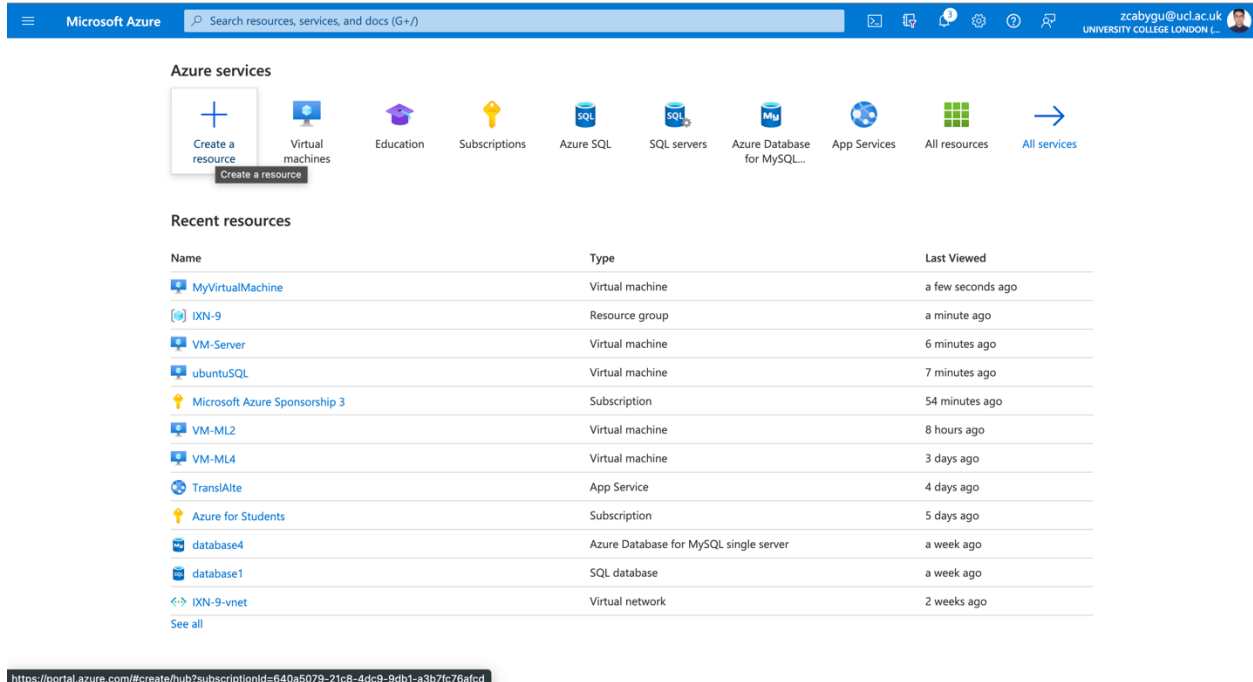


# Deployment Guide of the Transl'AI'te Database

## Step 1. Create an Azure Virtual Machine

### 1. Login to your Microsoft Azure Portal.



The screenshot shows the Microsoft Azure Portal interface. At the top, there is a search bar and a navigation menu. Below the search bar, the 'Azure services' section is visible, with a 'Create a resource' button highlighted. The 'Recent resources' section is also visible, showing a list of resources with columns for Name, Type, and Last Viewed.

Name	Type	Last Viewed
MyVirtualMachine	Virtual machine	a few seconds ago
IXN-9	Resource group	a minute ago
VM-Server	Virtual machine	6 minutes ago
ubuntuSQL	Virtual machine	7 minutes ago
Microsoft Azure Sponsorship 3	Subscription	54 minutes ago
VM-ML2	Virtual machine	8 hours ago
VM-ML4	Virtual machine	3 days ago
TranslAIte	App Service	4 days ago
Azure for Students	Subscription	5 days ago
database4	Azure Database for MySQL single server	a week ago
database1	SQL database	a week ago
IXN-9-vnet	Virtual network	2 weeks ago

<https://portal.azure.com/#create/hub?subscriptionId=640a5079-21c8-4dc9-9db1-a3b7c76afcd>

### 2. Click the 'Create a resource' option under **Azure services**.

3. Type **virtual machines** in the search. Under Services, select Virtual machines.

4. In the Virtual machines page, select Create and then Virtual machine. The Create a virtual machine page opens.

5. In the **Basics** tab, under **Project details**, make sure the correct subscription is selected and then choose to **Create new** resource group. Type *myResourceGroup* for the name.\*.

