

Windows Server 2022 – PostgreSQL 16 + pgAdmin4

Version:	1.0.0
Created by:	cloudimg

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1.) Overview

This document is provided as a user guide for the Windows Server 2022 – PostgreSQL 16 + pgAdmin product offering on the AWS Marketplace. Please reach out to support@cloudimg.co.uk if any issues are encountered following this user guide for the chosen product offering.

2.) Access & Security

Please update the security group of the target instance to allow the below ports and protocols for access and connectivity.



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Protocol	Type	Port	Description
RDP	TCP	3389	Remote Desktop Access
TCP	TCP	5432	PostgreSQL Database Listener Port

3.) System Requirements

The minimum system requirements for the chosen product offering can be found below

Minimum CPU	Minimum RAM	Required Disk Space
1	1 GB	30GB

4.) Connecting to the Instance

Once launched in the Amazon EC2 Service, please connect to the instance via an RDP client using the **Administrator** user. Please allow the EC2 Instance to pass 2/2 status checks before connecting via RDP to allow the system enough time to complete the boot process.

To obtain the randomly generate password on boot for the Administrator user, please follow the below steps in the AWS Console.

Log into the Target AWS Account > Select the region of which was chosen to host the newly launched cloudimg AMI



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- Elastic Kubernetes Service
- AWS Budgets
- VPC
- CloudShell
- AWS Application Migration Service
- Service Catalog
- CloudTrail
- IAM
- EC2 Image Builder

View all services

Welcome to AWS

- Getting started with AWS
- Training and certification
- What's new with AWS?

AWS Health

Open issues: 0 (Past 7 days)

Scheduled changes: 0 (Upcoming and past 7 days)

Cost and usage

Current month costs: \$55.04

Forecasted month end costs: \$103.38 (Up 5% over last month)

Top costs for current month

Category	Cost
EC2 - Other	\$40.90
Tax	\$9.17
Amazon Simple Storage Service	\$3.20

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Select EC2

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New EC2 Experience Tell us what you think

EC2 Dashboard

- EC2 Global View
- Events
- Tags
- Limits

Instances

- Instances (New)
- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances (New)
- Dedicated Hosts
- Scheduled Instances
- Capacity Reservations

Images

- AMIs (New)
- AMI Catalog

Elastic Block Store

- Volumes
- Snapshots
- Unified Manager

Resources

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

Instances (running)	1	Dedicated Hosts	0	Elastic IPs	0
Instances	1	Key pairs	12	Load balancers	0
Placement groups	0	Security groups	2	Snapshots	863
Volumes	1				

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Launch instance Migrate a server

Note: Your instances will launch in the US East (N. Virginia) Region

Service health

AWS Health Dashboard

Region: US East (N. Virginia)

Status: This service is operating normally

Zones

Zone name	Zone ID
us-east-1a	use1-az6

Account attributes

- Supported platforms
- VPC
- Default VPC: vpc-07e0f5e58d8ba1a40
- Settings
- EBS encryption
- Zones
- EC2 Serial Console
- Default credit specification
- Console experiments

Explore AWS

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Select Instances (running)



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Instances (1/1) **Info**

Find instance by attribute or tag (case-sensitive)

Instance state: **running**

Name Instance ID Instance state Actions

cloudimg-windows-server **i-0ea3766b9c1bc59ec** **Running**

Change security groups Modify IAM role

Instance: i-0ea3766b9c1bc59ec (cloudimg-windows-server)

Details Security Networking Storage Status checks Monitoring Tags

Instance summary **Info**

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0ea3766b9c1bc59ec (cloudimg-windows-server)	54.89.238.46 open address	172.31.88.88
IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-54-89-238-46.compute-1.amazonaws.com open address
Hostname type	Private IP DNS name (IPv4 only)	Elastic IP addresses
IP name: ip-172-31-88-88.ec2.internal	ip-172-31-88-88.ec2.internal	-
Answer private resource DNS name	Instance type	AWS Compute Optimizer finding
-	t3.medium	Opt-in to AWS Compute Optimizer for recommendations.
Auto-assigned IP address	VPC ID	Learn more
54.89.238.46 [Public IP]	vpc-07e0f3e58d8ba1a40	

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Search for the newly launched EC2 Instance

Select the Radio button above for the instance

Click Actions > Security > Get Windows password

Get Windows password **Info**

Retrieve and decrypt the initial Windows administrator password for this instance.

To decrypt the password, you will need your key pair for this instance.

Key pair associated with this instance
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Browse to your key pair:

cloudimg.pem
1.678KB

Or copy and paste the contents of the key pair below:

```
-----BEGIN RSA PRIVATE KEY-----
MIIEpAIBAAKCAQEAtjjeMjR02xxzYjijZAv8ChadptU7zsCgB5zpqk5GM8sPAE
ZuTw1SmbruxHS1S3Hy9GGM6X5w2g1kgM+dmntsP9nWaUH68qthmc69EFWkzb
KOen3PA+Tx+d16KUVtEnAwidWkdvil0SQQx74CWjZgwFpSPVqBBrY1ut15BAr
553jywegppxIP7rdpfp5UMQ9kho/RadPyy6Kf+gjPLR0/tlWM5wJlPeolrVdk
LXV9piE692vTMSFrYown7QQMBDXQML4440ip5C6nDwlsB9X+WK2ZEItF5Eo+
/jd77wpa9aGsj3VTS3o4qX/QM3yT4h8ldb6zQIDQAABAoIBAGOicruKjlv4WHC
d5SdNDj/WKbpllC5D5tRF4KKMYLXR8M2Jrzs713o/OKIK27xtfJtGg/NoctJZNwB
-----END RSA PRIVATE KEY-----
```

