WORKSHOP VISUALISASI DATA

“POWER BI”

DOSEN PENGAMPU:

Pramudhita Shinta Dewi Puspitasari, S.Kom., M.Kom.

DISUSUNN OLEH:

Teguh Januar Rifaldi
E31242015
Golongan D

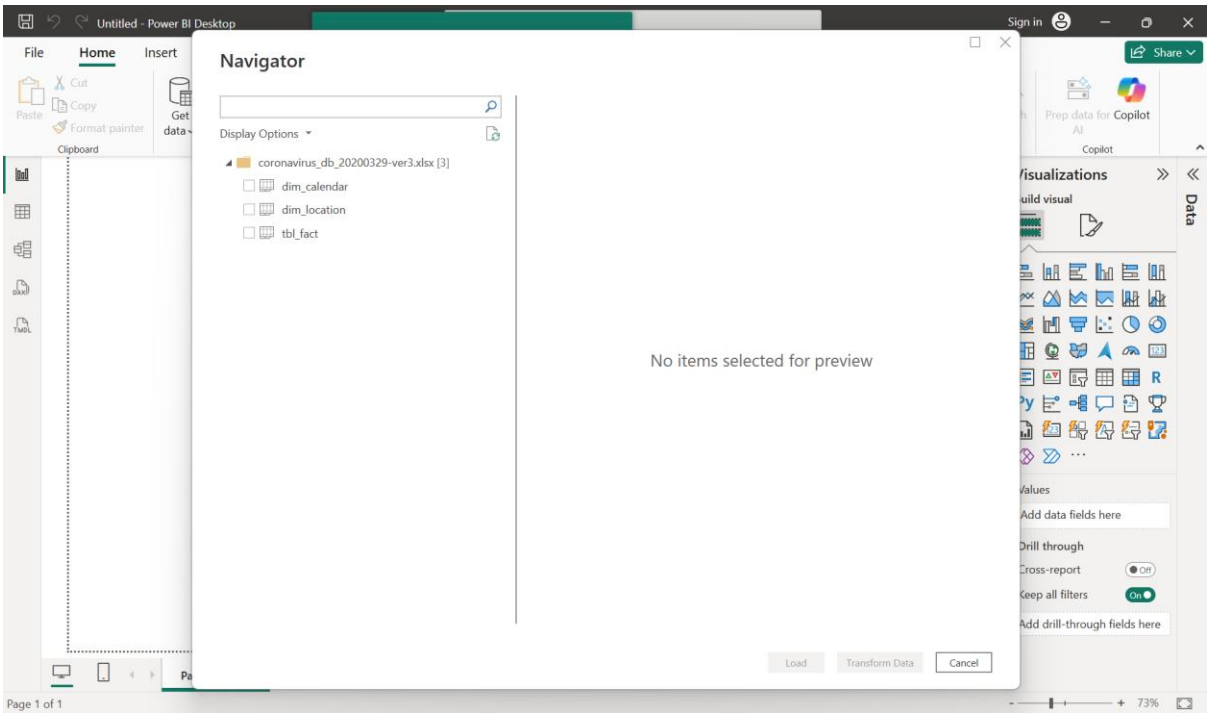
PROGRAM STUDI MANAJEMEN INFORMATIKA

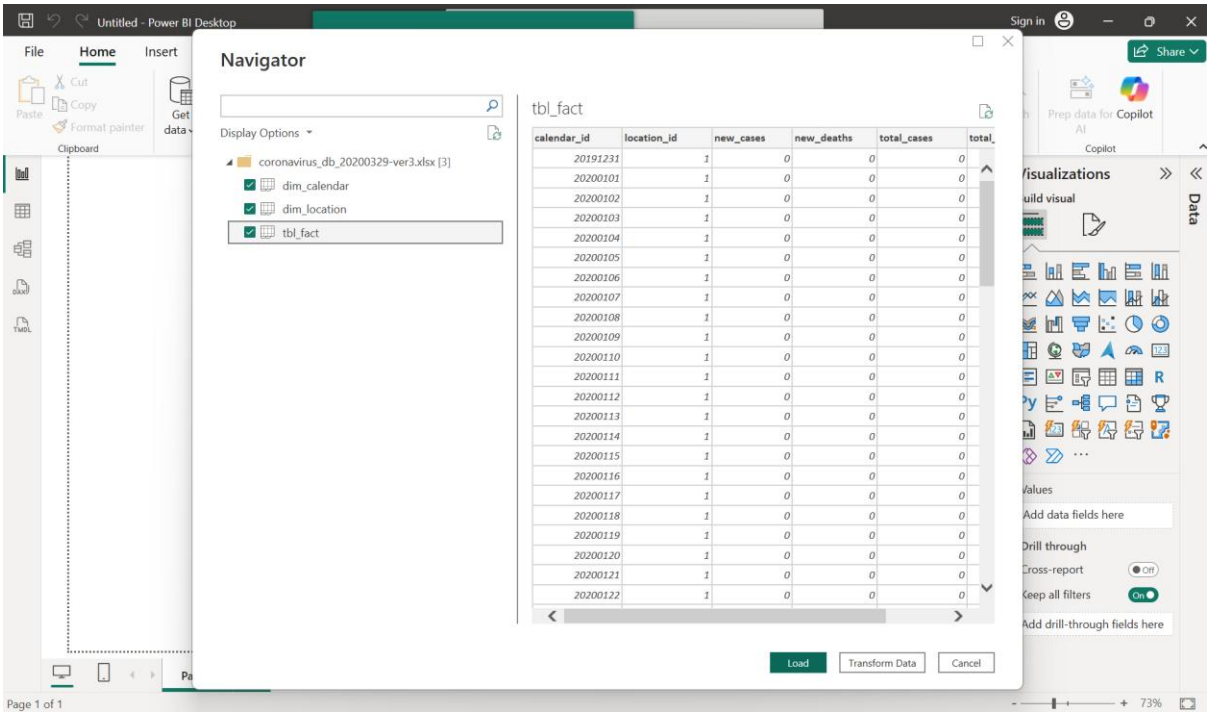
JURUSAN TEKNOLOGI INFORMASI

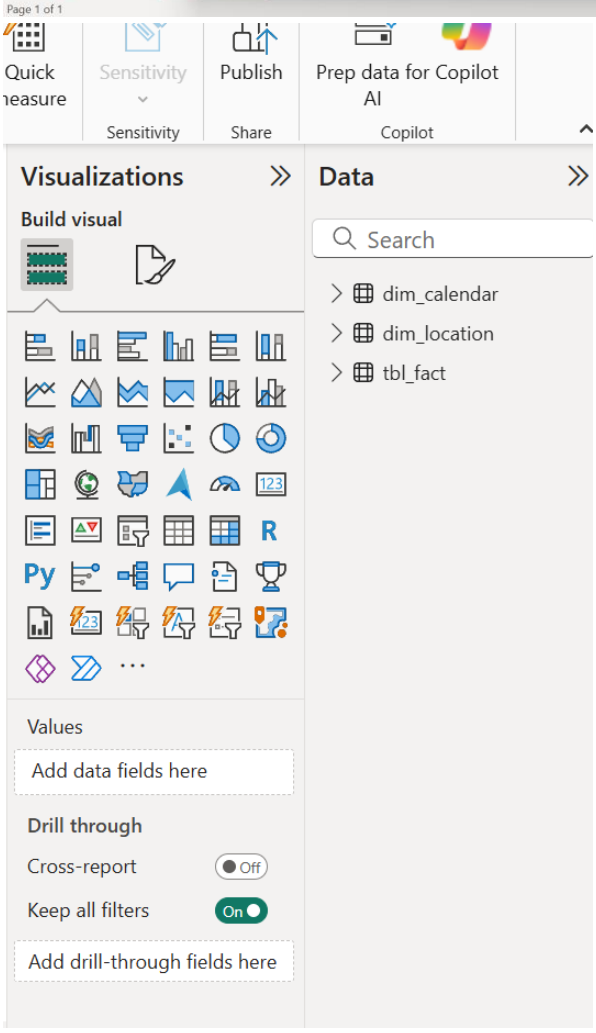
POLITEKNIK NEGERI JEMBER

2025

1. Data dari File Excel

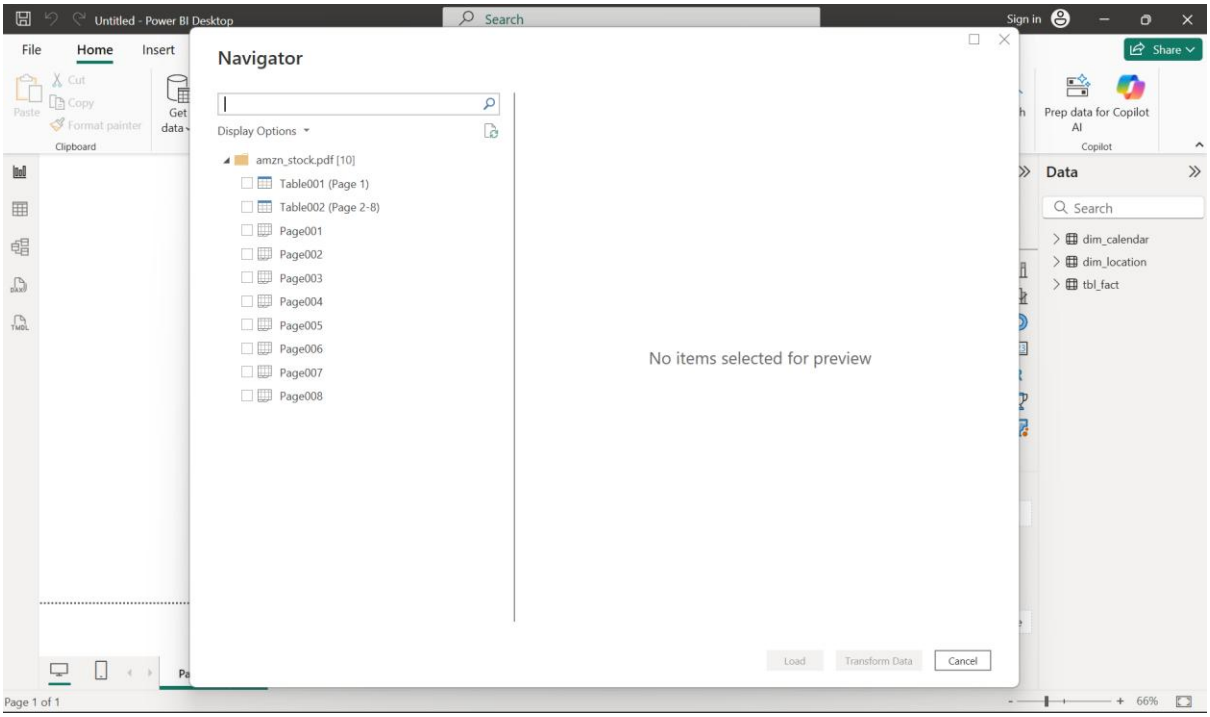


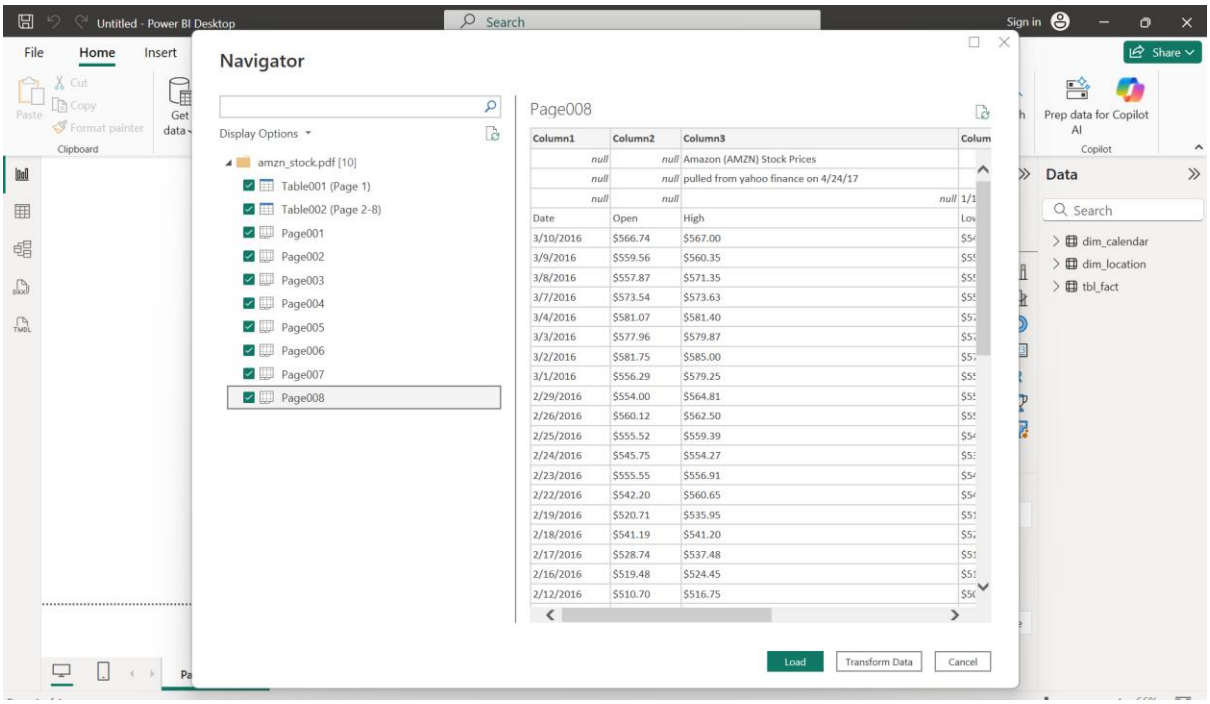

Untitled - Power BI Desktop
Sign in
File
Home
Insert
Navigator
Display Options
coronavirus_db_20200329-ver3.xlsx [3]
dim_calendar
dim_location
tbl_fact
calendar_id
location_id
new_cases
new_deaths
total_cases
Load
Transform Data
Cancel
Visualizations
