(fk)
- Name
- Description
- Weight
- Package type

Sale Fact Table

- Store_ID (fk)
- Product_ID (fk)
- Date_ID (fk)
- Customer_ID(fk)
- Items_sold
- Sale_value

Customer Dimension Table

- Customer_ID (pk)
- Name
- Address
- Gender

Store Dimension Table

- Store_ID (pk)
- Brance_name
- Address
- Province
- Region

Date Dimension Table

- Date_ID (pk)
- day
- month
- year
- day_of_week

Click to add notes

0:19:09 de 2:05:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:38 AM 8/27/2023 +23 Go to Settings & activate Windows

32°C 3:49 PM ENG 7/28/2024

Ayasheal... M Mohame... MM I ibrahem... M B bakli.kar... melwake... رف abdullah... HA H Hesham... A abdelrah... A ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA Share Lec44

102

103

104

105

106

107

108

Click to add notes

0:19:34 de 2:04:48

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:38 AM 8/27/2023 +23 Go to Settings & activate Windows

32°C مشمس ENG 3:49 PM 7/28/2024

Snowflakes Example

```

    graph LR
        PD[Product Dimension Table] -- "Category_ID (pk)" --> CD[Category Dimension Table]
        PD -- "Product_ID (pk)" --> SF[Sale Fact Table]
        PD -- "Category(fk)" --> SF
        CD -- "Category_ID (pk)" --> SF
        SD[Store Dimension Table] -- "Store_ID (pk)" --> SF
        SD -- "Brance_name" --> SF
        SD -- "Address" --> SF
        SD -- "Province" --> SF
        SD -- "Region" --> SF
        DT[Date Dimension Table] -- "Date_ID (pk)" --> SF
        DT -- "day" --> SF
        DT -- "month" --> SF
        DT -- "year" --> SF
        DT -- "day_of_week" --> SF
        CT[Customer Dimension Table] -- "Customer_ID (pk)" --> SF
        CT -- "Name" --> SF
        CT -- "Address" --> SF
    
```

Category Dimension Table

- Category_ID (pk)
- Category Name
- Description

Product Dimension Table

- Product_ID (pk)
- Category(fk)
- Name
- Description

Sale Fact Table

- Store_ID (fk)
- Product_ID (fk)
- Date_ID (fk)
- Customer_ID(fk)
- Items_sold
- Sale_value

Store Dimension Table

- Store_ID (pk)
- Brance_name
- Address
- Province
- Region

Customer Dimension Table

- Customer_ID (pk)
- Name
- Address

Date Dimension Table

- Date_ID (pk)
- day
- month
- year
- day_of_week

L M ayasheil... Mohame... MM I ibrahem.... M B bakli.kar... M رف melwake... A abdullah... HA H Hesham... A ali.abdull...

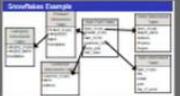
Media Player

DWH Lecture_Day03y.pptx - PowerPoint

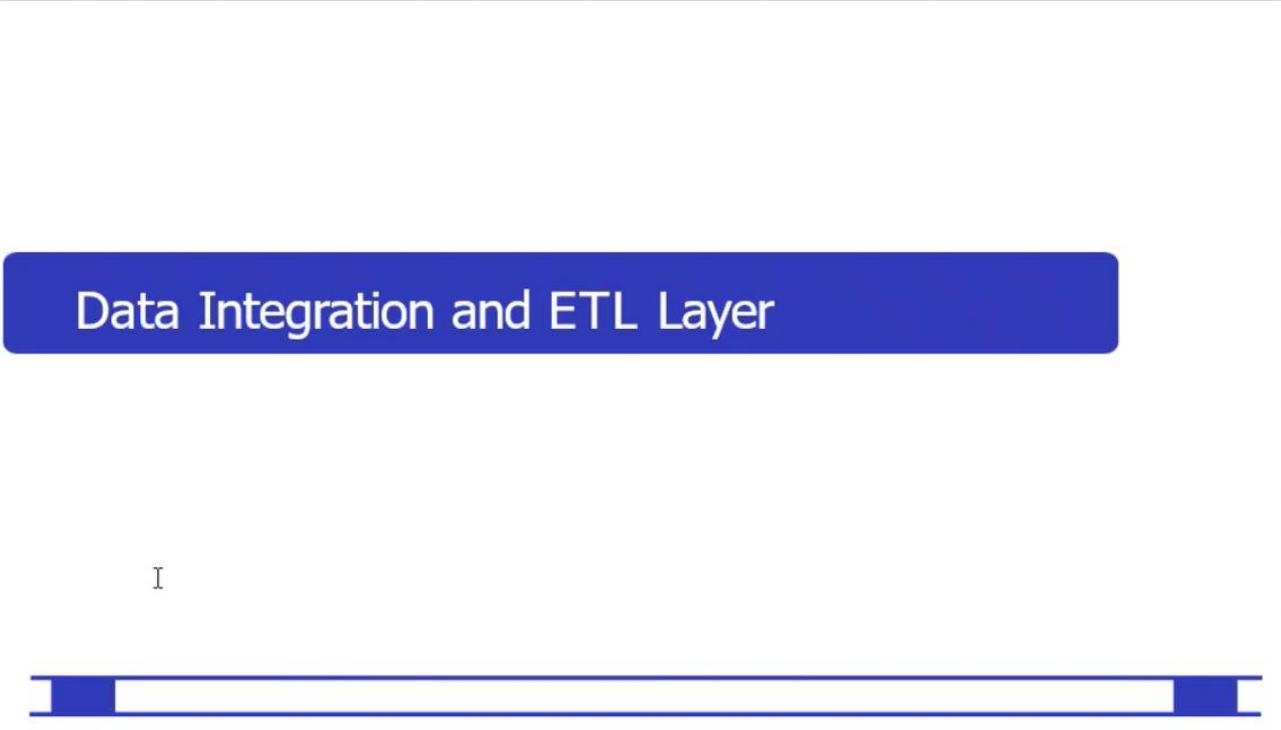
File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

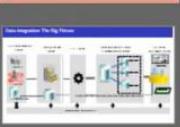
104 

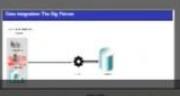
105 

106 

107 

108 * 

109 

110 

Click to add notes

0:19:51 2:04:31

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:38 AM 8/27/2023 +23 Go to Settings & activate Windows

32°C مشمس ENG 3:49 PM 7/28/2024

L M ayasheil... Mohame... MM I Mohame... ibrahem.... M B mohame... bakli.kar... M رف melwake... ع رحاب... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

104

105

106

107

108

109

110

Data Integration: The Big Picture

The diagram illustrates the Data Integration architecture across five layers:

- Source systems Layer:** Contains Legacy, External, and Operational systems.
- Staging Area Layer:** Contains an ODS (Operational Data Store).
- ETL Layer:** Represented by a gear icon.
- Data Modeling Layer (Presentation area):** Contains an EDWH (Enterprise Data Warehouse) and three Data Mart databases.
- BI Layer (Access Tools):** Contains Reporting and Analytics tools.

A central **Metadata repository** is connected to all layers, facilitating data integration.

Click to add notes

0:19:50 de 2:04:23

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 9:38 AM 8/27/2023 +23 Go to Settings & activate Windows

32°C مشمس ENG 3:50 PM 7/28/2024

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44

Share

104

105

106

107

108

109

110

Data Integration: The Big Picture

The diagram illustrates the Data Integration architecture across four main layers:

- Source systems Layer:** Contains Legacy, External, and Operational systems.
- Staging Area Layer:** Contains an ODS (Operational Data Store) and a central ETL (Extract, Transform, Load) process represented by a gear icon.
- ETL Layer:** Contains the ETDH (Enterprise Data Warehouse).
- BI Layer (Access Tools):** Contains Reporting and Analytics tools.

A dashed line separates the ETDH from the BI Layer. A Metadata repository is shown at the bottom, connected to all layers. Arrows indicate the flow of data from Source systems through the Staging Area and ETL layers to the BI Layer, with bidirectional connections between the ETDH and the BI Layer, and between the ETDH and the Metadata repository.

Click to add notes

0:20:11de 2:04:11

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 9:39 AM 8/27/2023 +23 Go to Settings & activate Windows

32°C 3:50 PM 7/28/2024 ENG

L L M A MM I M B M رف M A HA H A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Lec44 mohame...

A ayasheai... M Mohame...

MM Mohame... I ibrahem....

M mohame... B bakli.kar...

M melwake... رف... A abdullah...

HA Hossam ... H Hesham...

A abdelrah... A ali.abdull...

0:21:04 2:03:18

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

32°C 3:50 PM 7/28/2024

Data Integration: The Big Picture

Source systems Layer

Legacy

External

Operational

ETL

DWH

Click to add notes

What is ETL?

- Extracting the data from various environments.
- Transforming the data into a consistent format.
- Loading the transformed data into the target environment.
- Using ETL to extract data from various sources.
- Using ETL to transform data into a consistent format.
- Using ETL to load data into the target environment.

Activate Windows 8/27/2023 +23 Go to Settings & activate Windows

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding

Abdelwahed Ashraf AA Share Lec44

106 Snowflake Example

107 Star vs. Snowflake Schema

108 Data Integration and ETL Layer

109 Data Integration The Big Picture

110 Data Integration The Big Picture

111 What is ETL

112 What is ETL

What is ETL?

The ETL is the process of

- **Extracting:** the data from one or more source system
- **Transformation:** apply some rules over the extracted data including
 - Cleansing ex: remove null, or trim spaces.
 - Drop duplicates.
 - joining with lookups to validate values or enrich the data.
 - Reshaping or changing the data structure.
 - Adding new columns or removing columns from these data.
 - Change of data granularity
 - Convert data types.
- **Loading:** loading the transformed data into the target table based on the required format.

Click to add notes

0:22:40 2:01:42

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:41 AM 8/27/2023 +23 Go to Settings palactive Windows 7/28/2024

32°C مشمس ENG 3:51 PM 7/28/2024

L M abdelrah... mohame... A M abdelrah... Mohame... MM I Mohame... ibrahem... M B mohame... bakli.kar... M رف melwake... ع رحاب... M A mohame... abdullah... HA H Hossam... Hesham... A A abdelrah... ali.abdull...

What is ETL?

The ETL is the process of

- **Extracting:** the data from one or more source system
- **Transformation:** apply some rules over the extracted data including
 - Cleansing ex: remove null, or trim spaces.
 - Drop duplicates.
 - joining with lookups to validate values or enrich the data.
 - Reshaping or changing the data structure.
 - Adding new columns or removing columns from these data.
 - Change of data granularity
 - Convert data types.
- **Loading:** loading the transformed data into the target table based on the required format.

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

108 Data Integration and ETL Layer

109 Data Integration Big Picture

110 Data Integration

111 What is ETL

112 Why ETL

113 Why ETL

114 ETL Characteristics

Click to add notes

What is ETL?

- The ETL (Extraction, Transformation, Loading) is the primary core function for any DWH team.
- This team takes the delivered output from the previous stage (data modeling) and start to implement the mapping.
- The implementation of the ETL preferred to be unified across the team members and the organization.

0:25:00 1:59:22

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:43 AM 8/27/2023 +23 Go to Settings to activate Windows

32°C مشمس ENG 4:01 PM 7/28/2024

L M abdelrah... mohame... A M abdelrah... Mohame... MM I Mohame... ibrahem... M B mohame... bakli.kar... M رف melwake... ع رحاب... M A mohame... abdullah... HA H Hossam... Hesham... A A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

108 Data Integration and ETL Layer

109 Data Integration Big Picture

110 Data Integration

111 What is ETL

112 What is ETL

113 Why ETL

114 ETL Characteristics

Click to add notes

What is ETL?

- The ETL (Extraction, Transformation, Loading) is the primary core function for any DWH team.
- This team takes the delivered output from the previous stage (data modeling) and start to implement the mapping.
- The implementation of the ETL preferred to be unified across the team members and the organization.

0:25:08 1:59:14

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:44 AM 8/27/2023 +23 Go to Settings palactive Windows

32°C مشمس ENG 4:01 PM 7/28/2024

L M A M MM I M B رف A H HA H A abdelrah... mohame... abdelrah... Mohame... mohame... ibrahem... mohame... bakli.kar... melwake... رف mohame... abdullah... Hossam ... Hesham... abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

108 Data Integration and ETL Layer

109 Data Integration The Big Picture

110 Data Integration The Big Picture

111 What is ETL

112 What is ETL

113 Why ETL

114 ETL Characteristics

Why ETL become mandatory in any DWH ?

- Because of the rapidly increase in the data volumes.

Click to add notes

0:26:58 1:57:24

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:45 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 4:02 PM 7/28/2024

L M mohame... M M mahmou... M M Mohamed... MM A amrraga... M B bakli.kar... M M melwak... M M manarm... M A abdullah... HA H Hesham... A A abdelrah... A ali.abdull...

Why?

Why ETL become mandatory in any DWH ?

- Because of the I rapidly increase in the data volumes.

Every Time Make ETL

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Share L M Lec44 mohame... E M esraam205 Mohame... MM A Mohame... amrraga... M B mohame... bakli.kar... M M melwake... manarm... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...

110 Data Integration The Big Picture

111 What is ETL?

- Extracting data from various sources.
- Transforming data into a consistent format.
- Loading data into a target system.

112 What is ETL?

- The ETL (Extract, Transform, Load) process uses three main stages:
- Extract: Gets data from one or more sources.
- Transform: Cleans and prepares the data for loading.
- Load: Inserts the transformed data into the target system.

113 Why ETL?

- ETL becomes mandatory in any Data Lake.
- Because of the variety present in the data volumes.

114 ETL Characteristics

- Successful ETL design have the following characteristics:
- Maintainable.
- Reusable.
- Well-Performed.
- Reliable(Trusted).
- Resilient.
- Secure.

115 ETL Best Practice

- Designing ETL processes is challenging:
- Managing complex source systems.
- Ensuring data quality.
- Ensuring data consistency.
- Ensuring data security.
- Ensuring data integrity.

116 Surrogate vs Natural Key

Click to add notes

0:27:55 de 1:56:27

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

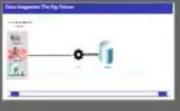
Activate Windows 9:46 AM 8/27/2023 Go to Settings +26

32°C مشمس ENG 4:06 PM 7/28/2024

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

110 

111 

112 

113 

114 

115 

116 

ETL Characteristics

Successful ETL design have the following characteristics:

- Maintainable.
- Reusable.
- Well-Performed.
- Reliable(Trusted).
- Resilient.
- Secure.

Click to add notes

0:30:43 de 1:53:39

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 8/27/2023 +26 Go to Settings

32°C مشمس ENG 4:07 PM 7/28/2024

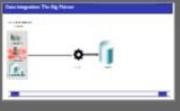
L M esraam205 Mohame... E M amrraga... MM A mohame... B bakli.kar... M M melwake... manarm... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

110 

111 

112 

113 

114 

115 

116 

Click to add notes

0:32:00 1:52:22

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

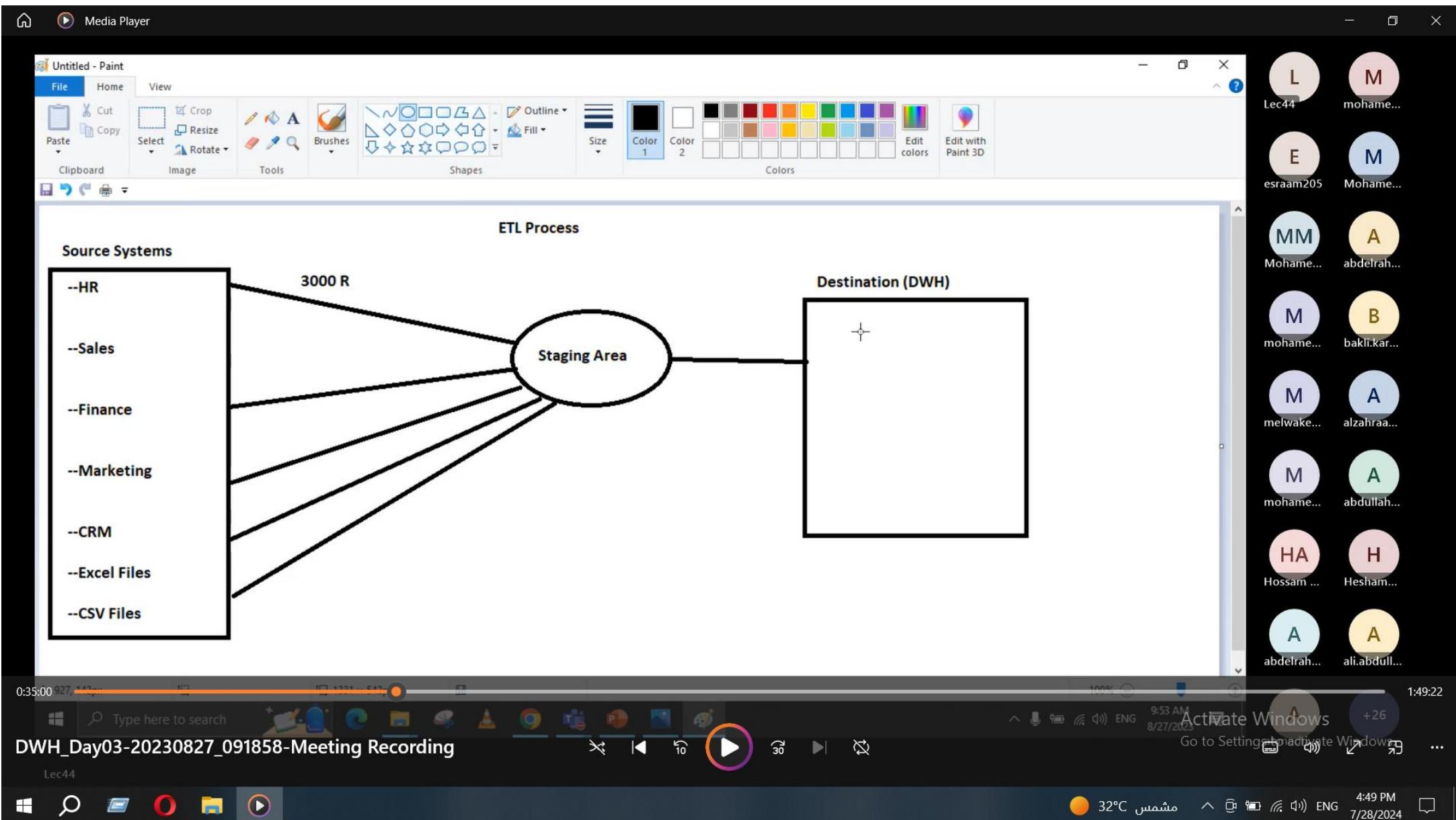
Lec44

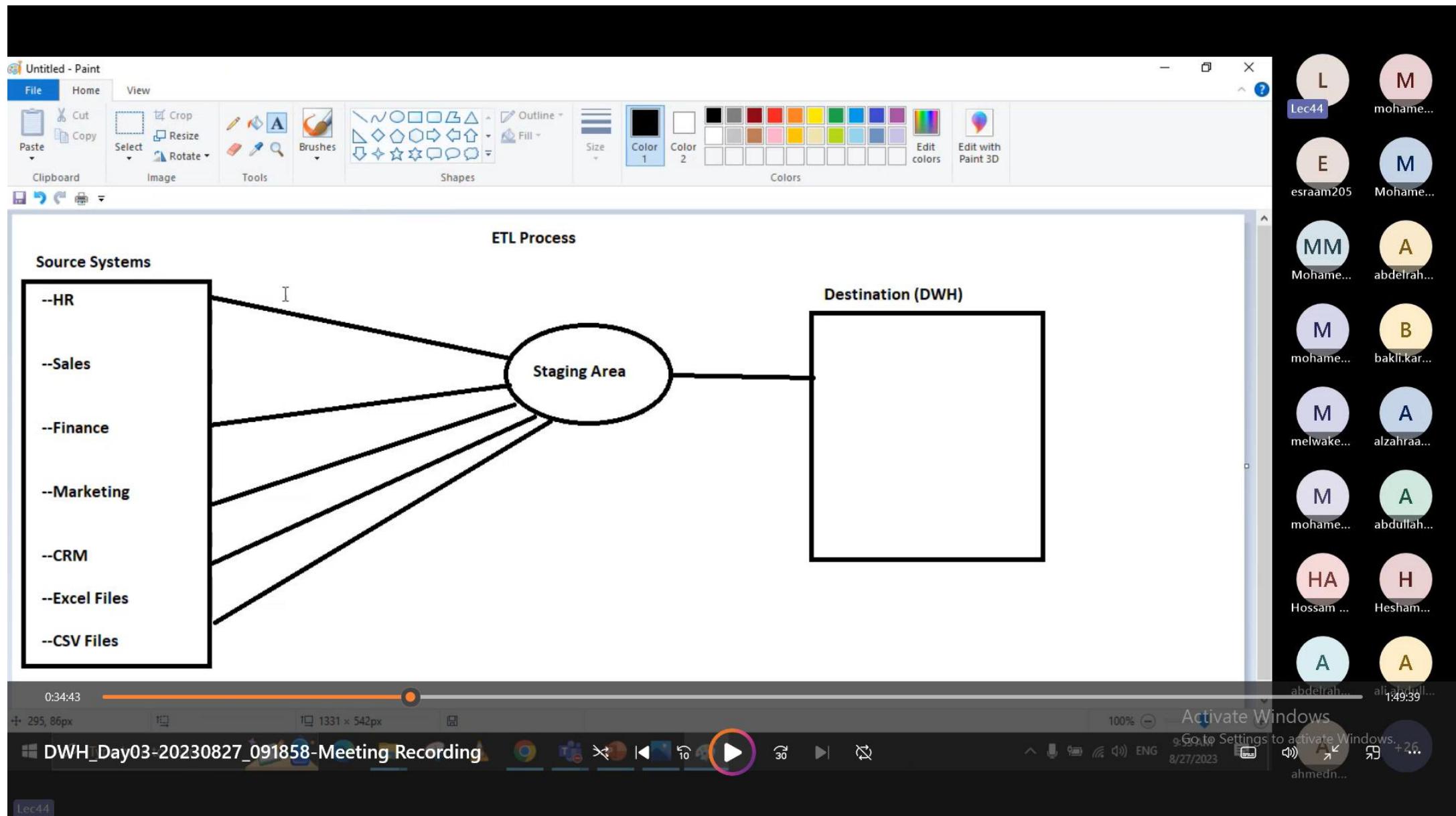
Activate Windows 9:50 AM 8/27/2023 +26 Go to Settings