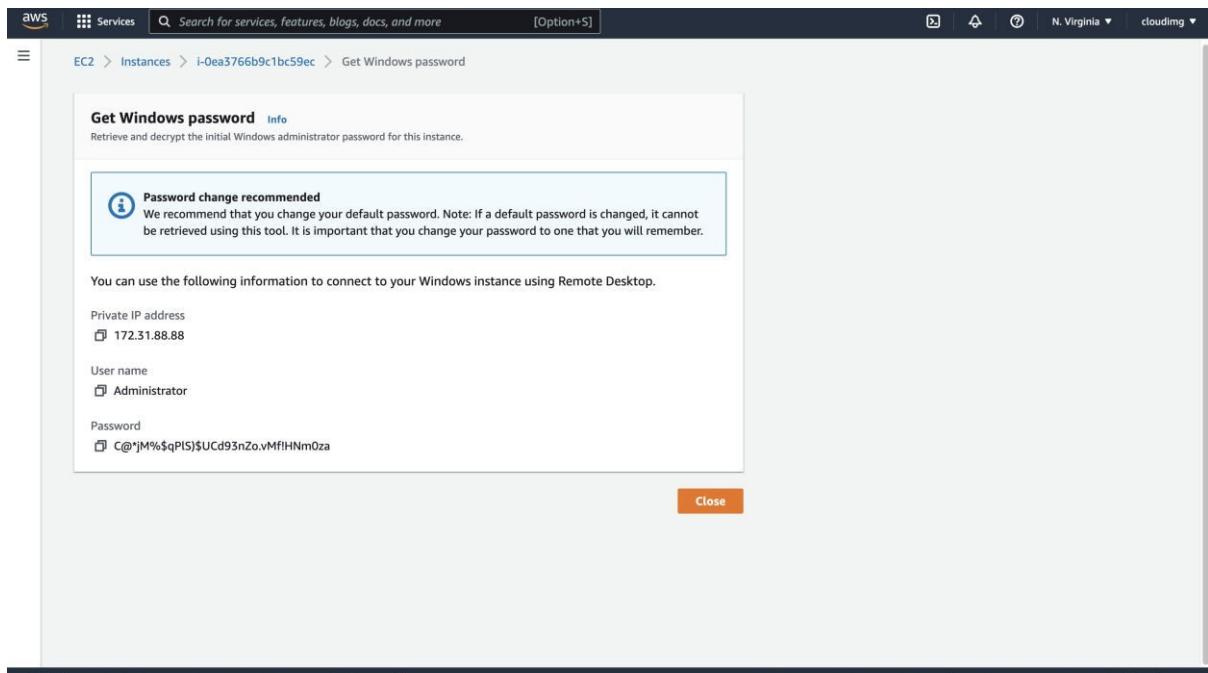
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Click Browse and upload the key pair selected during the launch of the EC2 instance from the AWS Marketplace. Click Decrypt password



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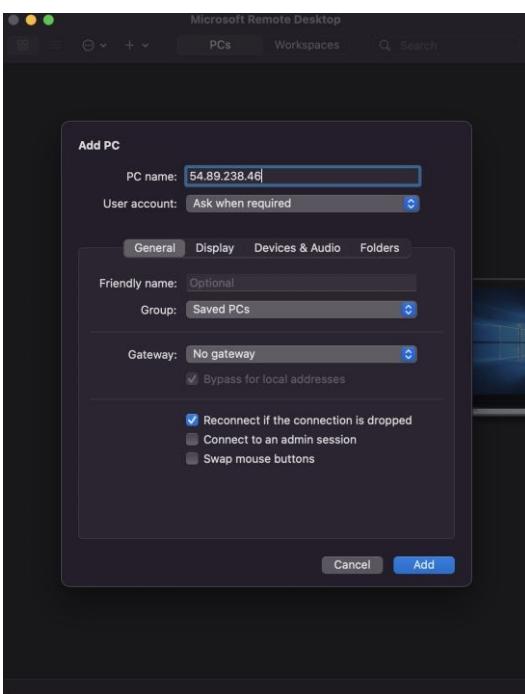


The screenshot shows the AWS EC2 'Get Windows password' page. At the top, there is a navigation bar with the AWS logo, a search bar, and account information. Below the navigation, the path 'EC2 > Instances > i-0ea3766b9c1bc59ec > Get Windows password' is displayed. The main content area is titled 'Get Windows password' with an 'Info' link. It contains a message: 'Password change recommended' with a note: 'We recommend that you change your default password. Note: If a default password is changed, it cannot be retrieved using this tool. It is important that you change your password to one that you will remember.' Below this, a section titled 'You can use the following information to connect to your Windows instance using Remote Desktop.' lists the following details:

- Private IP address: 172.31.88.88
- User name: Administrator
- Password: C@*jM%\$qPl\$UCd93nZo.vMfHNm0za

A 'Close' button is located at the bottom right of the modal window.

The Administrator password will now appear in plain text like the above example. Take a copy of this value and open a Remote Desktop Client Application.



Create a new connection and enter the IP address of the newly launched EC2 Instance. For this example, the public IP address will be used as the server has been launched in a public subnet. Use the private IP address where applicable for your environment if you have a private connection into the AWS VPC of which hosts the EC2 Instance. These Private connections often take the form of a VPN connection.