Data
Page 1 of 1
73%

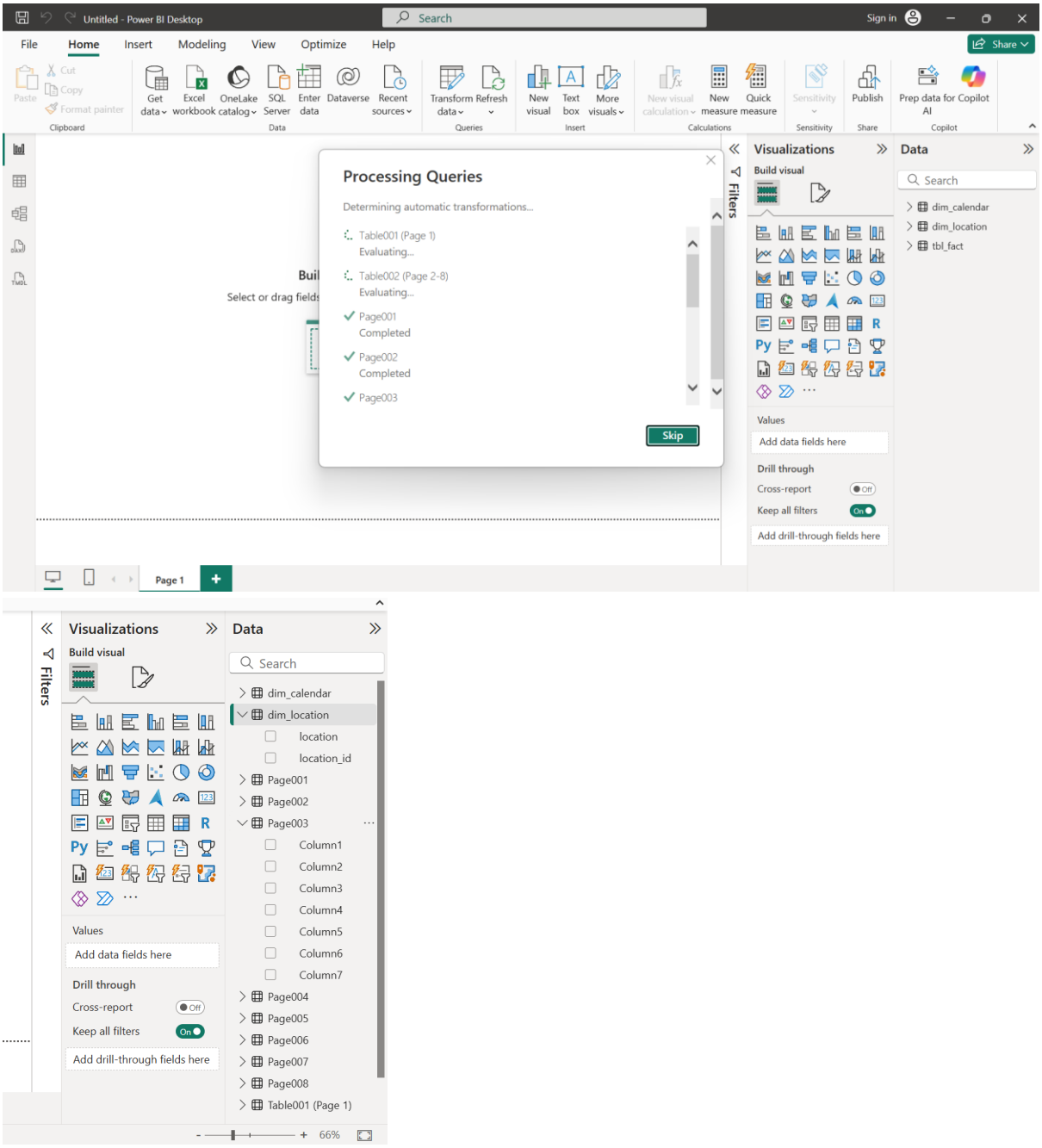

Quick measure
Sensitivity
Publish
Prep data for Copilot AI
Sensitivity
Share
Copilot
Visualizations
Build visual
Data
Search
dim_calendar
dim_location
tbl_fact
Values
Add data fields here
Drill through
Cross-report
Off
Keep all filters
On
Add drill-through fields here

Proses dimulai dengan membuka jendela Navigator setelah memilih sumber data Excel. Pada tahap ini pengguna memilih tabel yang tersedia di dalam file, kemudian melakukan pengecekan melalui pratinjau untuk memastikan struktur data sudah sesuai. Setelah verifikasi selesai, pengguna menekan tombol Load sehingga tabel-tabel tersebut dimasukkan ke dalam model data dan tampil pada panel Data di Power BI.