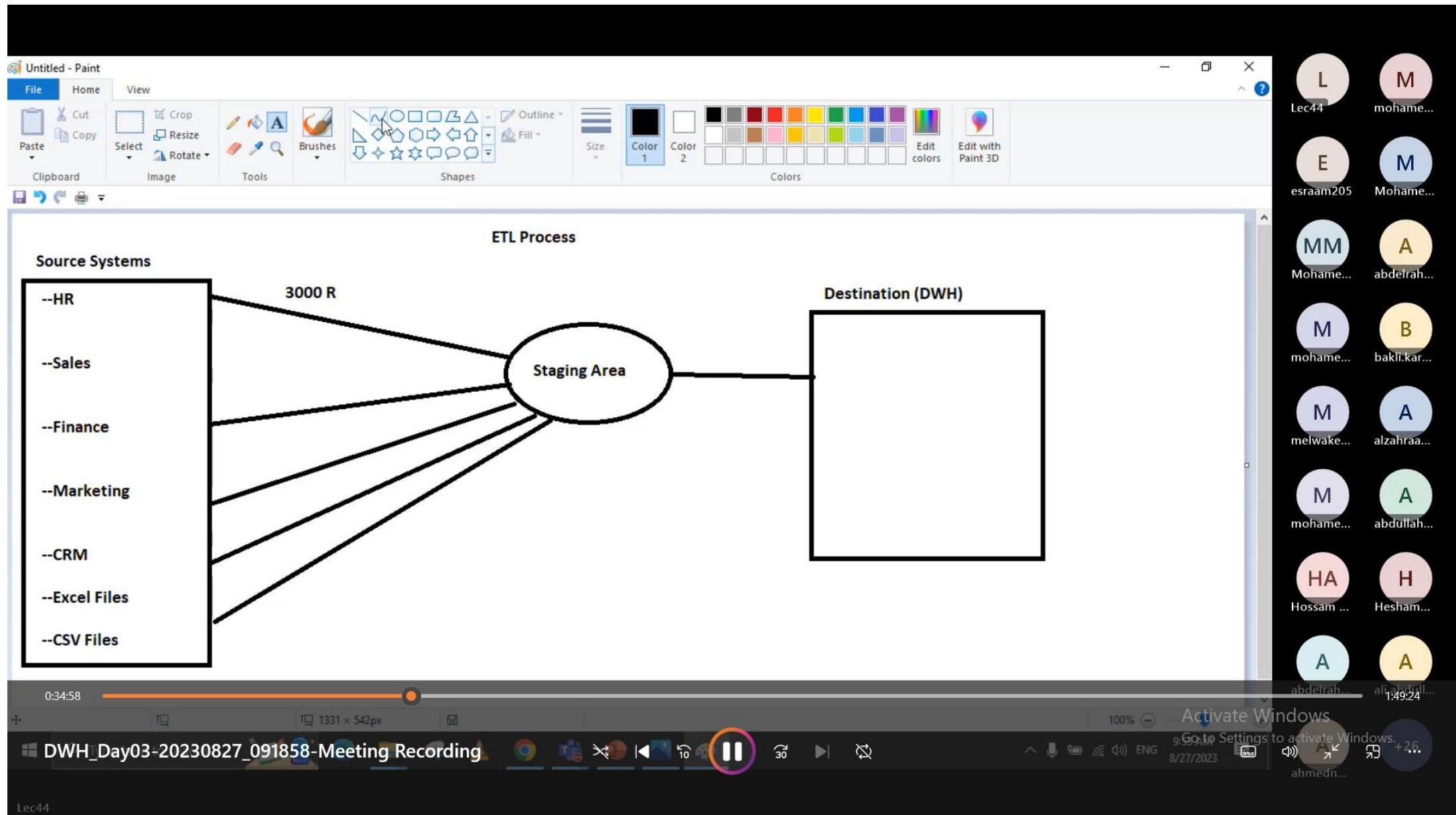
32°C ENG 4:07 PM 7/28/2024

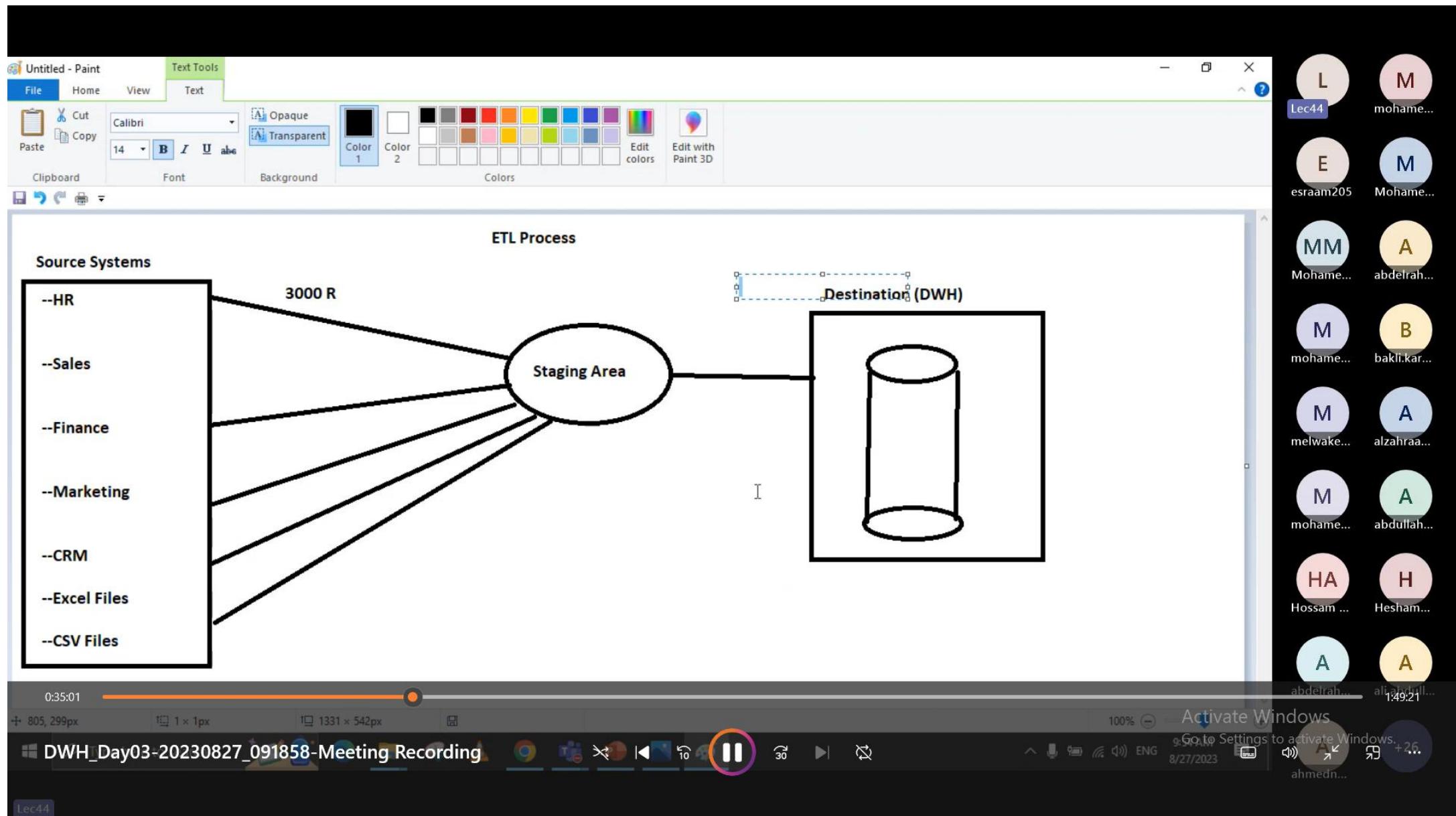
Share Lec44

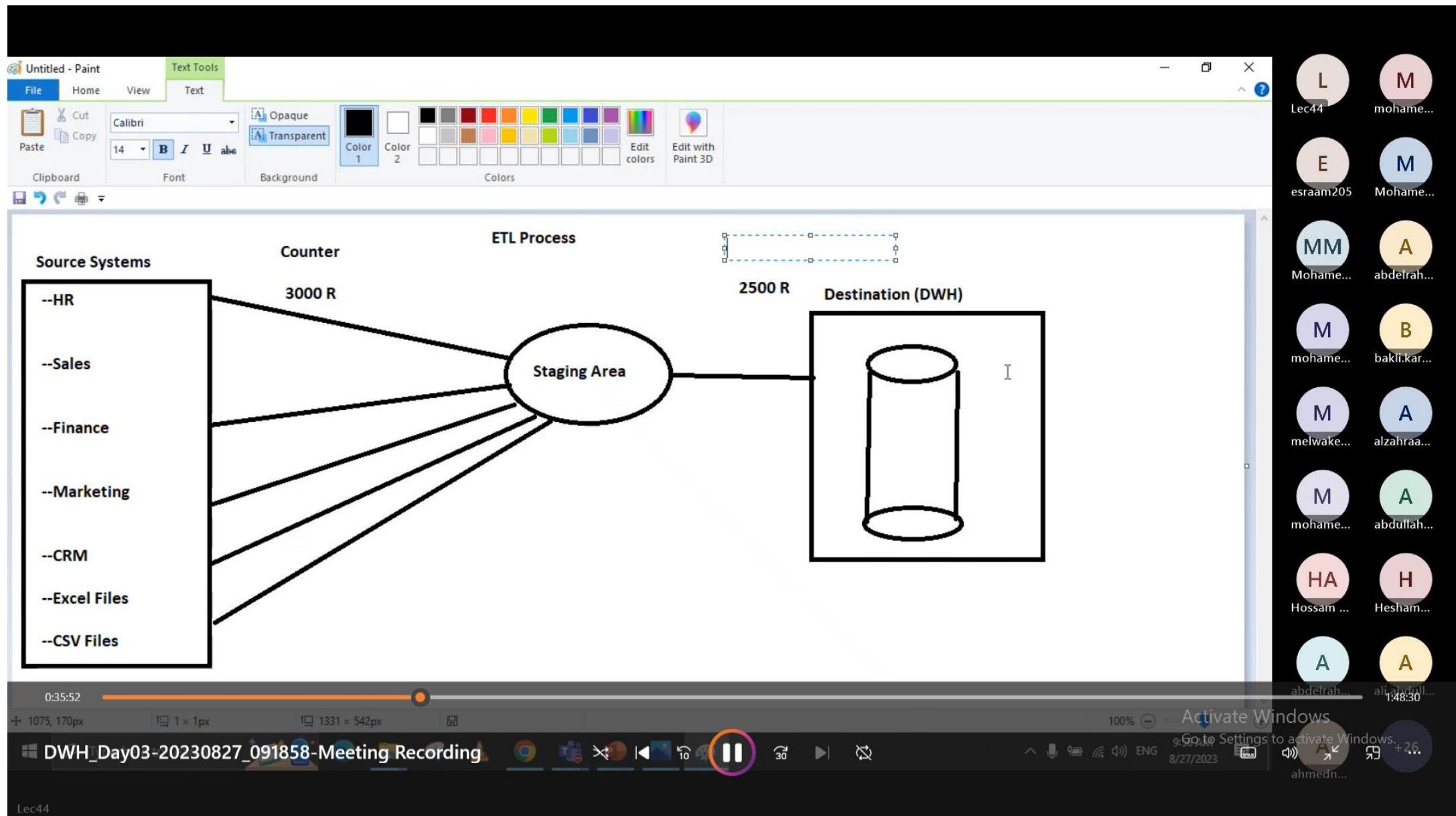
Mohame... L esraam205 M Mohamed... E Moham... MM amrraga... M Bakli.kar... M melwake... M manarm... M mohame... A abdullah... HA Hesham... H Hossam... A abdelrah... A ali.abdull...











Media Player

Untitled - Paint

File Home View Text Tools

Cut Copy Calibri 14 B I U Paste Clipboard Font Background Colors Edit colors Edit with Paint 3D

Source Systems

Counter

ETL Process

Counter

Destination (DWH)

Staging Area

3000 R

--HR
--Sales
--Finance
--Marketing
--CRM
--Excel Files
--CSV Files

3000 R

34°C 3:46:10 9:57 AM 8/27/2024 10:59 PM 7/28/2024

Activate Windows Go to Settings +27

DWH_Day03-20230827_091858-Meeting Recording Lec44

Chatty Chatbot

L M Lec44 mohame... E M esraam205 Mohame... MM A abdelrah... M B bakli.kar... M A melwake... alzahraa... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...

```
graph LR; subgraph Source [Source Systems]; direction TB; S1[--HR] --- S2[--Sales]; S2 --- S3[--Finance]; S3 --- S4[--Marketing]; S4 --- S5[--CRM]; S5 --- S6[--Excel Files]; S6 --- S7[--CSV Files]; end; S1 -- "3000 R" --> SA([Staging Area]); SA --> DWH((Destination (DWH))); subgraph Counter [Counter]; C1[3000 R]; end;
```

Media Player

Untitled - Paint

File Home View Text Tools

Cut Copy Paste

Font Calibri 14 B I U

Background Opaque Transparent

Color 1 Color 2 Colors Edit colors

Clipboard

Text Tools

ETL Process

Source Systems

--HR
--Sales
--Finance
--Marketing
--CRM
--Excel Files
--CSV Files

Counter

3000 R Total Sales 2M \$

Staging Area

Counter

3000 R 1 M \$

Destination (DWH)

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows

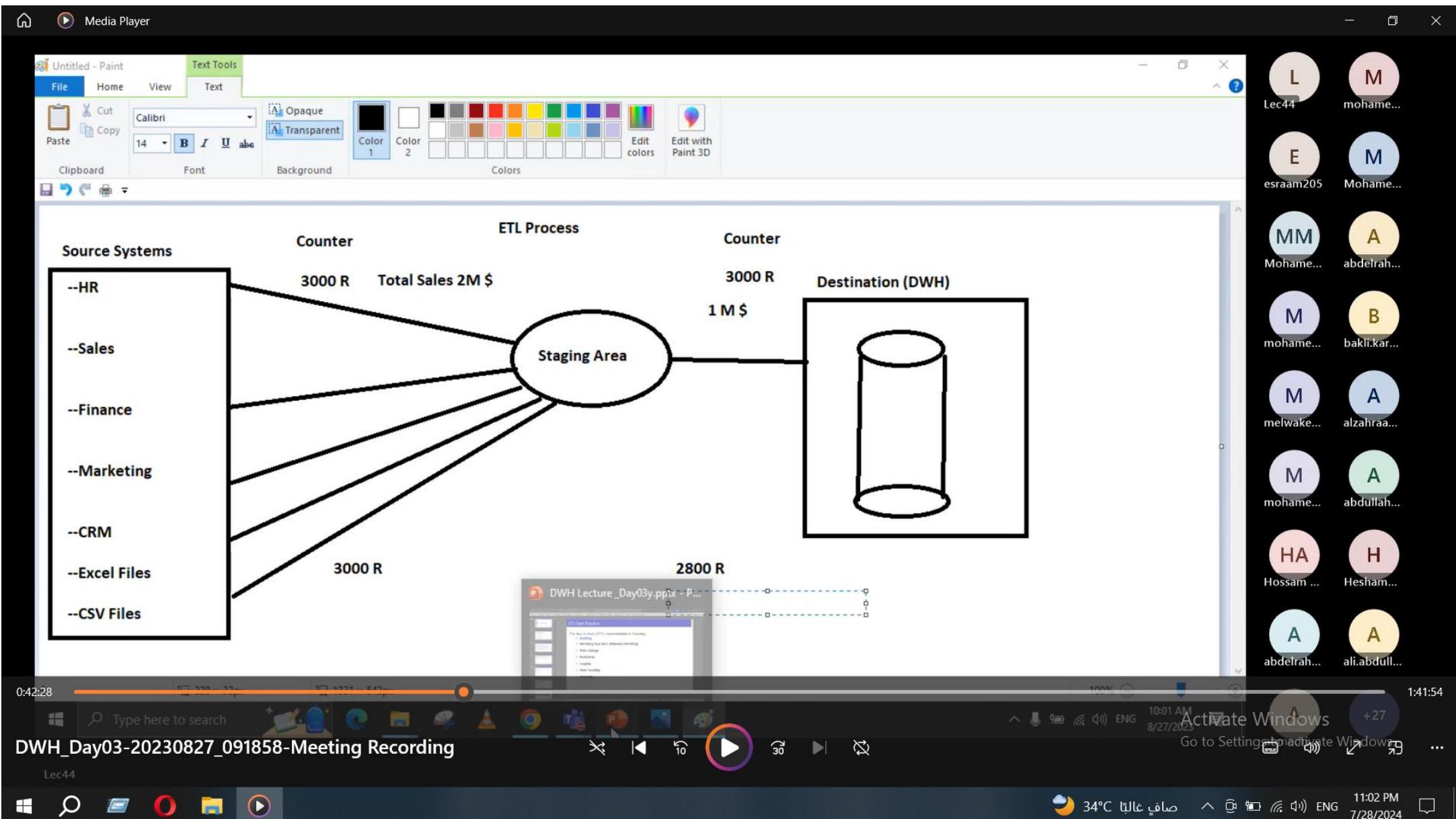
Go to Settings

34°C 11:00 PM 7/28/2024

Chatty Chatbot

Participants:

- L (mohame...)
- E (esraam205)
- M (Mohame...)
- MM (abdelrah...)
- M (bakli.kar...)
- M (alzahraa...)
- M (abdullah...)
- HA (Hossam ...)
- H (Hesham...)
- A (ali.abdull...)



Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

110 Data Integration The Big Picture

111 What is ETL?

- Extracting data from various sources
- Transforming data (cleaning, mapping, deduplicating)
- Loading data into a target system

112 What is ETL?

- The ETL (Extract, Transformation, Loading) is the process used for any type of data integration.
- It is a three-stage process that takes input from the previous stage (ETL mapping) and starts again for the mapping.
- The implementation of the ETL is preferred to be unified across the three stages and the responsibilities.

113 Why?

- Only ETL becomes inconsistency in any Data?
- Decrease of the quality because in the data values.

114 ETL Characteristics

- Successful ETL design have the following characteristics:
- Accuracy
- Consistency
- Completeness
- Scalability
- Reusability

115 ETL Best Practice

- Implementing ETL implementation is necessary:
 - managing raw data processing
 - mapping
 - loading
 - validating
 - logging
 - error handling
 - atomicity

116 Surrogate vs Natural Key

Click to add notes

0:42:28 1:41:54

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 10:01 AM 8/27/2023 +27 Go to Settings > Update & Security

34°C صافي غالباً ENG 11:02 PM 7/28/2024

L M esraam205 Mohame... E M Mohame... MM A abdetrah... M B bakli.kar... M A melwake... alzahraa... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Shape Format Share Lec44

110 Data Pipeline The Big Picture

111 What is ETL?

- Extracting data from various sources
- Transforming the data (cleaning, mapping, etc.)
- Loading the transformed data into a target system

112 What is ETL?

- The ETL (Extraction, Transformation, Loading) is the process used for any data movement.
- It is a three-stage process that takes input from the previous stage (ETL processing) and starts again for the mapping.
- The implementation of the ETL is preferred to be validated across the three stages and the requirements.

113 Why?

- Only ETL becomes mandatory in any DWH
- Because of the quality issues in the data volumes.

114 ETL Characteristics

- Successful ETL design have the following characteristics:
- Accuracy
- Completeness
- Consistency
- Availability
- Security

115 ETL Best Practice

- Managing error handling in ETL
- Using one common process mapping
- Using a single source of truth
- Using a single target system
- Using a single audit trail

116 * Surrogate vs Natural Key

Click to add notes

The keys to most of ETL implementation as following:

- **Auditing**
- **Managing Bad Data (Rejection Handling)**
- **Data Lineage**
- **Modularity**
- **Logging**
- **Error Handling**
- **Atomicity**

0:42:54 de 1:41:28

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 10:01 AM 8/27/2023 +27 Go to Settings

34°C صافي غالباً ENG 11:02 PM 7/28/2024

Mohamed... M esraam205 Moham... MM A abdelrah... M B bakli.kar... M A melwak... alzahraa... M A mohame... abdullah... HA H Hossam ... Hesham... A A abdelrah... ali.abdull...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Shape Format Share Lec44

110 Data Integration The Big Picture

111 What is ETL?

- Using the data from one or more source systems
- Extracting the data from the source system
- Transforming the data (cleaning, mapping, etc.)
- Loading the transformed data into a target system

112 What is ETL?

- The ETL (Extract, Transformation, Loading) is the process used for any type of data movement.
- It is a sequence of steps output from the previous stage (ETL processing) and starts to implement the mapping.
- The implementation of the ETL is preferred to be validated across the flow execution and the reproduction.

113 Why ETL becomes inaccuracy in any Chain?

- Because of the empty browser in the data volumes.

114 ETL Characteristics

- Successful ETL design have the following characteristics:
- Accuracy
- Completeness
- Consistency
- Integrity
- Security

115 ETL Best Practice

- Managing the error-prone mapping
- Using the real-time processing
- Using the incremental processing
- Using the log file
- Using the audit trail

116 Surrogate vs Natural Key

Click to add notes

The keys to most of ETL implementation as following:

- **Auditing**
- **Managing Bad Data (Rejection Handling)**
- **Data Lineage**
- **Modularity**
- **Logging**
- **Error Handling**
- **Atomicity**

0:49:15 de 1:35:07

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +26

34°C صافي غالباً ENG 11:07 PM 7/28/2024

Share Lec44

Mohamed... esraa.ma... Mohamed... ali.abdull... mohamed... bakli.kar... melwak... esraam205 mohamed... ahmedn... Hesham... abdetrah... manarm... abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Shape Format Share Lec44

110 Data Integration The Big Picture

111 What is ETL?

- Using the data from one or more source systems
- Extracting the data from the source system
- Transforming the data (cleaning, mapping, etc.)
- Loading the transformed data into a target system

112 What is ETL?

- The ETL (Extract, Transformation, Loading) is the process used for any type of data movement.
- It is a sequence of steps output from the previous stage (ETL processing) and starts to implement the mapping.
- The implementation of the ETL is preferred to be validated across the flow execution and the reproduction.

113 Why ETL becomes inaccuracy in any Chain?

- Because of the empty browser in the data volumes.

114 ETL Characteristics

- Successful ETL design have the following characteristics:
- Accuracy
- Completeness
- Consistency
- Integrity
- Security

115 ETL Best Practice

- Managing the ETL implementation is important
- Managing the data quality management
- Managing the error handling
- Managing the auditability
- Managing the security
- Managing the consistency

116 Surrogate vs Natural Key

Click to add notes

The keys to most of ETL implementation as following:

- **Auditing**
- **Managing Bad Data (Rejection Handling)**
- **Data Lineage**
- **Modularity**
- **Logging**
- **Error Handling**
- **Atomicity**

0:49:15 de 1:35:07

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +26

34°C صافي غالباً ENG 11:08 PM 7/28/2024

Share Lec44

mohame... M esraa.ma... M Mohamed... MM A ali.abdull... M B bakli.kar... M E esraam205 M A ahmedn... H A abdetrah... M A manarm... A abdullah...

Media Player

SQLQuery1.sql - DESKTOP-01PFO86.EO_Telecom_GrgEdu (DESKTOP-01PFO86\Mynta (73)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Object Explorer

Databases

- System Databases
- Database Snapshots
- AdventureWorks2017
- AdventureWorksDW2017
- Cat_Su_Cat_Service
- DB_EXAM
- DEMO_DWH_AdventureWorks
- DWH_App_My_NTRA
- DWH_MY_NTRA
- DWH_NDI_NTRA
- DWH_SCORE_CARD_MONTHLY
- DWH_SCORE_CARD_WEEKLY
- DWH_SSIS
- EO_Telecom_GrgEdu
- Database Diagrams
- Tables
- Views
- External Resources

SQLQuery1.sql - DE...PFO86\Mynta (73) - X

```
***** Script for SelectTopNRows command from SSMS *****
SELECT TOP (1000) [id]
    ,[batch_id]
    ,[package_name]
    ,[file_name]
    ,[rows_extracted]
    ,[rows_inserted]
    ,[rows_rejected]
    ,[created_at]
    ,[updated_at]
    ,[SuccessfulProcessingInd]
FROM [EO_Telecom_GrgEdu].[dbo].[dim_audit]
```

Results Messages

id	batch_id	package_name	file_name	rows_extracted	rows_inserted	rows_rejected	created_at	updated_at	SuccessfulProcessingInd

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) | DESKTOP-01PFO86\Mynta... | EO_Telecom_GrgEdu | 00:00:00 | 0 rows

0:52:15 1:32:07

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +25 Go to Settings to activate Windows

34°C 11:56 PM 7/28/2024

Media Player

L Lec44 M mohame... E esraa.ma... M Mohame... MM ali.abdull... M Bakli.kar... M melwake... E esraam205 M ahmedn... H sarah37... M manarm... A abdullah...

Media Player

Untitled - Paint

File Home View Text

Cut Copy Paste

Font Calibri 14 B I U

Background Opaque Transparent

Color 1 Color 2 Colors Edit colors

Clipboard

Text Tools

ETL Process

Source Systems

--HR
--Sales
--Finance
--Marketing
--CRM
--Excel Files
--CSV Files

Counter

3000 R Total Sales 2M \$

Staging Area

Counter

3000 R 1 M \$ Destination (DWH)

2800 R

Activate Windows

Go to Settings to activate Windows

Lec44

Mohamed L esraa.mahmed E Mohamed M Ali Abdulla MM A Mohamed M Bakli Karim M E Melwah esraam205 M Ahmed Hesham S Sarah manar m Abdullah A

0:52:51 161 100% 10:11 AM 8/27/2023 1:31:31

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

11:56 PM 7/28/2024

34°C صافي غالباً ENG

```
graph LR; subgraph Source [Source Systems]; direction TB; HR["--HR"]; Sales["--Sales"]; Finance["--Finance"]; Marketing["--Marketing"]; CRM["--CRM"]; Excel["--Excel Files"]; CSV["--CSV Files"]; end; Source -- "3000 R" --> SA([Staging Area]); Source -- "3000 R" --> DWH((Destination (DWH))); Source -- "2800 R" --> DWH; SA -- "1 M $" --> DWH;
```

Media Player

SQLQuery2.sql - DESKTOP-01PFO86.DEMO_DWH_AdventureWorks (DESKTOP-01PFO86\Myatra (60)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

DEM... DWH... DWL... DAB... New Query HDT DMY SMLA DAB...

DEM... DWH_AdventureW... Execute

Object Explorer

Databases System Databases Database Snapshots AdventureWorks2017 AdventureWorksDW2017 Cat_Su_Cat_Service DB_EXAM DEMO_DWH_AdventureWorks Database Diagrams Tables System Tables FileTables External Tables Graph Tables dbo.dim_customer Columns customer_key (PK, int, not null) customer_id (int, not null) customer_name (nvarchar(150), null) address1 (nvarchar(100), null) address2 (nvarchar(100), null) city (nvarchar(30), null) phone (nvarchar(25), null) source_system_code (tinyint, not null) start_date (datetime, not null) end_date (datetime, null) is_current (tinyint, not null) Keys pk_dim_customer

SQLQuery2.sql - DE...PFO86\Myatra (60) SQLQuery1.sql - DE...PFO86\Myatra (73)

```
***** Script for SelectTopNRows command from SSMS *****
SELECT TOP (1000) [customer_key]
    ,[customer_id]
    ,[customer_name]
    ,[address1]
    ,[address2]
    ,[city]
    ,[phone]
    ,[source_system_code]
    ,[start_date]
    ,[end_date]
    ,[is_current]
```

Results Messages

	customer_key	customer_id	customer_name	address1	address2	city	phone	source_system_code	start_date	end_date	is_current
1	0	0	Unknown	Unknown	Unknown	Unknown	Unknown	0	1900-01-01 00:00:00.000	NULL	1

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) DESKTOP-01PFO86\Myatra... DEMO_DWH_AdventureWorks 00:00:00 1 rows

0:54:18 1:30:04

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +25 Go to Settings to activate Windows

34°C ENG 11:57 PM 7/28/2024

L M Lec44 mohame... E M esraa.ma... M M MM A Mohame... B Bakli.kar... M E melwak... E A mohame... ahmedn... H S Hesham... sarah37... M A manarm... Abdullah...

Media Player

SQLQuery2.sql - DESKTOP-01PFO86.DEMO_DWH_AdventureWorks (DESKTOP-01PFO86\Myatra (60)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

New Query HDT DWY SMLA DAE

Execute

Object Explorer

Databases System Databases Database Snapshots AdventureWorks2017 AdventureWorksDW2017 Cat_Su_Cat_Service DB_EXAM DEMO_DWH_AdventureWorks Database Diagrams Tables System Tables FileTables External Tables Graph Tables dbo.dim_customer Columns customer_key (PK, int, not null) customer_id (int, not null) customer_name (nvarchar(150), null) address1 (nvarchar(100), null) address2 (nvarchar(100), null) city (nvarchar(30), null) phone (nvarchar(25), null) source_system_code (tinyint, not null) start_date (datetime, not null) end_date (datetime, null) is_current (tinyint, not null) Keys pk_dim_customer

SQLQuery2.sql - DE...PFO86\Myatra (60) SQLQuery1.sql - DE...PFO86\Myatra (73)

```
***** Script for SelectTopNRows command from SSMS *****
SELECT TOP (1000) [customer_key]
,[customer_id]
,[customer_name]
,[address1]
,[address2]
,[city]
,[phone]
,[source_system_code]
,[start_date]
,[end_date]
,[is_current]
```

Results Messages

	customer_key	customer_id	customer_name	address1	address2	city	phone	source_system_code	start_date	end_date	is_current
1	0	0	Unknown	Unknown	Unknown	Unknown	Unknown	0	1900-01-01 00:00:00.000	NULL	1

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) DESKTOP-01PFO86\Myatra... DEMO_DWH_AdventureWorks 00:00:00 1 rows

0:54:37 1:29:45

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +25 Go to Settings to activate Windows

34°C ENG 11:57 PM 7/28/2024

L M Lec44 mohame... E M esraa.ma... Mohame... MM A Mohame... ali.abdull... M B mohame... bakli.kar... M E melwake... esraam205 M A mohame... ahmedn... H S Hesham... sarah37... M A manarm... abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Shape Format Share Lec44

110 Data Integration The Big Picture

111 What is ETL?

- Extracting data from various sources
- Transforming data (cleaning, mapping, etc.)
- Loading data into a target system

112 What is ETL?

- The ETL (Extraction, Transformation, loading) is the process used for any data integration.
- It is a three-stage process: extraction, transformation, and loading.
- The implementation of the ETL is preferred to be validated across the three data and the applications.

113 Why ETL?

- Why ETL becomes mandatory in any Data?
- Because of the quality issues in the data volumes.

114 ETL Characteristics

- Successful ETL design have the following characteristics:
- Accuracy
- Consistency
- Completeness
- Timeliness
- Security

115 ETL Best Practice

- Auditing
- Managing Bad Data (Rejection Handling)
- Data Lineage
- Modularity
- Logging
- Error Handling
- Atomicity

Click to add notes

0:55:36 1:28:46

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +25 Go to Settings to activate Windows

34°C صافي غالباً ENG 11:58 PM 7/28/2024

Abdelwahed Ashraf AA

Share Lec44 mohame... L M esraa.ma... Mohame... MM A ali.abdull... M B bakli.kar... M E esraam205 M A ahmedn... H S sarah37... A A Akmat.el... abdullah...

The keys to most of ETL implementation as following:

- **Auditing**
- **Managing Bad Data (Rejection Handling)**
- **Data Lineage**
- **Modularity**
- **Logging**
- **Error Handling**
- **Atomicity**

Media Player

SQLQuery2.sql - DESKTOP-01PFO86.DEMO_DWH_AdventureWorks (DESKTOP-01PFO86\Myatra (60)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Project Tools Window Help

New Query HDT DMT SMLA DAS

Execute

Object Explorer

Production.ProductDocument
Production.ProductInventory
Production.ProductListPriceHistory
Production.ProductModel
Production.ProductModelIllustration
Production
Sales.Count
Sales.Credit
Sales.Curre
Sales.Curre
Sales.Custo
Sales.Perso
Sales.SalesC
Sales.SalesC

Script Table as
View Dependencies
Memory Optimization Advisor
Encrypt Columns...
Full-Text index
Storage
Stretch
Policies
Facets
Start PowerShell
Reports
Rename
Delete
Refresh

***** Script for SelectTopNRows command from SSMS *****

```
SELECT TOP (1000) [customer_key]
,[customer_id]
,[customer_name]
,[address1]
,[address2]
,[city]
,[phone]
,[source_system_code]
,[start_date]
,[end_date]
,[is_current]
```

Results Messages

customer_key	customer_id	customer_name	address1	address2	city	phone	source_system_code	start_date	end_date	is_current
0	0	Unknown	Unknown	Unknown	Unknown	Unknown	0	1900-01-01 00:00:00.000	NULL	1

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) DESKTOP-01PFO86\Myatra... DEMO_DWH_AdventureWorks 00:00:00 1 rows

0:57:30 1:26:52

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +27

Go to Settings to activate Windows

34°C ENG 11:59 PM 7/28/2024

L M Lec44 mohame... E M esraa.ma... M M ali.abdull... M B mohame... bakli.kar... M E melwake... esraam205 M A mohame... ahmedn... H S Hesham... sarah37... A A Akmal.el... abdullah...

