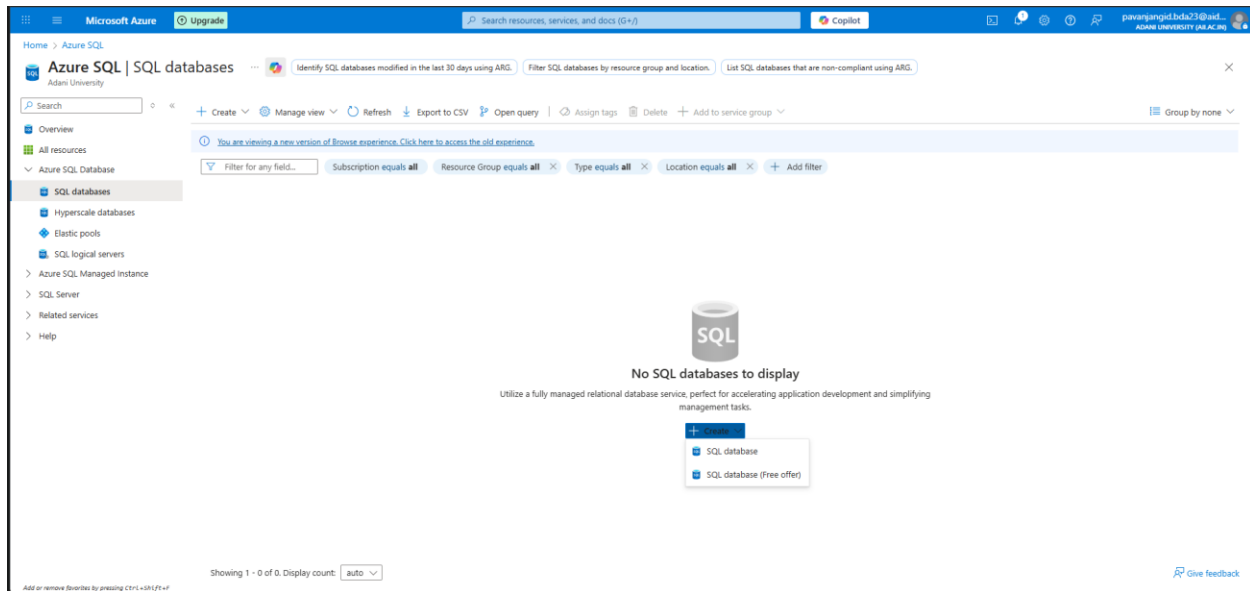
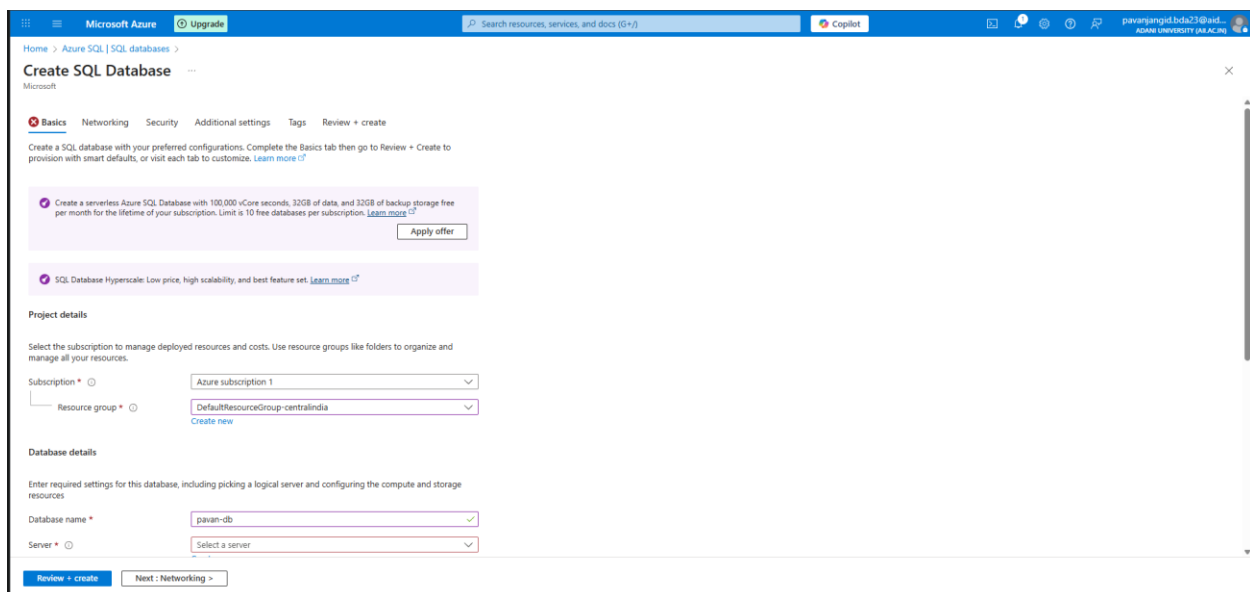


