

# **Custom Bootcamp**

**29-08-2023 to 01-09-2023**

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29-08-2013

- database:

it helps to store the data in easy manner and process the data using sql.

Types of data

- 1.Structured data --> relational database
- 2.Semi structured data --> json data, objects
- 3.Unstructured data --> video data and audio data

Dataware house

It is a central hub where database related to the organization will be stored.

Dataware house usually contains the history data which will be used to analyze the data.

Normalization

Normalization means breaking down the tables to the simple level possible

29-08-2023

1NF there should not be multi valued column in the table.

2NF there should not be partial dependency in the table

3NF there should not be a transitive dependency in the table.

Slowly changing dimension

Scd1 will not store the previous data.

Scd2 will store history data about any changes made to the database it will add new row for each change made in the table.

Scd3 will helps to store the previous data but it adds new column to table whenever the changes will be made to the table.

30-08-2023

- 4V's of bigdata
- Volume
- Velocity
- Veracity
- Variety
- Types of data processing
- Batch processing it will be performed on chunk of data after specific time interval
- Stream processing means it is used to process the real time data
- Huge data will be performed in distributed manner or parallel processing
- Data ware house will be used to store the structured data
- It will have the fixed schema
- Data ware house has acid properties of database

30-08-2023

- Datalake concept
  - Datalake can be used to store all kinds of data
  - Structured data
  - Unstructured data
  - Semi structured data
  - It has flexible schema
  - It won't has acid properties of database
  - It is used to diverse amount of data
- 
- Lake house is combination of both dataware house and data lake

30-08-2023

- Cloud computing
- Accessing the resource through the internet
- Types of cloud computing
- Private cloud means organization will have its server and storage options within the organization
- Public cloud means server and storage will maintained by the third party vendors
- Hybrid cloud means it will have both private and public cloud
- Benefits of cloud
- Scalability
- Availability
- Elasticity

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- Infrastructure as a service - cloud service provider will give the server , storage and network required but user can decide about operating system and application installed on the server
- Platform as a service – in this type of model the cloud vendor will provide server, storage and operating system for the platform required for the developers.
- Software as a service – in this type the cloud provider will give the software and storage and all other things will be the control of service provider.

31-08-2023

- Azure is cloud platform which provides a lot of services.
- Azure sql database will be used to store database on cloud and security and scalability will be taken by the cloud provider.
- Subscription will be used to billing purpose
- Resource group is logical entity that is used to store the resources.
- Resource could be anything for example server, sql database etc



01-09-2023

The screenshot shows the Microsoft Azure portal interface. The browser address bar displays the URL: `https://portal.azure.com/#@npunext.onmicrosoft.com/resource/subscriptions/7...`. The page title is "Shell03db (shell03server/Shell03db) | Query editor (preview)".

On the left sidebar, under "Shell03db (azureuser)", there is a notification: "Showing limited object explorer here. For full capability please click here to open Azure Data Studio." Below this, the object explorer shows "Tables", "Views", and "Stored Procedures".

The main area displays the "Query 1" editor with the following SQL query:

```
1 select * from [SalesLT].[Customer]
```

Below the query editor, the "Results" tab is active, showing a table with 5 columns: CustomerID, NameStyle, Title, FirstName, and MiddleInitial. The table contains 3 rows of data.

CustomerID	NameStyle	Title	FirstName	MiddleInitial
1	False	Mr.	Orlando	N.
2	False	Mr.	Keith	
3	False	Ms.	Donna	F.

A status bar at the bottom indicates "Query succeeded | 3s".

01-09-2023

Microsoft Azure

Search resources, services, and docs (G+)

Home > Shell03db (shell03server/Shell03db)

### Shell03db (shell03server/Shell03db) | Query editor (preview)

SQL database

» Login + New Query ↑ Open query Feedback Getting started

Shell03db (azureuser)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

- > Tables
- > Views
- > Stored Procedures

#### Query 1

Run ☐ Cancel query Save query Export data as Show only Editor

```
1 select top 5 * from [SalesLT].[Customer]
2
3 select top 5 * from [SalesLT].[CustomerAddress]
4
5 select top 5 c.FirstName as FirstName , a.AddressType as Address from [SalesLT].[Customer] as c inner-join
6 [SalesLT].[CustomerAddress] as a on c.CustomerID = a.CustomerID
```

#### Results

Catherine	Main Office
Kim	Main Office
Frances	Main Office
Margaret	Main Office
Jay	Main Office

Query succeeded | 0s

86°F Partly sunny 1:44 PM 9/1/2023

01-09-2023

The screenshot displays the Microsoft Azure portal interface for the Shell03db (shell03server/Shell03db) SQL database. The page title is "Shell03db (shell03server/Shell03db) | Query editor (preview)". The left sidebar shows the "Shell03db (azureuser)" object explorer with a message: "Showing limited object explorer here. For full capability please click here to open Azure Data Studio." Below this, there are links for "Tables", "Views", and "Stored Procedures". The main area contains the "Query 1" editor with the following SQL query:

```
1 select c.FirstName as FirstName , a.AddressType as Address from [SalesLT].[Customer] as c left join
2 [SalesLT].[CustomerAddress] as a on c.CustomerID = a.CustomerID order by FirstName
```

Below the query editor, the "Results" tab is active, showing a table with two columns: "FirstName" and "Address". The table contains three rows of data:

FirstName	Address
A.	
A.	Main Office
Abigail	Main Office

A status bar at the bottom of the query editor indicates "Query succeeded | 0s". The Windows taskbar at the bottom shows the date and time as 1:46 PM on 9/1/2023, along with weather information (86°F, Partly sunny) and various system icons.