Media Player

SQLQuery3.sql - DESKTOP-01PFO86.AdventureWorks2017 (DESKTOP-01PFO86\Mynta (65)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

AdventureWorks2017 Execute

Object Explorer

SQLQuery3.sql - DE...PFO86\Mynta (65) SQLQuery2.sql - DE...PFO86\Mynta (60) SQLQuery1.sql - DE...PFO86\Mynta (73)

***** Script for SelectTopNRows command from SSMS *****

```
SELECT TOP (1000) [CustomerID]
    ,[PersonID]
    ,[StoreID]
    ,[TerritoryID]
    ,[AccountNumber]
    ,[rowguid]
    ,[ModifiedDate]
FROM [AdventureWorks2017].[Sales].[Customer]
```

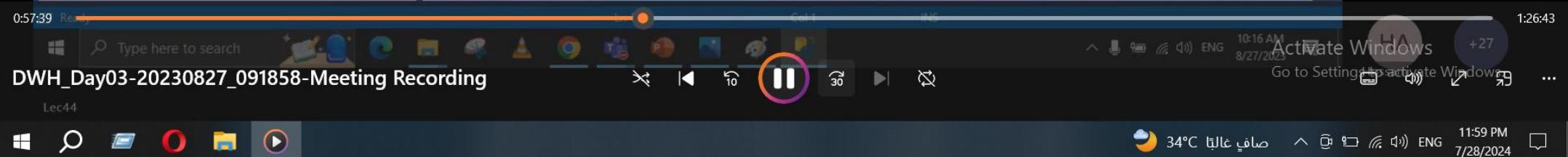
Results Messages

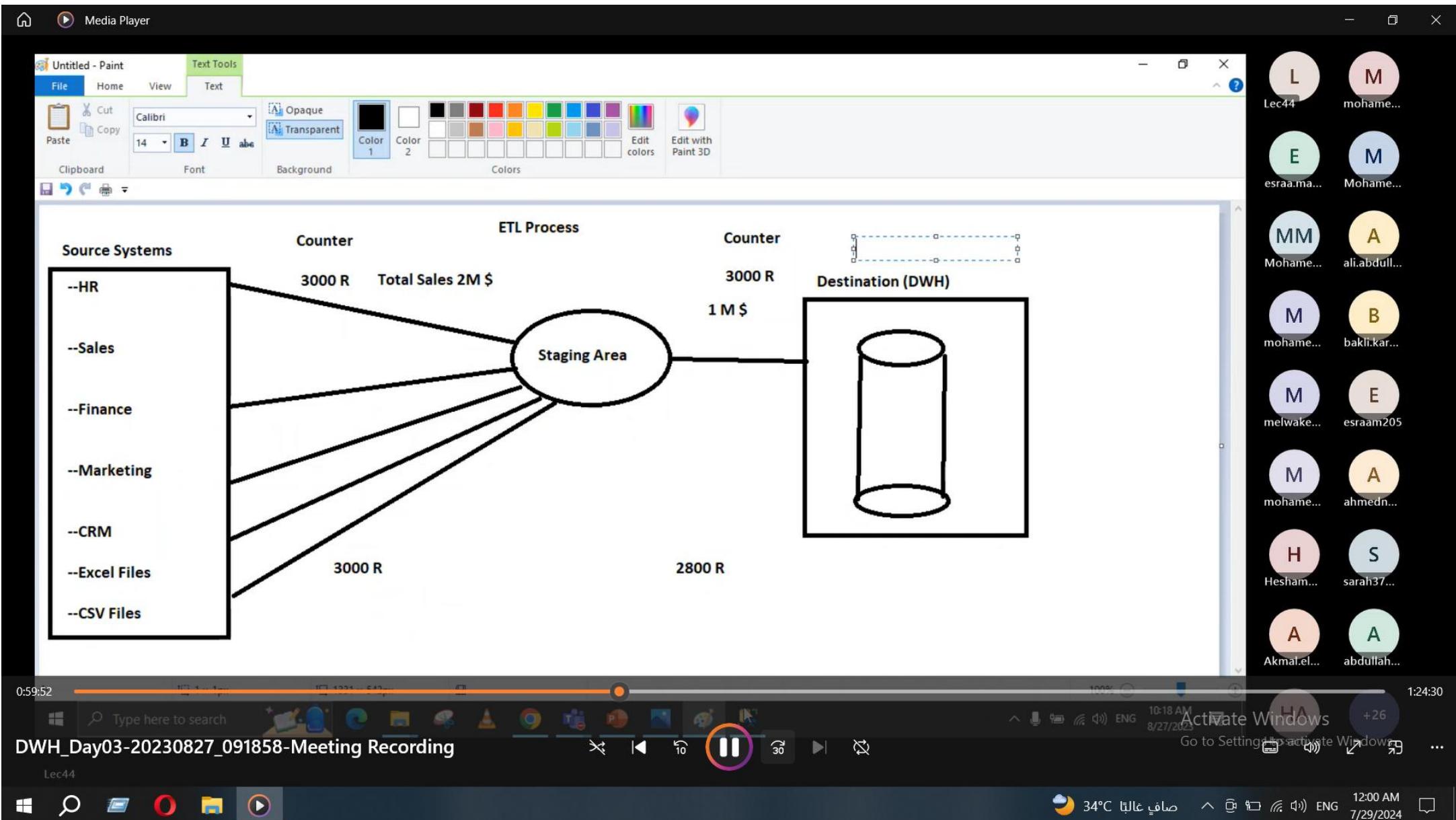
CustomerID	PersonID	StoreID	TerritoryID	AccountNumber	rowguid	ModifiedDate
1	NULL	934	1	AW00000001	3F5AE95E-B87D-4AED-95B4-C3797AFCB74F	2014-09-12 11:15:07.263
2	NULL	1028	1	AW00000002	E552F657-A9AF-4A7D-A645-C429D6E02491	2014-09-12 11:15:07.263
3	NULL	642	4	AW00000003	13077481-DB214EF3-98C8-C104BCD6ED6D	2014-09-12 11:15:07.263
4	NULL	932	4	AW00000004	FF862851-1DAA-4044-BE7C-3E85583C054D	2014-09-12 11:15:07.263
5	NULL	1026	4	AW00000005	83905BDC-6F5E-4F71-B162-C98DA069F38A	2014-09-12 11:15:07.263
6	NULL	644	4	AW00000006	1A92DF88-BFA2-467D-BD54-FCB9E647FDD7	2014-09-12 11:15:07.263
7	NULL	930	1	AW00000007	03E9273E-B193-448E-9823-FE0C44AEED78	2014-09-12 11:15:07.263
8	NULL	1024	5	AW00000008	801368B1-4323-4BFA-8BEA-5B5B1E4BD4A0	2014-09-12 11:15:07.263
9	NULL	620	5	AW00000009	B900BB7F-23C3-481D-80DA-C49A5B0D6F772	2014-09-12 11:15:07.263
10	NULL	928	6	AW00000010	CDB6698D-2FF1-4FBA-8F22-60AD1D11DABD	2014-09-12 11:15:07.263
11	NULL	1022	6	AW00000011	750F3495-59C4-48A0-80E1-E37EC60E77D9	2014-09-12 11:15:07.263

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) DESKTOP-01PFO86\Mynta... AdventureWorks2017 00:00:00 1,000 rows

L Lec44 mohame... E esraa.ma... M Mohame... MM Mohame... A ali.abdull... M mohame... B bakli.kar... M melwake... E esraam205 M mohame... A ahmedn... H Hesham... S sarah37... A Akmat.el... A abdullah...





Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

112 What is ETL?

- The ETL (Extract, Transform, Load) is the process used for any data integration.
- It is a process that extracts data from the source system and transforms it into a target system.
- The implementation of the ETL is preferred to be utilized across the three areas, and the representation.

113 Why?

- Why ETL become mandatory in any DWH ?
 - Because of the rapidly increase in the data volumes.

114 ETL Characteristics

- Successful ETL design have the following characteristics:
 - Accuracy
 - Consistency
 - Completeness
 - Integrity
 - Performance
 - Scalability

115 ETL Best Practice

- Designing ETL implementation is critical:
 - Managing extract process
 - Managing transformation process
 - Managing loading process
 - Managing error handling
 - Managing logging
 - Managing monitoring

116 * Surrogate vs Natural Key

117 Data Identification

118 Examples on Related Key

Click to add notes

The keys to most of ETL implementation as following:

- Auditing**
- Managing Bad Data (Rejection Handling)**
- Data Lineage**
- Modularity**
- Logging**
- Error Handling**
- Atomicity**

SQLQuery2.sql - DESKTOP-01PFO86.DEMO_DWH_AdventureWorks (DESKTOP-01PFO86\Myntra (60)) - Microsoft SQL Server Management Studio (Administrator)

SQLQuery2.sql - DESKTOP-01PFO86.DEMO_DWH_AdventureWorks (DESKTOP-01PFO86\Myntra (60)) - Microsoft SQL Server Management Studio (Administrator)

1:00:00 1:24:22

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +26

Go to Settings to activate Windows

34°C صافي غالباً ENG 12:00 AM 7/29/2024

Share Lec44

mohame... L M esraa.ma... M Mohamed... MM A ali.abdull... M B bakli.kar... melwake... A a.alsaghir... M A ahmedn... H S sarah37... A A Akmat.el... Abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

116 * [Screenshot of a slide titled "Surrogate vs Reduced Key"]

117 [Screenshot of a slide titled "Data Identifiers"]

118 [Screenshot of a slide titled "Surrogate vs Reduced Key"]

119 [Screenshot of a slide titled "Natural or Composite PK"]

120 * [Screenshot of a slide titled "Partitioning"]

121 [Screenshot of a slide titled "Data Partitioning"]

122 [Screenshot of a slide titled "Data Partitioning"]

Click to add notes

1:00:41 de 1:23:41

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +26 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:00 AM 7/29/2024

L M esraa.m... Mohamed... MM A ali.abdull... M B bakli.kar... M E esraam205 M A ahmedn... H S sarah37... A A Akmat.el... Abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

116 ★ 117 118 119 120 ★ 121 122 123

Partitioning

Click to add notes

1:00:43 de 1:23:39

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +26 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:01 AM 7/29/2024

L M mohame... E M esraa.ma... Mohamed... MM A ali.abdull... M B mohame... bakli.kar... M E melwake... esraam205 M A mohame... ahmedn... H S Hesham... sarah37... A A Akmat.el... abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

116 * 117 118 119 120 * 121 122 123

Data Partitioning

- Breaking up of data into smaller Physical units that can be handled independently
- Data partitioning provides ease of:
 - Restructuring
 - Reorganization
 - Removal
 - Recovery
 - Monitoring
 - Management
 - Archiving

Click to add notes

The diagram shows a large 3D grid of blue squares representing a massive dataset. A single line connects the top-left square of this grid to a smaller 2x2 grid of squares positioned below and to the right, representing how the data is partitioned into smaller, more manageable physical units.

1:01:30 1:22:52

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows Go to Settings +26

34°C صافي غالباً ENG 12:03 AM 7/29/2024

Share Lec44

L M E M MM A M B M E M A H S A A

Abdelwahed Ashraf AA

10:20 AM 8/27/2023

Media Player

SQLQuery3.sql - DESKTOP-01PFO86.AdventureWorks2017 (DESKTOP-01PFO86\Mynta (65)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

AdventureWorks2017 Execute

Object Explorer

SQLQuery3.sql - DE...PFO86\Mynta (65) SQLQuery2.sql - DE...PFO86\Mynta (60) SQLQuery1.sql - DE...PFO86\Mynta (73)

***** Script for SelectTopNRows command from SSMS *****

```
SELECT TOP (1000) [CustomerID]
      ,[PersonID]
      ,[StoreID]
      ,[TerritoryID]
      ,[AccountNumber]
      ,[rowguid]
      ,[ModifiedDate]
  FROM [AdventureWorks2017].[Sales].[Customer]
```

Results Messages

	CustomerID	PersonID	StoreID	TerritoryID	AccountNumber	rowguid	ModifiedDate
1	1	NULL	934	1	AW00000001	3F5AE95E-B87D-4AED-95B4-C3797AFCB74F	2014-09-12 11:15:07.263
2	2	NULL	1028	1	AW00000002	E552F657-A9AF-4A7D-A645-C429D6E02491	2014-09-12 11:15:07.263
3	3	NULL	642	4	AW00000003	130774B1-DB214EF3-98C8-C104BCD6ED6D	2014-09-12 11:15:07.263
4	4	NULL	932	4	AW00000004	FF862B51-1DAA-4044-BE7C-3E85583C054D	2014-09-12 11:15:07.263
5	5	NULL	1026	4	AW00000005	83905BDC-6F5E-4F71-B162-C98DA069F38A	2014-09-12 11:15:07.263
6	6	NULL	644	4	AW00000006	1A92DF88-BFA2-467D-BD54-FCB9E647FDD7	2014-09-12 11:15:07.263
7	7	NULL	930	1	AW00000007	03E9273E-B193-448E-9823-FE0C44AEED78	2014-09-12 11:15:07.263
8	8	NULL	1024	5	AW00000008	801368B1-4323-4BFA-8BEA-5B5B1E4BD4A0	2014-09-12 11:15:07.263
9	9	NULL	620	5	AW00000009	B900BB7F-23C3-481D-80DA-C49A5B0D6F772	2014-09-12 11:15:07.263
10	10	NULL	928	6	AW00000010	CDB6698D-2FF1-4FBA-8F22-60AD1D11DABD	2014-09-12 11:15:07.263
11	11	NULL	1022	6	AW00000011	750F3495-59C4-48A0-80E1-E37EC60E77D9	2014-09-12 11:15:07.263

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) DESKTOP-01PFO86\Mynta... AdventureWorks2017 00:00:00 | 1,000 rows

Lec44 L mohame... E esraa.ma... M Mohame... MM ali.abdull... M bakli.kar... M esraam205 M ahmedn... H sarah37... A abdullah...

1:01:35 1:22:47

Type here to search DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 10:20 AM 8/27/2023 Go to Settings & activate Windows +26

34°C صافي غالباً ENG 12:12 AM 7/29/2024

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

116

117

118

119

120

121

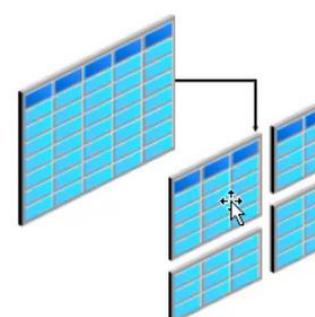
122

123

Data Partitioning

- Breaking up of data into smaller Physical units that can be handled independently
- Data partitioning provides ease of:
 - Restructuring
 - Reorganization
 - Removal
 - Recovery
 - Monitoring
 - Management
 - Archiving

Click to add notes



Notes Comments

Slide 121 of 123 English (United States)

1:01:36 1:22:46

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +26 Go to Settings to activate Windows.

34°C صافي غالباً ENG 12:12 AM 7/29/2024

L M E M MM A M B M E M A H S A A

mohame... mohame... esraa.ma... Mohame... Mohamed... ali.abdull... mohame... bakli.kar... melwake... esraam205 mohame... ahmedn... Hesham... sarah37... Akmat.el... abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

116

117

118

119

120

121

122

123

1:02:46 1:21:36 English United States

Type here to search

Activate Windows HA +27

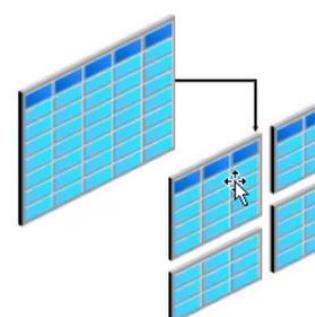
Go to Settings to activate Windows

34°C 12:13 AM 7/29/2024

Data Partitioning

- Breaking up of data into smaller Physical units that can be handled independently
- Data partitioning provides ease of:
 - Restructuring
 - Reorganization
 - Removal
 - Recovery
 - Monitoring
 - Management
 - Archiving

Click to add notes



L M E M MM A M B M A M H S A A

mohame... mohame... esraa.ma... Mohame... Mohamed... ali.abdull... mohame... bakli.kar... melwake... amrraga... mohame... ahmedn... Hesham... sarah37... Akmal.el... abdullah...

DWH_Day03-20230827_091858-Meeting Recording Lec44

1:02:46 1:21:36 English United States

Type here to search

Activate Windows HA +27

Go to Settings to activate Windows

34°C 12:13 AM 7/29/2024

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

116

117

118

119

120

121

122

123

Data Partitioning

- Breaking up of data into smaller Physical units that can be handled independently
- Data partitioning provides ease of:
 - Restructuring
 - Reorganization
 - Removal
 - Recovery
 - Monitoring
 - Management
 - Archiving

Click to add notes

The diagram shows a large, 3D perspective view of a cube composed of numerous small blue squares, representing a massive dataset. A hand cursor is pointing at one of the smaller cubes, which is part of a larger stack of cubes, symbolizing how a single large data unit is divided into smaller, more manageable physical units.

1:04:06 1:20:16

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +26 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:13 AM 7/29/2024

L M E M MM A M B M E M A H A A A abdullah...

mohame... mohame... esraa.ma... Mohame... Mohamed... ali.abdull... mohame... bakli.kar... melwake... esraam205 mohame... ahmedn... Hesham... a.alsaghir Akmat.el...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

116 * Data Partitioning

117 Data Identification

118 Aggregate or Related Key

119 Table or Sampling PPS

120 * Partitioning

121 Data Partitioning

122 Data Partitioning

123 Data Partitioning

Click to add notes

● Data warehouses may:

- Grow to become very large databases (VLDB)
- Have very huge fact tables and lots of historical data

● Table availability:

- Large tables are more vulnerable to disk failure.
- It is too costly to have a large table inaccessible for hours due to recovery.

● Large table manageability:

- Partial deletes take hours, even days.

● Performance considerations:

- Large table scans are costly.
- Scanning a subset improves performance.

1:06:17 de 1:18:05

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +26 Go to Settings to activate Windows

34°C صافي غالبا ENG 12:13 AM 7/29/2024

L M esraa.mah... Mohame... MM A ali.abdull... M B mohame... bakli.kar... M E melwak... esraam205 M A mohamed... ahmedn... H A Hesham... a.alsaghir... A A Akmat.el... abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

116

117

118

119

120

121

122

123

Data Partitioning

- Data warehouses may:
 - Grow to become very large databases (VLDB)
 - Have very huge fact tables and lots of historical data
- Table availability:
 - Large tables are more vulnerable to disk failure.
 - It is too costly to have a large table inaccessible for hours due to recovery.
- Large table manageability:
 - Partial deletes take hours, even days.
- Performance considerations:
 - Large table scans are costly.
 - Scanning a subset improves performance.

Click to add notes

1:06:21 AM 1:18:01

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +26

Go to Settings to activate Windows

34°C صافي غالباً ENG 12:13 AM 7/29/2024

L M mohame... E M esraa.ma... Mohame... MM A ali.abdull... M B mohame... bakli.kar... M E melwake... esraam205 M A mohame... ahmedn... H A Hesham... a.alsaghir A A Akmat.el... abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Data Partitioning

Partition pruning:
Only the relevant partitions are accessed.

```
SELECT SUM(amount_sold)
FROM sales
WHERE time_id BETWEEN
    TO_DATE('01-MAR-2000',
    'DD-MON-YYYY') AND
    TO_DATE('31-MAY-2000',
    'DD-MON-YYYY');
```

Click to add notes

1:07:10 1:17:12

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows Go to Settings +26

34°C صافي غالباً ENG 12:14 AM 7/29/2024

L M esraa.mah... mohame... E M Mohame... MM A ali.abdull... M B bakli.kar... M E melwak... esraam205 M A mohame... ahmedn... H A Hesham... a.alsaghir A A Akmat.el... abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Shape Format Share Lec44

Data Partitioning

Partition pruning:
Only the relevant partitions are accessed.

```
SELECT SUM(amount_sold)  
FROM sales  
WHERE time_id BETWEEN  
TO_DATE('01-MAR-2000',  
'DD-MON-YYYY') AND  
TO_DATE('31-MAY-2000',  
'DD-MON-YYYY');
```

Click to add notes

1:07:13 de 1:17:09

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows HA +26 Go to Settings to activate Windows

34°C صافي غالبا ENG 12:14 AM 7/29/2024

L M E M MM A M B M E M H A A A abdullah...

mohame... mohame... esraa.ma... Mohame... Mohamed... ali.abdull... mohame... bakli.kar... melwake... esraam205 mohame... ahmedn... Hesham... a.alsaghir Akmat.el...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

117

118

119

120

121

122

123

Data Partitioning

01-Jan
01-Feb
01-Mar
01-Apr
01-May
01-Jun

Partition pruning:
Only the relevant partitions are accessed.

```
SELECT SUM(amount_sold)
FROM sales
WHERE time_id BETWEEN
    TO_DATE('01-MAR-2000',
    'DD-MON-YYYY') AND
    TO_DATE('31-MAY-2000',
    'DD-MON-YYYY');
```

Click to add notes

1:07:35 de 1:16:47

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows HA +26

Go to Settings to activate Windows

34°C صافي غالبا ENG 12:14 AM 7/29/2024

L M E M MM A M B M E M H A A Akmat.el... Abdullah...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

117

118

119

120

121

122

123

Data Partitioning

01-Jan
01-Feb
01-Mar
01-Apr
01-May
01-Jun

Partition pruning:
Only the relevant partitions are accessed.

```
SELECT SUM(amount_sold)
FROM sales
WHERE time_id BETWEEN
    TO_DATE('01-MAR-2000',
    'DD-MON-YYYY') AND
    TO_DATE('31-MAY-2000',
    'DD-MON-YYYY');
```

Click to add notes

1:07:39 1:16:43

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 10:26 AM 8/27/2023 Go to Settings to activate Windows +26

34°C صافي غالباً ENG 12:14 AM 7/29/2024

L M esraa.m... Mohamed... MM A Mohamed... B Bakli.kar... M E melwak... esraam205 M A mohamed... ahmedn... H A Hesham... a.alsaghir A A Akmat.el... abdullah...

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT data processing approaches using AWS as an example.

ETL (Extract, Transform, Load): This approach shows three sources (Source 1, Source 2, Source 3) connected to a central "Target" database. The flow is labeled "Extract" (with arrows from sources to target), "Transform" (indicated by three gears), and "Load" (arrow from target). The sequence is **E → T → L**.

ELT (Extract & Load, Transform): This approach shows three sources (Source 1, Source 2, Source 3) connected to a central "Target (MPP database)". The flow is labeled "Extract & Load" (with arrows from sources to target) and "Transform" (indicated by three gears). The target database contains "Staging tables" and "Final tables". The sequence is **E → L → T**.

800 x 295

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Visit

Images may be subject to copyright. Learn more

Semantic Scholar Figure 1 from On-Demand ELT ...

1:51:14 ps// 0:33:08

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 11:10 AM 8/27/2023 +25 Go to Settings

34°C صافي غالباً ENG 12:17 AM 7/29/2024

L E esraam205

E M esraa.mah... Mohame...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

A M alzahraa... mohame...

A M ahmedn... mariofar...

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT data processing approaches. On the left, the ETL process is shown as a sequential flow: Extract (Source 1, Source 2, Source 3) → Transform (represented by three gears) → Load (Target). This is labeled **E -> T -> L**. On the right, the ELT process is shown as a sequential flow: Extract & Load (Source 1, Source 2, Source 3) → Transform (represented by a gear icon inside a box containing 'Staging tables' and 'Final tables') → Target (MPP database). This is labeled **E -> L -> T**.

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Visit

Images may be subject to copyright. Learn more

Semantic Scholar

Figure 1 from On-Demand ELT ...

1:51:18 0:33:04

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 11:10 AM 8/27/2023 Go to Settings & activate Windows +25

34°C صافي غالباً ENG 12:17 AM 7/29/2024

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT data processing approaches. On the left, the ETL process is shown as a sequential flow: Extract (Source 1, Source 2, Source 3) → Transform (represented by three gears) → Load (Target). Below this, the text reads "Extract ⚡ Transform ⚡ Load" and "E → T → L". On the right, the ELT process is shown as a sequential flow: Extract & Load (Source 1, Source 2, Source 3) → Transform (represented by three gears, located between Staging tables and Final tables). Below this, the text reads "Extract & Load ⚡ Transform" and "E → L → T".

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Images may be subject to copyright. [Learn more](#)

Visit

This diagram shows the Semantic Scholar On-Demand ELT architecture. It consists of three main components: 1. A source layer (files, databases, cloud storage) connected to a central hub. 2. A central hub (Data warehouse, ML pipelines, GLP visualization) where data is aggregated and processed. 3. A target layer (dashboards, reports, ML models) where final results are delivered. The flow is labeled "ELT Process".

Figure 1 from On-Demand ELT ...

SOI Shack

1:51:55 ps// 0:32:27

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 11:10 AM 8/27/2023 Go to Settings > Activate Windows +25

34°C صافي غالباً ENG 12:17 AM 7/29/2024

L E esraam205

E M esraa.mah... Mohame...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

B M bassama... mohame...

A M ahmedn... mariofar...

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT data processing approaches. On the left, the ETL process is shown as a sequential flow: Extract (Source 1, Source 2, Source 3) → Transform (represented by three gears) → Load (Target). Below this, the sequence is labeled E → T → L. On the right, the ELT process is shown as a flow: Extract & Load (Source 1, Source 2, Source 3) → Transform (represented by three gears and icons for Staging tables and Final tables). Below this, the sequence is labeled E → L → T. A hand cursor is hovering over the ELT 'Transform' step.

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Visit

Images may be subject to copyright. Learn more

This section compares ETL and ELT architectures. It shows three diagrams: 1. ETL Architecture: Data flows from various sources through a central Extract step, then through a Transform step (represented by a gear icon), and finally into a central Target database. 2. Semantic Scholar On-Demand ELT Architecture: Data flows from various sources through a central Extract step, then directly into a central Target database without a separate Transform step. 3. ELT Process: Data flows from various sources directly into a central Target database without a separate Extract or Transform step.

Figure 1 from On-Demand ELT ...

1:52:09 ps/ 0:32:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 11:11 AM 8/27/2023 Go to Settings > Activate Windows +25

34°C صافي غالباً ENG 12:18 AM 7/29/2024

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT data processing approaches. On the left, the ETL process is shown as a sequential flow: Extract (Source 1, Source 2, Source 3) → Transform (represented by three gears) → Load (Target). The ELT process on the right shows a more flexible approach: Extract & Load (Source 1, Source 2, Source 3) → Transform (represented by three gears, Final tables, and Staging tables). Below the diagrams, the ETL flow is labeled $E \rightarrow T \rightarrow L$ and the ELT flow is labeled $E \rightarrow L \rightarrow T$.

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Images may be subject to copyright. [Learn more](#)

Visit

This diagram provides a detailed view of the data flow. It shows three main paths: 1) Data from various sources (files, databases, clouds) being processed by a Transformer (ETL) to load into a central Data warehouse. 2) Data from various sources being processed by a Transformer (ELT) to load into a central Data warehouse. 3) Data from various sources being processed by a Transformer (ELT) to load into a central Data warehouse, which then feeds into a Data visualization layer. A caption below the diagram reads: "Figure 1 from On-Demand ELT ...".

1:52:09 ps/ 0:32:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 11:12 AM 8/27/2023 Go to Settings > Activate Windows +25

34°C صافي غالباً ENG 12:18 AM 7/29/2024

L E Lec44 esraam205

E M esraa.ma... Mohame...

A A amr7670... ali.abdull...