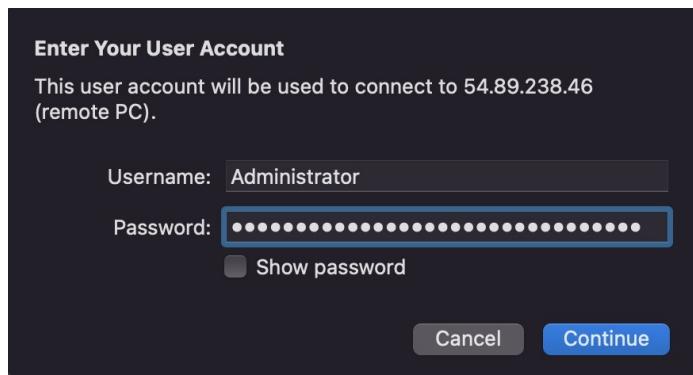


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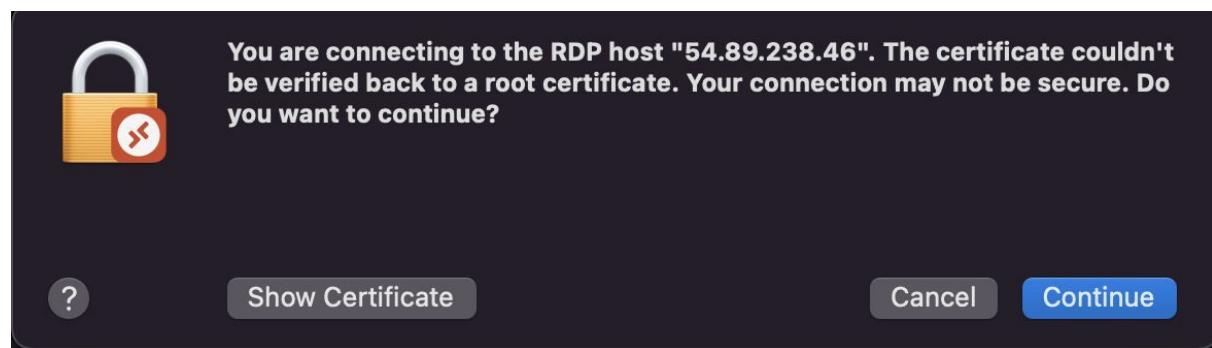
Click Add

Once added, double click the connection profile created in the above step, you will be prompted for a username & password. Enter the below values.



Username: Administrator Password: DECRYPTED VALUE RETRIEVED FROM THE ABOVE STEPS

Click Continue

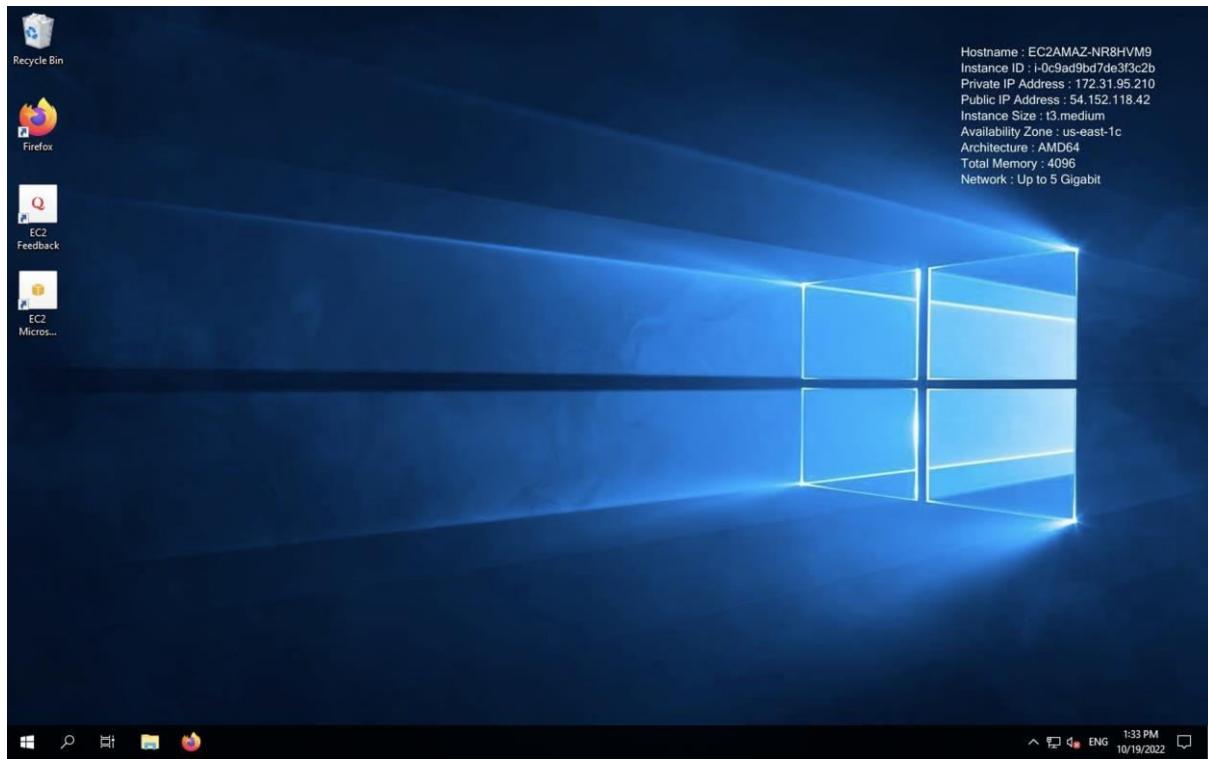


Click Continue if a pop up like the above appears.



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You have now successfully connected to the Windows Server hosted in AWS.