2. Data dari File PDF

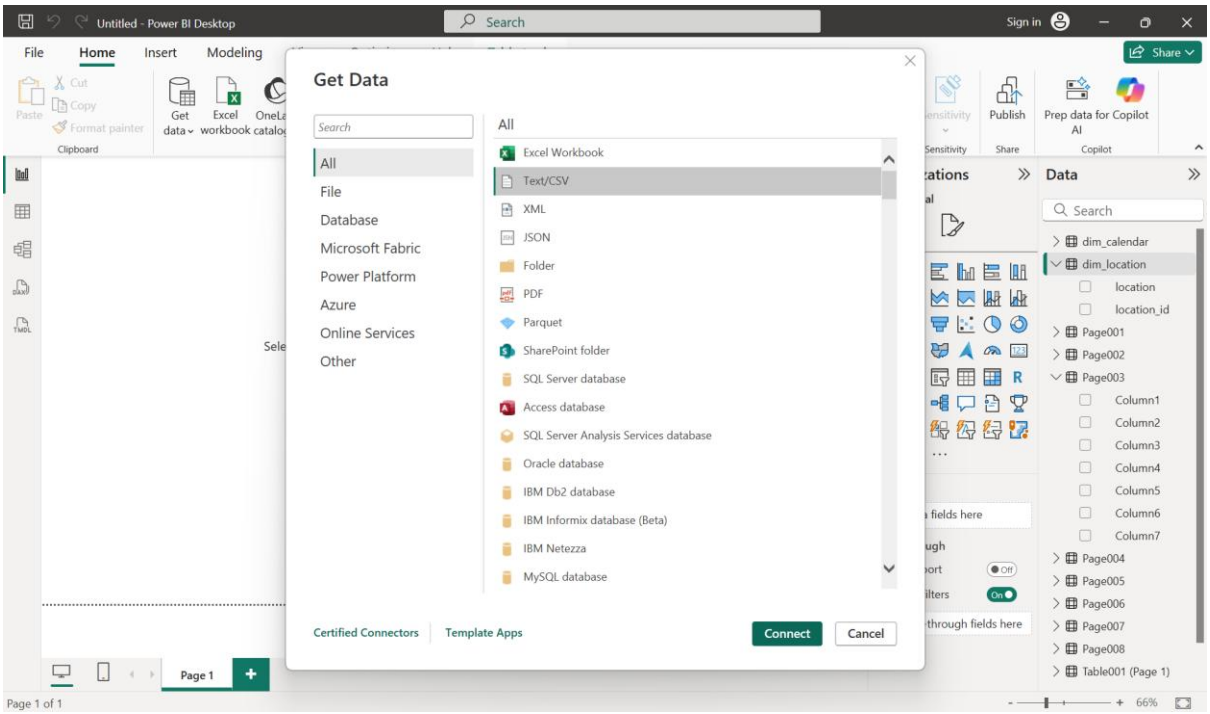


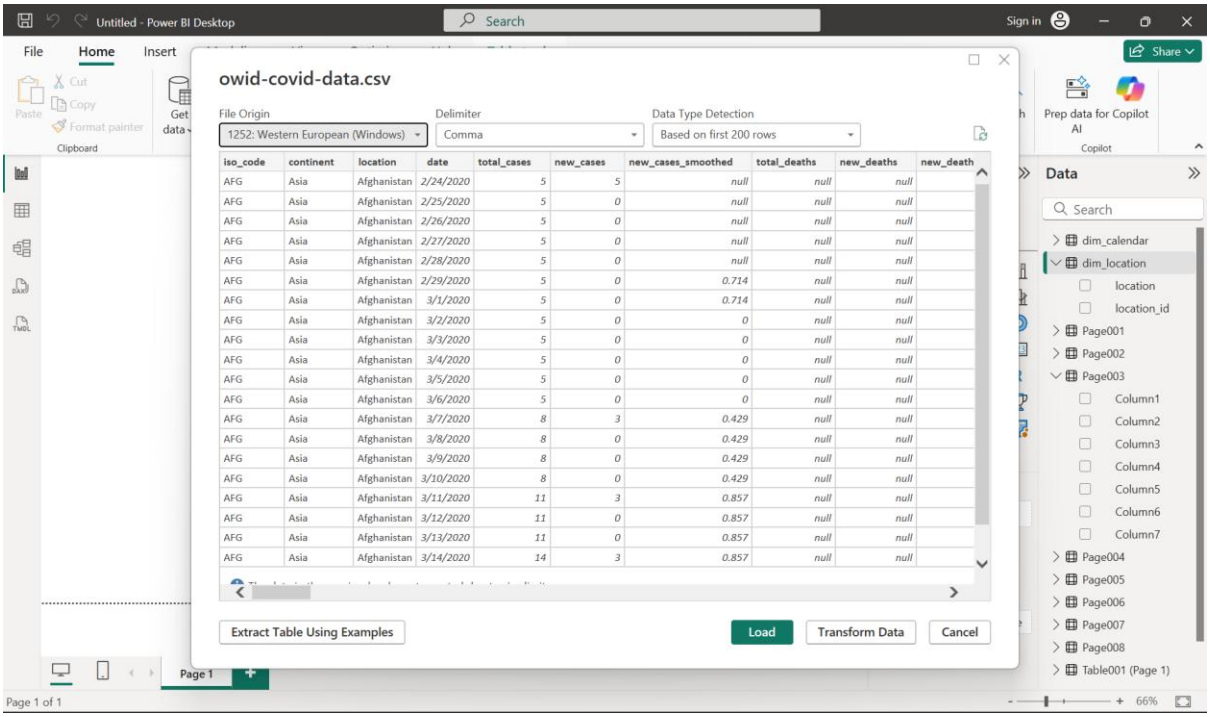


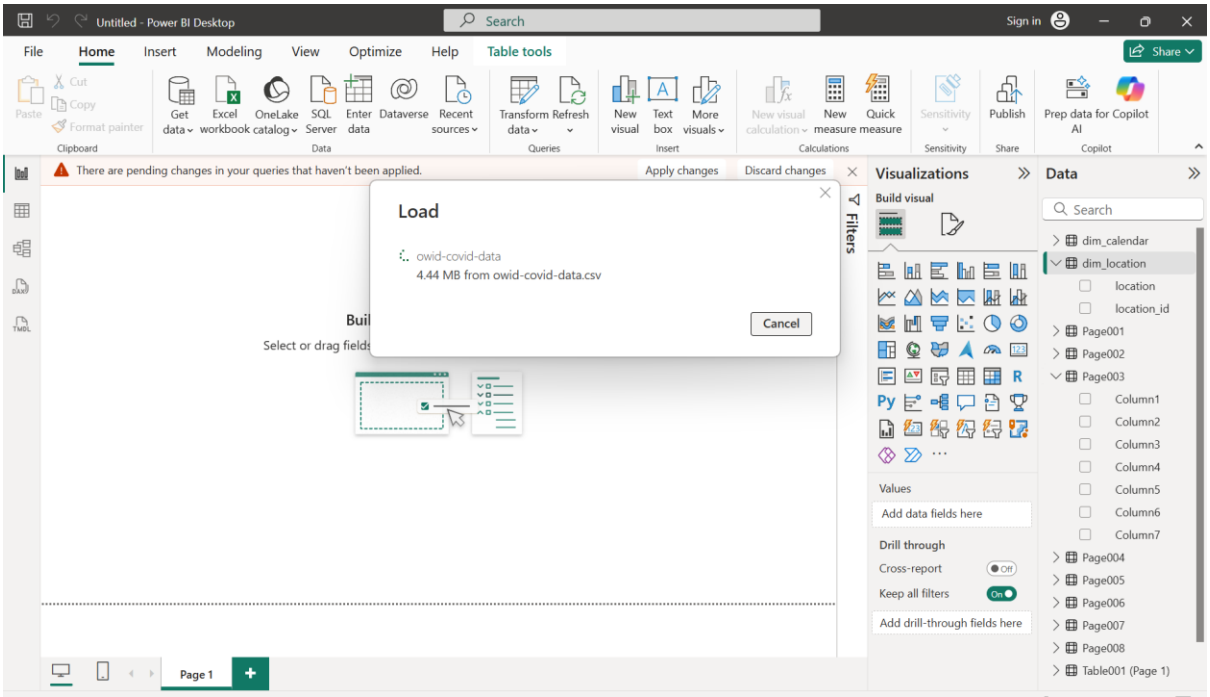


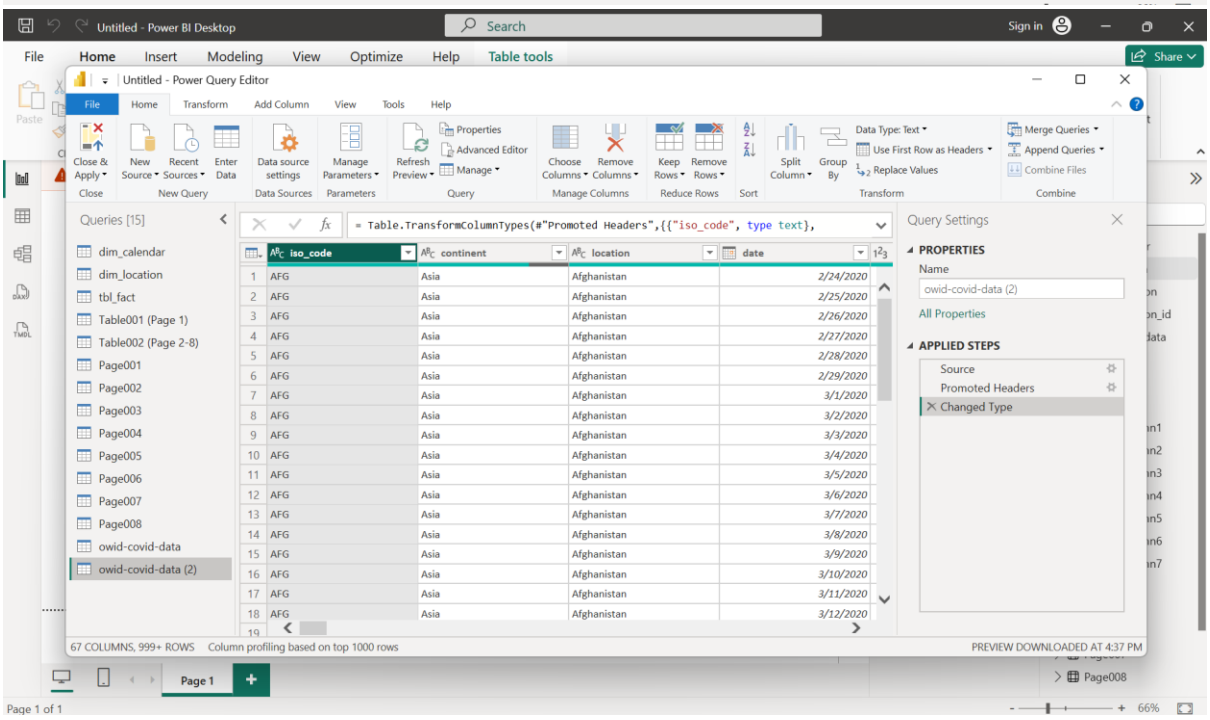
Pengguna memilih opsi Get Data dan memilih tipe sumber PDF, kemudian Power BI menampilkan Navigator yang berisi daftar tabel atau halaman yang terdeteksi dari file tersebut. Setelah memilih bagian data yang relevan dan meninjau pratinjaunya, proses dilanjutkan dengan menekan Load. Data kemudian diproses dan dimasukkan ke dalam model sehingga dapat digunakan untuk analisis lanjutan di Power BI.