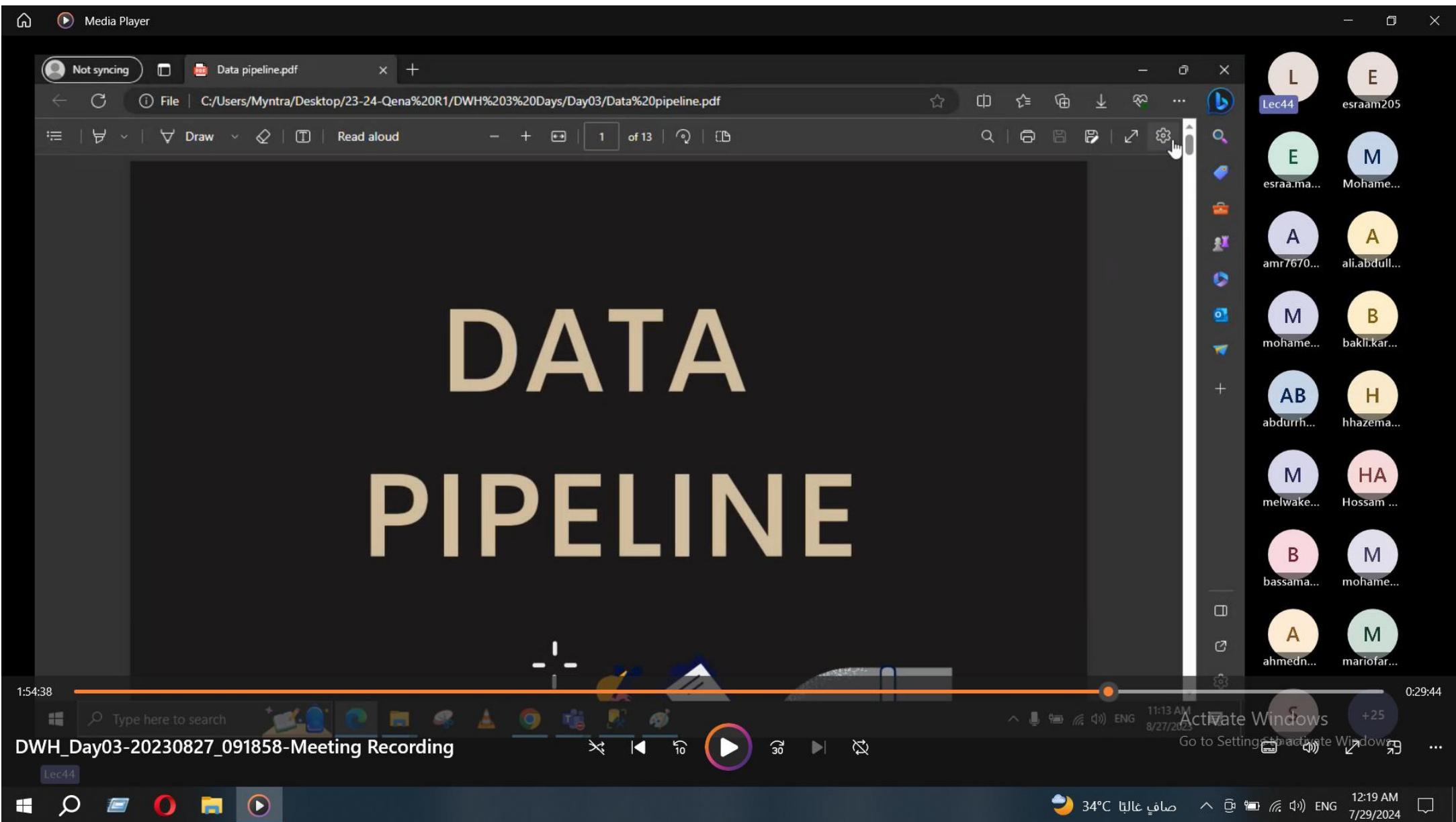
M B mohame... bakli.kar...

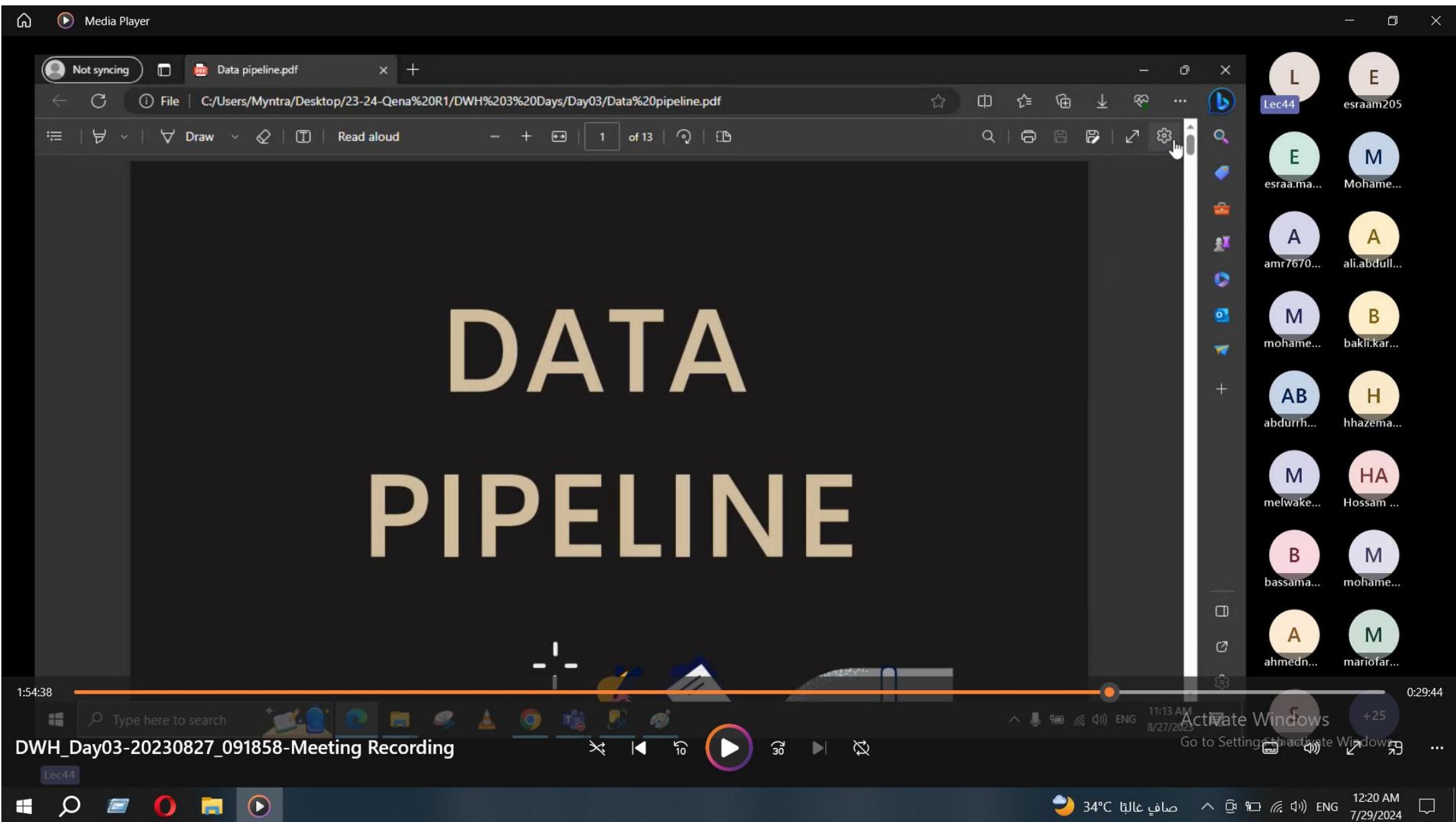
AB H abdurrah... hhazema...

M HA melwake... Hossam ...

B M bassama... mohame...

A M ahmedn... mariofar...





Menu roll back DB - Google Search X data pipeline - Google Search X +

www.google.com/search

data pipeline

All Images Videos News Shopping Books Maps More Tools

A data pipeline is a method in which raw data is ingested from various data sources, transformed and then ported to a data store, such as a data lake or data warehouse, for analysis. Before data flows into a data repository, it usually undergoes some data processing.

Jun 14, 2024

IBM https://www.ibm.com > topics > data-pipeline ::

What Is a Data Pipeline? - IBM

About featured snippets · Feedback

People also ask :

What are the main 3 stages in a data pipeline?

Is data pipeline an ETL?

What is an example of a data pipeline?

Is SQL a data pipeline?

What are the 4 pipeline stages?

How to build a data pipeline?

Pipeline

Computing :

ETL PIPELINE

Data Pipeline Architecture

Apache Flink

More images

In computing, a pipeline, also known as a data pipeline, is a set of data processing elements connected in series, where the output of one element is the input of the next one. The elements of a pipeline are often executed in parallel or in time-sliced fashion. Wikipedia

Feedback

Activate Windows
Go to Settings to activate Windows.

34°C صافي غالباً ENG 12:22 AM 7/29/2024

Menu roll back DB - Google Search X data pipeline - Google Search X +

www.google.com/search

data pipeline

All Images Videos News Shopping Books Maps More Tools

A data pipeline is a method in which raw data is ingested from various data sources, transformed and then ported to a data store, such as a data lake or data warehouse, for analysis. Before data flows into a data repository, it usually undergoes some data processing.

Jun 14, 2024

IBM https://www.ibm.com > topics > data-pipeline ::

What Is a Data Pipeline? - IBM

About featured snippets · Feedback

People also ask :

What are the main 3 stages in a data pipeline?

Is data pipeline an ETL?

What is an example of a data pipeline?

Is SQL a data pipeline?

What are the 4 pipeline stages?

How to build a data pipeline?

Pipeline

Computing :

ETL PIPELINE

Data Pipeline Architecture

Apache Flink

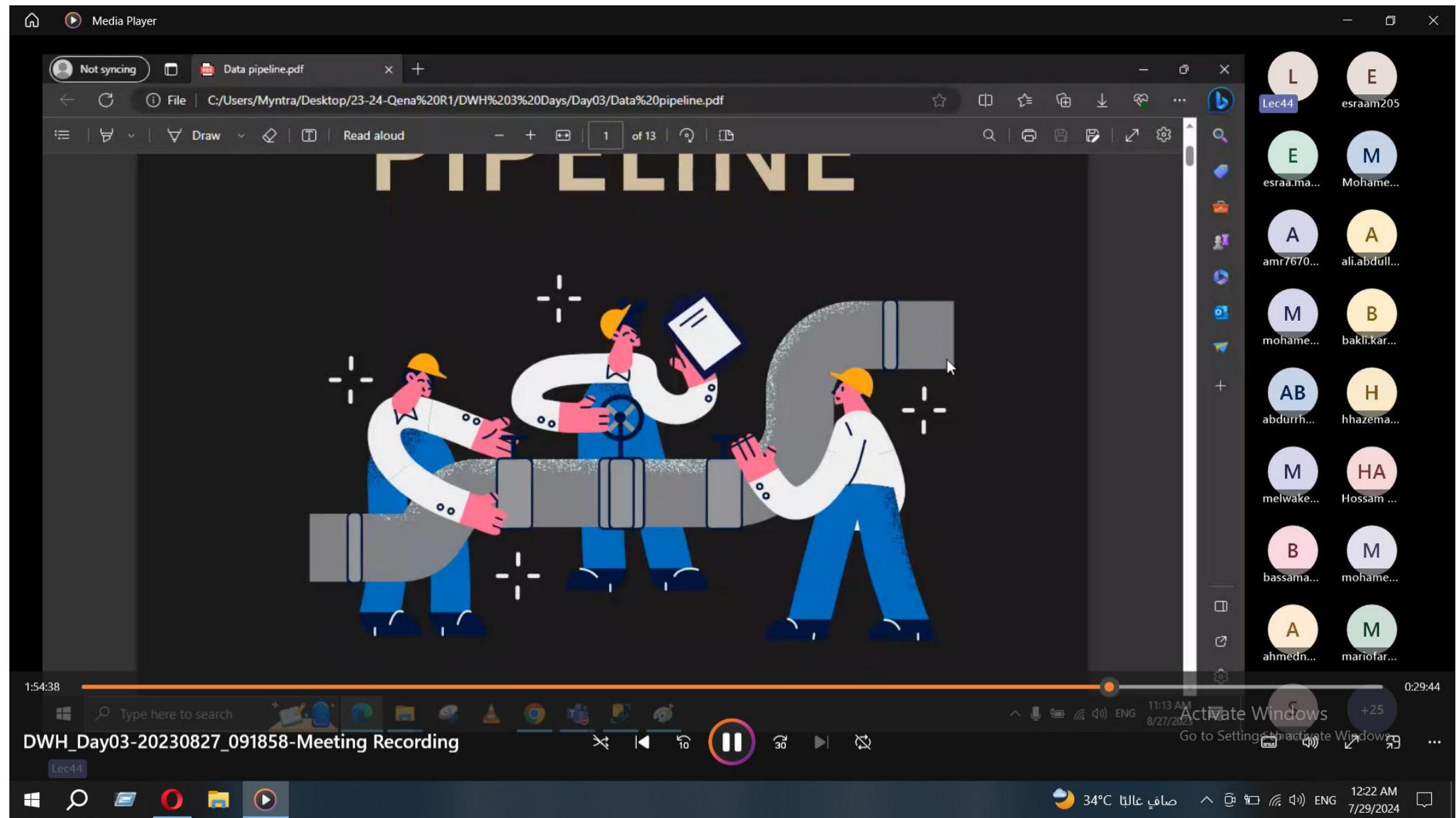
More images

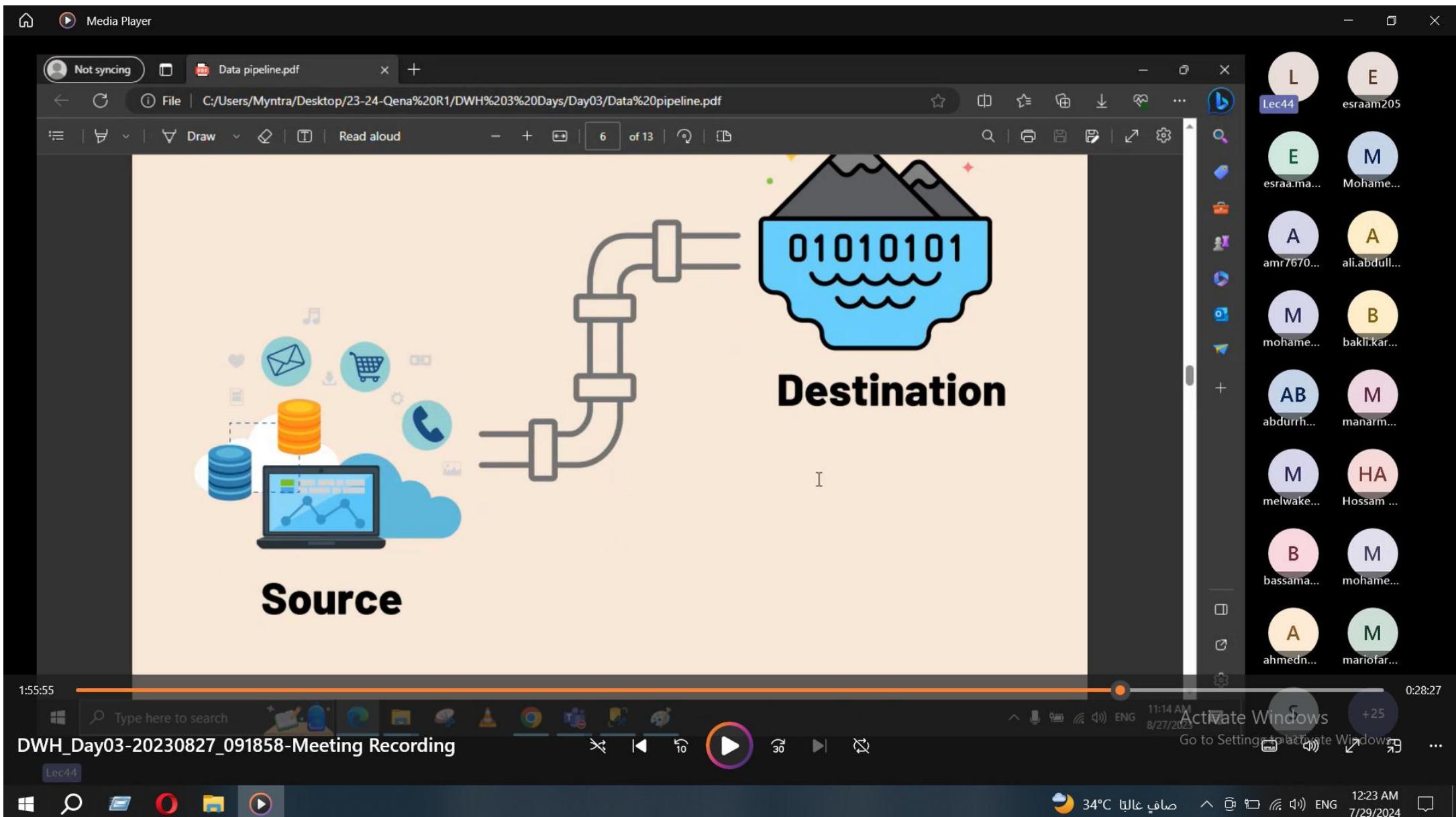
In computing, a pipeline, also known as a data pipeline, is a set of data processing elements connected in series, where the output of one element is the input of the next one. The elements of a pipeline are often executed in parallel or in time-sliced fashion. Wikipedia

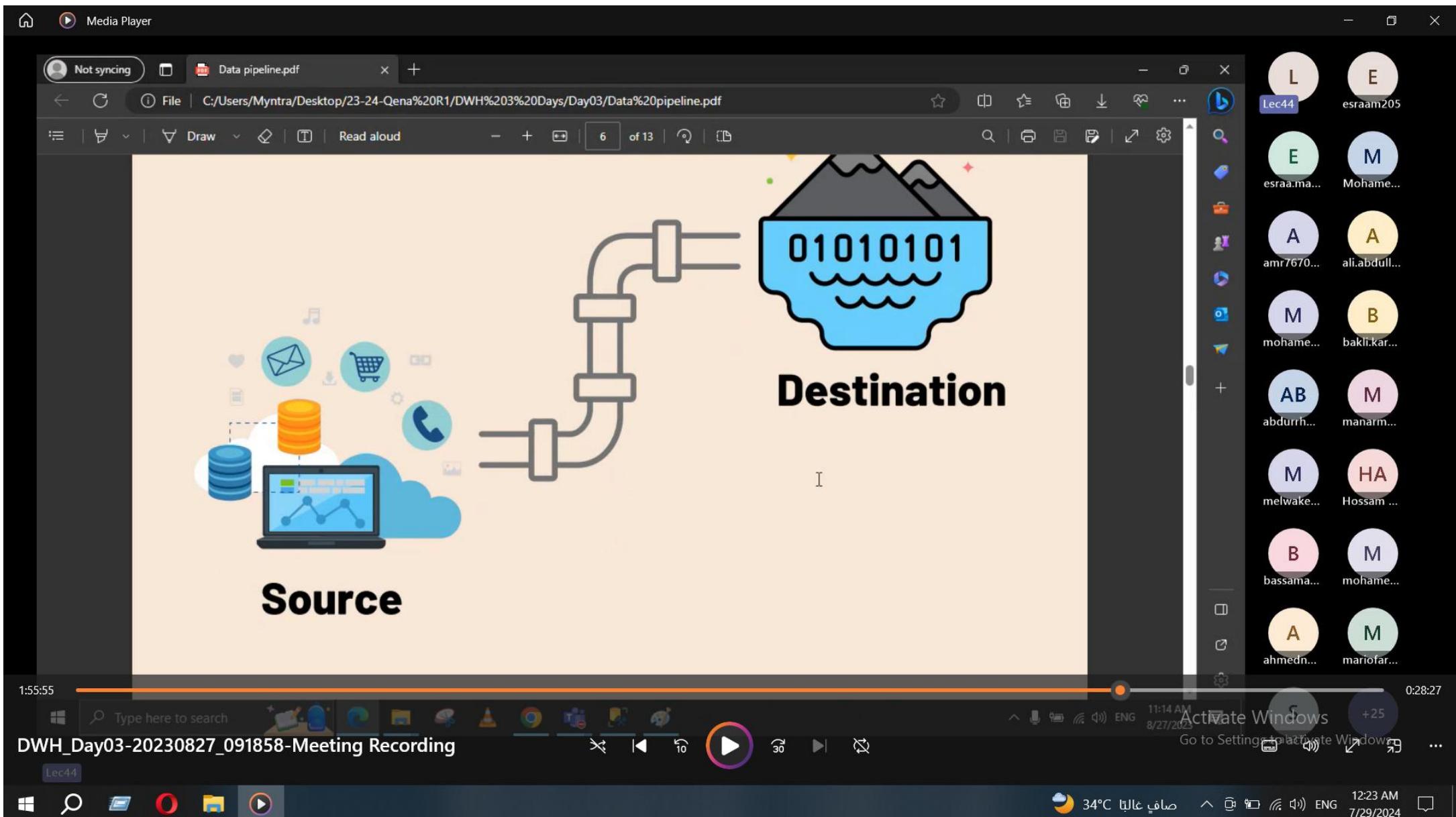
Feedback

Activate Windows
Go to Settings to activate Windows.

34°C صافي غالباً ENG 12:22 AM 7/29/2024







The processes in a data pipeline can include



Extraction

Validation



Media Player

Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

7 of 13

Read aloud

L Lec44 esraam205

E esraa.ma... M Mohamed...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... M manarm...

M melwake... HA Hossam ...

B bassama... M mohame...

A ahmedn... M mariofar...

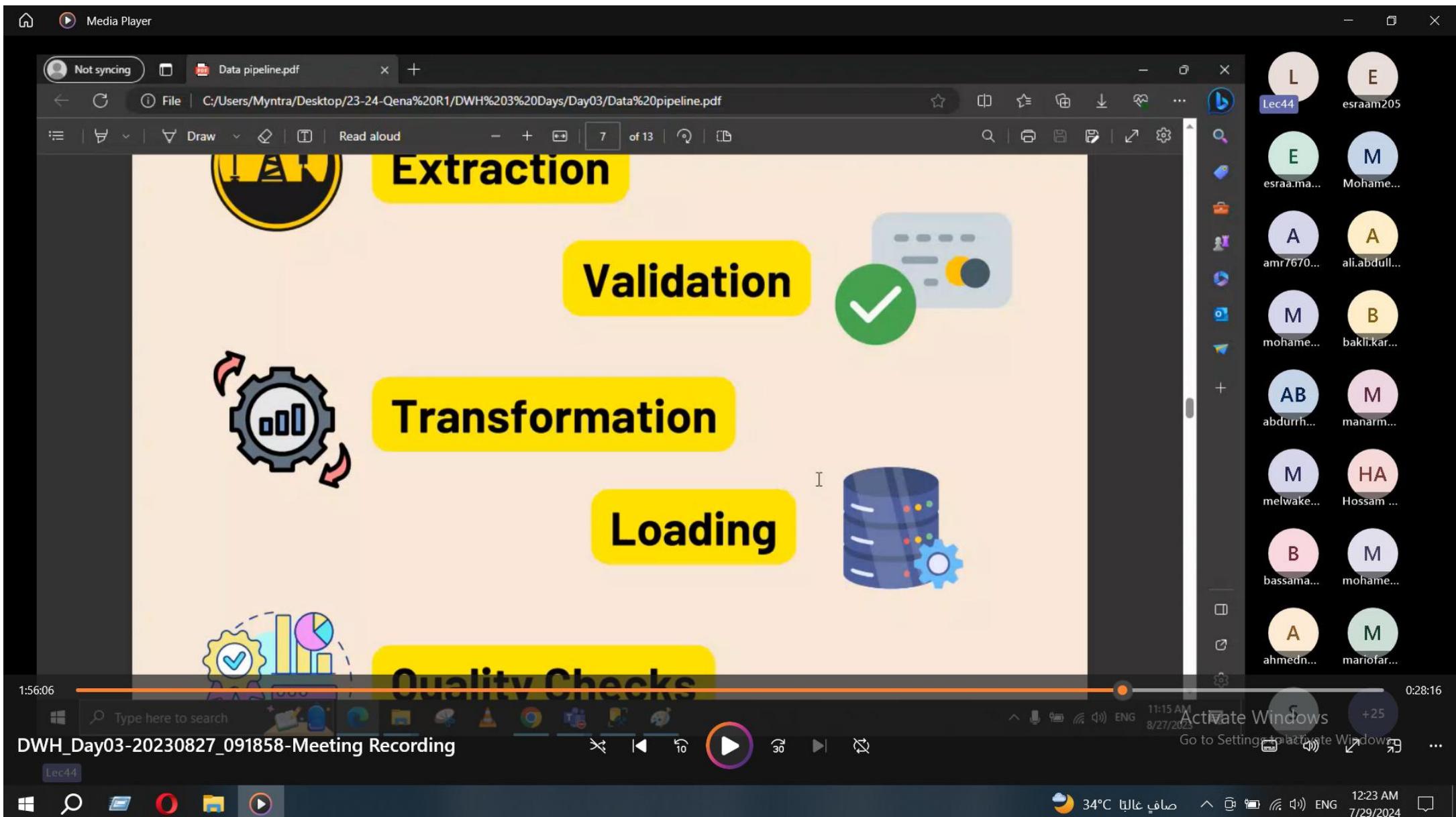
1:56:03 0:28:19

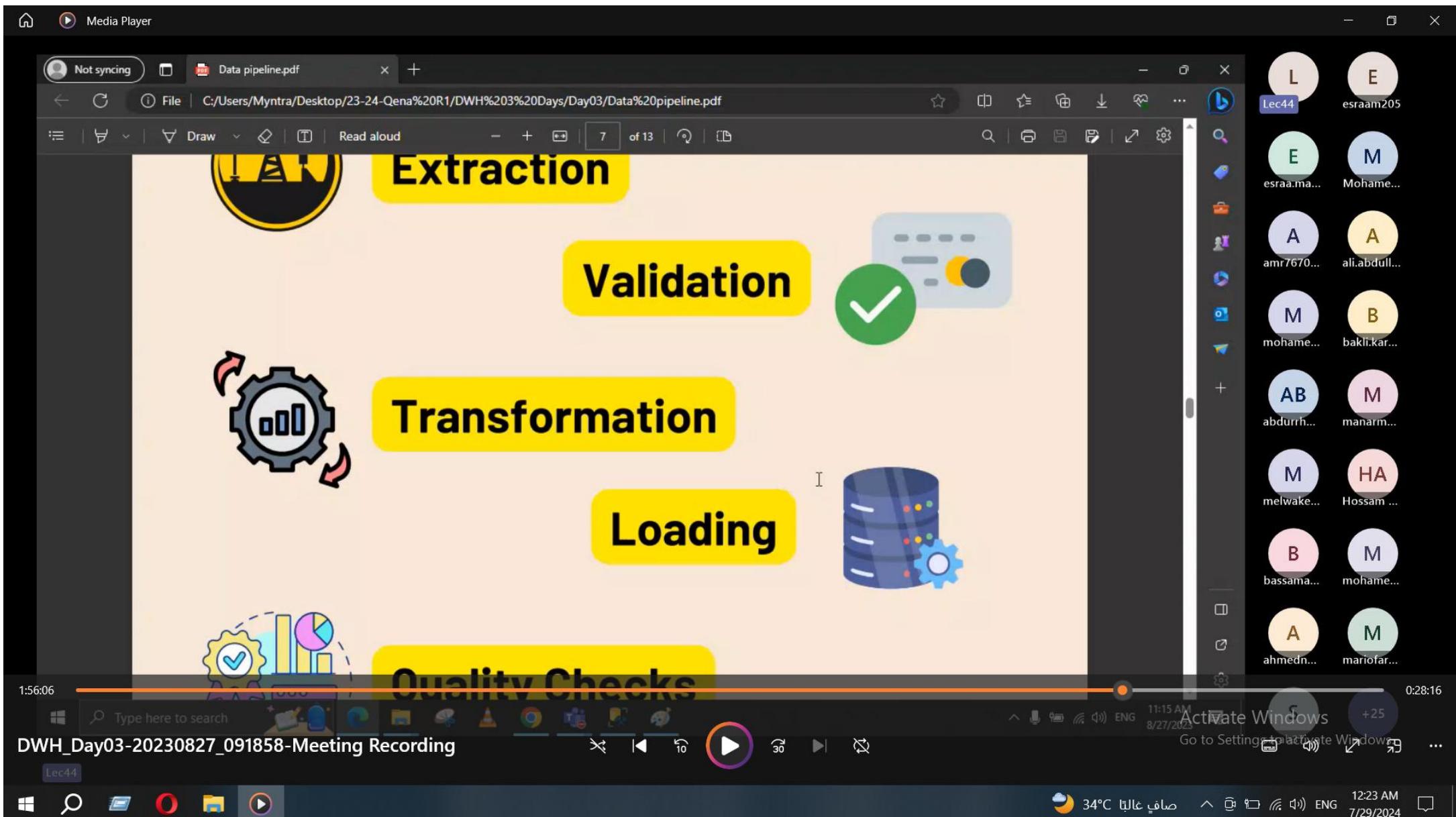
Type here to search

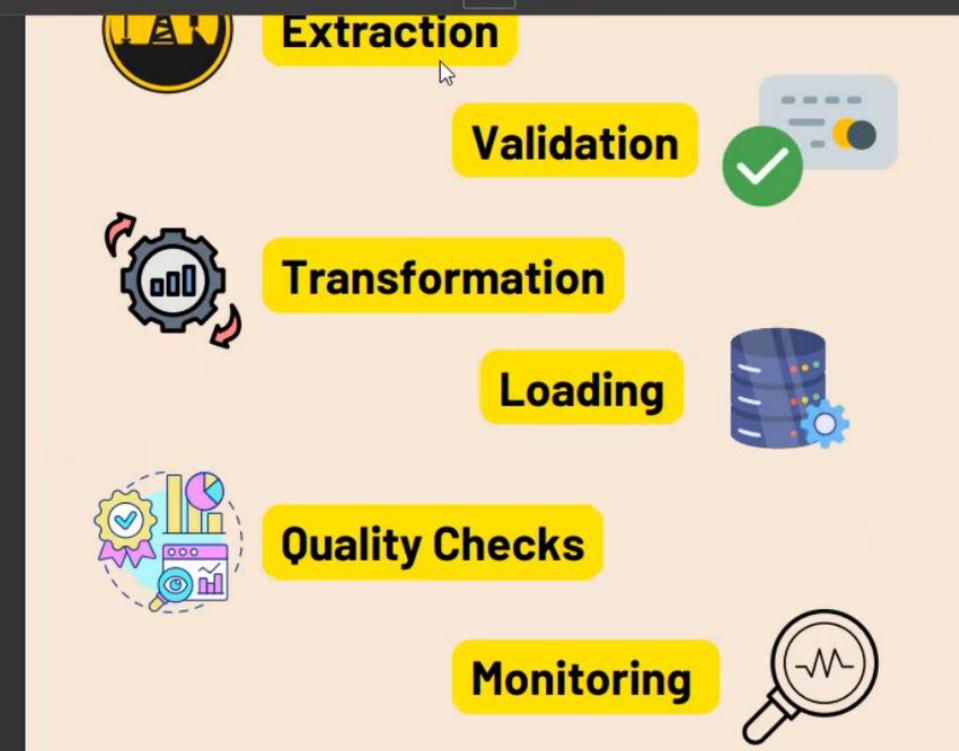
DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:15 AM 8/27/2023 Go to Settings to activate Windows +25

34°C صافي غالباً ENG 12:23 AM 7/29/2024







Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

Read aloud

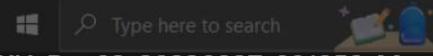
7 of 13

...