6. Under **Instance details**, type *myVM* for the **Virtual machine name**, and choose *Ubuntu 20.04 LTS - Gen2* for your **Image**. Leave the other defaults. The default size and pricing is only shown as an example. Size availability and pricing are dependent on your region and subscription.

7. Under **Administrator account**, select **Password**.

8. Enter your desired **Username** and **Password** for the virtual machines. If portal rejects your username and password, retry according to its rules until it is accepted. Remember the username and the password you entered.

9. Leave the remaining defaults and then select the **Review + create** button at the bottom of the page.

11. On the **Create a virtual machine** page, you can see the details about the VM you are about to create. When you are ready, select **Create**.

Microsoft Azure Search resources, services, and docs (G+)

Home > Virtual machines >

### Create a virtual machine

Validation passed

Basics Disks Networking Management Advanced Tags **Review + create**

**PRODUCT DETAILS**

1 X Standard DS1 v2  
by Microsoft  
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Subscription credits apply ⓘ  
**0.0654 GBP/hr**  
[Pricing for other VM sizes](#)

**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. See the [Azure Marketplace Terms](#) for additional details.

Name

Preferred e-mail address \*

Preferred phone number \*

**Create** < Previous Next > [Download a template for automation](#)

12. Wait for the deployment of your virtual machine.

Microsoft Azure Search resources, services, and docs (G+)

Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20220329212135 | Overview

Deployment

Search (Cmd+)

Delete Cancel Redeploy Refresh

We'd love your feedback! →

Deployment is in progress

Deployment name: CreateVm-canonical.0001-com-ubuntu-server-f... Start time: 3/29/2022, 9:25:19 PM  
 Subscription: Microsoft Azure Sponsorship 3 Correlation ID: 756cad22-2cf9-4cca-b2ca-e4766b75fed3  
 Resource group: IXN-9

Deployment details (Download)

Resource	Type	Status	Operation details
MyVirtualMachine	Microsoft.Compute/virtualMa...	Created	<a href="#">Operation details</a>
myvirtualmachine19	Microsoft.Network/networkIn...	Created	<a href="#">Operation details</a>
MyVirtualMachine-ip	Microsoft.Network/publicIpA...	OK	<a href="#">Operation details</a>
MyVirtualMachine-nsg	Microsoft.Network/networkSe...	OK	<a href="#">Operation details</a>

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13. When the deployment is finished, **Start** it and a dynamic Public IP address would be shown (In the example, the IP address would be 20.228.220.224).

Microsoft Azure Search resources, services, and docs (G+)

Home > ubuntuSQL Virtual machine

Search (Cmd+)

Connect Start Restart Stop Capture Delete Refresh Open in mobile CLI / PS Feedback

Essentials

Resource group (move) : IXN-9  
 Status : Running  
 Location : East US  
 Subscription (move) : Microsoft Azure Sponsorship 3  
 Subscription ID : 640a5079-21c8-4dc9-9db1-a3b7fc76afcd  
 Tags (edit) : [Click here to add tags](#)

Operating system : Linux (ubuntu 20.04)  
 Size : Standard D2s v3 (2 vcpus, 8 GiB memory)  
 Public IP address : [20.228.220.224](#)  
 Virtual network/subnet : VM3VNET/VM3Subnet  
 DNS name : [Not configured](#)