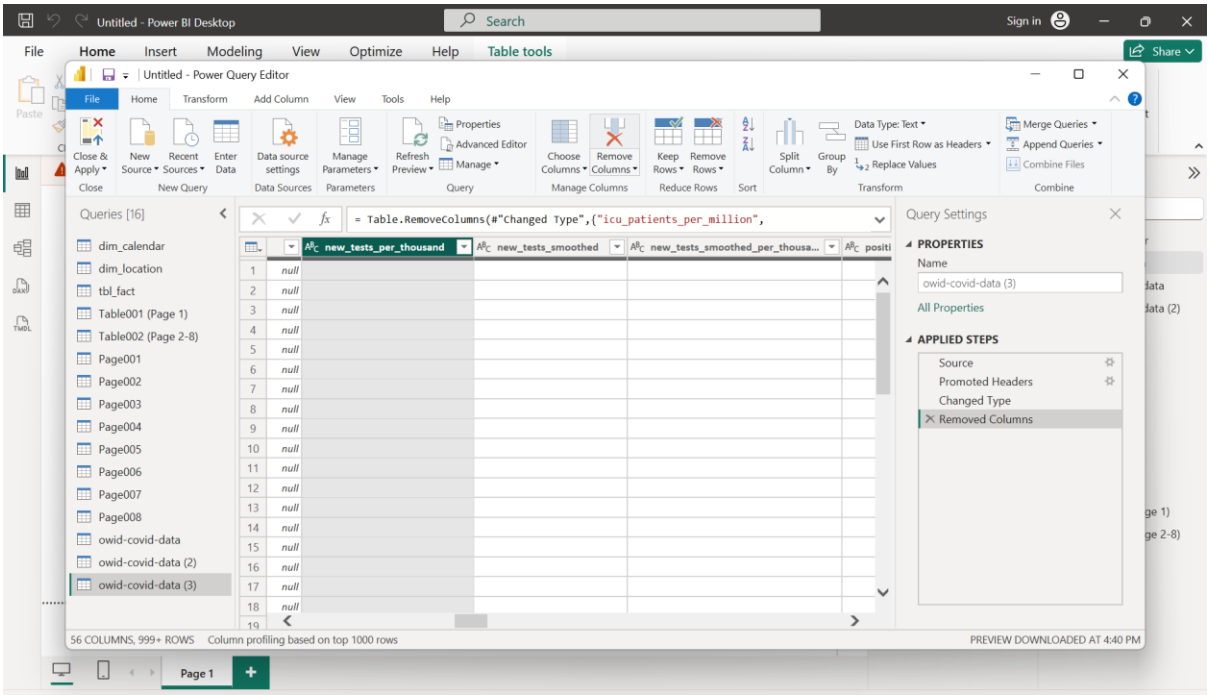
3. Data dari File CSV

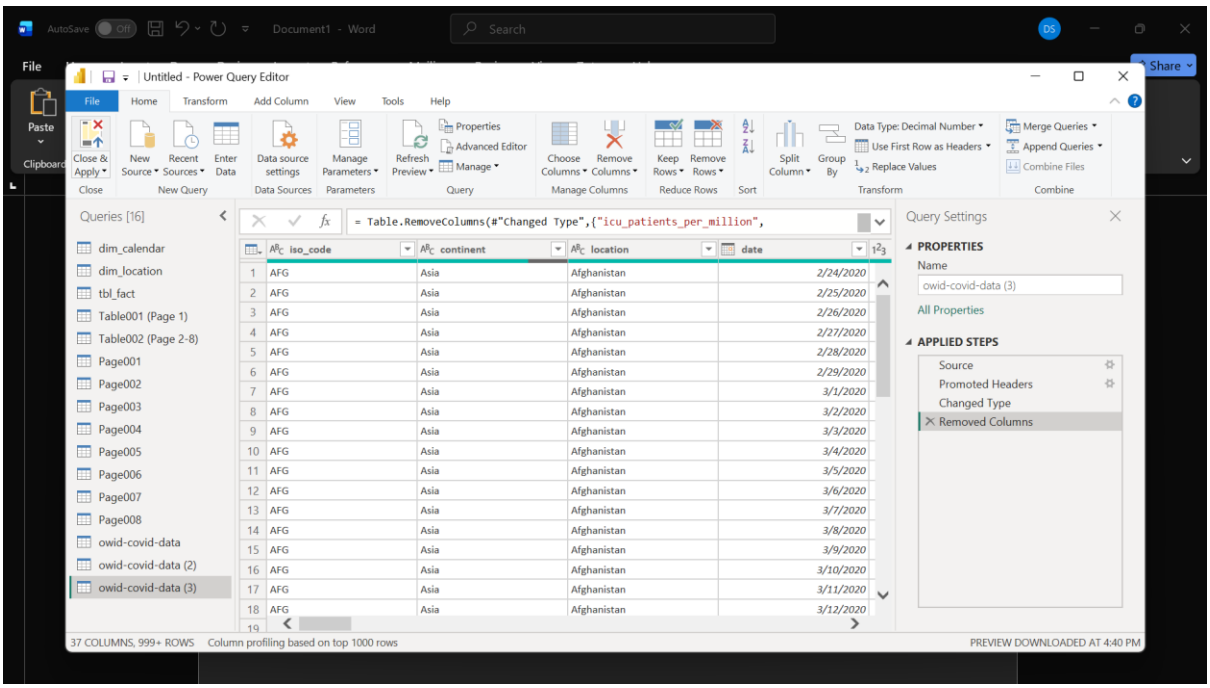


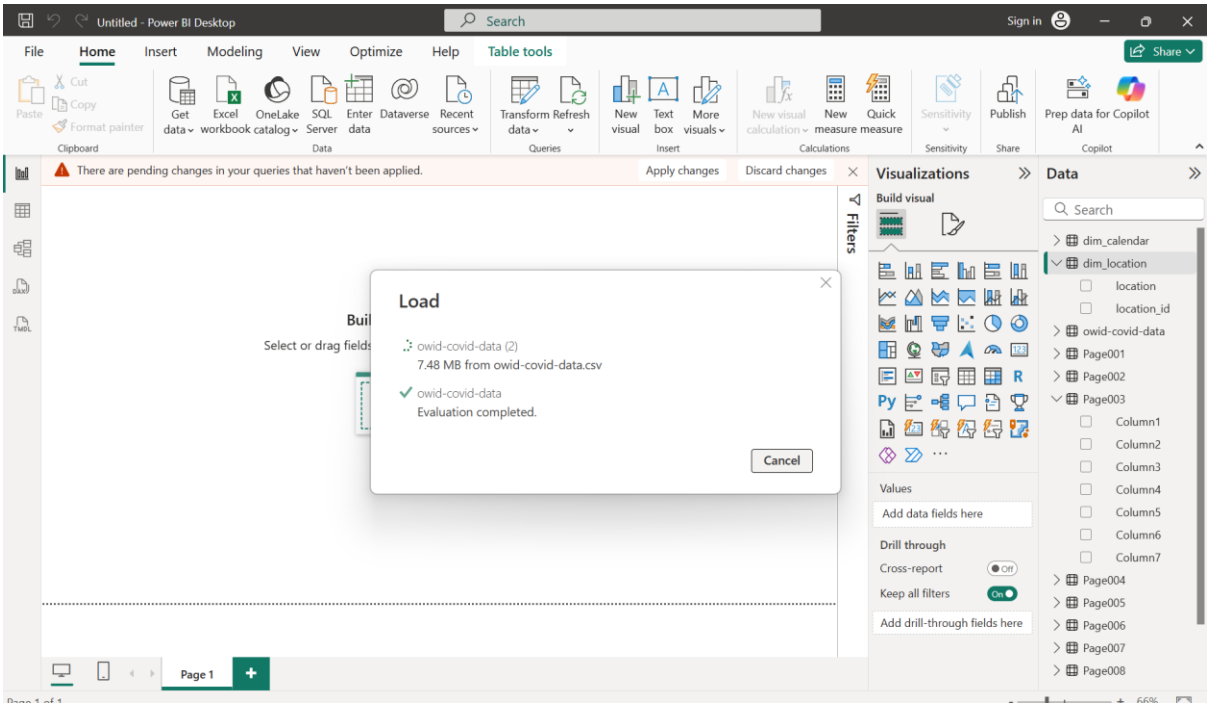



Untitled - Power BI Desktop
Search
Sign in
File
Home
Insert
Modeling
View
Optimize
Help
Table tools
Share
There are pending changes in your queries that haven't been applied.
Apply changes
Discard changes
Load
owid-covid-data
4.44 MB from owid-covid-data.csv
Cancel
Visualizations
Build visual
Values
Add data fields here
Drill through
Cross-report
Keep all filters
Add drill-through fields here
Data
Search
dim_calendar
dim_location
location
location_id
Page001
Page002
Page003
Column1
Column2
Column3
Column4
Column5
Column6
Column7
Page004
Page005
Page006
Page007
Page008
Table001 (Page 1)
Page 1


Untitled - Power BI Desktop
Untitled - Power Query Editor
Queries [15]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
= Table.TransformColumnTypes(#"Promoted Headers",{{"iso_code", type text},
iso_code
continent
location
date
Query Settings
PROPERTIES
Name
owid-covid-data (2)
All Properties
APPLIED STEPS
Source
Promoted Headers
Changed Type
67 COLUMNS, 999+ ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:37 PM
Page 1
Page 1 of 1
66%

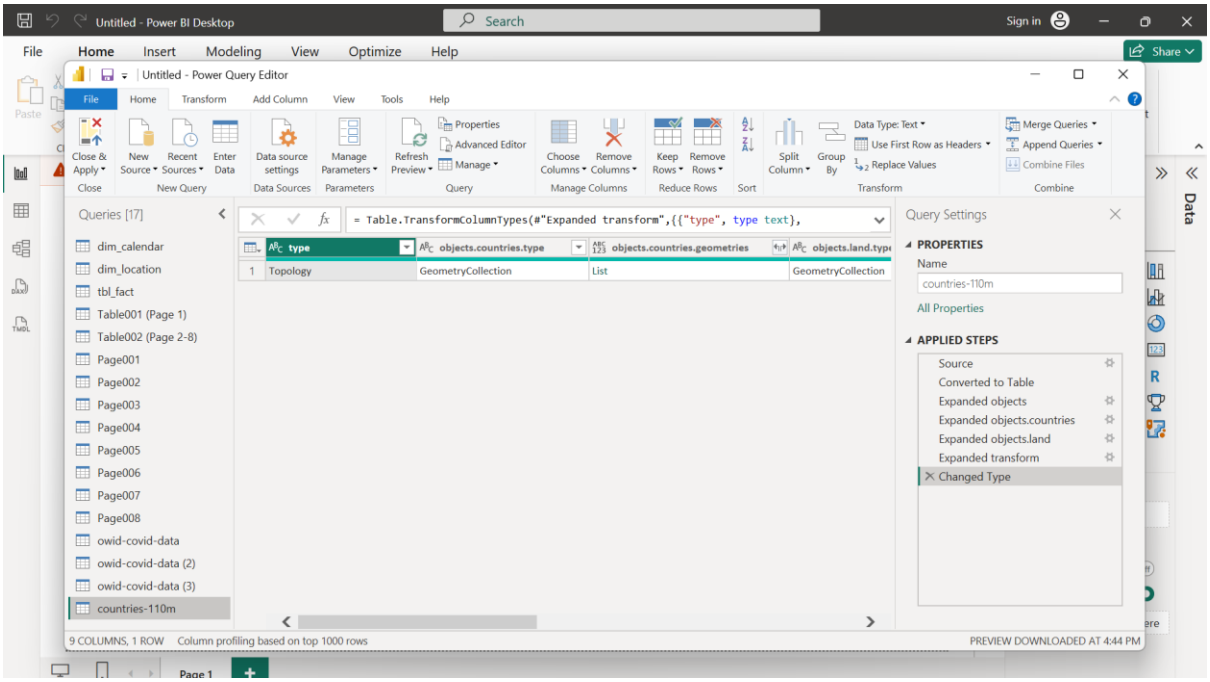

Untitled - Power BI Desktop
Search
Sign in
File
Home
Insert
Modeling
View
Optimize
Help
Table tools
Share
Untitled - Power Query Editor
File
Home
Transform
Add Column
View
Tools
Help
Close & Apply
New Source
Recent Sources
Enter Data
Data source settings
Manage Parameters
Refresh Preview
Properties
Advanced Editor
Manage
Choose Columns
Remove Columns
Keep Rows
Remove Rows
Split Column
Group By
Data Type: Text
Use First Row as Headers
Replace Values
Merge Queries
Append Queries
Combine Files
Close
New Query
Data Sources
Parameters
Query
Manage Columns
Reduce Rows
Sort
Transform
Combine
Queries [16]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
= Table.RemoveColumns(#"Changed Type",{"icu_patients_per_million",
new_tests_per_thousand
new_tests_smoothed
new_tests_smoothed_per_thousa...
positi
Query Settings
PROPERTIES
Name
owid-covid-data (3)
All Properties
APPLIED STEPS
Source
Promoted Headers
Changed Type
Removed Columns
56 COLUMNS, 999+ ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:40 PM
Page 1