L	E
Lec44	esraam205
E	M
esraa.ma...	Mohame...
A	A
amr7670...	ali.abdull...
M	B
mohame...	bakli.kar...
AB	M
abdurrh...	manarm...
M	HA
melwake...	Hossam ...
B	M
bassama...	mohame...
A	M
ahmedn...	mariofar...

1:56:23

0:27:59



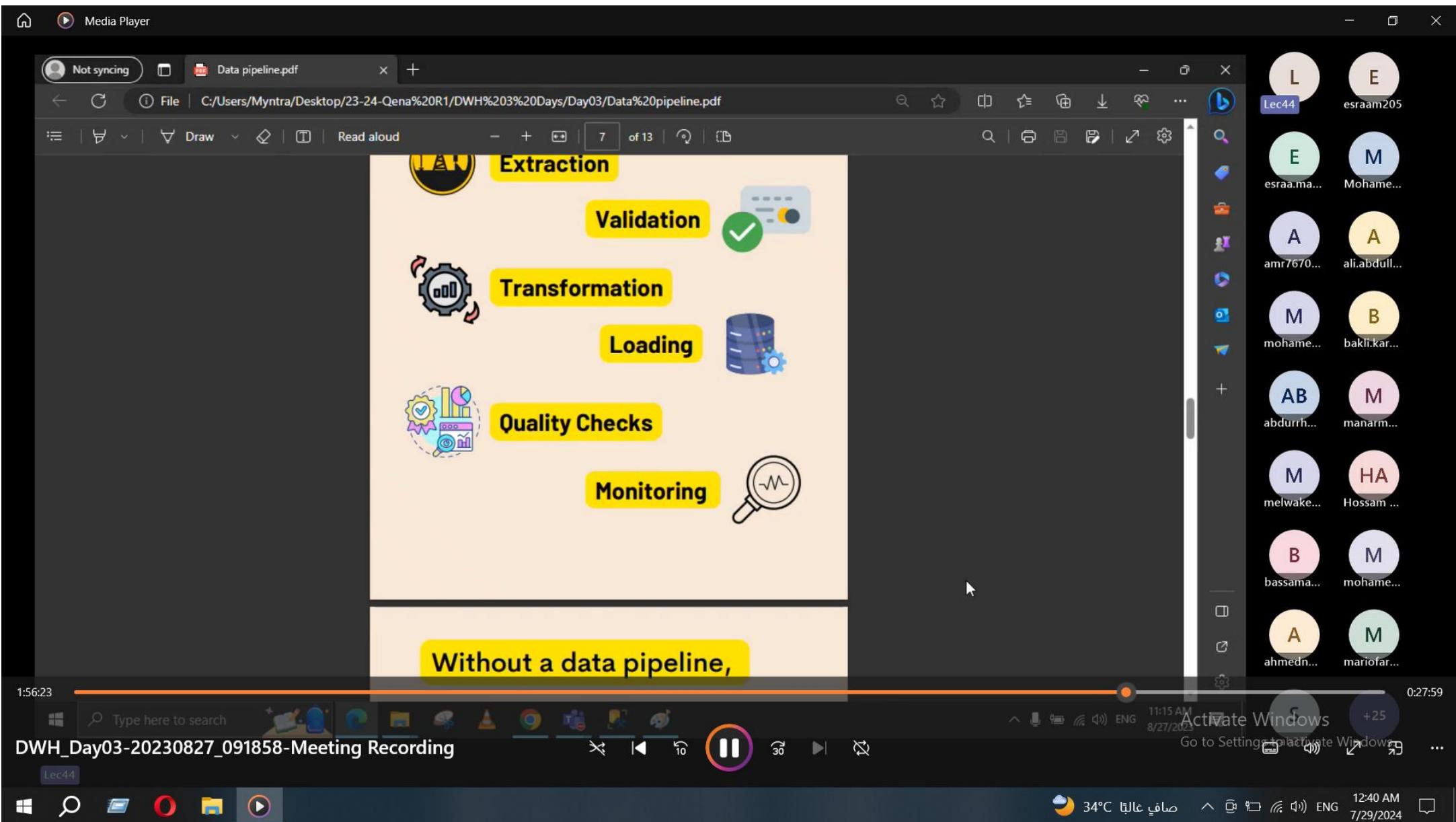
DWH_Day03-20230827_091858-Meeting Recording

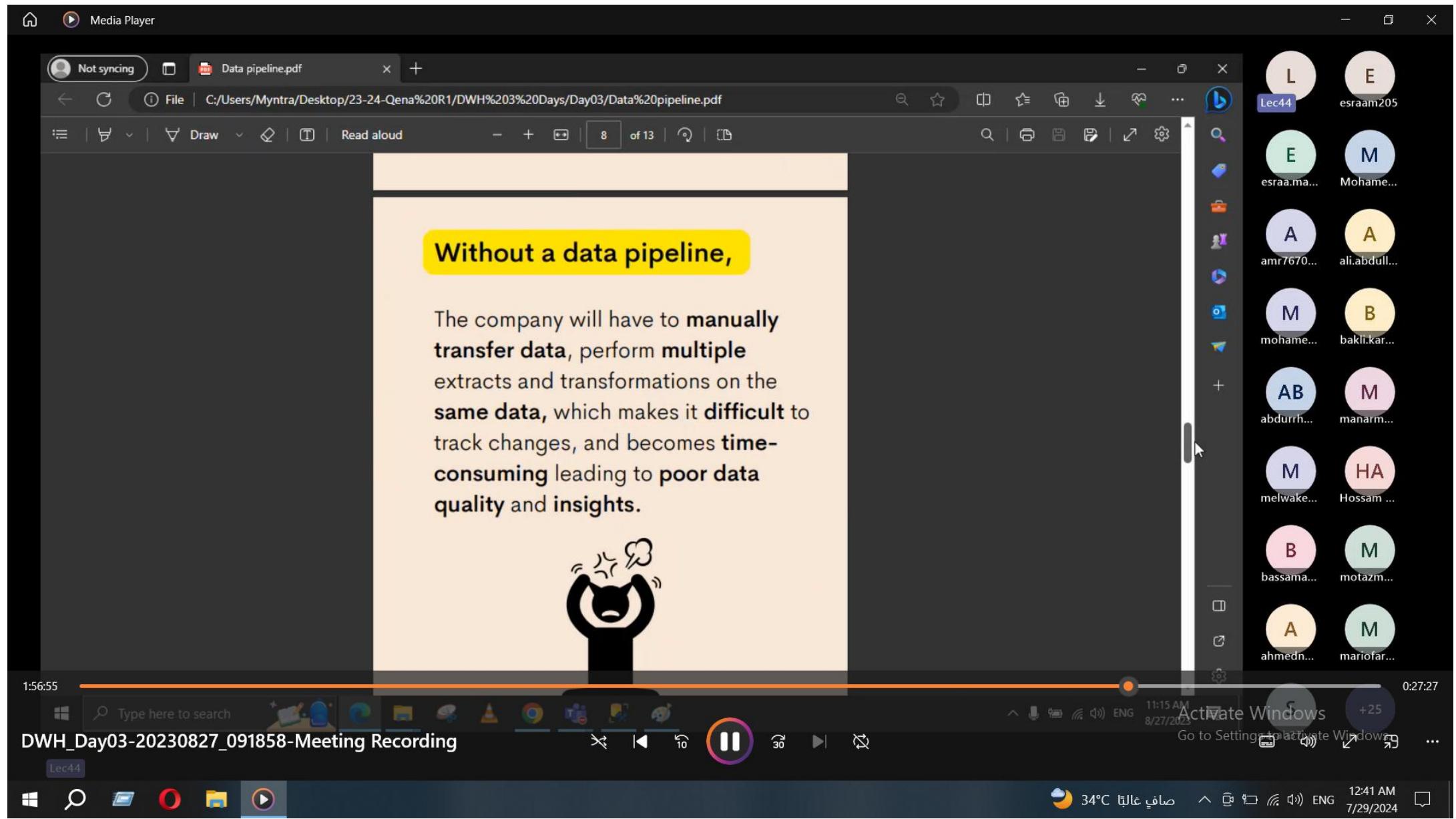
Lec44

Activate Windows
11:15 AM 8/27/2023
Go to Settings to activate Windows
+25



34°C صافي غالباً ENG 12:37 AM 7/29/2024





Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

9 of 13

Read aloud

With data pipelines, they can

- Automate data flows
- Have flexible integration
- Be cost-effective
- Produce better insights

L Lec44 E esraam205

E esraa.ma... M Mohame...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... M manarm...

M melwake... HA Hossam ...

B bassama... M motazm...

A ahmedn... M mariofar...

1:57:07 0:27:15

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:41 AM 7/29/2024

Media Player

Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

9 of 13

Automate data flows

Have flexible integration

Be cost-effective

Produce better insights

Maintain data consistency

L Lec44

E esraam205

E esraa.ma... M Mohamed...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... M manarm...

M melwake... HA Hossam ...

B bassama... M motazm...

A ahmedn... M mariofar...

1:57:12 0:27:10

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:41 AM 7/29/2024

Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

9 of 13

Automate data flows

Have flexible integration

Be cost-effective

Produce better insights

Maintain data consistency

Common types of data pipeline

L Lec44

E esraam205

E esraa.ma... M Mohame...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... M manarm...

M melwake... HA Hossam ...

B bassama... M motazm...

A ahmedn... M mariofar...

1:57:16 0:27:06

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالبا ENG 12:41 AM 7/29/2024

Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

9 of 13

Automate data flows

Have flexible integration

Be cost-effective

Produce better insights

Maintain data consistency

Common types of data pipeline

L Lec44

E esraam205

E esraa.ma... M Mohame...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... M manarm...

M melwake... HA Hossam ...

B bassama... M motazm...

A ahmedn... M mariofar...

1:57:23 0:26:59

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:41 AM 7/29/2024

Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

Maintain data consistency

Common types of data pipeline

Batch Data Pipeline:

- Processes data in large chunks
- At specific intervals.
- Used for non-time-sensitive data

Streaming Data Pipeline:

- Processes data in real-time

1:57:31 0:26:51

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالبا ENG 12:41 AM 7/29/2024

L E Lec44 esraam205

E M esraa.mah... Mohame...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

B M bassama... motazm...

A M ahmedn... mariofar...

Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

Maintain data consistency

Common types of data pipeline

Batch Data Pipeline:

- Processes data in large chunks
- At specific intervals.
- Used for non-time-sensitive data

Streaming Data Pipeline:

- Processes data in real-time

1:57:36 0:26:46

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالبا ENG 12:41 AM 7/29/2024

L E Lec44 esraam205

E M esraa.mah... Mohame...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

B M bassama... motazm...

A M ahmedn... mariofar...

Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

10 of 13

Common types of data pipeline

Batch Data Pipeline:

- Processes data in large chunks
- At specific intervals.
- Used for non-time-sensitive data

Streaming Data Pipeline:

- Processes data in real-time
- Commonly used for time-sensitive data
 - financial transactions
 - social media feeds

LIVE

1:57:50 0:26:32

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالبا ENG 12:41 AM 7/29/2024

L E Lec44 esraam205

E M esraa.ma... Mohame...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

B M bassama... motazm...

A M ahmedn... mariofar...

Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

L E Lec44 esraam205

E M esraa.ma... Mohamed...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

B M bassama... motazm...

A M ahmedn... mariofar...

11 of 13

LIVE

- Processes data in real-time
- Commonly used for time-sensitive data
 - financial transactions
 - social media feeds.

ETL Pipeline:



- Extracts data from various sources
- Transforms it
- Loads it into the destination system.

1:57:53 0:26:29

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C 12:41 AM ENG 7/29/2024

Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

11 of 13

SOCIAL media feeds.

ETL Pipeline:

- Extracts data from various sources
- Transforms it
- Loads it into the destination system.

ELT Pipeline:

- Extracts data from various sources
- Loads it into a destination system

L Lec44 esraam205

E esraa.ma... Mohame...

E amr7670... ali.abdull...

M mohame... bakli.kar...

AB abdurrah... manarm...

M melwake... Hossam ...

B bassama... motazm...

A ahmedn... mariofar...

Activate Windows 11:16 AM 8/27/2023 +25 Go to Settings to activate Windows

DWH_Day03-20230827_091858-Meeting Recording Lec44

1:57:57 0:26:25

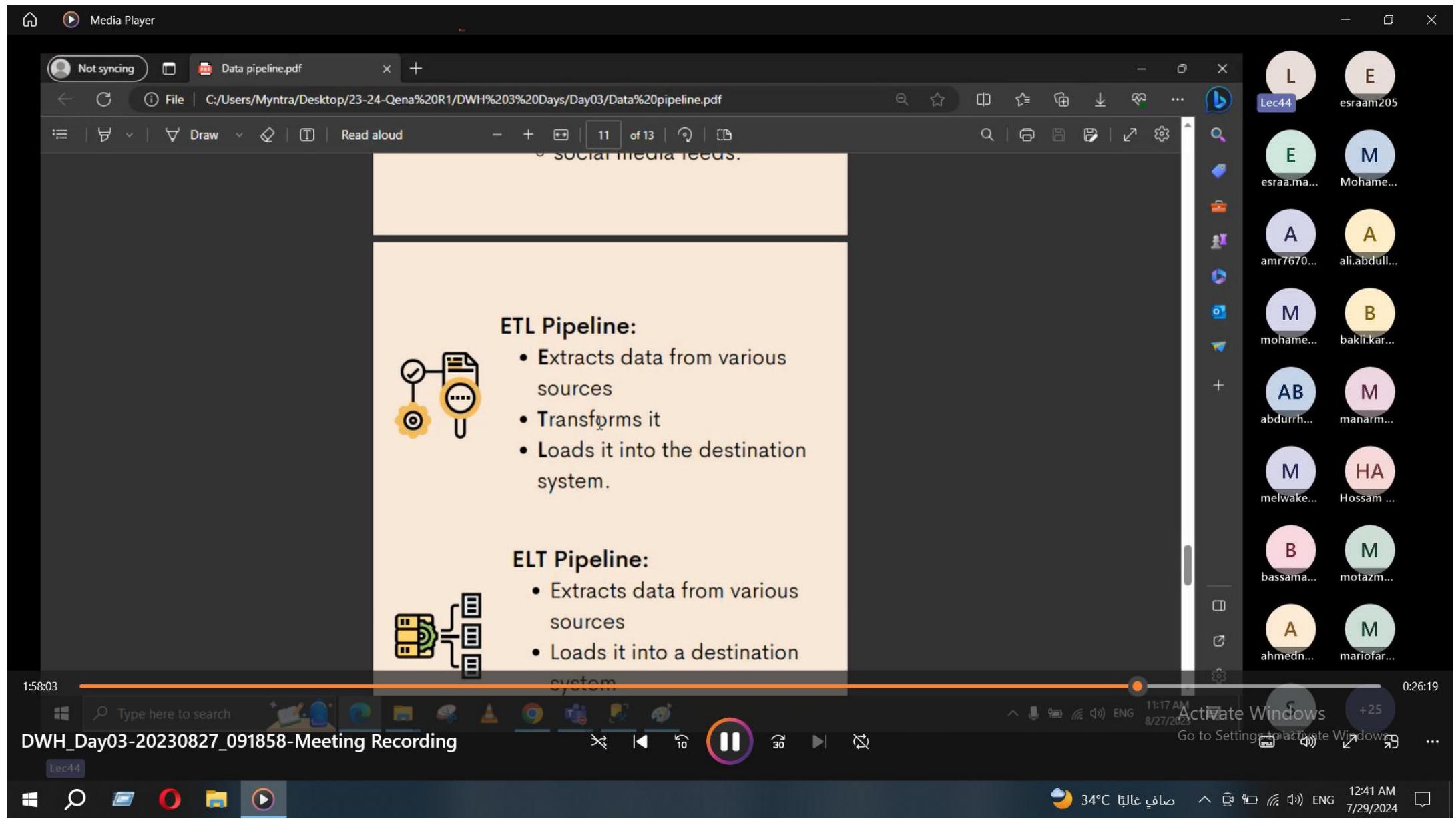
Type here to search

Windows Start button

Icons: File Explorer, Edge, File Manager, Task View, Google Chrome, Microsoft Teams, File History, Control Panel, Power User

Media Player controls: Stop, Previous, Next, Volume, Full Screen, Minimize, Close

System tray icons: Battery, Network, Sound, Volume, Language, Date/Time (34°C, 12:41 AM, 7/29/2024)



Media Player

Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

11 of 13

Read aloud

Not syncing

Lec44

E esraam205

E esraa.ma... M Mohame...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... M manarm...

M melwake... HA Hossam ...

B bassama... M motazm...

A ahmedn... M mariofar...

1:58:15 0:26:07

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:17 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:41 AM 7/29/2024



- Extracts data from various sources
- Transforms it
- Loads it into the destination system.

ELT Pipeline:

- Extracts data from various sources
- Loads it into a destination system
- Transforms it

Data pipelines are an efficient means for

Media Player

Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

11 of 13

Read aloud

Extracts data from various sources
Transforms it
Loads it into the destination system.

ELT Pipeline:
Extracts data from various sources
Loads it into a destination system
Transforms it

Not syncing

Lec44

L E esraam205

E M esraa.ma... Mohamed...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

B M bassama... motazm...

A M ahmedn... mariofar...

Activate Windows

11:17 AM 8/27/2023 0:25:59

1:58:23 Data pipelines are an efficient means for

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

12:41 AM 7/29/2024

34°C صافي غالباً ENG

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT data processing approaches. On the left, the ETL process is shown as a sequential flow: Extract (Source 1, Source 2, Source 3) → Transform (represented by three gears) → Load (Target). This is labeled **E -> T -> L**. On the right, the ELT process is shown as a sequential flow: Extract & Load (Source 1, Source 2, Source 3) → Transform (represented by a gear icon inside a box labeled 'Staging tables') → Final tables. This is labeled **E -> L -> T**.

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Visit

Images may be subject to copyright. Learn more

Semantic Scholar Figure 1 from On-Demand ELT ...

1:58:28 0:25:54

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows Go to Settings to activate Windows +25

34°C 12:41 AM 7/29/2024

L E esraam205

E M esraa.mah... Mohame...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB M abdurrah... manarm...

M HA melwake... Hossam ...

B M bassama... motazm...

A M ahmedn... mariofar...

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT data processing approaches. On the left, the ETL process is shown as a sequential flow: Extract (Source 1, Source 2, Source 3) → Transform (represented by three gears) → Load (Target). Below this, the sequence is labeled E → T → L. On the right, the ELT process is shown as a sequential flow: Extract & Load (Source 1, Source 2, Source 3) → Transform (represented by three gears and icons for Staging tables and Final tables). Below this, the sequence is labeled E → L → T. The AWS logo is present above both diagrams.

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Visit

Images may be subject to copyright. Learn more

Semantic Scholar

Figure 1 from On-Demand ELT ...

SOI Shack

1:58:32 ps // 0:25:50

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows

11:17 AM 8/27/2023 Go to Settings to activate Windows +25

34°C صافي غالباً ENG 12:41 AM 7/29/2024

Media Player

etl vs elt - Google Search etl vs elt - Google Search

google.com/imgres?imgurl=https%3A%2F%2Fd2908q01vomqb2.cloudfront.net%2Fb6692ea5df920cad691c20319a6ffd7a4a766b8%2F2019%2F12%2F12%2F... Lec44 esraam205

Gmail YouTube Maps News Translate Engineering Insights Login. Sandvine WELCOME. Sandvine CAIX SQL - Study Plan - L... DVD-Rental-SQL-Pr...

AWS

The diagram illustrates the difference between ETL and ELT approaches using AWS as an example. On the left, the ETL process is shown with three sources (Source 1, Source 2, Source 3) connected via Extract, Transform, and Load (ETL) steps to a central Target database. The flow is labeled $E \rightarrow T \rightarrow L$. On the right, the ELT process is shown with the same three sources connected via Extract & Load and Transform steps directly to a central Target (MPP database). This flow is labeled $E \rightarrow L \rightarrow T$.

ETL vs ELT - Difference Between Data-Processing Approaches - AWS

Visit

Images may be subject to copyright. Learn more

This detailed diagram shows the semantic scholar's On-Demand ELT architecture. It consists of three main components: a source layer (files, databases, cloud storage), a central data lake (Amazon S3), and a target layer (data warehouse, data湖, data湖湖). The process involves extracting data from various sources, loading it into the data lake, and then performing transformations and loading it into the target layer. A legend identifies icons for files, databases, and cloud storage.

Figure 1 from On-Demand ELT ...

1:59:02 ps // 0:25:20

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 11:18 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافي غالباً ENG 12:42 AM 7/29/2024

Media Player

Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

12 of 13

providing accurate insights to inform decision-making.

The diagram illustrates a data pipeline process. It starts with a 'Source' icon containing various data icons (database, mail, shopping cart, etc.). An 'Extract' step leads to a 'Transform' step, which then feeds into a 'Validate' step. From 'Validate', the data flows through a 'Quality Check' step and finally a 'Load' step into a central 'Destination' icon, represented by a blue water droplet containing binary code '01010101'. A 'Monitor' step is shown with a magnifying glass icon, connected to the pipeline after the 'Load' step.

Destination

Source

Extract

Transform

Validate

Quality Check

Load

Monitor

Destination

01010101

Lec44

esraam205

E

Mohame...

A

ali.abdull...

M

mohame...

B

bakli.kar...

AB

abdurrh...

A

abdullah...

M

melwake...

HA

Hossam ...

B

bassama...

M

motazm...

A

ahmedn...

M

mariofar...