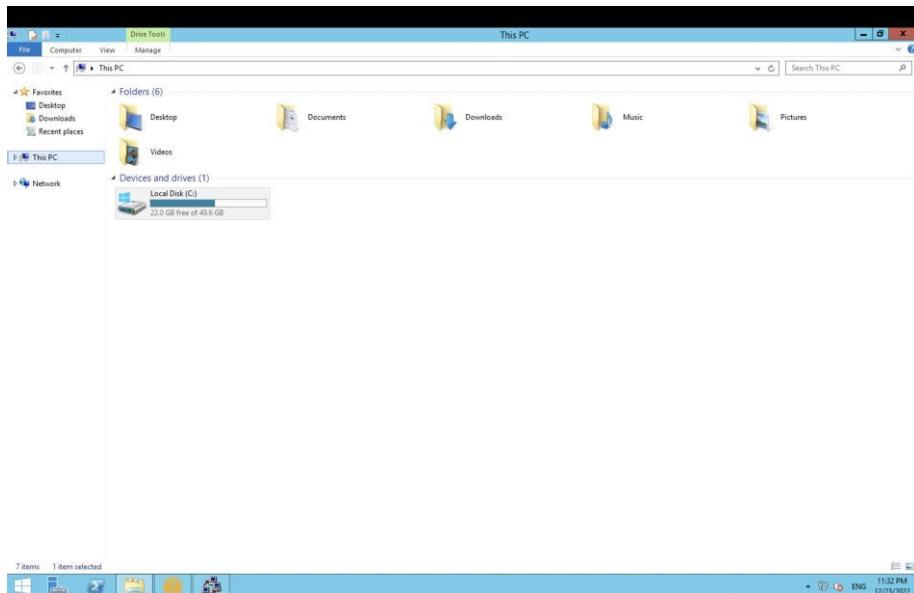
5.) Filesystem Configuration

Please see below for a screenshot of the server disk configuration and specific mount point mappings for software locations.



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6.) Server Components

Please see below for a list of installed server components.

Component	Version	Install Location
AWS CLI	2.8.2	
AWS CloudWatch Agent	1.3.5	
AWS Systems Manager Agent	3.1.1	
PostgreSQL	16	C:\Program Files\PostgreSQL\16
pgAdmin	4	C:\Program Files\PostgreSQL\15\pgAdmin 4

7.) Using System Components

Instructions can be found below for using each component of the server build mentioned in section 7 of this user guide document.

AWS CLI

Using AWS CLI – as any OS user via the CMD programme.



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```
Administrator: Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>aws --version
aws-cli/2.0.6.2 Python/3.9.11 Windows/2012ServerR2 exec-env/EC2 exe/AMD64 prompt/0
FF

C:\Users\Administrator>_
```

```
aws --
help
```

AWS CloudWatch Agent

The CloudWatch Agent wizard can be launched via the below command for the configuration required pertaining to your specific use case. Run the below command from a CMD prompt.



```
Administrator: Command Prompt - amazon-cloudwatch-agent-config-wizard.e...
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>cd "C:\Program Files\Amazon\AmazonCloudWatchAgent"
C:\Program Files\Amazon\AmazonCloudWatchAgent>amazon-cloudwatch-agent-config-wiz
ard.exe
=====
= Welcome to the Amazon CloudWatch Agent Configuration Manager =
= CloudWatch Agent allows you to collect metrics and logs from =
= your host and send them to CloudWatch. Additional CloudWatch =
= charges may apply.
=====
On which OS are you planning to use the agent?
1. linux
2. windows
3. darwin
default choice: [2]:
```

```
cd "C:\Program Files\Amazon\AmazonCloudWatchAgent" amazon-cloudwatch-agent-
config-wizard.exe
```

Once configured you will be able to start the AWS CloudWatch Agent via PowerShell by issuing the below command. Exchange the values below in bold to point to that of your configuration file.