# 1. Go to SQL Database



# 2. Create New Database



### 3. Create New Database Server

Microsoft Azure | Upgrade | Search resources, services, and docs (0+)

Home > Azure SQL | SQL databases > Create SQL Database >

## Create SQL Database Server

Microsoft

**Server details**

Enter required settings for this server, including providing a name and location. This server will be created in the same subscription and resource group as your database.

Server name \*  .database.windows.net

Location \*

**Authentication**

Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. We recommend using only Microsoft Entra authentication. [Learn more](#) if using an existing Microsoft Entra user, group, or application as Microsoft Entra admin. [Learn more](#) if

Authentication method

- ☒ Use Microsoft Entra-only authentication
- ☐ Use both SQL and Microsoft Entra authentication
- ☐ Use SQL authentication

Set Microsoft Entra admin

[pavanjangid.bda23@aidtm.ac.in](#)  
Admin Object/App ID: f6396ecf-5fcb-445c-a9cb-4a669d59f16b  
[Set admin](#)

[OK](#) [Feedback](#)

### 4. Fill remaining details in SQL Database

Microsoft Azure | Upgrade | Search resources, services, and docs (0+)

Home > Azure SQL | SQL databases >

## Create SQL Database

Microsoft

Server \*  [Create new](#)

Want to use SQL elastic pool? ☐ Yes ☒ No

Workload environment

- ☒ Development
- ☐ Production

Default settings provided for Development workloads. Configurations can be modified as needed.

Compute + storage \*  [Standard-series \(Gen5\), 1 vCore, 32 GB storage, zone redundant disabled](#) [Configure database](#)

**Backup storage redundancy**

Choose how your PITR and LTR backups are replicated. Geo restore or ability to recover from regional outage is only available when geo-redundant storage is selected.

Backup storage redundancy ☐

- ☐ Locally-redundant backup storage
- ☐ Zone-redundant backup storage
- ☒ Geo-redundant backup storage
- ☐ Geo-Zone-redundant backup storage

Selected value for backup storage redundancy is Geo-redundant backup storage. Database backups will be geo-replicated which might impact your data residency requirements. [Learn more](#)

[Review < create](#) [Next: Networking >](#)

## 5. Review and Create

**Create SQL Database**

Microsoft

Basics Networking Security Additional settings Tags **Review + create**

**Product details**

SQL database by Microsoft  
[Terms of use](#) | [Privacy policy](#)

**Estimated cost**  
Storage cost 3.45 USD / month + Compute cost 0.000159 USD / vCore second

**Terms**

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).<sup>1,2</sup>

**Basics**

|                           |  |
|---------------------------|--|
| Subscription              | Azure subscription 1   |
| Resource group            | DefaultResourceGroup-centralindia  |
| Region                    | Central India  |
| Database name             | pavan-db   |
| Server                    | (new) pavan-db-server  |
| Authentication method     | Microsoft Entra-only authentication  |
| Microsoft Entra Admin     | pavanjangid.bda23@adtm.ac.in   |
| Compute + storage         | General Purpose - Serverless Standard-series (Gen5), 1 vCore, 32 GB storage, zone redundant disabled |
| Backup storage redundancy | Geo-redundant backup storage   |

**Cost summary**

|   |        |
|---|--------|
| <b>General Purpose (GP_S_Gen5_1)</b>            |        |
| Cost per GB (in USD)                            | 0.13   |
| Max storage selected (in GB)                    | x 41.6 |
| <b>ESTIMATED STORAGE COST / MONTH 5.45 USD</b>  |        |
| <b>COMPUTE COST / VCORE SECOND 0.000159 USD</b> |        |