1:59:09

0:25:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows

11:18 AM 8/27/2023

Go to Settings to activate Windows

+25

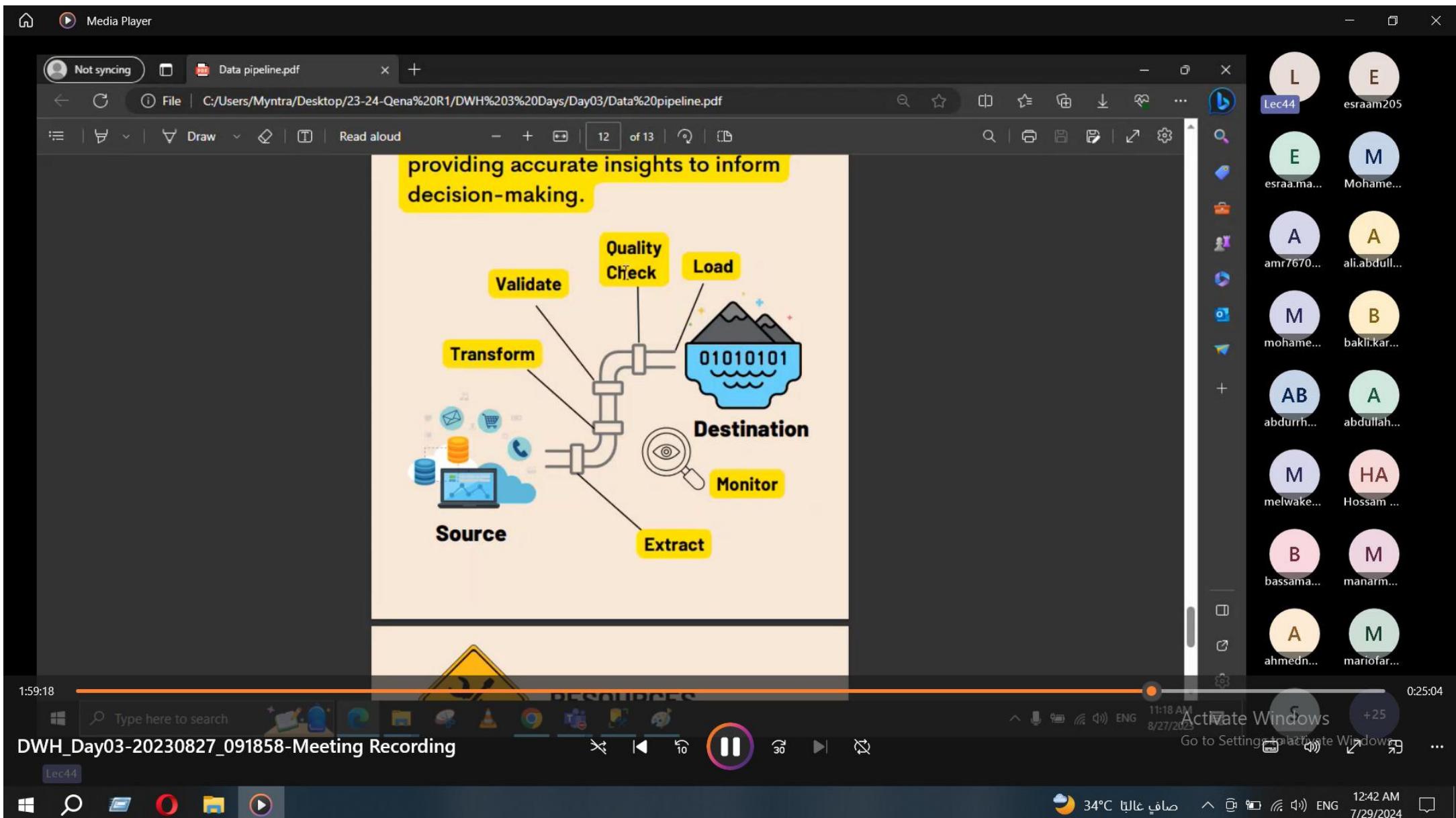
34°C

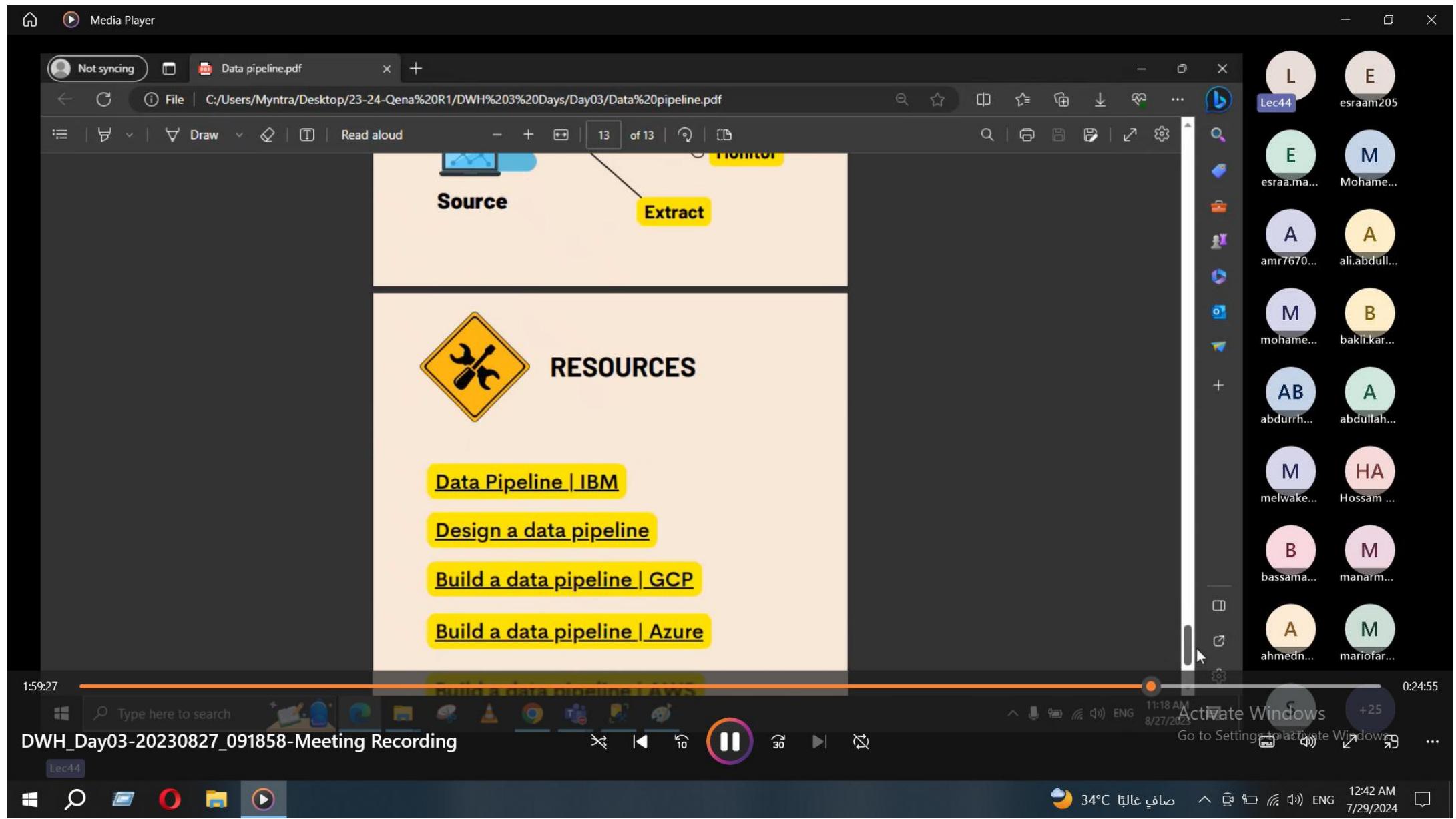
صافي غالباً

ENG

12:42 AM

7/29/2024





Media Player

Not syncing Data pipeline.pdf

File | C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20pipeline.pdf

13 of 13

RESOURCES

Data Pipeline | IBM

Design a data pipeline

Build a data pipeline | GCP

Build a data pipeline | Azure

Build a data pipeline | AWS

Click them to find out more!

L Lec44 E esraam205

E esraa.ma... M Mohame...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... A abdullah...

M melwake... HA Hossam ...

B bassama... M manarm...

A ahmedn... M mariofar...

1:59:32 0:24:50

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:18 AM 8/27/2023 +25 Go to Settings to activate Windows

34°C صافٰ غالباً ENG 12:42 AM 7/29/2024

Media Player

SQLQuery4.sql - DESKTOP-01PFO86.DEMO_DWH_AdventureWorks (DESKTOP-01PFO86\Myatra (71)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

DEM0_DWH_AdventureW... Execute

Object Explorer

Script for SelectTopNRows command from SSMS

```
SELECT TOP (1000) [customer_key]
    ,[customer_id]
    ,[customer_name]
    ,[address1]
    ,[address2]
    ,[city]
    ,[phone]
    ,[source_system_code]
    ,[start_date]
    ,[end_date]
    ,[is_current]
```

Results

	customer_key	customer_id	customer_name	address1	address2	city	phone	source_system_code	start_date	end_date	is_current
1	0	0	Unknown	Unknown	Unknown	Unknown	Unknown	0	1900-01-01 00:00:00.000	NULL	1

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) DESKTOP-01PFO86\Myatra... DEMO_DWH_AdventureWorks 00:00:00 1 rows

2:02:50 0:21:32

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 8/27/2023 +25 Go to Settings to activate Windows

34°C ENG 12:44 AM 7/29/2024

L E Lec44 esraam205

E M esraa.mah... Mohame...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB A abdurrah... abdullah...

M HA melwake... Hossam ...

E A emanab... ahmedn...

A A alzahraa... abdetrah...

Media Player

SQLQuery4.sql - DESKTOP-01PFO86.DEMO_DWH_AdventureWorks (DESKTOP-01PFO86\Mynta (71)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

AdventureWorks2017 Execute

Object Explorer

- Production.ProductReview
- Production.ProductSubcategory
- Production.ScrapReason
- Production.TransactionHistory
- Production.TransactionHistoryArchive
- Production.UnitMeasure
- Production.WorkOrder
- Production.WorkOrderRouting
- Purchasing.ProductVendor
- Purchasing.PurchaseOrderDetail
- Purchasing.PurchaseOrderHeader
- Purchasing.ShipMethod
- Purchasing.Vendor
- Sales.CountryRegionCurrency
- Sales.CreditCard
- Sales.Currency
- Sales.CurrencyRate
- Sales.Customer
- Sales.PersonCreditCard
- Sales.SalesOrderDetail
- Sales.SalesOrderHeader
- Sales.SalesOrderHeaderSalesReason
- Sales.SalesPerson
- Sales.SalesPersonQuotaHistory
- Sales.SalesReason
- Sales.SalesTaxRate
- Sales.SalesTerritory
- Sales.SalesTerritoryHistory
- Sales.ShoppingCartItem

SQLQuery5.sql - DE...PFO86\Mynta (69)* SQLQuery4.sql - DE...PFO86\Mynta (71) SQLQuery2.sql - DE...PFO86\Mynta (60)

```
***** Script for SelectTopNRows command from SSMS *****
SELECT TOP (1000) [customer_key]
    ,[customer_id]
    ,[customer_name]
    ,[address1]
    ,[address2]
    ,[city]
    ,[phone]
    ,[source_system_code]
    ,[start_date]
    ,[end_date]
    ,[is_current]
```

Results Messages

customer_key	customer_id	customer_name	address1	address2	city	phone	source_system_code	start_date	end_date	is_current
1	0	Unknown	Unknown	Unknown	Unknown	Unknown	0	1900-01-01 00:00:00.000	NULL	1

Query executed successfully.

DESKTOP-01PFO86 (15.0 RTM) DESKTOP-01PFO86\Mynta... DEMO_DWH_AdventureWorks 00:00:00 1 rows

2:03:02 0:21:20

Type here to search

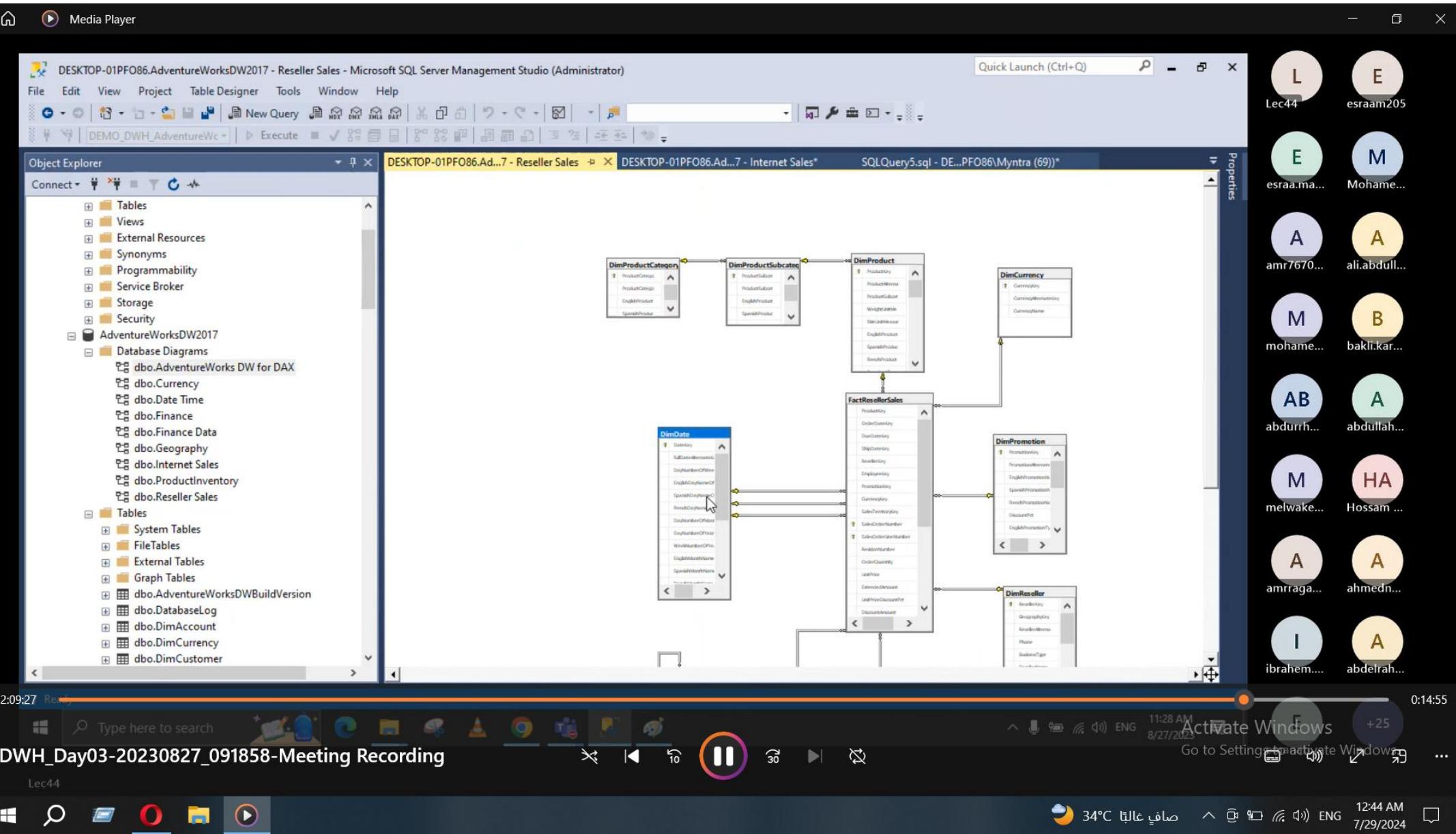
DWH_Day03-20230827_091858-Meeting Recording

Lec44 L esraam205 E

E esraa.mah... M Mohame... A amr7670... A ali.abdull... M mohame... B bakli.kar... AB abdurrah... A abdullah... M melwake... HA Hossam ... E emanab... A ahmedn... A alzahraa... A abdetrah...

Activate Windows 11:22 AM 8/27/2023 Go to Settings to activate Windows +25

34°C صافي غالباً ENG 12:44 AM 7/29/2024



Media Player

DESKTOP-01PFO86.AdventureWorksDW2017 - Reseller Sales - Microsoft SQL Server Management Studio (Administrator)

File Edit View Project Table Designer Tools Window Help

New Query Execute

Object Explorer

Tables Views External Resources Synonyms Programmability Service Broker Storage Security

AdventureWorksDW2017 Database Diagrams

- dbo.AdventureWorks DW for DAX
- dbo.Currency
- dbo.Date Time
- dbo.Finance
- dbo.Finance Data
- dbo.Geography
- dbo.Internet Sales
- dbo.ProductInventory
- dbo.Reseller Sales

Tables

- System Tables
- FileTables
- External Tables
- Graph Tables
- dbo.AdventureWorksDWBuildVersion
- dbo.DatabaseLog
- dbo.DimAccount
- dbo.DimCurrency
- dbo.DimCustomer

DESKE... - Reseller Sales DESKE... - Internet Sales* SQLQuery5.sql - DE...PFO86\Mynt... (69)*

DimDate DimEmployee DimGeography DimPromotion DimReseller DimSalesTerritory FactResellerSales DimTerritory

Properties

L E Lec44 esraam205 E M esraa.m... Mohame... A A amr7670... ali.abdull... M B mohame... bakli.kar... AB A abdurrah... abdullah... M HA melwake... Hossam ... A A amrraga... ahmedn... I A ibrahem... abdelrah...

2:09:36 0:14:46

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:28 AM 8/27/2023 Go to Settings +25

34°C 12:44 AM 7/29/2024

صفى غالباً ENG

Media Player

DESKTOP-01PFO86.AdventureWorksDW2017 - Reseller Sales - Microsoft SQL Server Management Studio (Administrator)

File Edit View Project Table Designer Tools Window Help

New Query Execute

Object Explorer

Connect ▾

- Tables
- Views
- External Resources
- Synonyms
- Programmability
- Service Broker
- Storage
- Security

AdventureWorksDW2017

- Database Diagrams
 - dbo.AdventureWorks DW for DAX
 - dbo.Cur** (selected)
 - dbo.Dat
 - dbo.Fin
 - dbo.Fin
 - dbo.Ge
 - dbo.Inte
 - dbo.Pro
 - dbo.Res
- Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.AdventureWorksDWBuildVersion
 - dbo.DatabaseLog
 - dbo.DimAccount
 - dbo.DimCurrency
 - dbo.DimCustomer

Quick Launch (Ctrl+Q) Properties

DESKTOP-01PFO86.Ad...7 - Reseller Sales DESKTOP-01PFO86.Ad...7 - Internet Sales* SQLQuery5.sql - DE...PFO86\Mynta (69)*

DimProductCategory

DimProductSubcategory

DimProduct

DimCurrency

FactResellerSales

DimDate

DimPromotion

DimReseller

Diagram showing the relationship between DimProductCategory, DimProductSubcategory, DimProduct, DimCurrency, FactResellerSales, DimDate, DimPromotion, and DimReseller tables.

Properties

L E Lec44 esraam205

E M esraa.mah... Mohame... amr7670... ali.abdull... M B mohame... bakli.kar... AB A abdurrah... abdullah... M HA melwake... Hossam ... A A amrraga... ahmedn... I A ibrahem... abdetrah...

2:09:46 0:14:36

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:28 AM 8/27/2023 +25 Go to Settings > Update & Security

34°C 12:44 AM 7/29/2024

Media Player

DESKTOP-01PFO86.AdventureWorksDW2017 - Currency - Microsoft SQL Server Management Studio (Administrator)

File Edit View Project Table Designer Tools Window Help

New Query HDT DMF XML DAX

DESKTOP-01PFO86....DW2017 - Currency DESKTOP-01PFO86.Ad...7 - Reseller Sales DESKTOP-01PFO86.Ad...7 - Internet Sales*

Object Explorer

Connect Tables Views External Resources Synonyms Programmability Service Broker Storage Security AdventureWorksDW2017 Database Diagrams dbo.AdventureWorks DW for DAX dbo.Currency dbo.Date Time dbo.Finance dbo.Finance Data dbo.Geography dbo.Internet Sales dbo.ProductInventory dbo.Reseller Sales Tables System Tables FileTables External Tables Graph Tables dbo.AdventureWorksDWBuildVersion dbo.DatabaseLog dbo.DimAccount dbo.DimCurrency dbo.DimCustomer

FactInternetSales

- ProductKey
- OrderDateKey
- DueDateKey
- ShipDateKey
- CustomerKey
- PromotionKey
- CurrencyKey
- SalesTerritoryKey
- SalesOrderNumber
- SalesOrderLineNu...
- RevisionNumber

DimCurrency

- CurrencyKey
- CurrencyAlternateKey
- CurrencyName

FactCurrencyRate

- CurrencyKey
- DateKey
- AverageRate
- EndOfDayRate

DimOrganization

- OrganizationKey
- ParentOrganization...
- PercentageOfOwn...
- OrganizationName
- CurrencyKey

Properties

L Lec44 E esraam205 E esraa.m... M Mohame... A amr7670... A ali.abdull... M mohame... B bakli.kar... AB abdurrah... A abdullah... M melwake... HA Hossam ... A amrraga... A ahmedn... I ibrahem... A abdetrah...

2:09:58 0:14:24

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:28 AM 8/27/2023 Go to Settings +25

34°C 12:44 AM 7/29/2024

Media Player

DESKTOP-01PFO86.AdventureWorksDW2017 - Currency - Microsoft SQL Server Management Studio (Administrator)

File Edit View Project Table Designer Tools Window Help

New Query Execute

Object Explorer

Tables

- System Tables
- FileTables
- External Tables
- Graph Tables
- dbo.AdventureWorksDWBuildVersion
- dbo.DatabaseLog
- dbo.DimAccount
- dbo.DimCurrency
- dbo.DimCustomer
- dbo.DimDate
- dbo.DimDepartmentGroup
- dbo.DimEmployee
- dbo.DimGeography
- dbo.DimOrganization
- dbo.DimProduct
- dbo.DimProductCategory
- dbo.DimProductSubcategory
- dbo.DimPromotion
- dbo.DimReseller
- dbo.DimSalesReason
- dbo.DimSalesTerritory
- dbo.DimScenario
- dbo.FactAdditionalInternationalProductDescript
- dbo.FactCallCenter
- dbo.FactCurrencyRate
- dbo.FactFinance
- dbo.FactInternetSales
- dbo.FactInternetSalesReason

DESKTOP-01PFO86....DW2017 - Currency DESKTOP-01PFO86.Ad...7 - Reseller Sales DESKTOP-01PFO86.Ad...7 - Internet Sales*

SpanishMonthN...

FactResellerSales

- ProductKey
- OrderDateKey
- DueDateKey
- ShipDateKey
- ResellerKey
- EmployeeKey
- PromotionKey
- CurrencyKey
- SalesTerritoryKey
- SalesOrderNumber

FactInternetSales

- ProductKey
- OrderDateKey
- DueDateKey
- ShipDateKey
- CustomerKey
- PromotionKey

DimCurrency

- CurrencyKey
- CurrencyAlternateKey

FactCurrencyRate

- CurrencyKey
- DateKey

Properties

L Lec44 esraam205

E esraa.m... M Mohame...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... A abdullah...

M melwake... HA Hossam ...

A amrraga... A ahmedn...

I ibrahem... A abdelrah...

Activate Windows 11:29 AM 8/27/2023 +25 Go to Settings

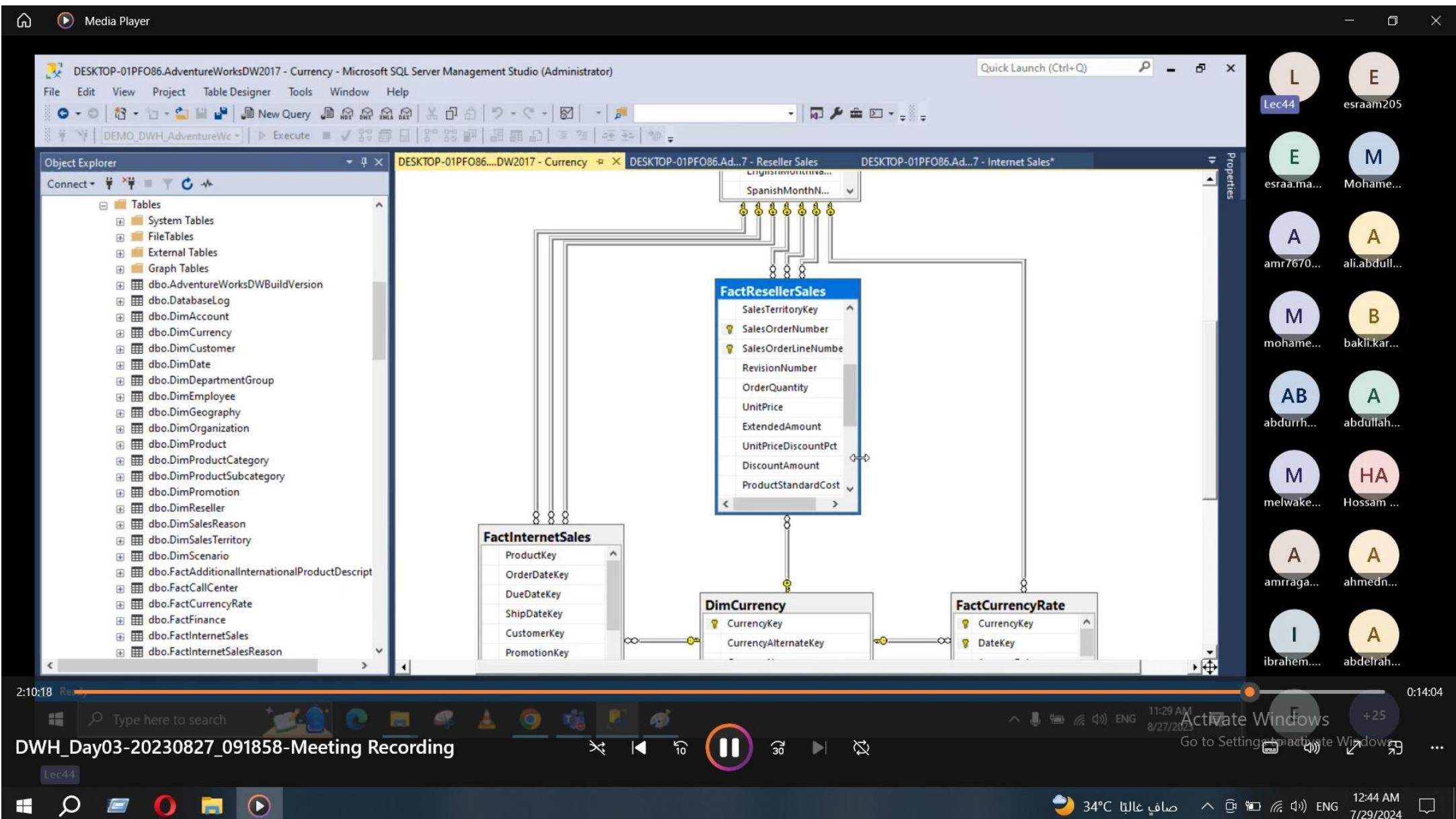
2:10:12 0:14:10

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

34°C 12:44 AM 7/29/2024



Media Player

DESKTOP-01PFO86.AdventureWorksDW2017 - Currency* - Microsoft SQL Server Management Studio (Administrator)

File Edit View Project Table Designer Tools Window Help

New Query Execute

Object Explorer

Tables

- System Tables
- FileTables
- External Tables
- Graph Tables
- dbo.AdventureWorksDWBuildVersion
- dbo.DatabaseLog
- dbo.DimAccount
- dbo.DimCurrency
- dbo.DimCustomer
- dbo.DimDate
- dbo.DimDepartmentGroup
- dbo.DimEmployee
- dbo.DimGeography
- dbo.DimOrganization
- dbo.DimProduct
- dbo.DimProductCategory
- dbo.DimProductSubcategory
- dbo.DimPromotion
- dbo.DimReseller
- dbo.DimSalesReason
- dbo.DimSalesTerritory
- dbo.DimScenario
- dbo.FactAdditionalInternationalProductDescription
- dbo.FactCallCenter
- dbo.FactCurrencyRate
- dbo.FactFinance
- dbo.FactInternetSales
- dbo.FactInternetSalesReason

DESKTOP-01PFO86....DW2017 - Currency* DESKTOP-01PFO86.Ad...7 - Reseller Sales DESKTOP-01PFO86.Ad...7 - Internet Sales*

SpanishMonthN...

FactResellerSales

- OrderQuantity
- UnitPrice
- ExtendedAmount
- UnitPriceDiscountPct
- DiscountAmount
- ProductStandardCost
- TotalProductCost
- SalesAmount
- TaxAmt
- Freight
- CarrierTrackingNumber

FactInternetSales

- ProductKey
- OrderDateKey
- DueDateKey
- ShipDateKey
- CustomerKey
- PromotionKey

DimCurrency

- CurrencyKey
- CurrencyAlternateKey

FactCurrencyRate

- CurrencyKey
- DateKey

Properties

Quick Launch (Ctrl+Q)

L Lec44 E esraam205

E esraa.m... M Mohame...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... A abdullah...

M melwake... HA Hossam ...

A amrraga... A ahmedn...

I ibrahem... A abdelrah...