Properties Monitoring Capabilities (7) Recommendations Tutorials

**Virtual machine**

Computer name	ubuntuSQL
Health state	-
Operating system	Linux (ubuntu 20.04)
Publisher	canonical
Offer	0001-com-ubuntu-server-focal
Plan	20_04-Its-gen2
VM generation	V2
Agent status	Ready
Agent version	2.7.0.6
Host group	None
Host	-
Proximity placement group	-
Colocation status	N/A

**Networking**

Public IP address	20.228.220.224
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	VM3VNET/VM3Subnet
DNS name	<a href="#">Configure</a>

**Size**

Size	Standard D2s v3
vCPUs	2
RAM	8 GiB

**Disk**

OS disk	ubuntuSQL_disk1_d15371f4027e47448962cde460fa15a6
---------	--

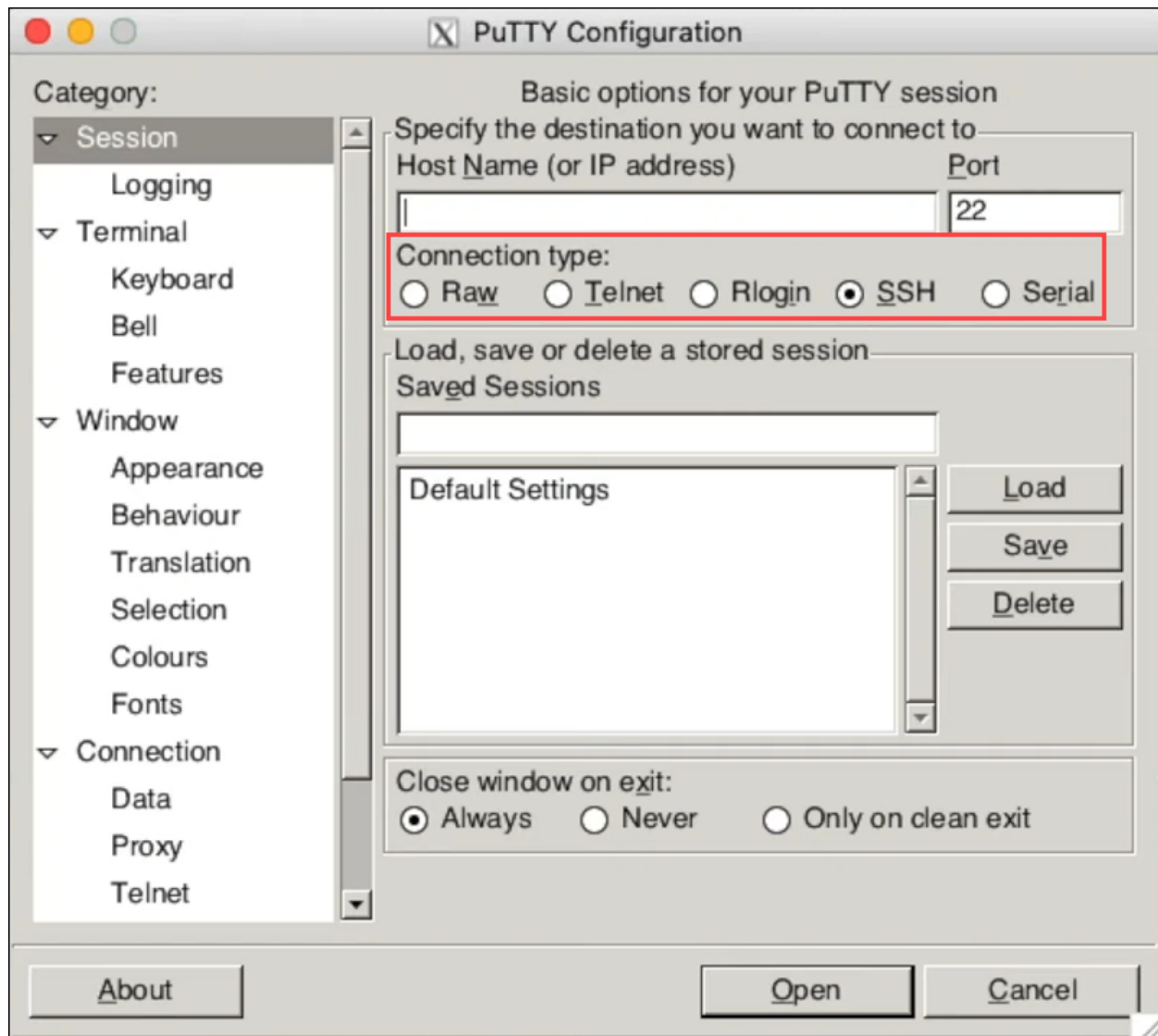
## Step 2. Install Putty

1. For **Windows** User, follow these steps:

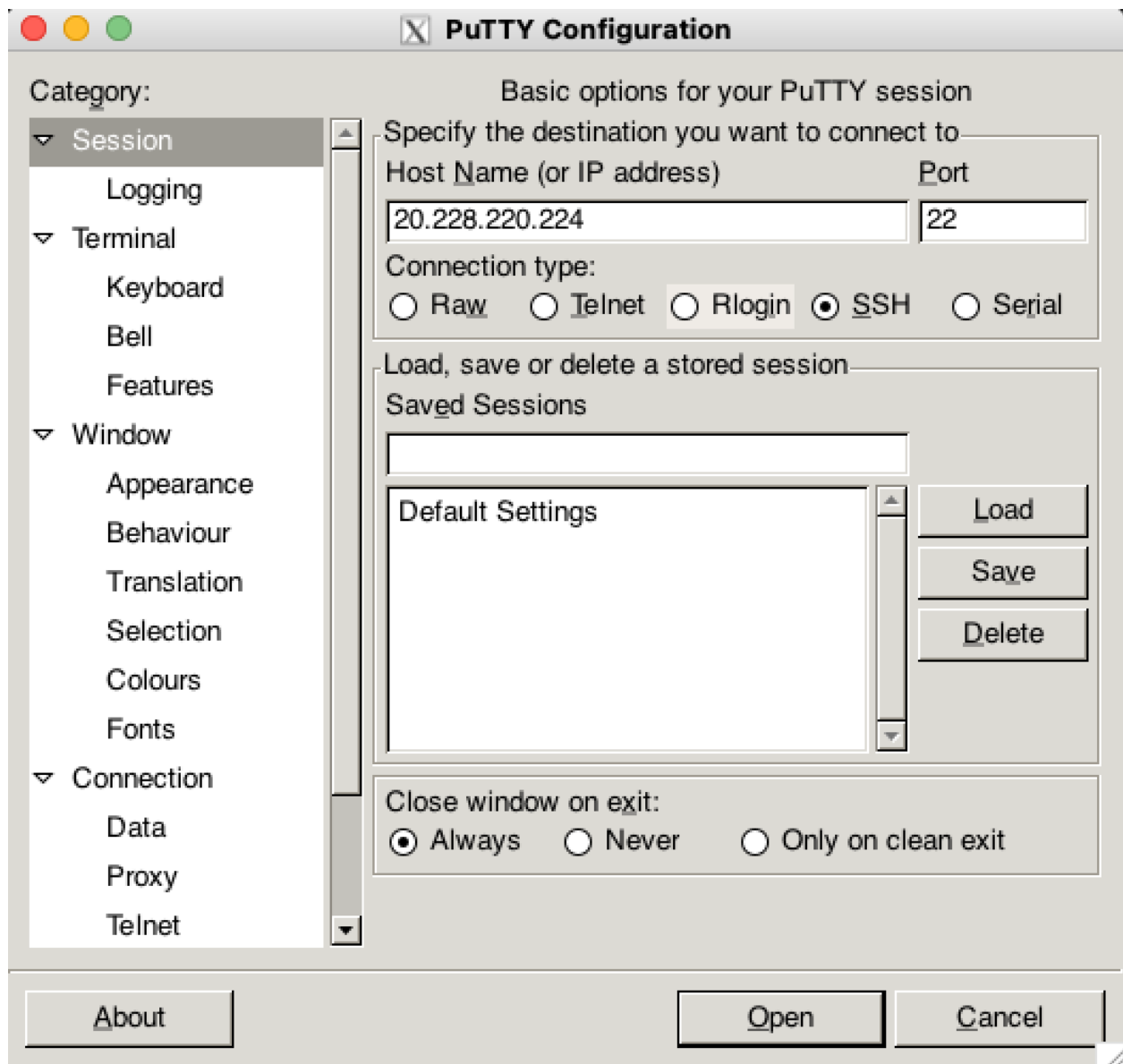
<https://www.ssh.com/academy/ssh/putty/windows/install>