**NOTES**

<sup>1</sup> Serverless databases are billed in vCore second based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

[Create](#) [Previous](#) [Download a template for automation](#)

## 6. Review cont.. and click Create

**Create SQL Database**

Microsoft

Networking

|  |         |
|--|---------|
| Allow Azure services and resources to access this server | No      |
| Private endpoint   | None    |
| Minimum TLS version                                      | 1.2     |
| Connection Policy  | Default |

**Security**

|   |                              |
|---|------------------------------|
| Identity                                      | Not enabled                  |
| Transparent data encryption (Server level)    | Service-managed key selected |
| Database level customer-managed key           | Not configured               |
| Database level user assigned managed identity | Not configured               |
| Advanced data security                        | Not now                      |
| Always Encrypted with secure enclaves         | Not configured               |
| Sql Ledger(Database)                          | Disabled                     |
| Digest Storage                                | Disabled                     |

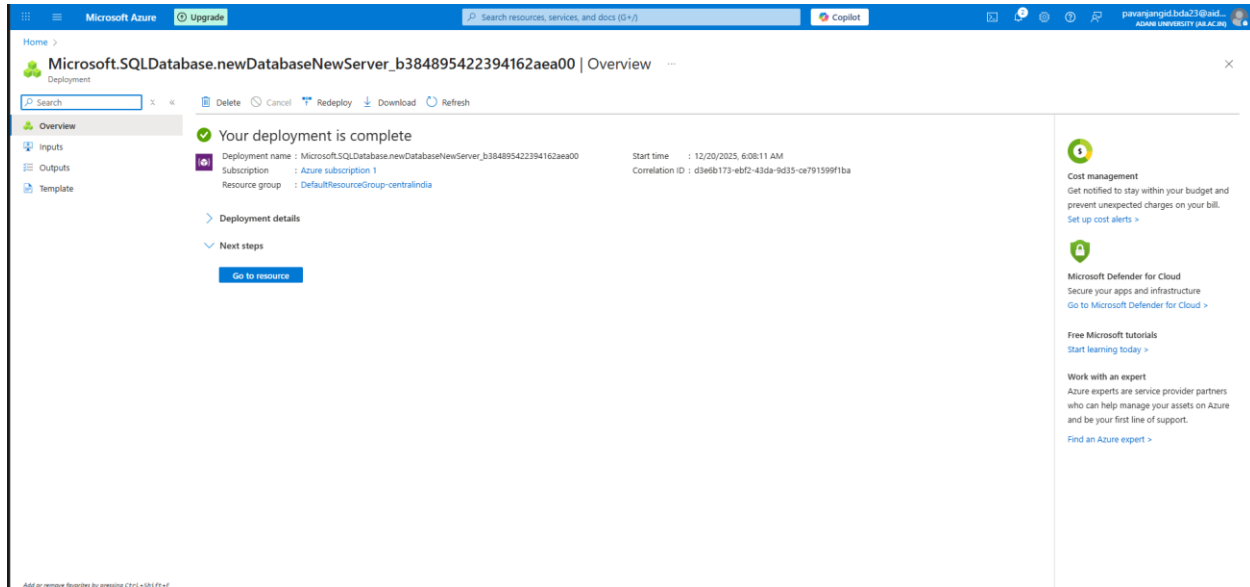
**Additional settings**

|                    |                              |
|--------------------|------------------------------|
| Use existing data  | Blank                        |
| Collation          | SQL_Latin1_General_CP1_CI_AS |
| Maintenance window | System default (5pm to 8am)  |