2:10:29 0:13:53

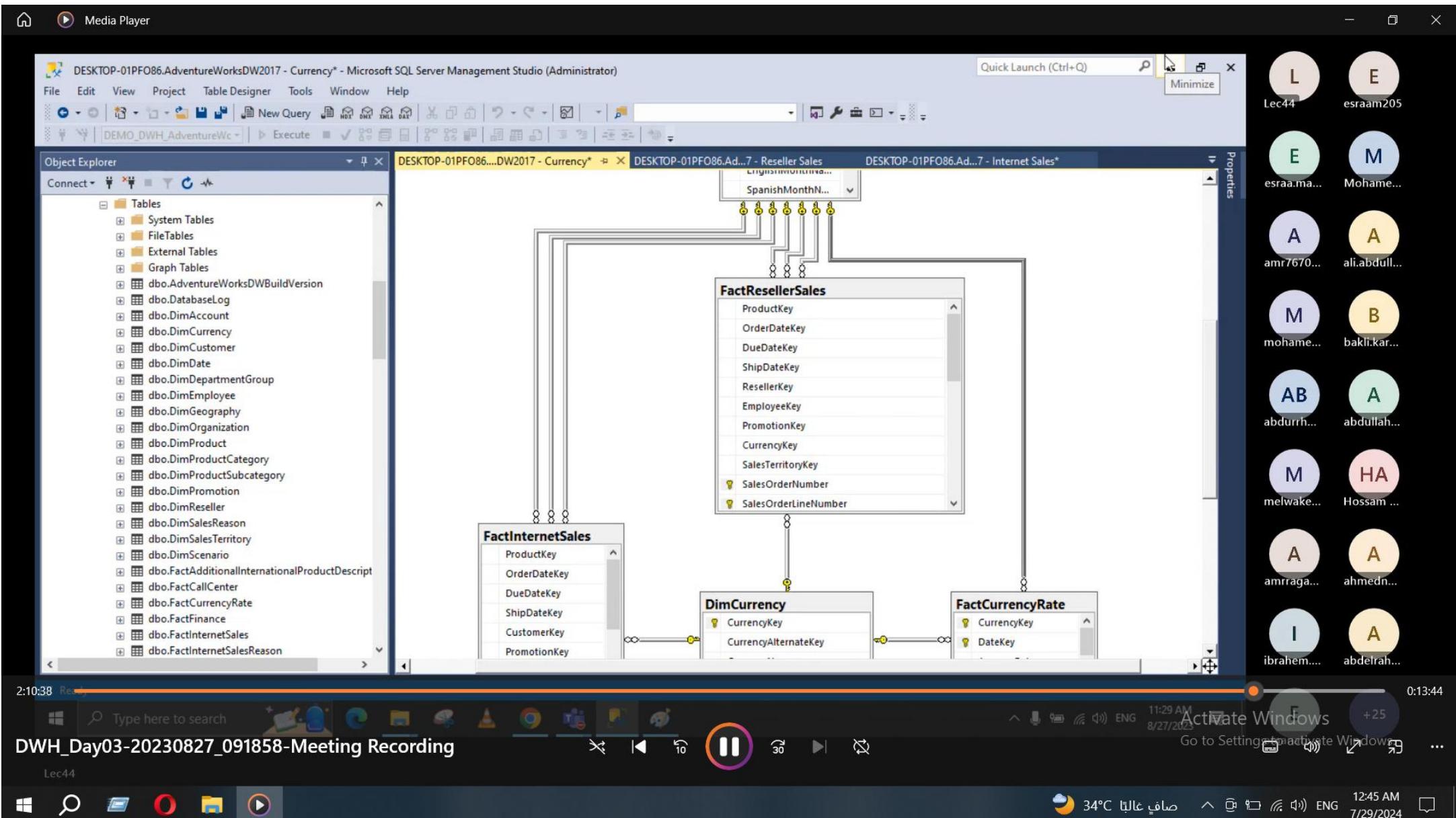
Type here to search

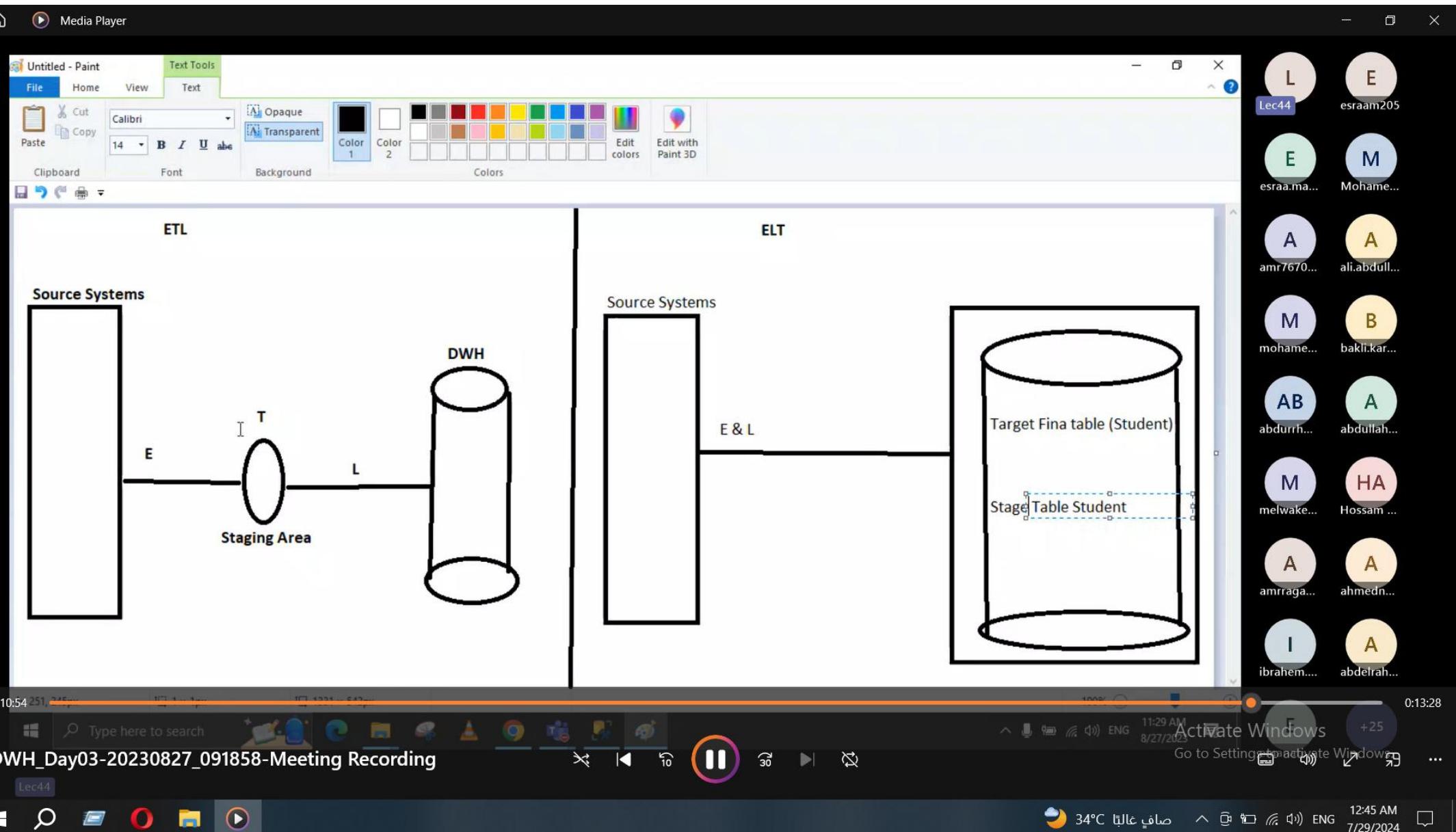
DWH_Day03-20230827_091858-Meeting Recording

Activate Windows 11:29 AM 8/27/2023 +25 Go to Settings & Update Windows

34°C ENG 12:45 AM 7/29/2024

Media Player





Media Player

Untitled - Paint

File Home View Text

Cut Copy Paste

Font Calibri 14 B I U

Background Opaque Transparent

Color 1 Color 2 Colors Edit colors Edit with Paint 3D

Clipboard

ETL

Source Systems

E

T

L

Staging Area

DWH

ELT

Source Systems

E & L

Target Final table (Student)

Stage Table Student

Lec44

esraam205

E M esraa.m... Mohamed...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB A abdurrah... abdullah...

M HA melwake... Hossam ...

A A amrraga... ahmedn...

I A ibrahem... abdelrah...

2:13:34 627 179 1071 4... 1024 542 1000 0:10:48

Type here to search

Activate Windows

11:32 AM 8/27/2023 Go to Settings +25

DWH_Day03-20230827_091858-Meeting Recording

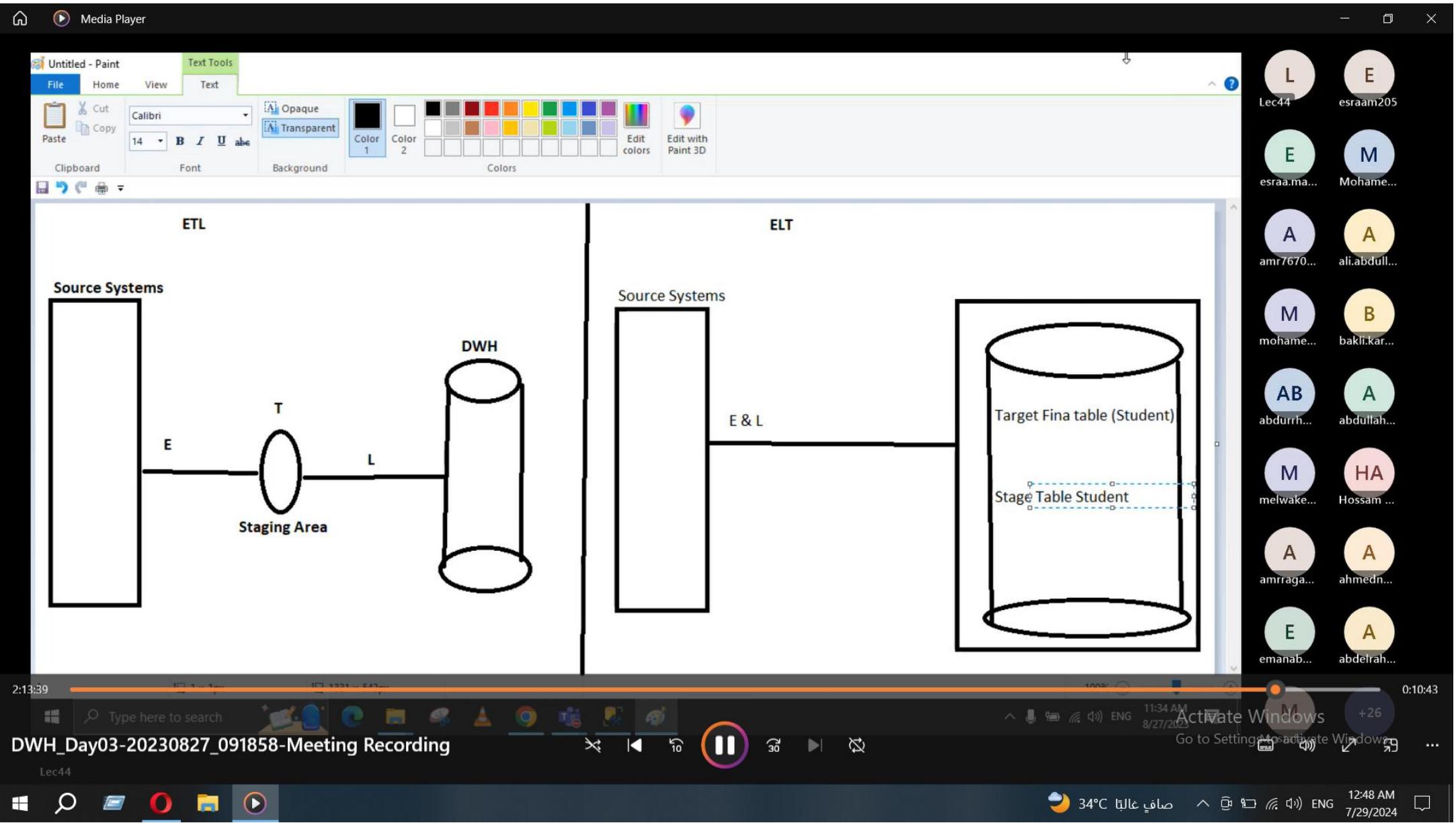
Lec44

34°C 12:46 AM ENG 7/29/2024

The diagram illustrates two data processing architectures:

- ETL (Extract, Transform, Load):** Shows a flow from "Source Systems" to a "Staging Area" (oval), then to "T" (Transform), and finally to a "DWH" (Data Warehouse, cylinder).
- ELT (Extract, Load, Transform):** Shows a flow from "Source Systems" directly to "E & L" (Load and Transform), which then feeds into a "Target Final table (Student)". This table contains a "Stage Table Student".

The diagram is overlaid on a screenshot of a Windows desktop. On the right, there is a list of student names and grades (Lec44) in a table format. The desktop also shows a media player window, taskbar icons, and system status information.



Media Player

Data Pipelines Pocket Reference

C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20Pipelines%20Pocket%20Reference%20Moving...

Table of Contents

- Copyright
- Table of Contents
- Preface
- Chapter 1. Introduction to Data Pipelines
- Chapter 2. A Modern Data Infrastructure
- Chapter 3. Common Data Pipeline Patterns
- Chapter 4. Data Ingestion: Extracting Data
- Chapter 5. Data Ingestion: Loading Data
- Chapter 6. Transforming Data
- Chapter 7. Orchestrating Pipelines
- Chapter 8. Data Validation in Pipelines
- Chapter 9. Best Practices for Maintaining Pipelines

**Data Pipelines
Pocket Reference**

Moving and Processing Data for Analytics

James Densmore

Lec44

esraam205

esraa.ma... Mohamed...

amr7670... ali.abdull...

mohame... bakli.kar...

abdurrh... abdullah...

melwake... Hossam ...

amrraga... ahmedn...

emanab... abdetrah...

Activate Windows

Go to Settings > Activate Windows

34°C صافي غالباً ENG 12:48 AM 7/29/2024

2:15:38 0:08:44

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Windows Start Search Task View Taskbar

Media Player

Data Pipelines Pocket Reference

C:/Users/Mynta/Desktop/23-24-Qena%20R1/DWH%203%20Days/Day03/Data%20Pipelines%20Pocket%20Reference%20Moving...

Table of Contents

- Copyright
- Table of Contents
- Preface
- Chapter 1. Introduction to Data Pipelines
- Chapter 2. A Modern Data Infrastructure
- Chapter 3. Common Data Pipeline Patterns
- Chapter 4. Data Ingestion: Extracting Data
- Chapter 5. Data Ingestion: Loading Data
- Chapter 6. Transforming Data
- Chapter 7. Orchestrating Pipelines
- Chapter 8. Data Validation in Pipelines
- Chapter 9. Best Practices for Maintaining Pipelines

**Data Pipelines
Pocket Reference**

Moving and Processing Data for Analytics

James Densmore

Lec44

esraam205

E esraa.ma... M Mohamed...

A amr7670... A ali.abdull...

M mohame... B bakli.kar...

AB abdurrah... A abdullah...

M melwake... HA Hossam ...

A amrraga... A ahmedn...

E emanab... A abdetrah...

Activate Windows

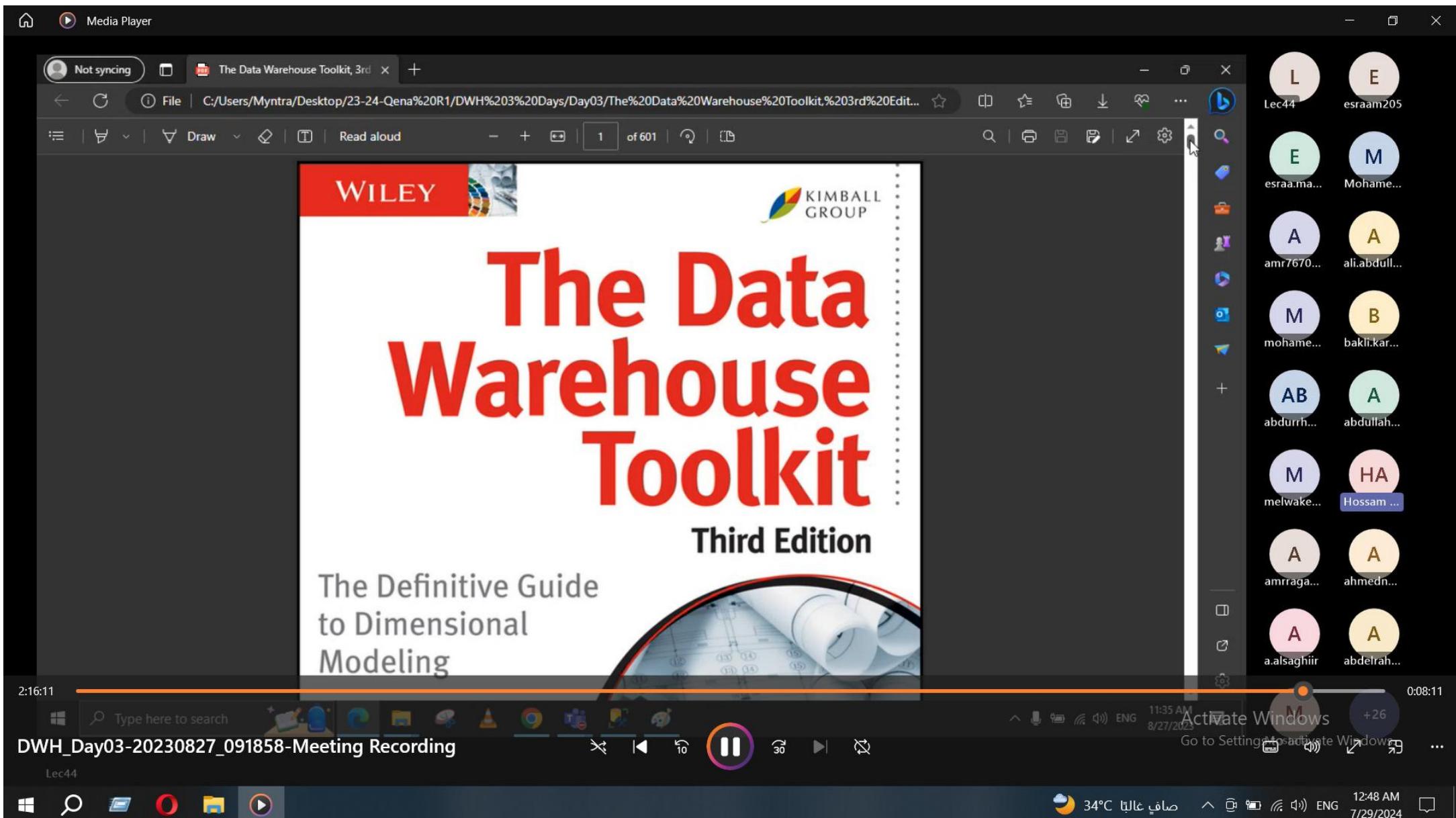
Go to Settings > Activation

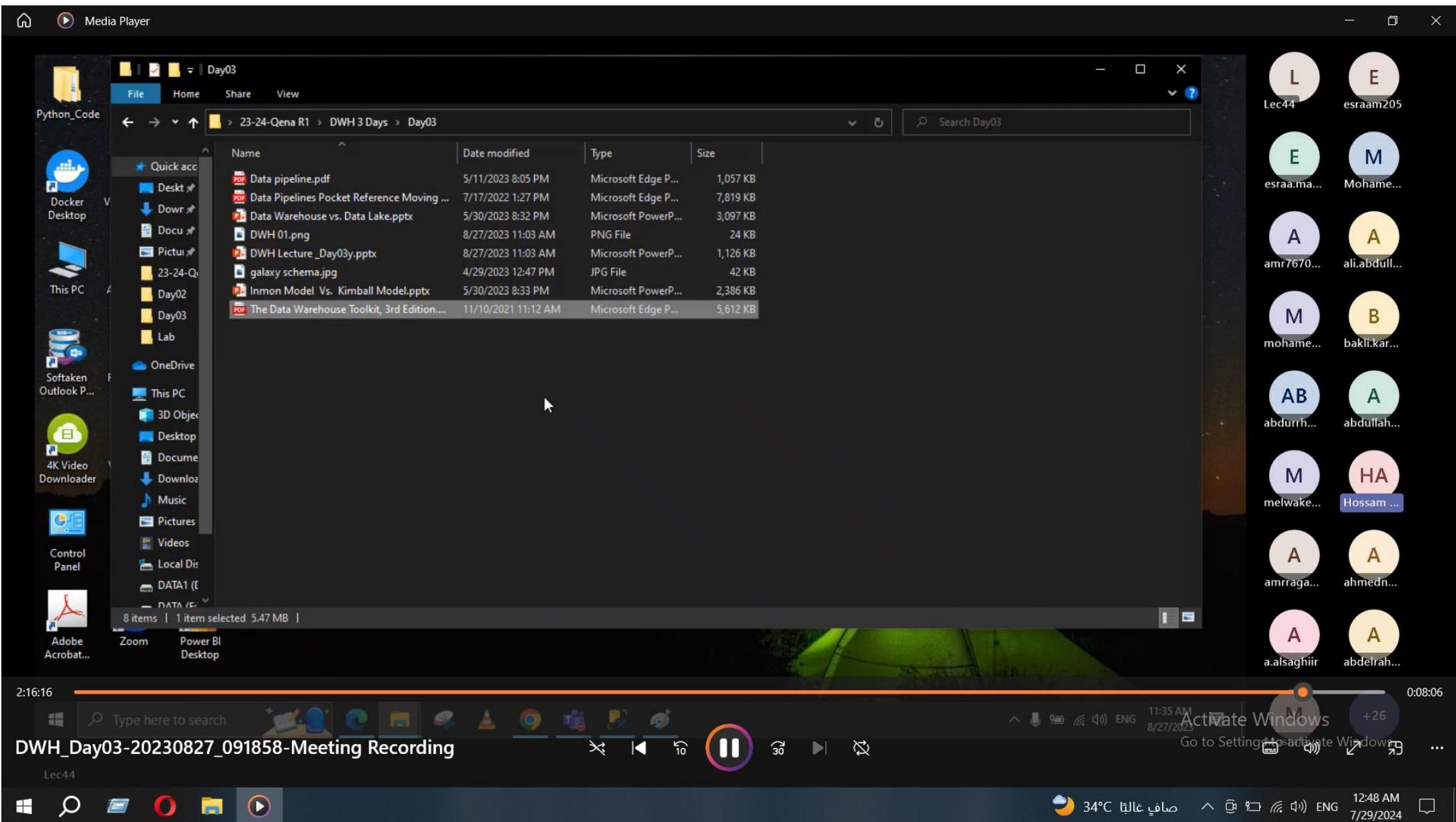
2:15:47 0:08:35

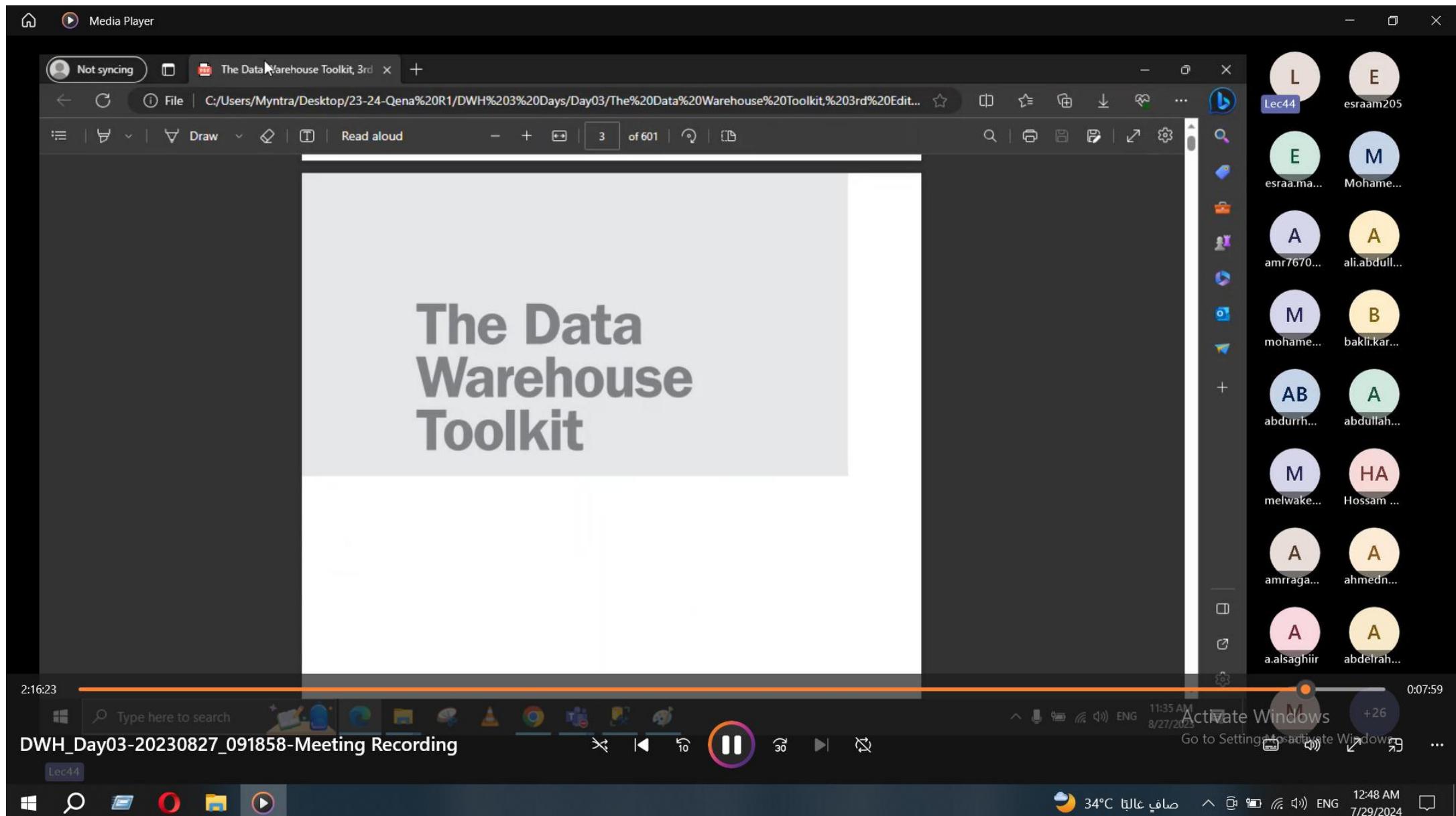
Type here to search

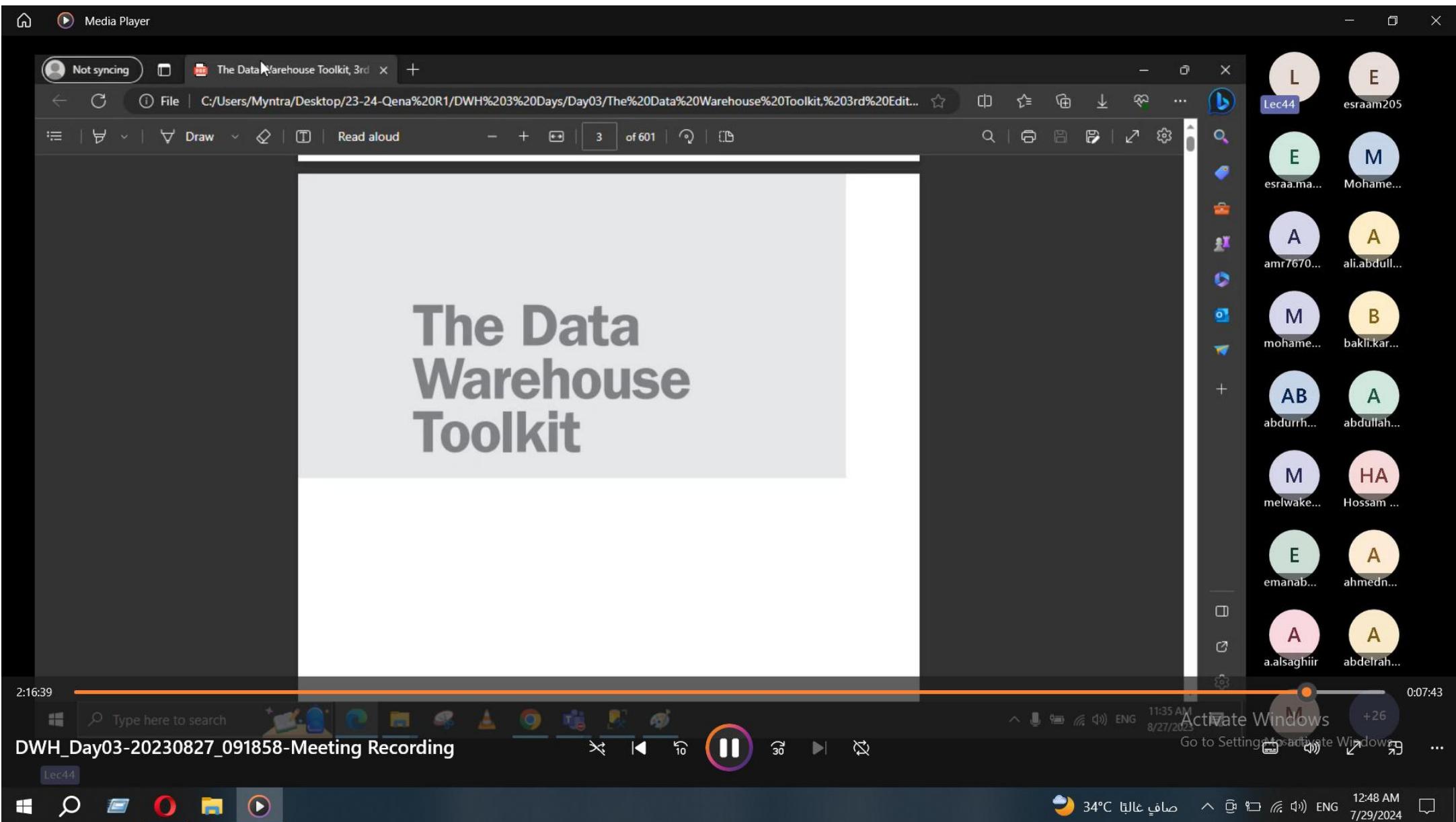
DWH_Day03-20230827_091858-Meeting Recording