2. For **Mac** User, follow these steps: <https://phoenixnap.com/kb/install-putty-on-mac>

3. Once you successfully installed PuTTY, Open PuTTY.



4. The Host name will be the **IP address of the Azure Virtual Machine** (It would be 20.228.220.224 in this example), type in the Host Name box.



## 5. Click **Accept**

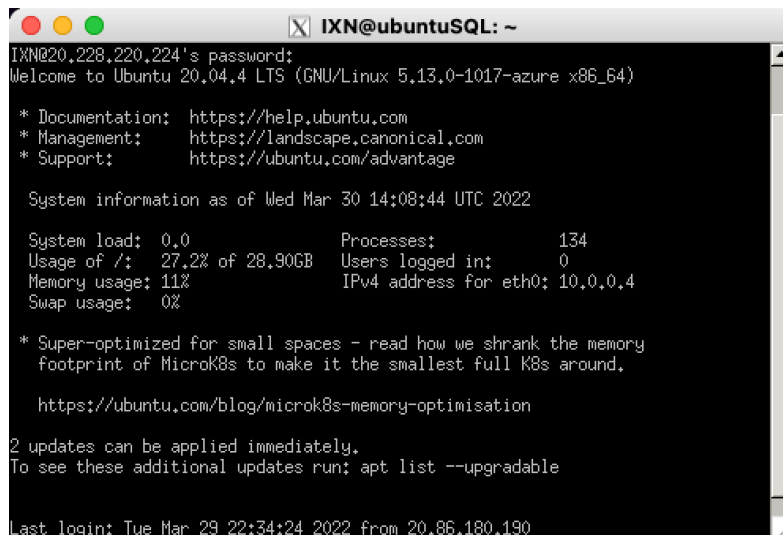


## 6. Login **the Account you set up** when initializing the Azure Virtual Machine



### Step 3. Install the SQL server and create a database on the Ubuntu

1. When you login, the page would look like below. Next, we should **install the SQL server and create a database on the Ubuntu**, follow these steps: <https://docs.microsoft.com/en-us/sql/linux/quickstart-install-connect-ubuntu?view=sql-server-ver15#cross-platform-data-tools>.



```
IXN@ubuntuSQL: ~
IXN@20.228.220.224's password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.13.0-1017-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Wed Mar 30 14:08:44 UTC 2022

System load:  0.0          Processes:      134
Usage of /:   27,2% of 28,90GB  Users logged in:  0
Memory usage: 11%         IPv4 address for eth0: 10.0.0.4
Swap usage:   0%

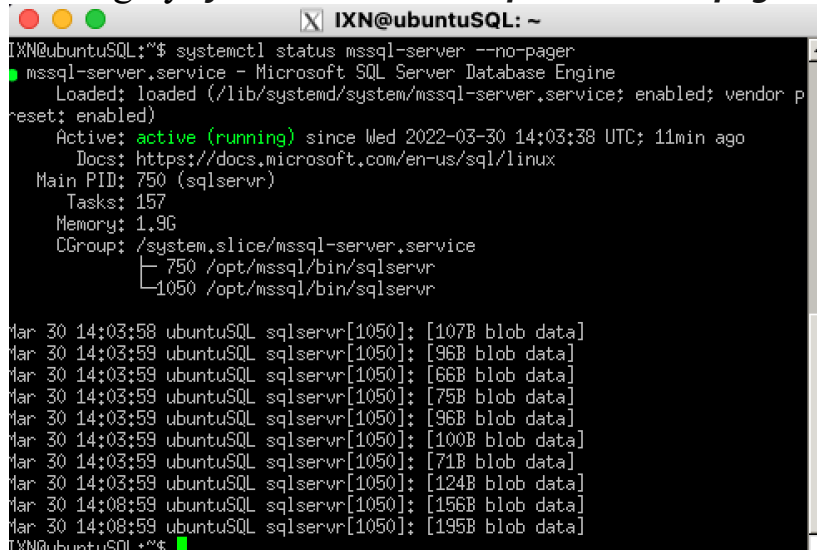
 * Super-optimized for small spaces - read how we shrank the memory
   footprint of MicroK8s to make it the smallest full K8s around.

   https://ubuntu.com/blog/microk8s-memory-optimisation

2 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Last login: Tue Mar 29 22:34:24 2022 from 20.86.180.190
```