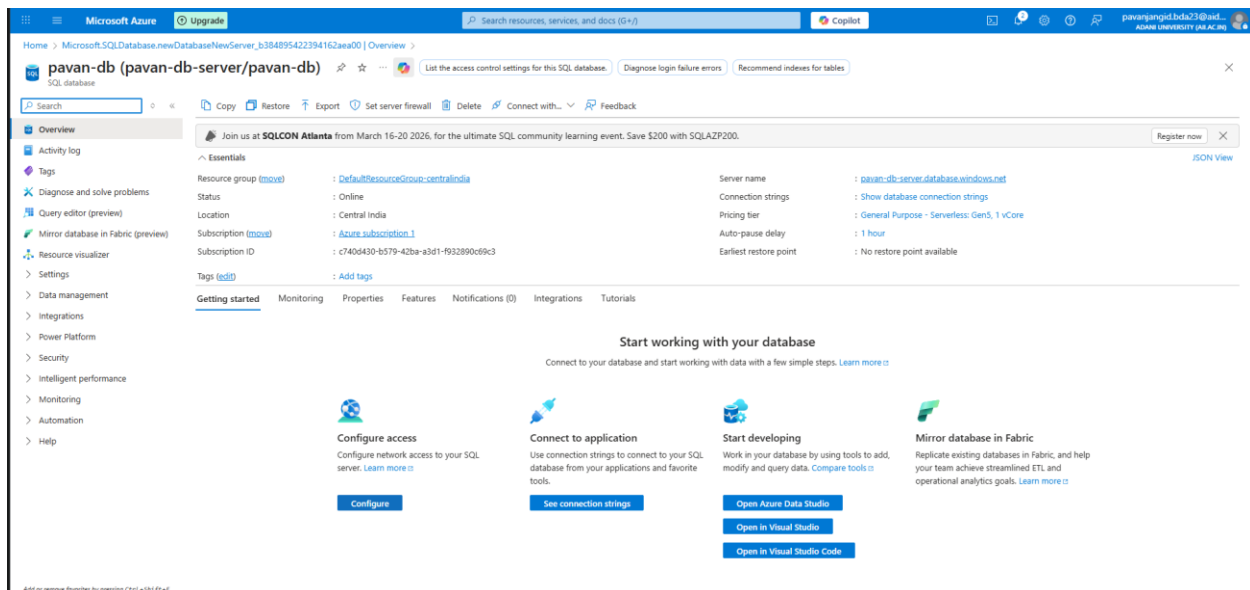
**Tags**

[Create](#) [Previous](#) [Download a template for automation](#)

## 7. Deployment is completed



## 8. Click on Go to resources



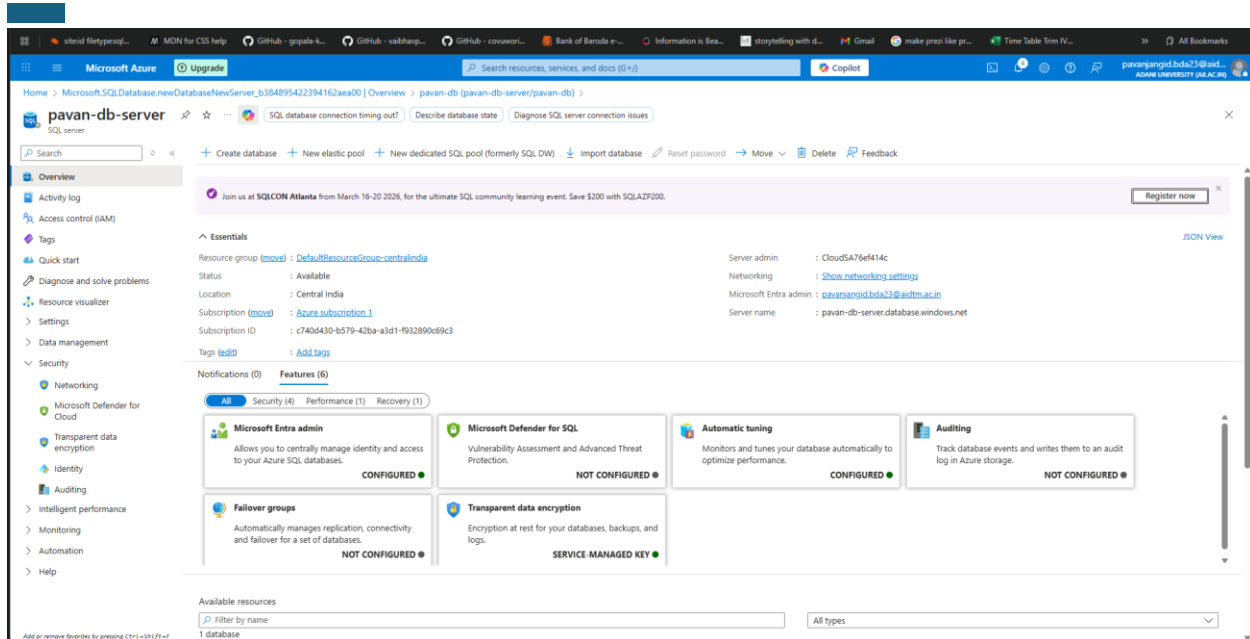
## 9. Click on configure access under getting started