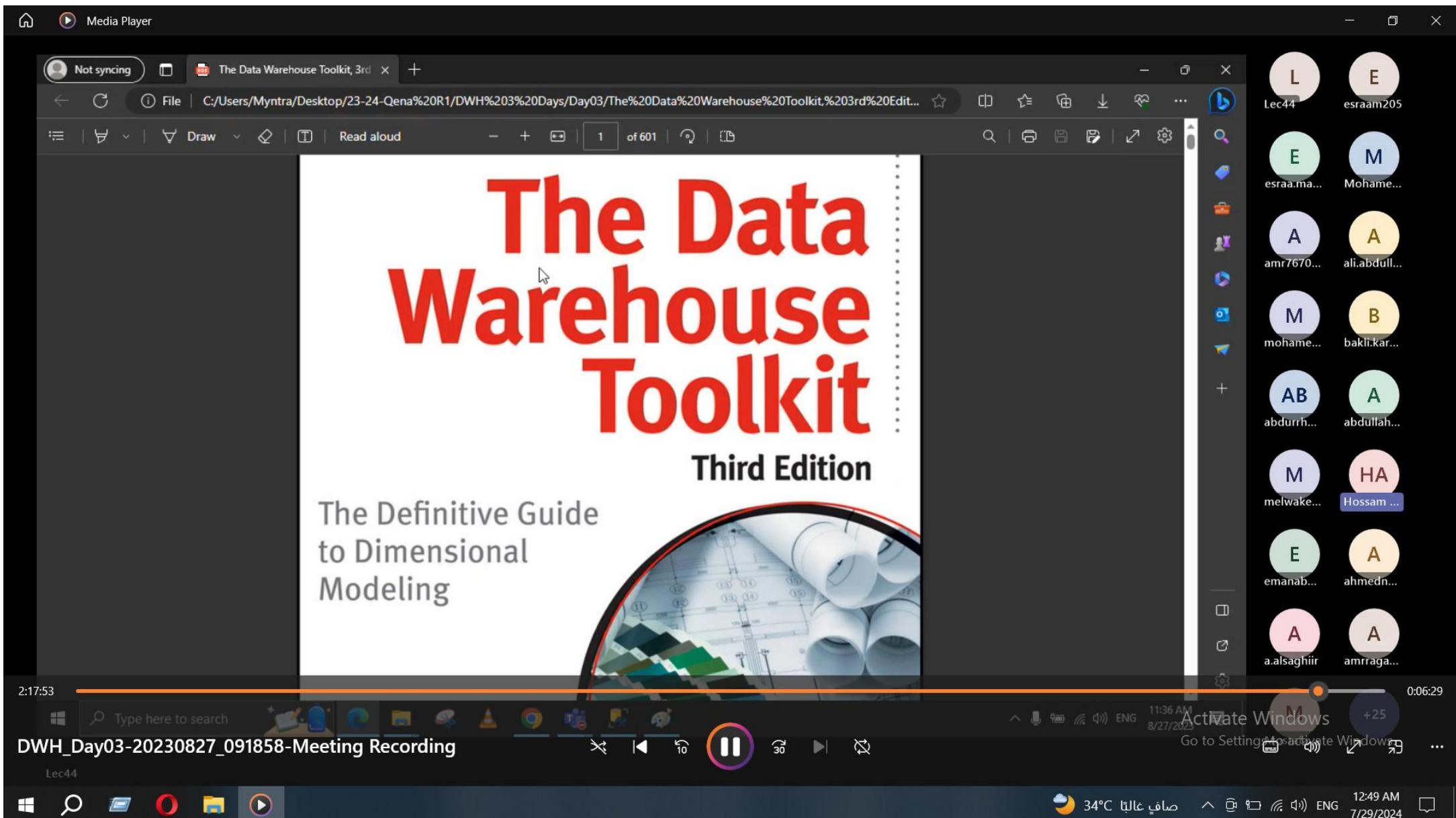
11:34 AM 8/27/2023 34°C ENG 12:48 AM 7/29/2024

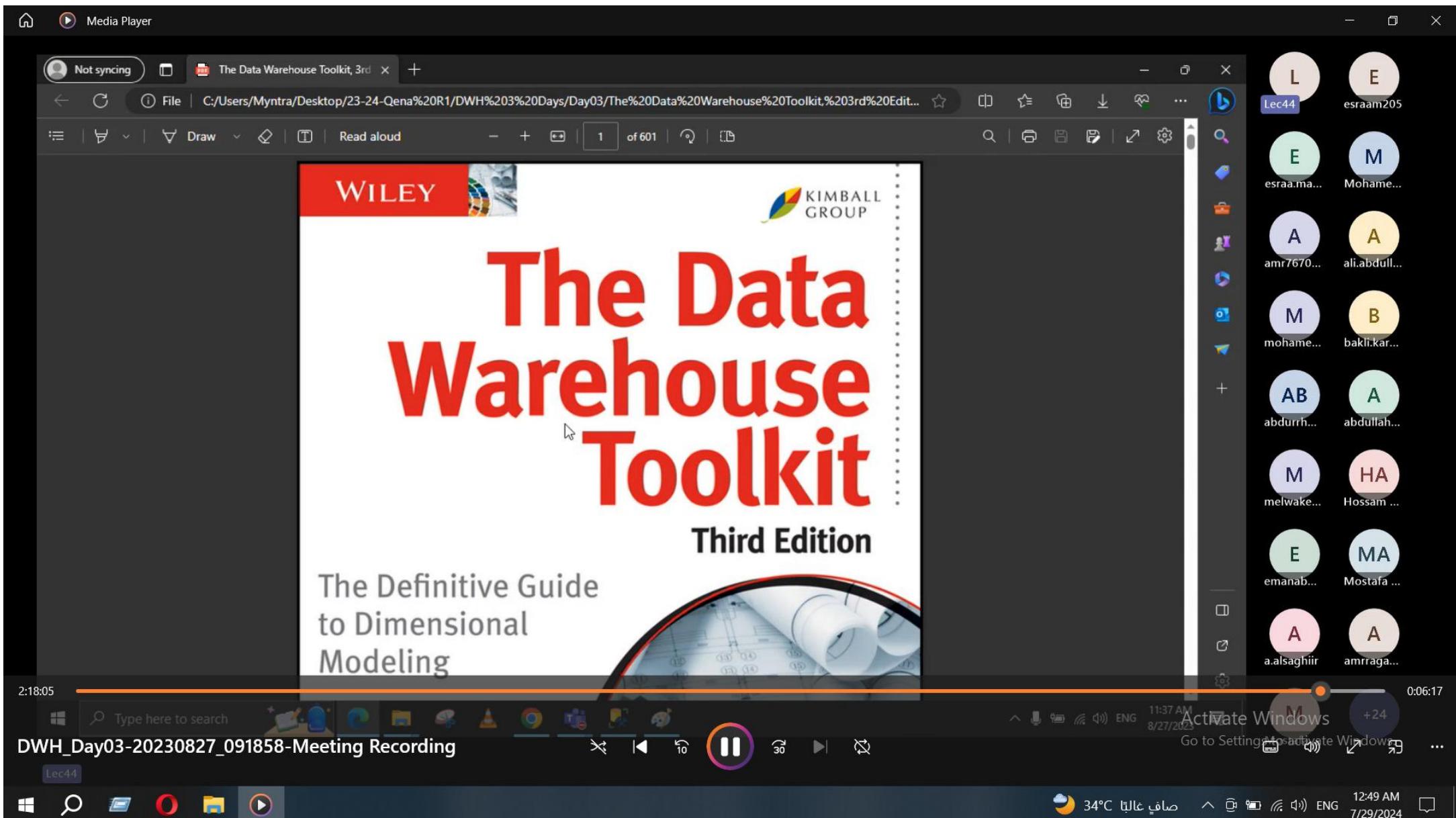


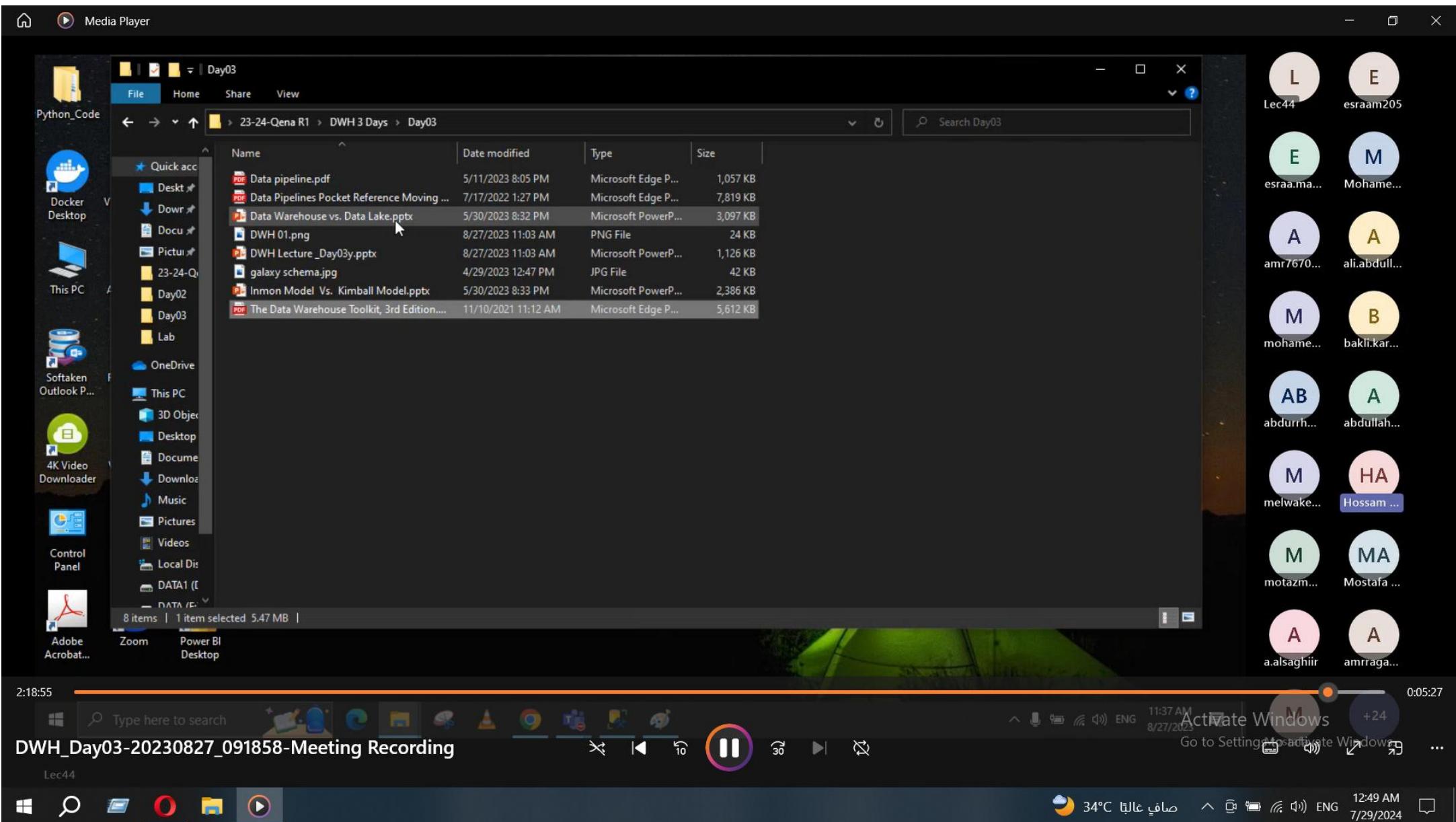












Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

117

118

119

120

121

122

123

Data Partitioning

- Breaking up of data into smaller Physical units that can be handled independently
- Data partitioning provides ease of:
 - Restructuring
 - Reorganization
 - Removal
 - Recovery
 - Monitoring
 - Management
 - Archiving

1- ETL Vs ELT
2- Full Load Vs Incremental Load

2:23:59 0:00:23

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 11:42 AM 8/27/2023 Go to Settings & activate Windows +25

34°C صافي غالباً ENG 12:50 AM 7/29/2024

L E esraam205

E M esraa.mah... Mohamed...

A A amr7670... ali.abdull...

M B mohame... bakli.kar...

AB A abdurrah... abdullah...

M HA melwake... Hossam ...

A E Akmal.el... emanab...

A H a.alsaghir hhazema...

Google Translate



Text

Images

Documents

Websites

Detect language English Arabic Spanish

Arabic English Spanish

A data pipeline is a method in which raw data is ingested from various data sources, transformed and then ported to a data store, such as a data lake or data warehouse, for analysis. Before data flows into a data repository, it usually undergoes some data processing.



Data pipelines consist of three essential elements: a Source or Sources, Processing Steps, and a Destination.

خط أنابيب البيانات هو طريقة يتم فيها استيعاب البيانات الخام من مصادر بيانات مختلفة، وتحويلها ثم نقلها إلى مخزن بيانات، مثل بحيرة بيانات أو مستودع بيانات، للتحليل. قبل تدفق البيانات إلى مستودع البيانات، تخضع عادةً لبعض معالجة البيانات.

ت تكون خطوط أنابيب البيانات من ثلاثة عناصر أساسية: المصدر أو المصادر، وخطوات المعالجة، والوجهة.

khatu 'anabib albayanat hu tariqat yatimu fiha aistieab albayanat
alkham min masadir bayanat mukhtalifatin, watahwiliha thuma naqalah 'ilaa makhzan bayanati, mithl buhayrat bayanat 'aw

Menu G roll back DB - Google Search X G data pipeline - Google Search X Google Translate X | ETL or ELT According to Use X | +

www.google.com/search

roll back DB

All Images Videos Shopping News Maps Web More Tools

Example Tutorial In SQL W3Schools In dbms

A database rollback is, to some degree, like an “undo” button for database changes. To perform a database rollback, **the database is reverted to a previous state, eliminating the problematic change and the issues it caused for the infrastructure, application, data, and end users.** Mar 26, 2024

Liquibase https://www.liquibase.com › blog › database-rollbacks-t... :

Database rollbacks: The DevOps approach to rolling back and ...

About featured snippets • Feedback

People also ask :

What is a rollback in a database? ▾

What is the rollback function in SQL? ▾

What is rollback in MySQL? ▾

What is rollback in DML? ▾

Feedback

Activate Windows
Go to Settings to activate Windows.

34°C صافي غالباً ENG 12:55 AM 7/29/2024

Menu [data pipeline - Google Search](#) [Google Translate](#) [X](#) [G ETL or ELT According to Us](#) [X](#) [+](#)

www.google.com/search

data pipeline [X](#) [Microphone](#) [Camera](#) [Search](#)

All Images Videos News Shopping Books Maps More Tools

A data pipeline is a method in which raw data is ingested from various data sources, transformed and then ported to a data store, such as a data lake or data warehouse, for analysis. Before data flows into a data repository, it usually undergoes some data processing.

Jun 14, 2024

IBM <https://www.ibm.com/topics/data-pipeline> ::

What Is a Data Pipeline? - IBM

About featured snippets · Feedback

People also ask :

What are the main 3 stages in a data pipeline?

^

Data pipelines consist of three essential elements: a source or sources, processing steps, and a destination.

Snowflake <https://www.snowflake.com/guides/data-pipeline>

What is a Data Pipeline? - Snowflake

Search for: What are the main 3 stages in a data pipeline?

Is data pipeline an ETL?

What is an example of a data pipeline?

Pipeline

Computing :

ETL PIPELINE

Data Pipeline Architecture

More images

In computing, a pipeline, also known as a data pipeline, is a set of data processing elements connected in series, where the output of one element is the input of the next one. The elements of a pipeline are often executed in parallel or in time-sliced fashion. Wikipedia

Feedback

Activate Windows
Go to Settings to activate Windows.

34°C صافي غالباً ENG 12:55 AM 7/29/2024

Menu G ETL or ELT According to Use Case +

www.google.com/search

ETL or ELT According to Use Case

All Images Videos Shopping News Books Web More Tools

Which is Better: ETL or ELT? If you want to transform your data before loading into into your data warehouse or data lake, then ETL might make sense. If you are dealing with are large sets of data or need to keep raw data available for future analysis then ELT might be the best approach. Jul 19, 2024

Rivery https://rivery.io > Insights

ETL vs ELT: Key Differences, Comparisons, & Use Cases

About featured snippets · Feedback

People also ask :

What is ETL example use cases?

Which of the following best describes a use case for ELT?

When should ETL be used?

Is an ELT model an alternative to ETL?

Feedback

Ascend.io https://www.ascend.io > blog > etl-vs-elt

ETL vs ELT: Differences, Evolution, & Use Cases

Activate Windows Go to Settings to activate Windows.

34°C صافي غالبا ENG 12:56 AM 7/29/2024

Menu G ETL or ELT According to Use Case +

www.google.com/search

ETL or ELT According to Use Case

All Images Videos Shopping News Books Web More Tools

Which is Better: ETL or ELT? If you want to transform your data before loading into into your data warehouse or data lake, then ETL might make sense. If you are dealing with are large sets of data or need to keep raw data available for future analysis then ELT might be the best approach. Jul 19, 2024

Rivery https://rivery.io > Insights

ETL vs ELT: Key Differences, Comparisons, & Use Cases

About featured snippets · Feedback

People also ask :

What is ETL example use cases?

Which of the following best describes a use case for ELT?

When should ETL be used?

Is an ELT model an alternative to ETL?

Feedback

Ascend.io https://www.ascend.io > blog > etl-vs-elt

ETL vs ELT: Differences, Evolution, & Use Cases

Activate Windows Go to Settings to activate Windows.

34°C صافي غالباً ENG 12:56 AM 7/29/2024

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Share

L mohame...

A M a.alsaghiir Mohame...

MM A Mohame... alzahraa...

M B mohame... bakli.kar...

M M melwake... mahmou...

M B mohame... bassama...

HA H Hossam ... Hesham...

D A dinamor... avashat...

Activate Windows

9:10 AM Go to Settings to activate Windows ENG 8/27/2023 +23 ibrahem....

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding

1 Data Warehouse By: Abdelwahed Ashraf

2 Data → Information → Knowledge → Decisions

3 About History of BI

4 Introduction to DWH

5 Introduction to the Data Warehouse (DW)

6 Definition of Data Warehouse (DW)

7 Introduction to the Data Warehouse (DW)

0:00:09 Click to add notes

Slide 1 of 123 English (United States)

DWH_Day03-20230827_091858-Meeting Recording

Notes Comments

10 30 20 40 50 60 70 80 90 100

Lec44

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Share

L Lec44 mohame...

A a.alsaghiir M Mohame...

MM Mohame... A alzahraa...

M mohame... B bakli.kar...

M melwake... M mahmou...

M mohame... B bassama...

HA Hossam ... H Hesham...

D dinamor... A ayashei...

Data Warehouse

By: Abdelwahed Ashraf

Click to add notes

0:00:09 de 2:24:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:19 AM 8/27/2023 +23 Go to Settings

32°C مشمس ENG 3:09 PM 7/28/2024

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Abdelwahed Ashraf AA

Share Lec44

L M mohame...

A M a.alsaghiir Mohame...

MM A Mohame... alzahraa...

M B mohame... bakli.kar...

M M melwake... mahmou...

M B mohame... bassama...

HA H Hossam ... Hesham...

D A dinamor... ayashei...

Differences Between DWH and Operational DB

Transactions DB (OLTP)	DWH
Works with small Pieces of Information	Works with Enterprise wide Information
Support Insert, Update, Delete or Select	Read Only
Normalized	Not required (De-normalized in many use cases)
Small To Large Database	Large to Very Large Database
Volatile Data	Non Volatile
Applications that Run the business	Applications that analyze the business

Click to add notes

0:00:46 2:23:36

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:19 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 3:12 PM 7/28/2024

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Differences Between DWH and Operational DB

Transactions DB (OLTP)	DWH
Works with small Pieces of Information	Works with Enterprise wide Information
Support Insert, Update, Delete or Select	Read Only
Normalized	Not required (De-normalized in many use cases)
Small To Large Database	Large to Very Large Database
Volatile Data	Non Volatile
Applications that Run the business	Applications that analyze the business

Click to add notes

0:00:46 2:23:36

Type here to search

DWH_Day03-20230827_091858-Meeting Recording

Lec44

Activate Windows 9:19 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 3:12 PM 7/28/2024

L M a.alsaghiir M Mohamed... MM A Mohamed... alzahraa... M B mohamed... bakli.kar... M M melwak... mahmou... M B mohamed... bassama... HA H Hossam... Hesham... D A dinamor... ayasheai...

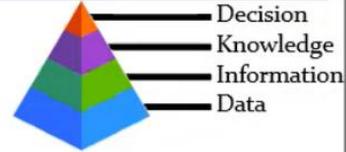
Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

Definition of BI



- BI is an umbrella term that combines architectures, tools, databases, analytical tools, applications, and methodologies.
- BI is a content-free expression, so it means different things to different people.
- BI helps transform data, to information (and knowledge), to decisions and finally to action.

"Set of Tools and Technologies for gathering, analyzing and providing access to data to Help enterprise users make better decisions."

0:01:09 de 2:23:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:20 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 3:13 PM 7/28/2024

L M a.alsaghiir M Mohamed... MM A Mohamed... alzahraa... M B mohamed... bakli.kar... M M melwak... mahmou... M B mohamed... bassama... HA H Hossam... Hesham... D A dinamor... ayasheai...

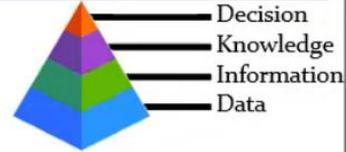
Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

Definition of BI



- BI is an umbrella term that combines architectures, tools, databases, analytical tools, applications, and methodologies.
- BI is a content-free expression, so it means different things to different people.
- BI helps transform data, to information (and knowledge), to decisions and finally to action.

"Set of Tools and Technologies for gathering, analyzing and providing access to data to Help enterprise users make better decisions."

0:01:09 de English (United States) 2:23:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:20 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 3:13 PM 7/28/2024

L M a.alsaghiir Mohame... A M alzahraa... MM A Mohame... M B bakli.kar... M M melwake... mahmou... M B mohame... bassama... HA H Hossam ... Hesham... D A dinamor... ayasheai...

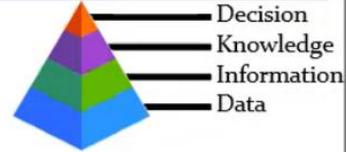
Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

Definition of BI



- BI is an umbrella term that combines architectures, tools, databases, analytical tools, applications, and methodologies.
- BI is a content-free expression, so it means different things to different people.
- BI helps transform data, to information (and knowledge), to decisions and finally to action.

"Set of Tools and Technologies for gathering, analyzing and providing access to data to Help enterprise users make better decisions."

0:01:09 de English (United States) 2:23:13

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:20 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 3:34 PM 7/28/2024

L M a.alsaghiir Mohame... MM A Mohame... alzahraa... M B bakli.kar... M M melwake... mahmou... M B mohame... bassama... HA H Hossam ... Hesham... D A dinamor... ayasheai...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

Search

Abdelwahed Ashraf AA

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Motivation to Data Warehouse

Types of Data Warehouse

Enterprise Data Warehouse (EDWH) It provides decision support service across the enterprise. It offers a unified approach for organizing and representing data (DWH Model). It offers data classifications according to the subject with privileges policy.

Operational Data Store (ODS): is a central database that provides an up-to-date (real-time) data from multiple transnational systems for operational reporting into a single DWH.

Data Mart: A departmental data warehouse that stores only relevant data, It specially designed for a particular line of business, such as sales or finance.

● Operational data stores (ODS)
A type of database often used as an interim area for a data warehouse.

Notes Comments

Activate Windows 9:20 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 3:34 PM 7/28/2024

L M mohame... a.alsaghiir Mohame... MM A alzahraa... M B bakli.kar... M M mahmou... M B bassama... HA H Hesham... D A dinamor... ayashei...

0:01:16 0:01:13 English (United States)

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

30 2:23:06

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Motivation to Data Warehouse

Types of Data Warehouse

Enterprise Data Warehouse (EDWH) It provides decision support service across the enterprise. It offers a unified approach for organizing and representing data (DWH Model). It offers data classifications according to the subject with privileges policy.

Operational Data Store (ODS): is a central database that provides an up-to-date (real-time) data from multiple transnational systems for operational reporting into a single DWH.

Data Mart: A departmental data warehouse that stores only relevant data, It specially designed for a particular line of business, such as sales or finance.

Operational data stores (ODS)
A type of database often used as an interim area for a data warehouse

0:01:32 de 2:22:50

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:20 AM 8/27/2023 +26 Go to Settings to activate Windows

32°C مشمس ENG 3:34 PM 7/28/2024

L M a.alsaghiir Mohame... MM A alzahraa... M B bakli.kar... M M melwak... mahmou... M B mohame... bassama... HA H Hossam... Hesham... D A dinamor... ayashei...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

7 **Introduction to the Data Warehouse**

- A data warehouse is a central repository of data from various sources.
- It is a collection of integrated data from different sources.
- It is an analytical system that stores large amounts of data from different sources and provides it to the user in a structured form.
- The DW is the core of the BI system built for data analysis and reporting.

8 **Introduces to the Data Warehouse**

Other names for the Data Warehouse System:

- Data Mart
- Data Marts
- Business Intelligence Systems
- Management Information Systems
- Executive Decision Support Systems
- Analytic Applications
- Data Warehouses

9 **Data Warehouses DWHS and Operational DB**

10 **Data Warehousing and Business Intelligence**

11 **Definition of DW**

- DW is a centralized data warehouse system, used for decision support, data mining, and reporting.
- DW is a subject-oriented, non-volatile, and integrated data store.
- DW maps business processes to information (data warehouse) and thereby to actions.

12 **DWH Characteristics**

13 **DWH Characteristics**

DWH Characteristics

- Subject oriented
- Integrated
- Nonvolatile
- Time variant

Click to add notes

0:01:19 de 2:23:03

Type here to search

Activate Windows 9:20 AM 8/27/2023 +26 Go to Settings to activate Windows

DWH_Day03-20230827_091858-Meeting Recording Lec44

32°C مشمس ENG 3:34 PM 7/28/2024

L M a.alsaghiir Mohame... MM A Mohamed... M B bakli.kar... M M melwak... mahmou... M B mohame... bassama... HA H Hossam ... Hesham... D A dinamor... ayashei...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Motivation to Data Warehouse

Types of Data Warehouse

Enterprise Data Warehouse (EDWH) It provides decision support service across the enterprise. It offers a unified approach for organizing and representing data (DWH Model). It offers data classifications according to the subject with privileges policy.

Operational Data Store (ODS): is a central database that provides an up-to-date (real-time) data from multiple transnational systems for operational reporting into a single DWH.

Data Mart: A departmental data warehouse that stores only relevant data, It specially designed for a particular line of business, such as sales or finance.

● Operational data stores (ODS)
A type of database often used as an interim area for a data warehouse

0:01:19 de 2:23:03

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:20 AM 8/27/2023 +26 Go to Settings activate Windows

32°C مشمس ENG 3:35 PM 7/28/2024

L M a.alsaghiir Mohame... MM A alzahraa... M B bakli.kar... M M melwak... mahmou... M B mohame... bassama... HA H Hossam... Hesham... D A dinamor... ayashei...

Media Player

DWH Lecture_Day03y.pptx - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Recording Help Storyboarding Share Lec44

Abdelwahed Ashraf AA

L M mohame... A M a.alsaghiir Mohame... MM A alzahraa... M B bakli.kar... M M mahmou... M B bassama... HA H Hossam... Hesham... D A dinamor... ayashei...

27 28 29 30 31 32 33

Data Warehouse Components

The diagram illustrates the architecture of a Data Warehouse (EDWH) across four main layers:

- Source systems Layer:** Contains Legacy, External, and Operational systems.
- Staging Area Layer:** Contains an ODS (Operational Data Store).
- ETL Layer:** Manages the flow between the Staging Area and the Data Modeling Layer.
- Data Modeling Layer (Presentation area):** Contains the EDWH (Enterprise Data Warehouse) which feeds into multiple Data Mart databases.
- BI Layer (Access Tools):** Provides reporting and analytics access to the Data Mart.

A central **Metadata repository** interacts with all layers, providing a common source of metadata for the system.

Click to add notes

0:02:52 de 2:21:30

Type here to search

DWH_Day03-20230827_091858-Meeting Recording Lec44

Activate Windows 9:21 AM 8/27/2023 Go to Settings & activate Windows +27

32°C مشمس ENG 3:36 PM 7/28/2024