2. After you installed the SQL server on the Ubuntu, verify that the service is running by **systemctl status mssql-server --no-pager**.



```
IXN@ubuntuSQL: ~
IXN@ubuntuSQL:~$ systemctl status mssql-server --no-pager
● mssql-server.service - Microsoft SQL Server Database Engine
   Loaded: loaded (/lib/systemd/system/mssql-server.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2022-03-30 14:03:38 UTC; 11min ago
     Docs: https://docs.microsoft.com/en-us/sql/linux
   Main PID: 750 (sqlservr)
      Tasks: 157
     Memory: 1.9G
    CGroup: /system.slice/mssql-server.service
            └─ 750 /opt/mssql/bin/sqlservr
               1050 /opt/mssql/bin/sqlservr

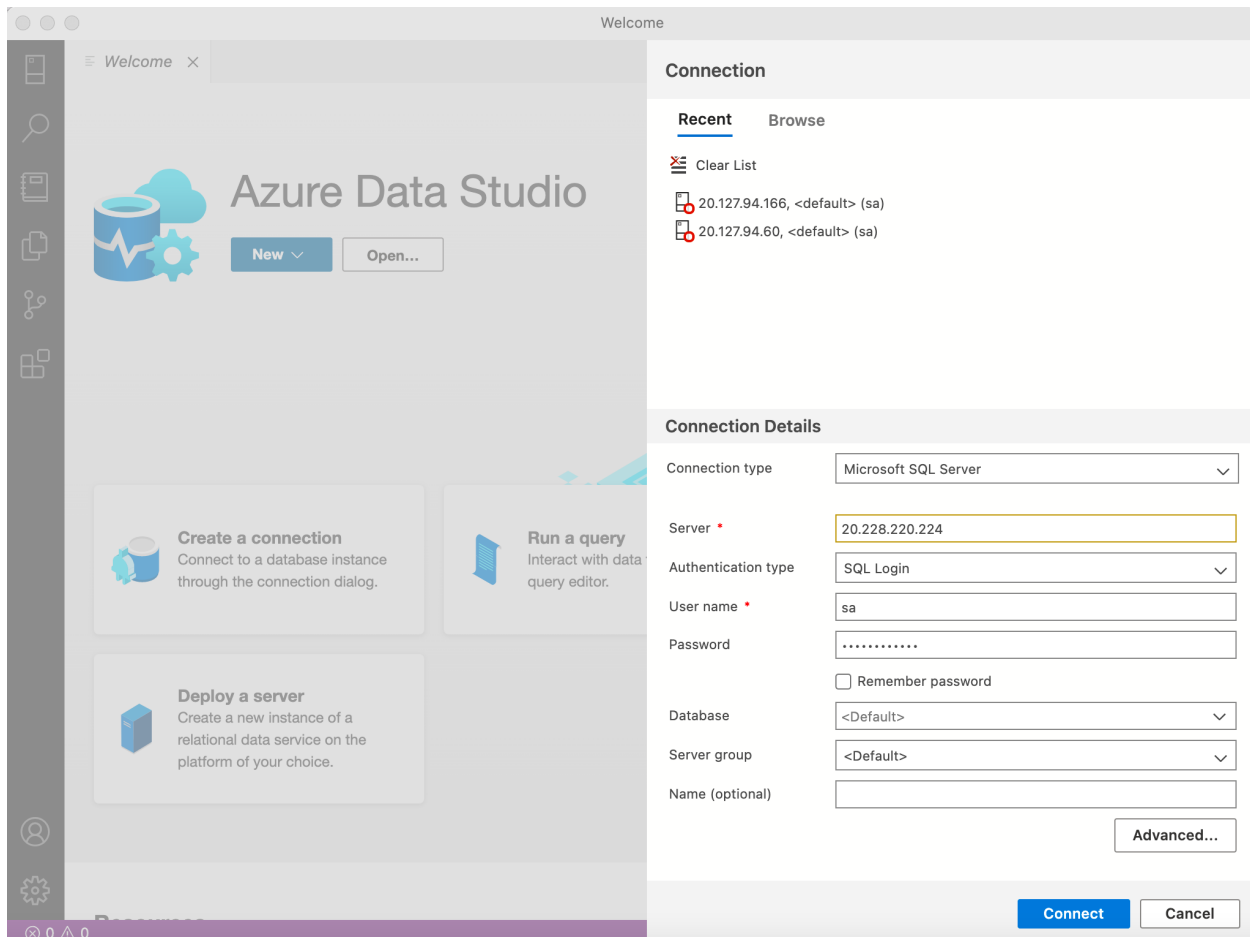
Mar 30 14:03:58 ubuntuSQL sqlservr[1050]: [107B blob data]
Mar 30 14:03:59 ubuntuSQL sqlservr[1050]: [96B blob data]
Mar 30 14:03:59 ubuntuSQL sqlservr[1050]: [66B blob data]
Mar 30 14:03:59 ubuntuSQL sqlservr[1050]: [75B blob data]
Mar 30 14:03:59 ubuntuSQL sqlservr[1050]: [96B blob data]
Mar 30 14:03:59 ubuntuSQL sqlservr[1050]: [100B blob data]
Mar 30 14:03:59 ubuntuSQL sqlservr[1050]: [71B blob data]
Mar 30 14:03:59 ubuntuSQL sqlservr[1050]: [124B blob data]
Mar 30 14:08:59 ubuntuSQL sqlservr[1050]: [156B blob data]
Mar 30 14:08:59 ubuntuSQL sqlservr[1050]: [195B blob data]
IXN@ubuntuSQL:~$
```