```
& "C:\Program Files\Amazon\AmazonCloudWatchAgent\amazon-cloudwatch-agent-ctl.ps1" -a
fetchconfig -m ec2 -s -c file:configuration-file-path
```

AWS Systems Manager



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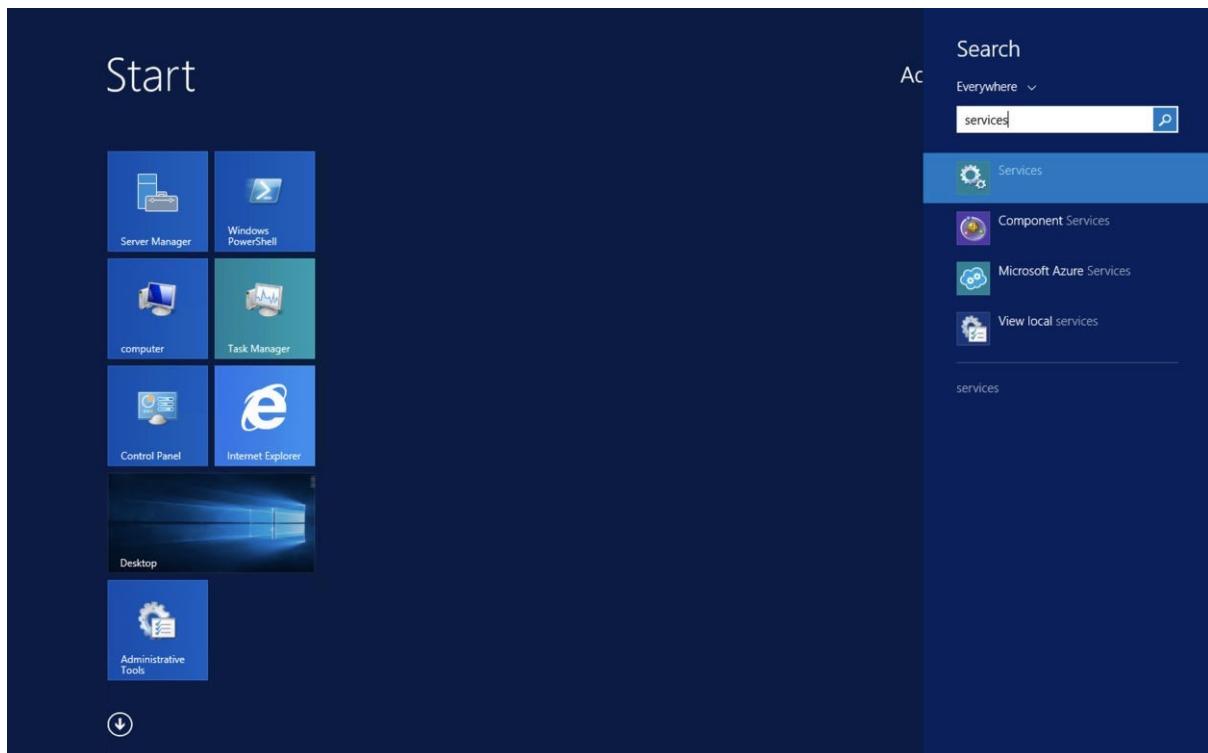
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The AWS Systems Manager agent has been configured to start on boot.

PostgreSQL

The postgres database service has been configured to start on boot via a Windows Service. You can stop, start or check the status of the postgres service by following the below steps.

From the Windows Start Menu > Search for Services

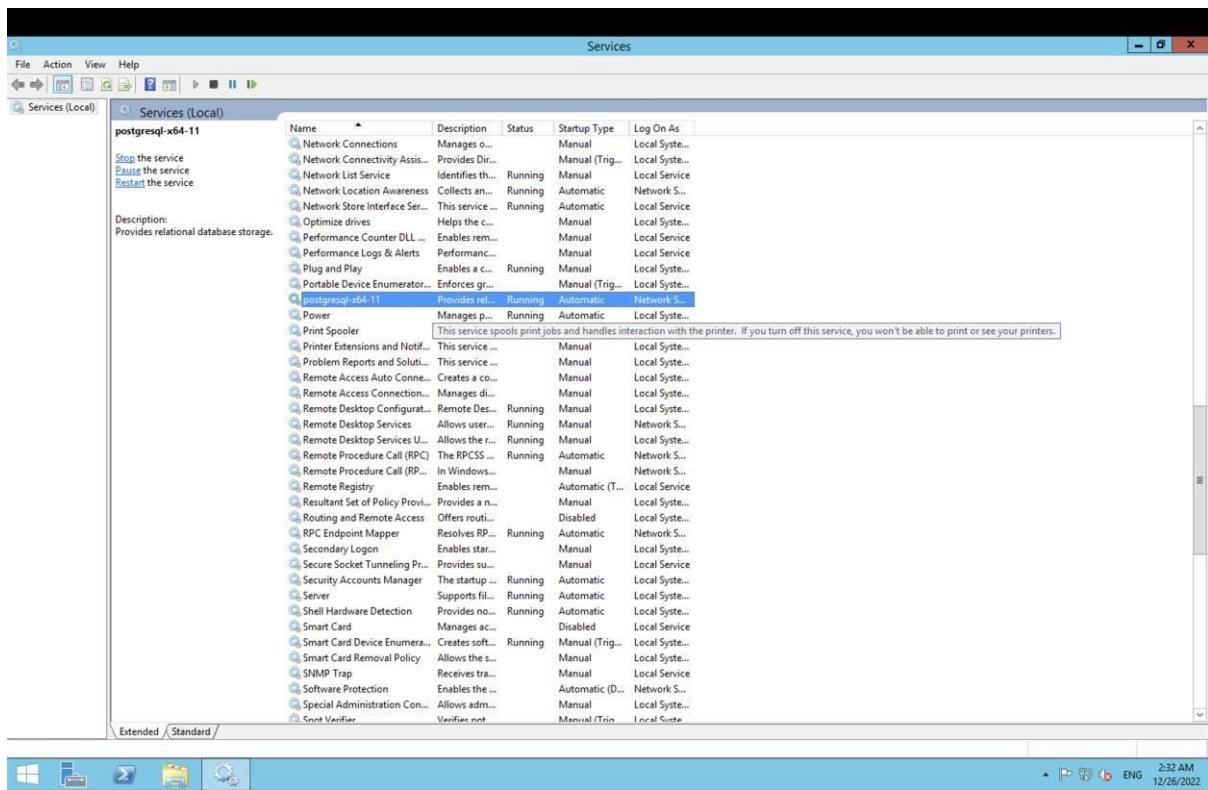


Click Services