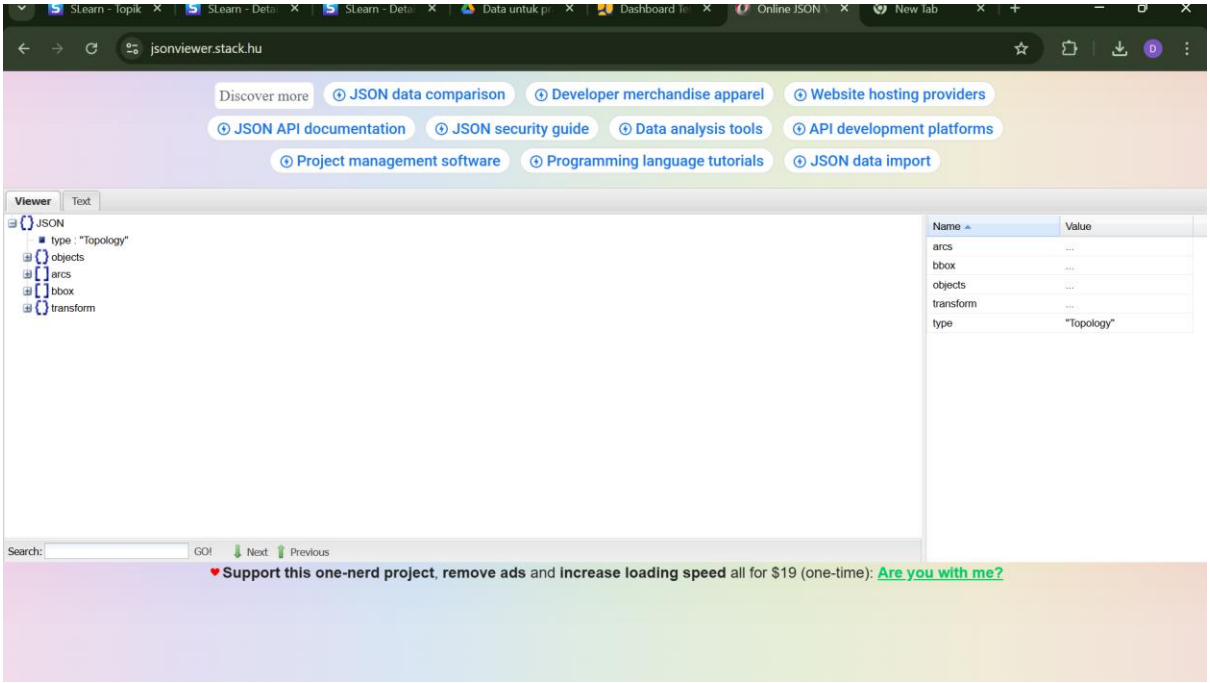

AutoSave
Document1 - Word
Search
File
Paste
Clipboard
Share
Untitled - Power Query Editor
File
Home
Transform
Add Column
View
Tools
Help
Close & Apply
New Source
Recent Sources
Enter Data
Data source settings
Manage Parameters
Refresh Preview
Properties
Advanced Editor
Manage
Choose Columns
Remove Columns
Keep Rows
Remove Rows
Split Column
Group By
Data Type: Decimal Number
Use First Row as Headers
Replace Values
Merge Queries
Append Queries
Combine Files
Close
New Query
Data Sources
Parameters
Query
Manage Columns
Reduce Rows
Sort
Transform
Combine
Queries [16]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
= Table.RemoveColumns(#"Changed Type",{"icu_patients_per_million",
iso_code
continent
location
date
1 AFG Asia Afghanistan 2/24/2020
2 AFG Asia Afghanistan 2/25/2020
3 AFG Asia Afghanistan 2/26/2020
4 AFG Asia Afghanistan 2/27/2020
5 AFG Asia Afghanistan 2/28/2020
6 AFG Asia Afghanistan 2/29/2020
7 AFG Asia Afghanistan 3/1/2020
8 AFG Asia Afghanistan 3/2/2020
9 AFG Asia Afghanistan 3/3/2020
10 AFG Asia Afghanistan 3/4/2020
11 AFG Asia Afghanistan 3/5/2020
12 AFG Asia Afghanistan 3/6/2020
13 AFG Asia Afghanistan 3/7/2020
14 AFG Asia Afghanistan 3/8/2020
15 AFG Asia Afghanistan 3/9/2020
16 AFG Asia Afghanistan 3/10/2020
17 AFG Asia Afghanistan 3/11/2020
18 AFG Asia Afghanistan 3/12/2020
Query Settings
PROPERTIES
Name
owid-covid-data (3)
All Properties
APPLIED STEPS
Source
Promoted Headers
Changed Type
Removed Columns
37 COLUMNS, 999+ ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:40 PM



Pengguna memilih sumber data CSV melalui menu Get Data, lalu Power BI menampilkan jendela preview yang berisi seluruh isi tabel. Pada tahap berikutnya, pengguna memastikan delimiter, tipe data, serta struktur tabel sudah benar sebelum melanjutkan dengan tombol Load. Setelah itu, data CSV diproses dan muncul pada panel Data siap digunakan dalam pemodelan atau visualisasi.