3. By now, you have successfully installed the SQL server on your virtual machine.



## Step 4. Connect to the SQL server and Manage the Database on Azure Data Studio

1. Server would be **the IP address** of your Azure Virtual Machine ( In this example, it would be 20.228.220.224). User name would be **sa**. Password would be the one you use **for login PuTTY**



## 2. You are ABLE to access the SQL server and Manage the Database now!

The screenshot shows the SQL Server Enterprise Manager interface. The top navigation bar includes 'Home' and 'Databases'. The main content area displays server information: Version 15.0.4198.2, Computer Name ubuntuSQL, Edition Developer Edition (64-bit), and OS Version Ubuntu 20.04. Below this, there are two panels: 'Backup Status' and 'Database Size (MB)'. The 'Backup Status' panel shows 'Last Updated: 3:24:46 PM 3/30/2022' and a summary: 0 Within 24hrs, 0 Older than 24hrs, and 2 No backup found. The 'Database Size (MB)' panel shows a bar chart for databases 'ixn' and 'TESTDB', each with a red bar (likely data) and a blue bar (likely log files).

The screenshot shows the SQL Server Enterprise Manager interface with the 'Databases' folder expanded. A table lists the databases on the server:

Name	Status	Size (MB)	Last backup	Actio.
master	ONLINE	6		...
model	ONLINE	16		...
msdb	ONLINE	13		...
tempdb	ONLINE	24		...
ixn	ONLINE	16		...
TESTDB	ONLINE	16		...