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Search for the Service – postgresql-x64* > Double Click

From the above menu you can reconfigure the service to not start on boot, stop, start and or restart the service manually.

pgAdmin4

A connection to the postgresql database running on the instance can be made from the pgAdmin4 programme preinstalled. You can access the program via the Desktop .exe shown below as the Administrator user.

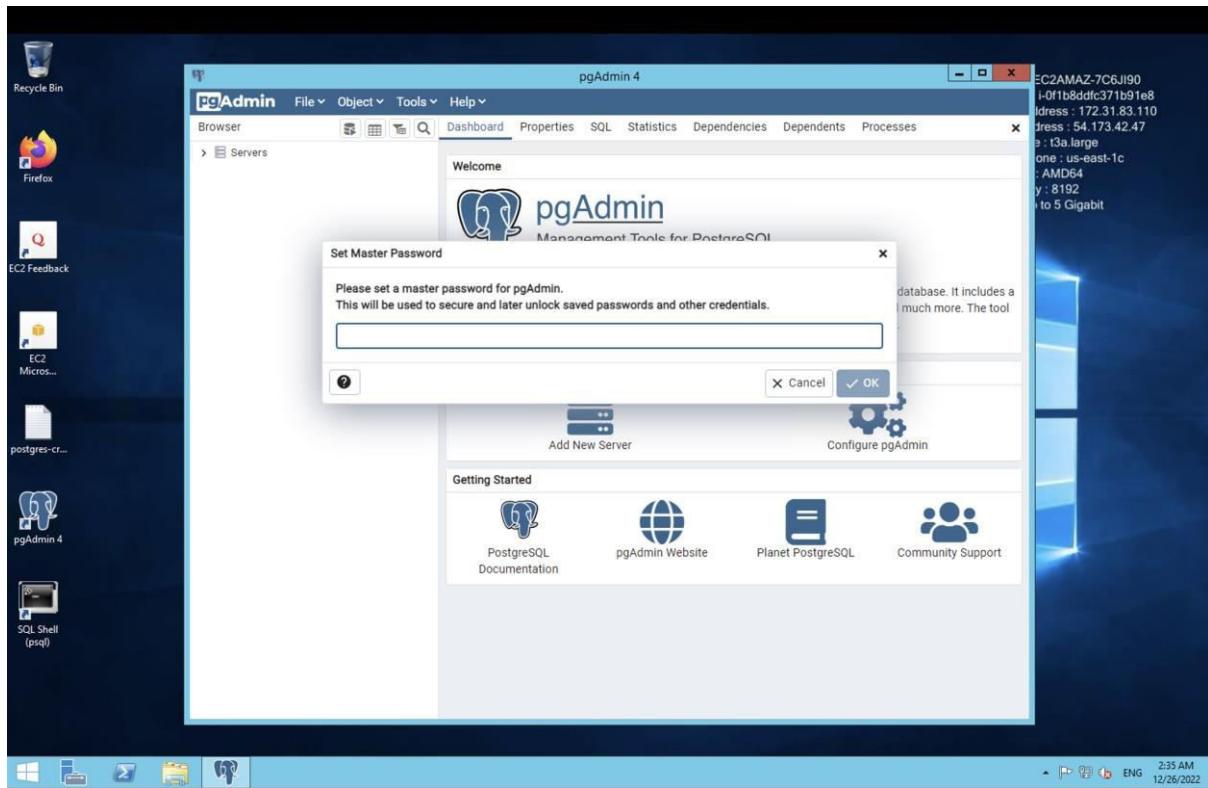


On first boot of the programme, you will be prompted to set a new master password to be used for securing & unlocking later defined passwords.

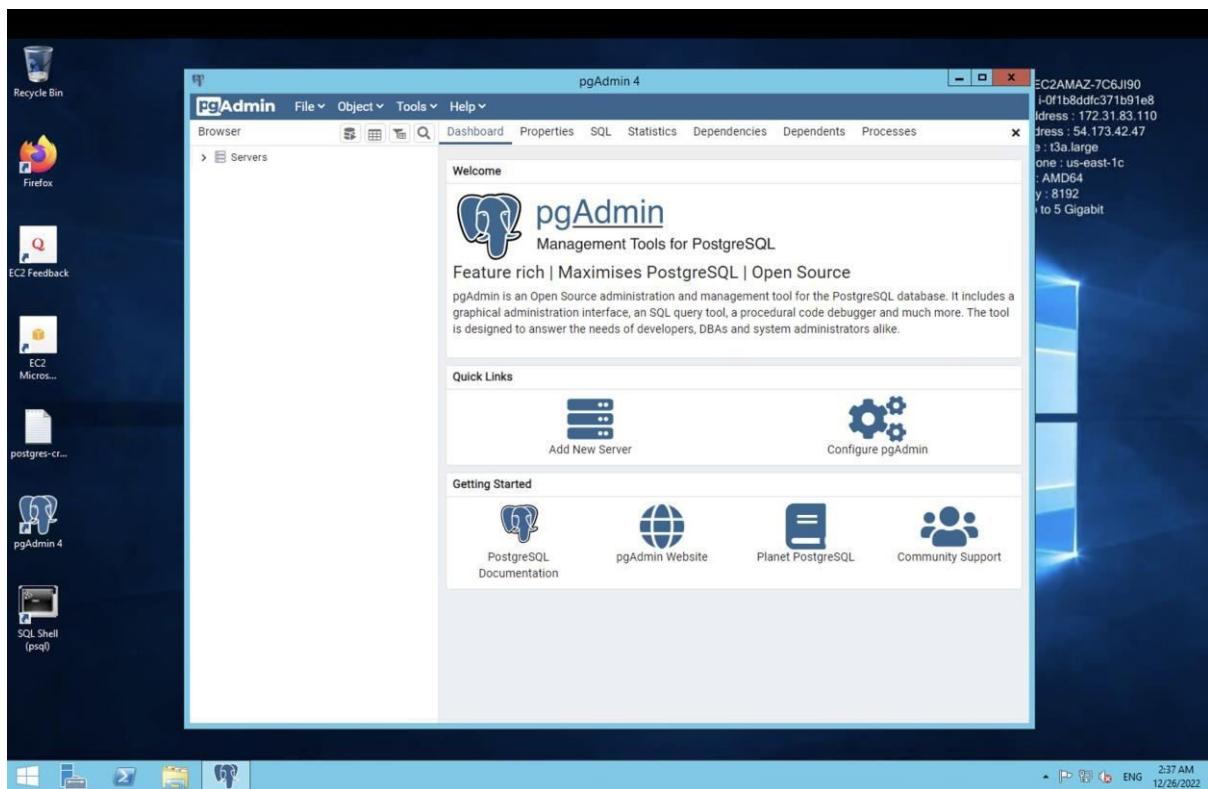


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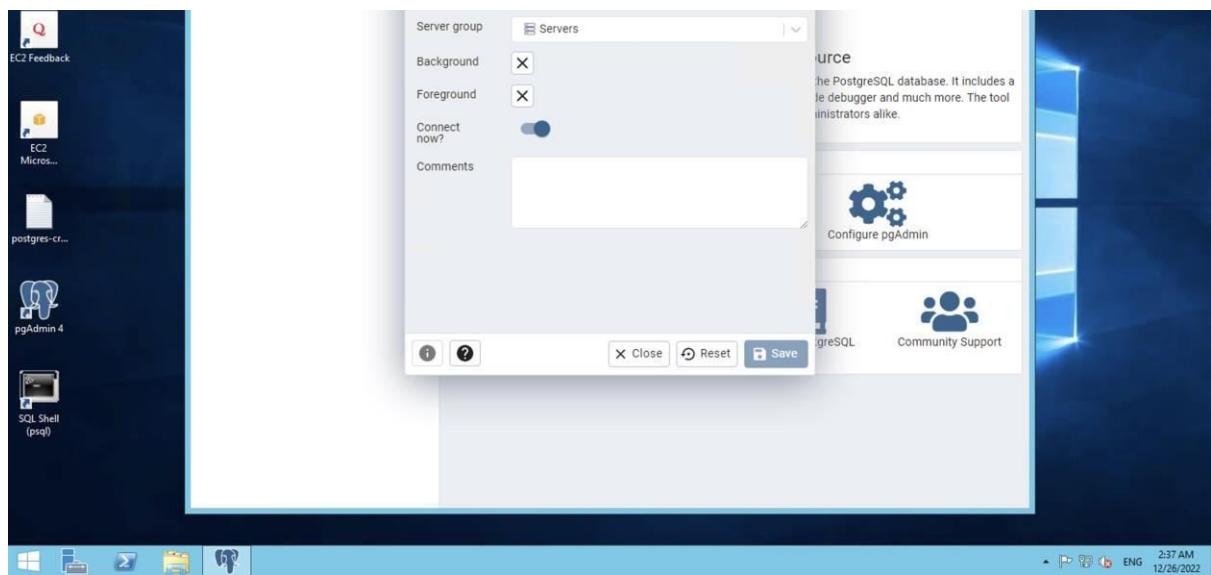