The screenshot shows the Microsoft Azure portal interface for a resource named 'pavan-db-server' (SQL server). The left sidebar contains navigation links: Overview, Activity log, Access control (IAM), Tags, Quick start, Diagnose and solve problems, Resource visualizer, Settings, Data management, Security, Networking (selected), Microsoft Defender for Cloud, Transparent data encryption, Identity, Auditing, Intelligent performance, Monitoring, Automation, and Help. The main content area is titled 'Public network access' and includes a 'Public network access' section with a 'Public network access' button. Below this, there are radio buttons for 'Disable' and 'Selected networks' (which is selected). A note states: 'Connections from the IP addresses configured in the Firewall rules section below will have access to this database. By default, no public IP addresses are allowed. Learn more'. A warning message says: 'Please save public network access value before adding new virtual networks.' Below this, there is a 'Virtual networks' section with a '+ Add a virtual network rule' button. A table with columns 'Rule', 'Virtual network', 'Subnet', 'Address range', 'Endpoint status', 'Resource group', 'Subscription', and 'State' is shown. The 'Firewall rules' section has a '+ Add your client IPv4 address' button and a '+ Add a firewall rule' button. Below this, there is a table with columns 'Rule name', 'Start IPv4 address', and 'End IPv4 address'. The 'Save' button is at the bottom.

## 10. Add / Click on Add your client IPv4 address

The screenshot shows the Microsoft Azure portal interface for the same resource 'pavan-db-server'. The left sidebar is identical to the previous screenshot. The main content area is titled 'Firewall rules' and includes a 'Firewall rules' section with a 'Firewall rules' button. Below this, there is a '+ Add your client IPv4 address' button and a '+ Add a firewall rule' button. Below this, there is a table with columns 'Rule name', 'Start IPv4 address', and 'End IPv4 address'. The 'Rule name' is 'ClientIPaddress\_2025-12-20\_6-17-15', the 'Start IPv4 address' is '223.228.0.183', and the 'End IPv4 address' is '223.228.0.183'. The 'Exceptions' section has a checkbox 'Allow Azure services and resources to access this server' which is unchecked. The 'Save' button is at the bottom.