01-09-2023

Home > Shell03db (shell03server/Shell03db)

### Shell03db (shell03server/Shell03db) | Query editor (preview)

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» Login + New Query ↑ Open query Feedback Getting started

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- > Views
- > Stored Procedures

**Query 1**

Run ☐ Cancel query ⬇ Save query ⬇ Export data as Show only Editor

```
1 select c.FirstName as FirstName, a.AddressType as Address from [SalesLT].[Customer] as c right join
2 [SalesLT].[CustomerAddress] as a on c.CustomerID = a.CustomerID order by FirstName
```

**Results** Messages

Search to filter items...

FirstName	Address
A.	Main Office
Abigail	Main Office
Abraham	Main Office

Query succeeded | 0s

86°F Partly sunny 1:47 PM 9/1/2023

01-09-2023

Microsoft Azure

Search resources, services, and docs (G+)

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Shell03db (azureuser)

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#### Query 1

Run Cancel query Save query Export data as Show only Editor

```
1 select c.FirstName as FirstName, a.AddressType as Address from [SalesLT].[Customer] as c
2 full join [SalesLT].[CustomerAddress] as a on c.CustomerID = a.CustomerID order by Firstname desc
```

#### Results

Search to filter items...

FirstName	Address
Yvonne	
Yvonne	Main Office
Yuping	Main Office

Query succeeded | 0s

86°F Partly sunny

Search

1:48 PM 9/1/2023

01-09-2023

Microsoft Azure

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SQL database

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Shell03db (azureuser)

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#### Query 1

Run Cancel query Save query Export data as Show only Editor

```
1  
2  
3 create view cust as select CustomerId, concat(FirstName, MiddleName, LastName) as fullname  
4 from [SalesLT].[Customer]
```

Results Messages

Query succeeded: Affected rows: 0

Query succeeded | 0s

86°F Partly sunny

Search

1:50 PM 9/1/2023



01-09-2023

Microsoft Azure portal interface showing the Shell03db (shell03server/Shell03db) Query editor (preview).

The interface includes a sidebar with navigation options: Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Settings, Compute + storage, Connection strings, Properties, Locks, Data management, Replicas, Sync to other databases, Integrations, and Azure Synapse Link.

The main content area displays the Shell03db (azureuser) database structure, including Tables, Views, and Stored Procedures. A message indicates: "Showing limited object explorer here. For full capability please click here to open Azure Data Studio."

The Query editor shows a query: `select * from cust`. The results are displayed in a table:

CustomerId	fullname
1	Orlando N. Gee
2	Keith Harris
3	Donna F. Carreras

The status bar indicates: "Query succeeded | 1s".

01-09-2023

Microsoft Azure portal interface showing the Shell03db (shell03server/Shell03db) Query editor (preview).

The interface includes a sidebar with navigation options: Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview), Settings, Compute + storage, Connection strings, Properties, Locks, Data management, Replicas, Sync to other databases, Integrations, and Azure Synapse Link.

The main content area displays the Shell03db (azureuser) object explorer, showing a limited view of the database structure (Tables, Views, Stored Procedures). A message indicates: "Showing limited object explorer here. For full capability please click here to open Azure Data Studio."

The Query editor (Query 1) shows the following SQL code:

```
1 create procedure cc as
2 select fullname from cust
3
4 exec cc
```

The Results tab shows the output of the query:

fullname
Orlando N. Gee
Keith Harris
Donna F. Carreras

The status bar at the bottom indicates "Query succeeded | 1s".



01-09-2023

The screenshot shows the Microsoft Azure portal interface for the 'Shell03db (shell03server/Shell03db)' SQL database. The 'Query editor (preview)' is active, displaying a SQL query:

```
1 create procedure ccc @table int
2 as
3 select fullname from cust where CustomerId = @table
4
5 exec ccc @table=1
```

The query has been executed successfully, as indicated by the 'Query succeeded | 2s' status at the bottom. The results pane shows a single row with the name 'Orlando N. Gee'.

The sidebar on the left contains the following navigation options:

- Overview
- Activity log
- Tags
- Diagnose and solve problems
- Query editor (preview)
- Settings
  - Compute + storage
  - Connection strings
  - Properties
  - Locks
- Data management
  - Replicas
  - Sync to other databases
- Integrations
  - Azure Synapse Link

The top navigation bar includes the Microsoft Azure logo, a search bar, and various icons for navigation and settings. The browser address bar shows the URL: <https://portal.azure.com/#@npunext.onmicrosoft.com/resource/subscriptions/7...>

01-09-2023

Microsoft Azure

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### Shell03db (shell03server/Shell03db) | Query editor (preview)

SQL database

Search

Login + New Query ↑ Open query Feedback Getting started

Overview  
Activity log  
Tags  
Diagnose and solve problems  
Query editor (preview)

Settings

- Compute + storage
- Connection strings
- Properties
- Locks

Data management

- Replicas
- Sync to other databases

Integrations

- Azure Synapse Link

Shell03db (azureuser)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

- Tables
- Views
- Stored Procedures

#### Query 1

Run Cancel query Save query Export data as Show only Editor

```
1 create function f(@a varchar(20))
2 returns varchar(20)
3 as
4 begin
5 return (select @a);
6 end
7
8 select dbo.f(fullname) as a from cust
```

Results Messages

Search to filter items...

a
Orlando N. Gee
Keith Harris
Donna F. Carreras

Query succeeded | 1s

86°F Mostly cloudy

Search

2:55 PM 9/1/2023