4. Data dari file JSON

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Website hosting providers
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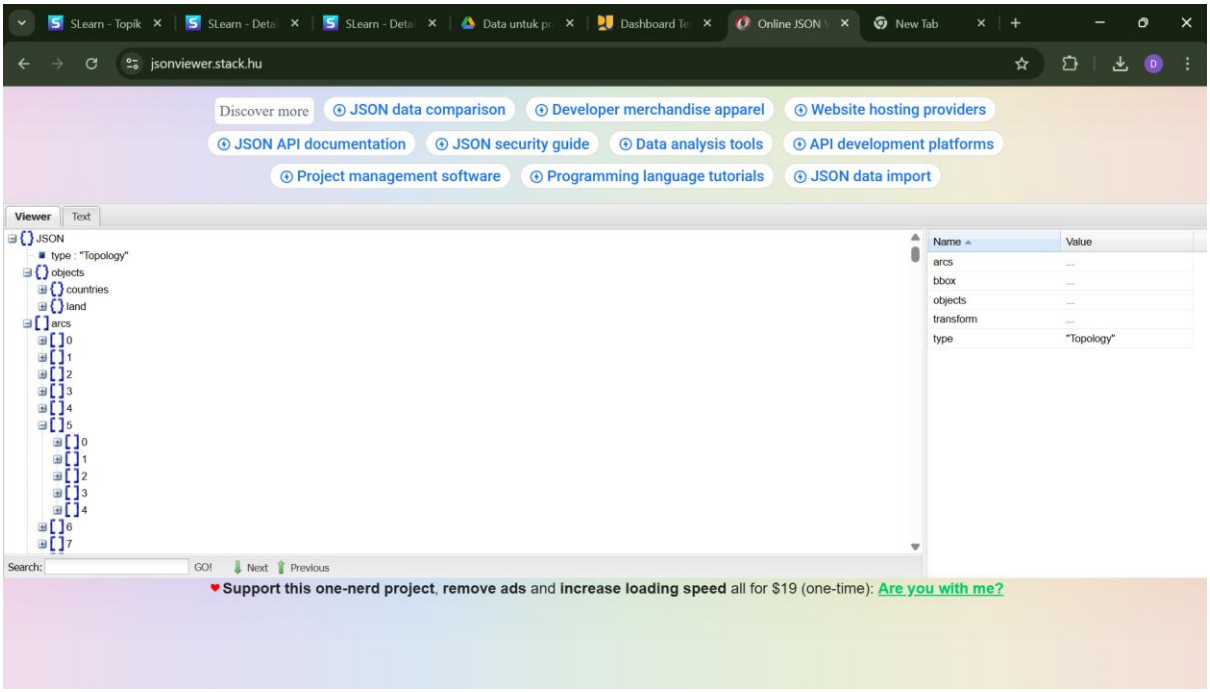
JSON security guide
Data analysis tools
API development platforms
Project management software
Programming language tutorials
JSON data import
Viewer
Text
JSON
type : "Topology"
objects
arcs
bbox
transform
Name
Value
arcs
bbox
objects
transform
type
"Topology"
Search:
GO!
Next
Previous
Support this one-nerd project, remove ads and increase loading speed all for $19 (one-time): Are you with me?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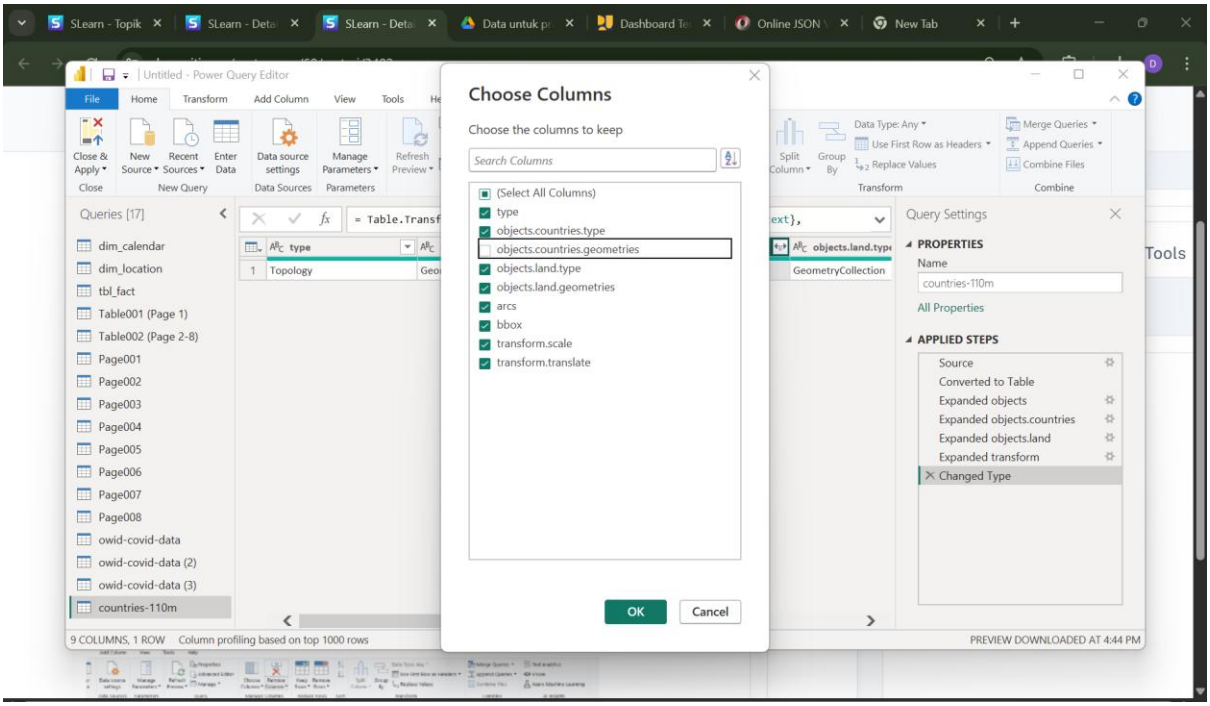
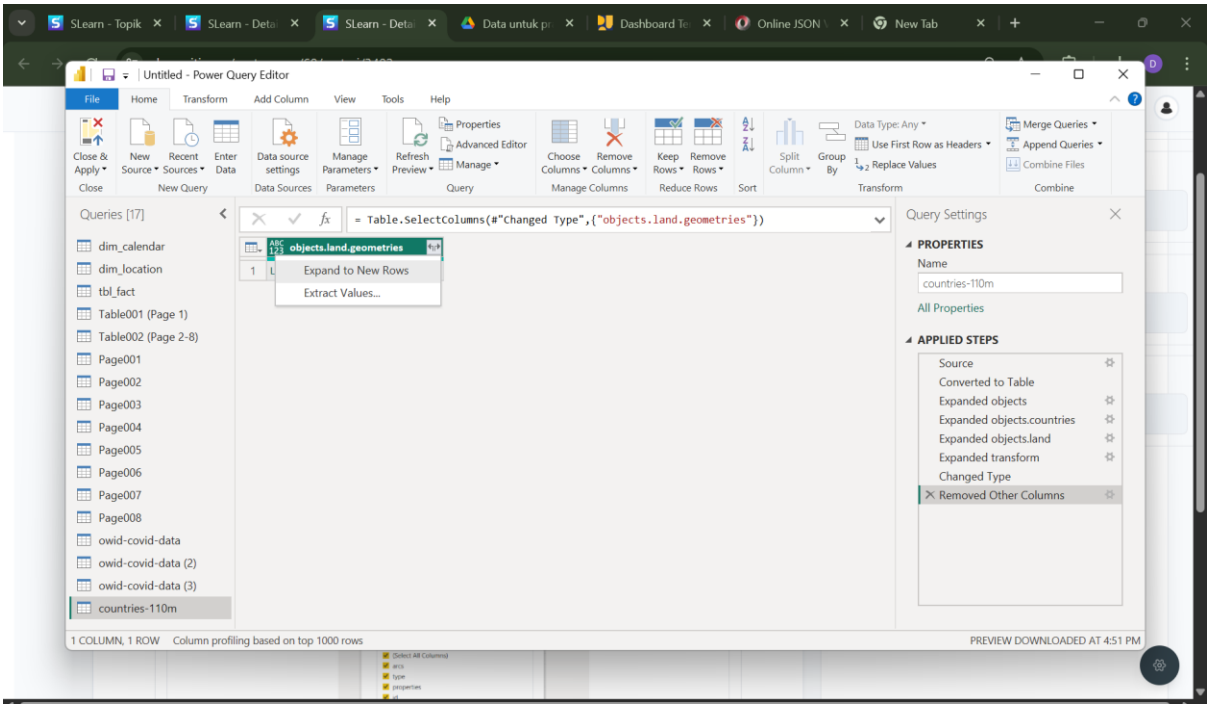
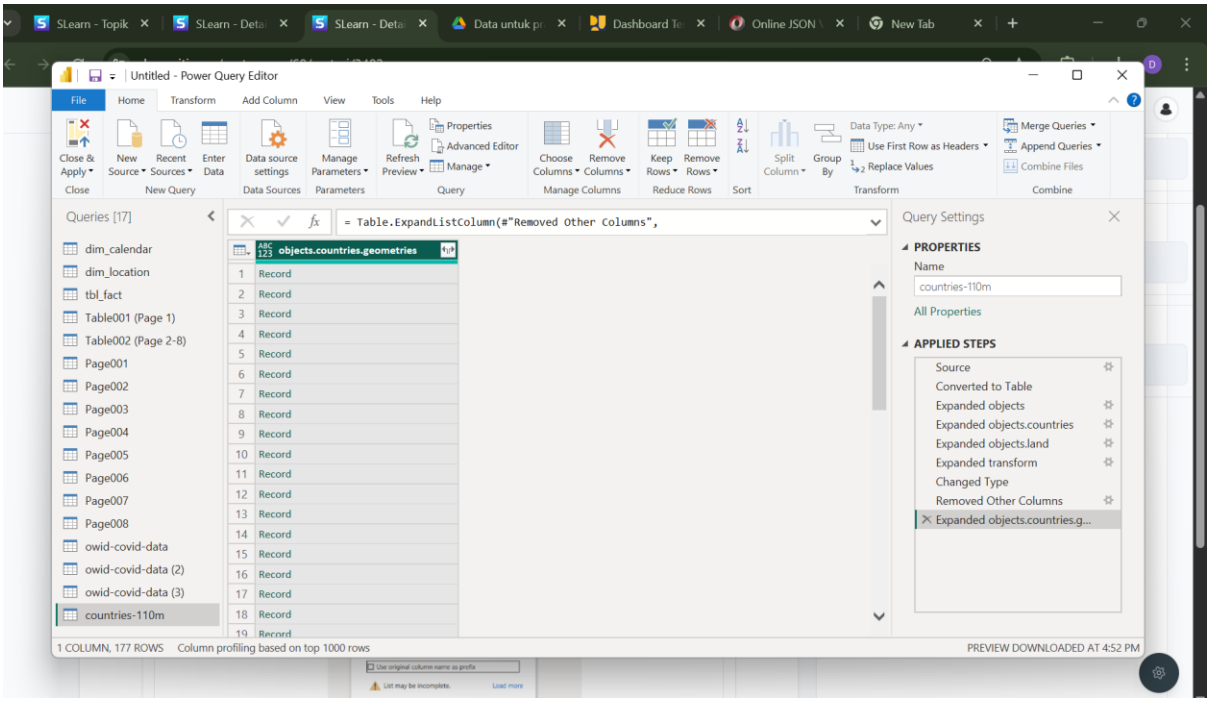
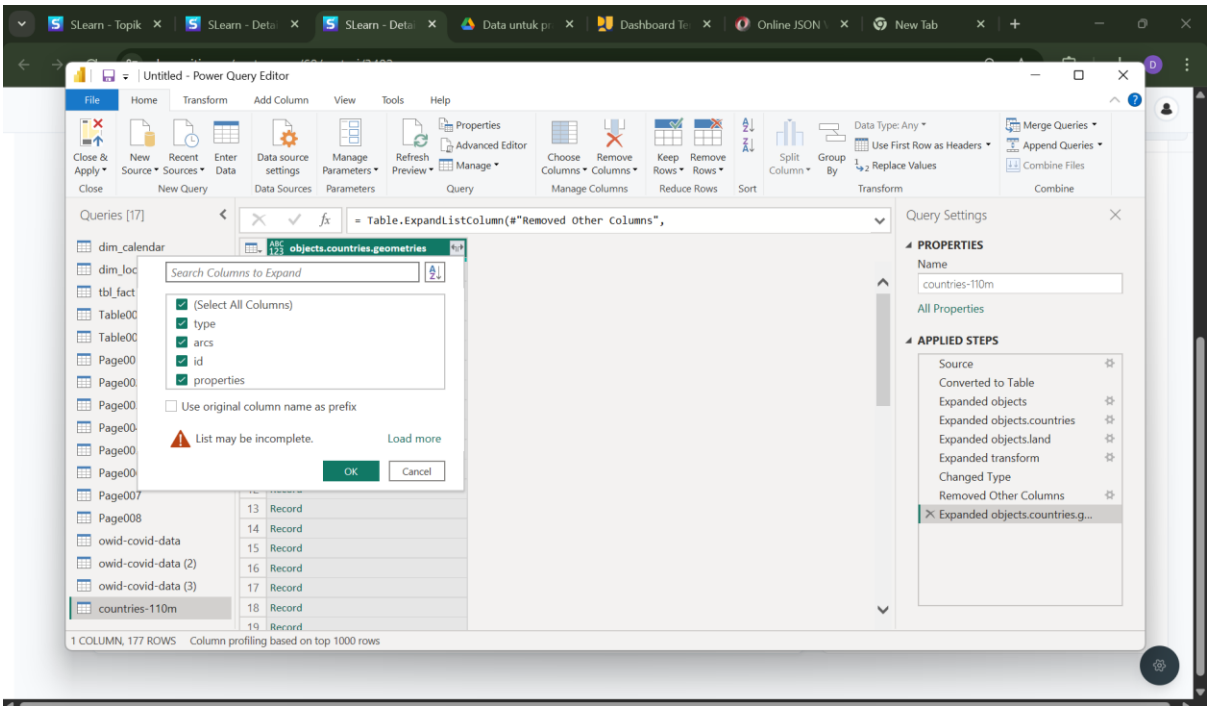
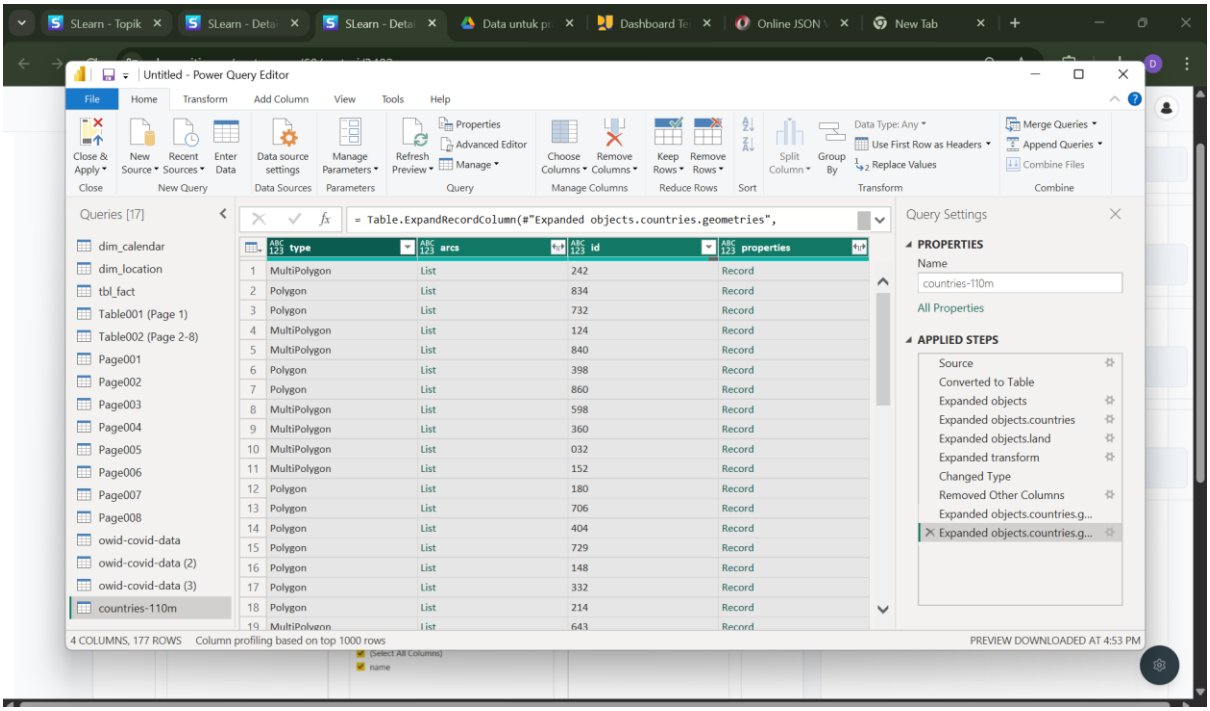
Website hosting providers
JSON API documentation
JSON security guide
Data analysis tools
API development platforms
Project management software
Programming language tutorials
JSON data import
Viewer
Text
JSON
type : "Topology"
objects
countries
land
arcs
0
1
2
3
4
5
0
1
2
3
4
6
7
Name
Value
arcs
bbox
objects
transform
type
"Topology"
Search:
GO!
Next
Previous
Support this one-nerd project, remove ads and increase loading speed all for $19 (one-time): Are you with me?