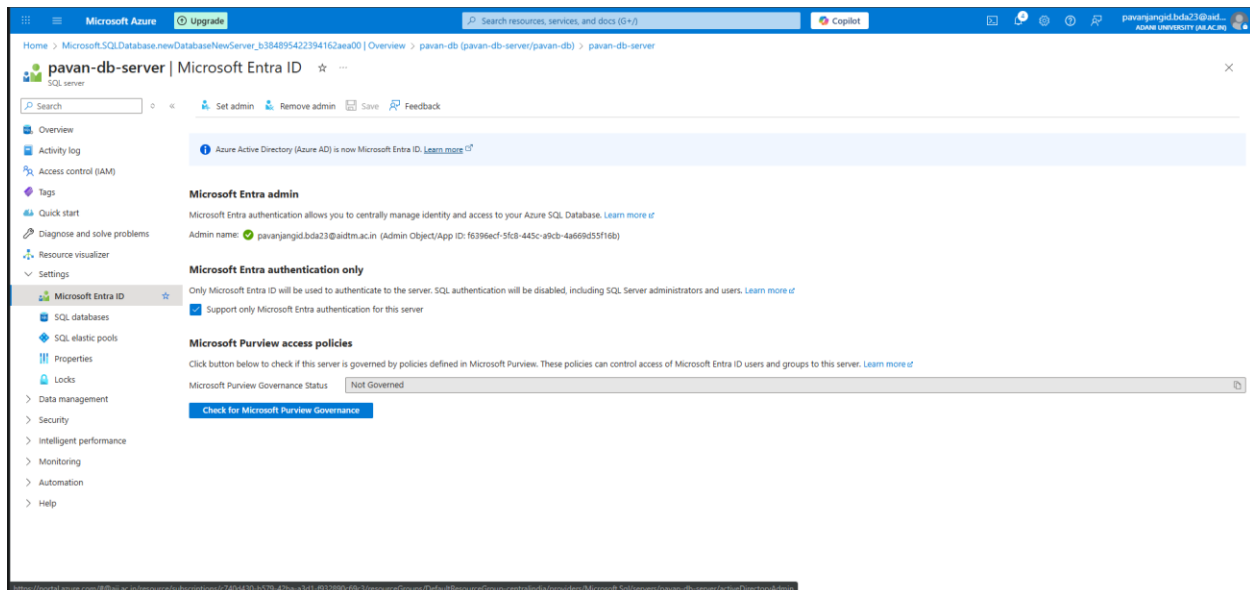
## 11. Head back to Overview



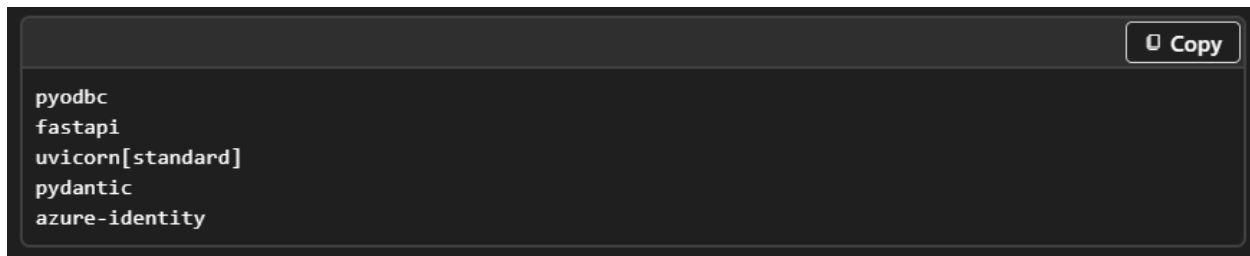
## 12. Copy required things like:

- Server: pavan-db-server.database.windows.net
- Database: pavan-db

## 13. Head over to Microsoft Entra ID under Settings



## 14. Now install following libraries in python



## 15. Use this below command to authenticate the user

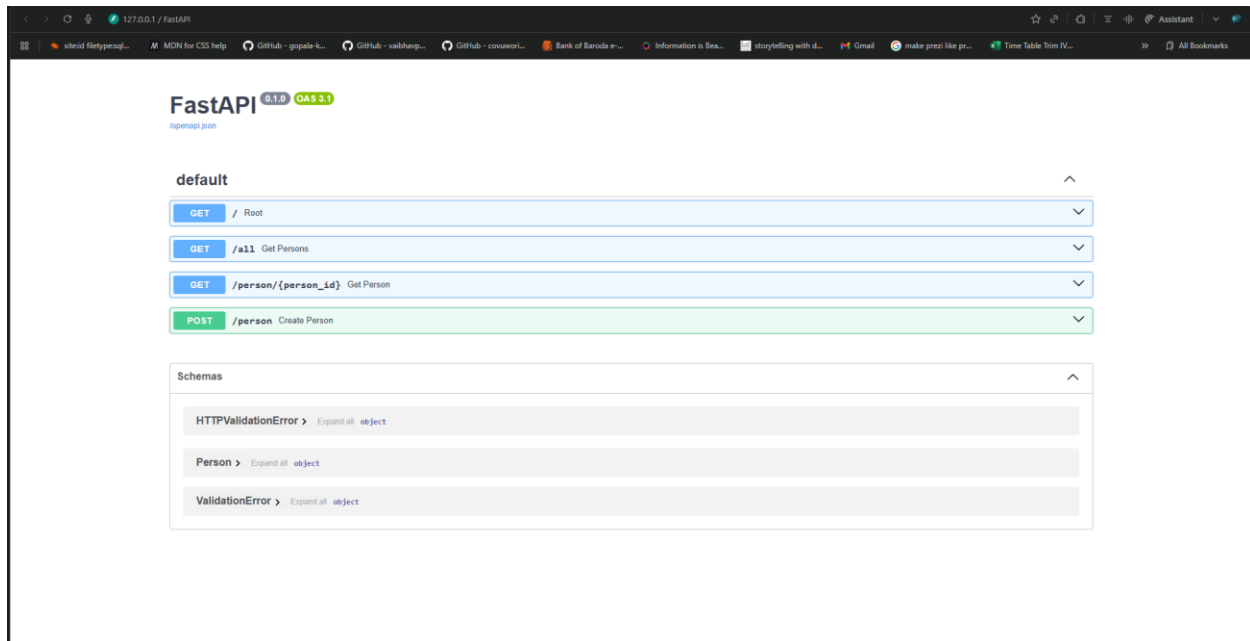
```
$env:AZURE_SQL_CONNECTIONSTRING='Driver={ODBC Driver 18 for SQL Server};Server=tcp:pavan-db-server.database.windows.net,1433;Database=pavan-db;Encrypt=yes;TrustServerCertificate=no;Connection Timeout=30;'
```