Enter your preferred password value for the above.



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Select 'Add New Server'



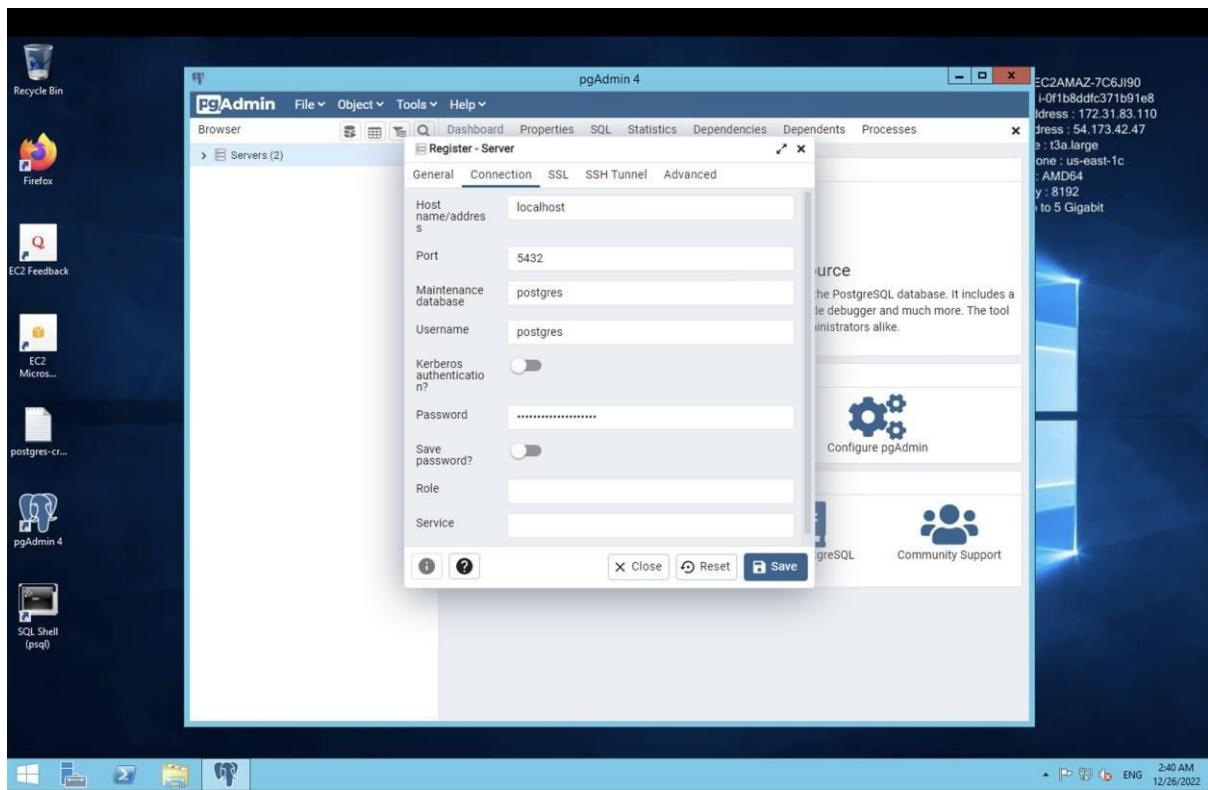
Enter a NAME for the new connection, in this example we will use EXAMPLE but any value could be used.

Click Connection



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Host: localhost

Port: 5432

Username: postgres

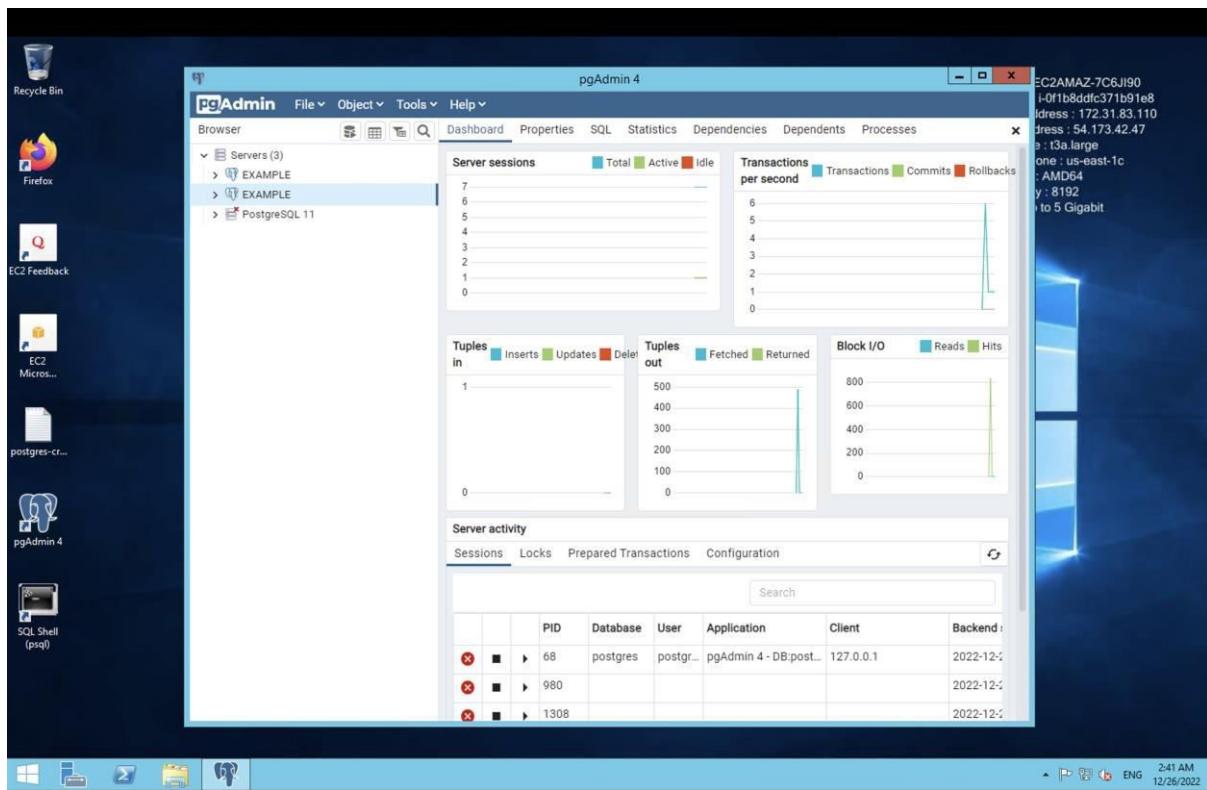
Password: REFER TO THE RANDOMLY GENERATED PASSWORD VALUE FOUND IN THE postgres-credentials.txt FILE FOUND ON THE DESKTOP OF THE ADMINISTRATOR USER.

Click Save



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You have now successfully connected to the locally running postgres database instance.