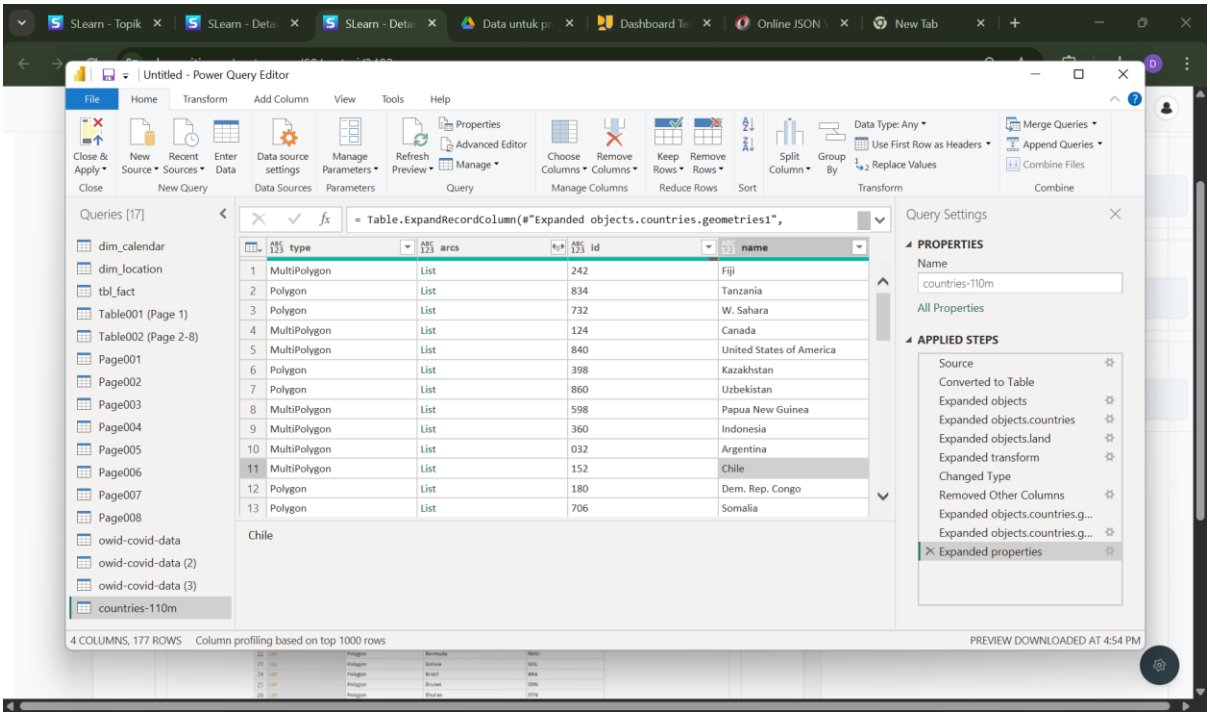

Untitled - Power Query Editor
Choose Columns
Choose the columns to keep
Search Columns
(Select All Columns)
type
objects.countries.type
objects.countries.geometries
objects.land.type
objects.land.geometries
arcs
bbox
transform.scale
transform.translate
OK
Cancel
Queries [17]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
countries-110m
Query Settings
PROPERTIES
Name
countries-110m
All Properties
APPLIED STEPS
Source
Converted to Table
Expanded objects
Expanded objects.countries
Expanded objects.land
Expanded transform
Changed Type
9 COLUMNS, 1 ROW
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:44 PM

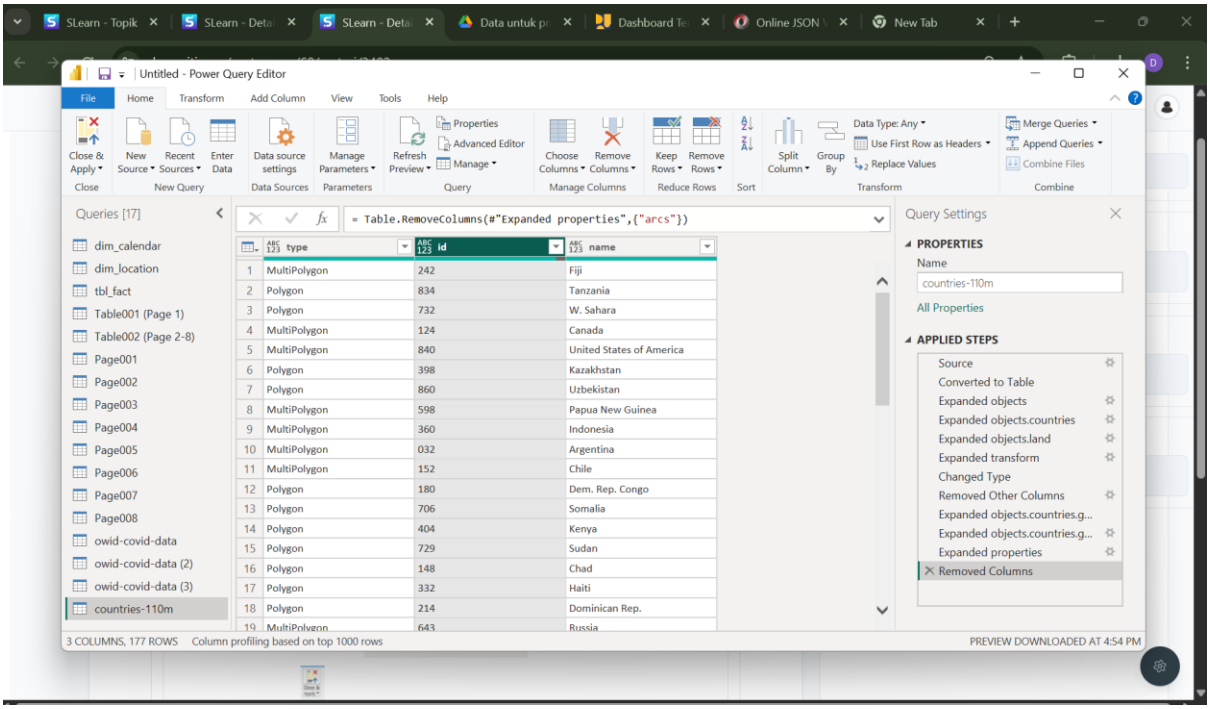

Untitled - Power Query Editor
= Table.SelectColumns(#"Changed Type",{"objects.land.geometries"})
objects.land.geometries
Expand to New Rows
Extract Values...
Queries [17]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
countries-110m
Query Settings
PROPERTIES
Name
countries-110m
All Properties
APPLIED STEPS
Source
Converted to Table
Expanded objects
Expanded objects.countries
Expanded objects.land
Expanded transform
Changed Type
Removed Other Columns
1 COLUMN, 1 ROW
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:51 PM

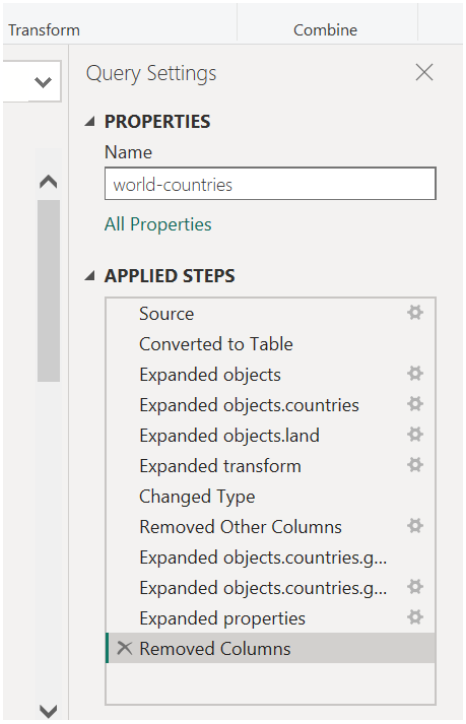

Untitled - Power Query Editor
File
Home
Transform
Add Column
View
Tools
Help
Queries [17]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
countries-110m
= Table.ExpandListColumn(#"Removed Other Columns",
objects.countries.geometries
Record
Query Settings
PROPERTIES
Name
countries-110m
All Properties
APPLIED STEPS
Source
Converted to Table
Expanded objects
Expanded objects.countries
Expanded objects.land
Expanded transform
Changed Type
Removed Other Columns
Expanded objects.countries.g...
1 COLUMN, 177 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:52 PM

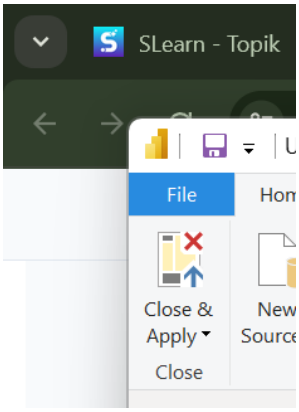

Untitled - Power Query Editor
Search Columns to Expand
(Select All Columns)
type
arcs
id
properties
Use original column name as prefix
List may be incomplete.
Load more
OK
Cancel
1 COLUMN, 177 ROWS
Column profiling based on top 1000 rows