## 16. Use existing shell from vs code (Ctrl+`) to run this command and set the environment variables

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER
File "<frozen os>", line 678, in __getitem__
KeyError: 'AZURE_SQL_CONNECTIONSTRING'
INFO: Stopping reloader process [2468]
PS C:\Users\Lenovo\Desktop\Cloud\AzureV4. Create SQL Database> $env:AZURE_SQL_CONNECTIONSTRING="Driver={ODBC Driver 18 for SQL Server};Server=tcp:pavan-db-server.database.windows.net,1433;Database=pavan-db;Encrypt=yes;TrustServerCertificate=no;Connection Timeout=30;"
PS C:\Users\Lenovo\Desktop\Cloud\AzureV4. Create SQL Database> uvicorn app:app --reload
INFO: Will watch for changes in these directories: ['C:\Users\Lenovo\Desktop\Cloud\AzureV4. Create SQL Database']
INFO: Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
INFO: Started reloader process [17524] using WatchFiles
INFO: Started server process [21632]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: 127.0.0.1:63596 - "GET /docs HTTP/1.1" 200 OK
INFO: 127.0.0.1:63596 - "GET /openapi.json HTTP/1.1" 200 OK
```

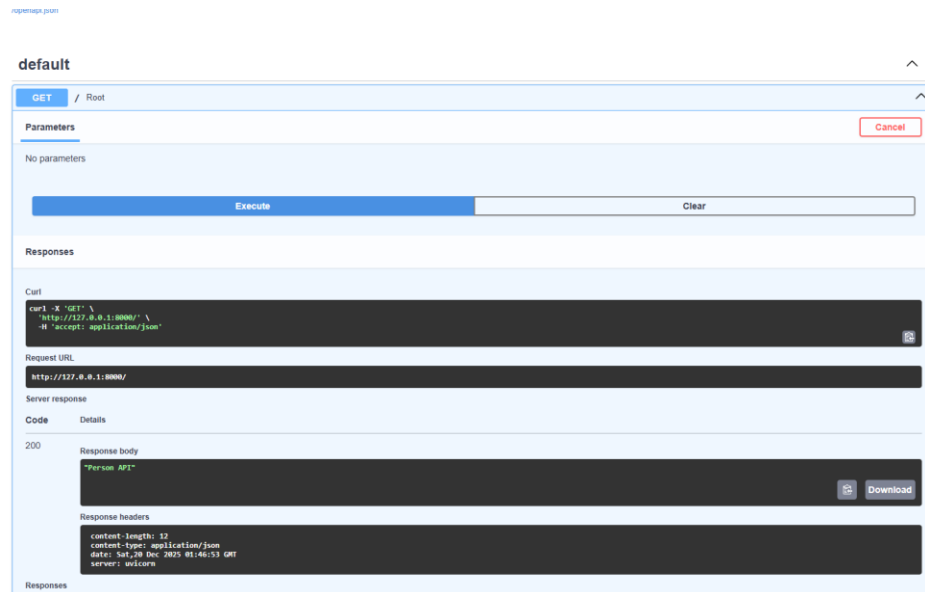
## 17. Use app.py in Repository: Load it using uvicorn app:app --reload

## 18. Head over to <http://127.0.0.1:8000/docs>





19. Before this step, make sure you have ODBC Driver installed. Now, Lets add table “Person” to database.



20. Now add a person in database