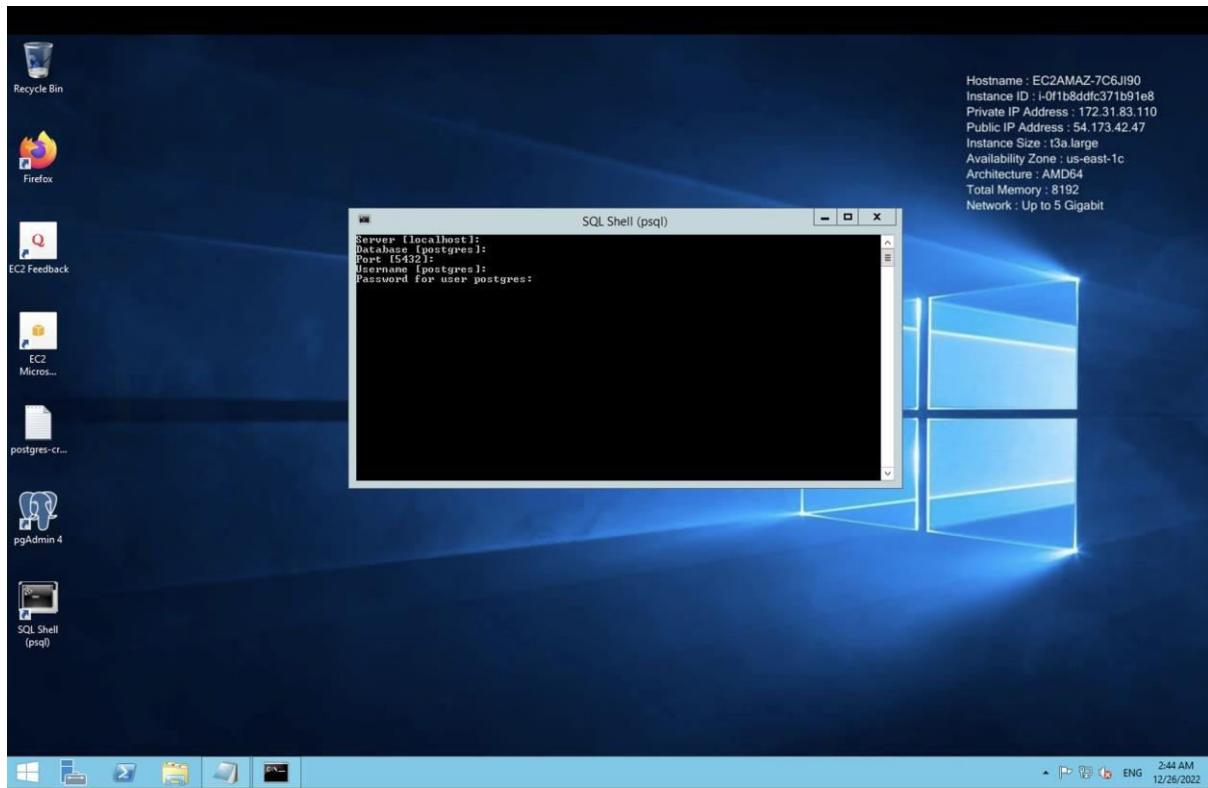
SQL Shell (psql)

SQL Shell has also been preinstalled on the system. You can access this programme via the below icon located on the Desktop of the Administrator user.



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Upon starting the programme, you will be prompted for the below inputs.

Server: localhost

Database: postgres

Username: postgres

Password: REFER TO THE RANDOMLY GENERATED PASSWORD VALUE FOUND IN THE postgres-credentials.txt FILE FOUND ON THE DESKTOP OF THE ADMINISTRATOR USER.

Once successfully connected, you will now be able to perform postgres database administration tasks from the command line interface.



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