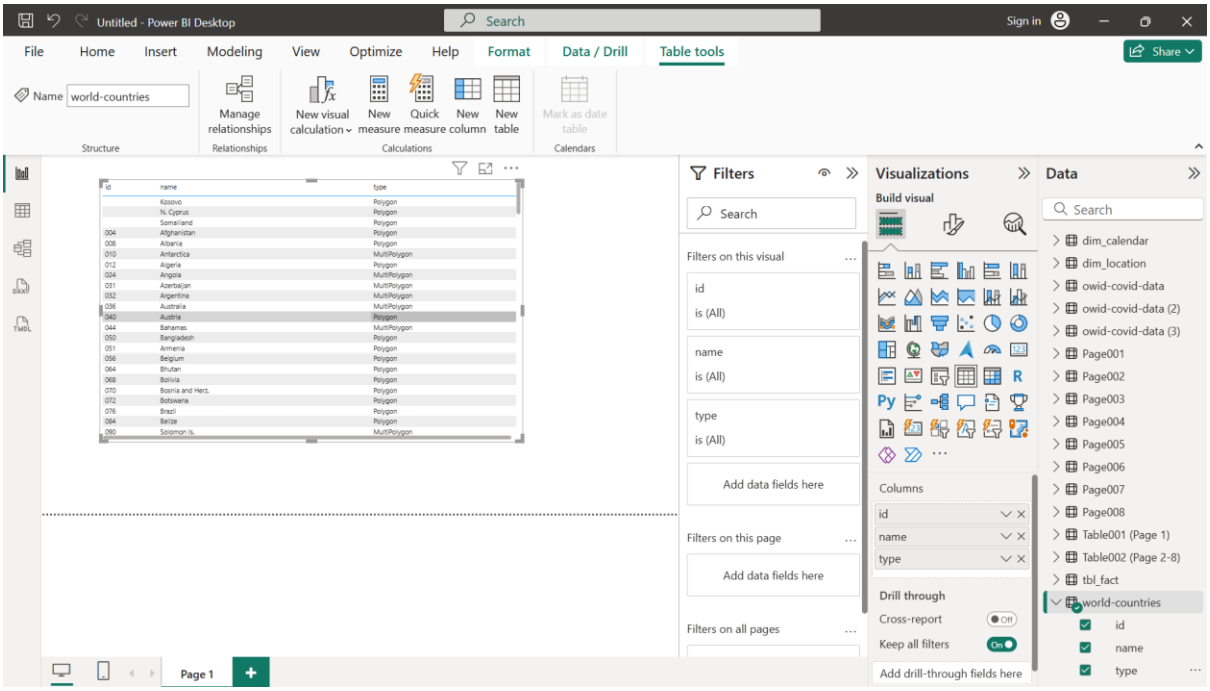

Untitled - Power Query Editor
= Table.ExpandRecordColumn(#"Expanded objects.countries.geometries",
Queries [17]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
countries-110m
type
arcs
id
properties
1 MultiPolygon List 242 Record
2 Polygon List 834 Record
3 Polygon List 732 Record
4 MultiPolygon List 124 Record
5 MultiPolygon List 840 Record
6 Polygon List 398 Record
7 Polygon List 860 Record
8 MultiPolygon List 598 Record
9 MultiPolygon List 360 Record
10 MultiPolygon List 032 Record
11 MultiPolygon List 152 Record
12 Polygon List 180 Record
13 Polygon List 706 Record
14 Polygon List 404 Record
15 Polygon List 729 Record
16 Polygon List 148 Record
17 Polygon List 332 Record
18 Polygon List 214 Record
Query Settings
PROPERTIES
Name
countries-110m
All Properties
APPLIED STEPS
Source
Converted to Table
Expanded objects
Expanded objects.countries
Expanded objects.land
Expanded transform
Changed Type
Removed Other Columns
Expanded objects.countries.g...
Expanded objects.countries.g...
4 COLUMNS, 177 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:53 PM


Untitled - Power Query Editor
= Table.ExpandRecordColumn(#"Expanded objects.countries.geometries1",
Queries [17]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
countries-110m
type
arcs
id
name
1 MultiPolygon List 242 Fiji
2 Polygon List 834 Tanzania
3 Polygon List 732 W. Sahara
4 MultiPolygon List 124 Canada
5 MultiPolygon List 840 United States of America
6 Polygon List 398 Kazakhstan
7 Polygon List 860 Uzbekistan
8 MultiPolygon List 598 Papua New Guinea
9 MultiPolygon List 360 Indonesia
10 MultiPolygon List 032 Argentina
11 MultiPolygon List 152 Chile
12 Polygon List 180 Dem. Rep. Congo
13 Polygon List 706 Somalia
Chile
Query Settings
PROPERTIES
Name
countries-110m
All Properties
APPLIED STEPS
Source
Converted to Table
Expanded objects
Expanded objects.countries
Expanded objects.land
Expanded transform
Changed Type
Removed Other Columns
Expanded objects.countries.g...
Expanded objects.countries.g...
Expanded properties
4 COLUMNS, 177 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:54 PM


Untitled - Power Query Editor
File
Home
Transform
Add Column
View
Tools
Help
Close & Apply
New Source
Recent Sources
Enter Data
Data source settings
Manage Parameters
Refresh Preview
Properties
Advanced Editor
Manage
Choose Columns
Remove Columns
Keep Rows
Remove Rows
Split Column
Group By
Data Type: Any
Use First Row as Headers
Replace Values
Merge Queries
Append Queries
Combine Files
Queries [17]
dim_calendar
dim_location
tbl_fact
Table001 (Page 1)
Table002 (Page 2-8)
Page001
Page002
Page003
Page004
Page005
Page006
Page007
Page008
owid-covid-data
owid-covid-data (2)
owid-covid-data (3)
countries-110m
= Table.RemoveColumns(#"Expanded properties",{"arcs"})
type
id
name
1 MultiPolygon 242 Fiji
2 Polygon 834 Tanzania
3 Polygon 732 W. Sahara
4 MultiPolygon 124 Canada
5 MultiPolygon 840 United States of America
6 Polygon 398 Kazakhstan
7 Polygon 860 Uzbekistan
8 MultiPolygon 598 Papua New Guinea
9 MultiPolygon 360 Indonesia
10 MultiPolygon 032 Argentina
11 MultiPolygon 152 Chile
12 Polygon 180 Dem. Rep. Congo
13 Polygon 706 Somalia
14 Polygon 404 Kenya
15 Polygon 729 Sudan
16 Polygon 148 Chad
17 Polygon 332 Haiti
18 Polygon 214 Dominican Rep.
19 MultiPolygon 643 Russia
Query Settings
PROPERTIES
Name
countries-110m
All Properties
APPLIED STEPS
Source
Converted to Table
Expanded objects
Expanded objects.countries
Expanded objects.land
Expanded transform
Changed Type
Removed Other Columns
Expanded objects.countries.g...
Expanded objects.countries.g...
Expanded properties
Removed Columns
3 COLUMNS, 177 ROWS
Column profiling based on top 1000 rows
PREVIEW DOWNLOADED AT 4:54 PM


Transform
Combine
Query Settings
PROPERTIES
Name
world-countries
All Properties
APPLIED STEPS
Source
Converted to Table
Expanded objects
Expanded objects.countries
Expanded objects.land
Expanded transform
Changed Type
Removed Other Columns
Expanded objects.countries.g...
Expanded objects.countries.g...
Expanded properties
Removed Columns





File JSON dipilih sebagai sumber data melalui menu Get Data, dan Power BI menampilkan struktur JSON dalam bentuk hierarchical. Pengguna mengekspansi elemen yang diperlukan untuk memverifikasi isi data, kemudian melanjutkan dengan perintah Load. Setelah selesai dimuat, data JSON muncul sebagai tabel yang telah diratakan (flattened) di panel Data sehingga dapat digunakan dalam analisis di Power BI.

NIM Genap

Analisa Dashboard

1. Tujuan atau Goals dari Dashboard

Tujuan utama dashboard ini adalah untuk:

- **Memantau dan menganalisis kondisi tenaga kerja konstruksi di Indonesia** secara nasional dan per provinsi.
- **Menyediakan informasi real-time** mengenai jumlah tenaga kerja bersertifikat, kualifikasi, jabker (jabatan kerja), serta asosiasi dan klasifikasi bidang.
- **Mendukung pengambilan keputusan** oleh Kementerian PUPR dan pihak terkait dalam perencanaan, peningkatan kompetensi, dan kebijakan ketenagakerjaan sektor konstruksi.

2. KPI (Key Performance Indicators) yang Ditampilkan

KPI utama yang terlihat dalam dashboard ini antara lain:

KPI	Penjelasan
Jumlah Tenaga Kerja Konstruksi (TKK)	Total tenaga kerja aktif di bidang konstruksi (535.666 orang).
Jumlah Sertifikat Kompetensi Kerja (SKK)	Total sertifikat kompetensi yang diterbitkan (709.458 SKK).
Jumlah SKA (Sertifikat Keahlian)	Jumlah tenaga ahli yang memiliki sertifikat keahlian (3.202).
Jumlah SKT (Sertifikat Keterampilan)	Jumlah tenaga terampil yang memiliki sertifikat keterampilan (5.572).
Sebaran Geografis Tenaga Kerja	Distribusi TKK per provinsi ditampilkan dalam peta Indonesia.
Kualifikasi dan Sub Bidang SKK/SKA/SKT	Rincian jumlah berdasarkan tingkat kualifikasi (Utama, Madya, Muda) dan bidang pekerjaan.
Asosiasi dan Jabatan Kerja (Jabker)	Jumlah tenaga kerja berdasarkan asosiasi profesi dan jabatan.

3. Fungsi dan Jenis Chart dalam Dashboard

Berikut jenis chart dan fungsinya:

Jenis Chart	Fungsi / Tujuan	Alasan Pemilihan Jenis Chart
Peta (Map Chart)	Menampilkan distribusi geografis tenaga kerja konstruksi di Indonesia.	Mudah untuk melihat konsentrasi wilayah tenaga kerja secara visual dan cepat.
Bar Chart (Grafik Batang)	Menunjukkan jumlah per kategori seperti asosiasi, jabatan kerja, kualifikasi, dan sub bidang SKK/SKT.	Efektif membandingkan nilai antar kategori dan memperjelas perbandingan antar provinsi atau bidang.
Pie Chart (Diagram Lingkaran)	Menampilkan proporsi kualifikasi SKA/SKT (Utama, Madya, Muda).	Memudahkan melihat komposisi atau persentase masing-masing kualifikasi.
KPI Card / Number Indicator	Menampilkan angka utama (seperti total TKK, total SKK, total SKA, total SKT).	Memberikan informasi ringkas dan langsung untuk evaluasi cepat.

4. Atribut Data yang Dibutuhkan

Untuk membuat dashboard seperti ini, data yang dibutuhkan mencakup:

Kategori Data	Atribut yang Diperlukan
Data Tenaga Kerja	Nama, NIK (opsional untuk anonim), provinsi, jenis kelamin, usia, pendidikan terakhir.
Data Sertifikasi	Nomor sertifikat, jenis sertifikasi (SKA/SKT), kualifikasi (Utama/Madya/Muda), tanggal terbit, masa berlaku.
Data Profesi/Jabatan	Jabatan kerja, asosiasi profesi, sub bidang pekerjaan.
Data Geografis	Provinsi, kabupaten/kota, koordinat wilayah (untuk visualisasi peta).

Kategori Data	Atribut yang Diperlukan
Data Lembaga Sertifikasi	Nama lembaga sertifikasi, jumlah peserta, jenis pelatihan/ujian.
Data Pendukung (opsional)	Jumlah proyek konstruksi per wilayah, data BPS tenaga kerja sektor konstruksi, data pendidikan vokasi.