

MERN Stack

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Created by:	cloudimg

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1.) Overview

This document is provided as a user guide for the MERN Stack 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.

Protocol	Type	Port	Description
RDP	TCP	3389	Remote Desktop Access
TCP	TCP	27017	MongoDB Database Listener Port
Custom TCP	TCP	3000	Express sample application front end
Custom TCP	TCP	8088	ReactJS sample application front end

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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Console Home Info

Reset to default layout + Add widgets

Recently visited Info

- EC2
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- Systems Manager
- Elastic Kubernetes Service
- AWS Budgets
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- AWS Application Migration Service
- Service Catalog
- CloudTrail
- IAM
- EC2 Image Builder

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Welcome to AWS

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AWS Health Info

Open issues: 0 (Past 7 days)

Scheduled changes: 0 (Upcoming and past 7 days)

Cost and usage Info

Current month costs: **\$55.04**

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

Top costs for current month

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

Feedback Looking for language selection? Find it in the new Unified Settings [\[?\]](#) © 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Select EC2

Resources EC2 Global view

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

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-07e0f3e58d8ba1a40](#)

Settings: EBS encryption, Zones, EC2 Serial Console, Default credit specification, Console experiments

Explore AWS

Get Up to 40% Better Price Performance

T4g instances deliver the best price performance for burstable general purpose workloads in Amazon EC2. [Learn more](#)

Save up to 90% on EC2 with Spot Instances

Optimize price-performance by combining EC2 purchase options in a single EC2 ASG. [Learn more](#)

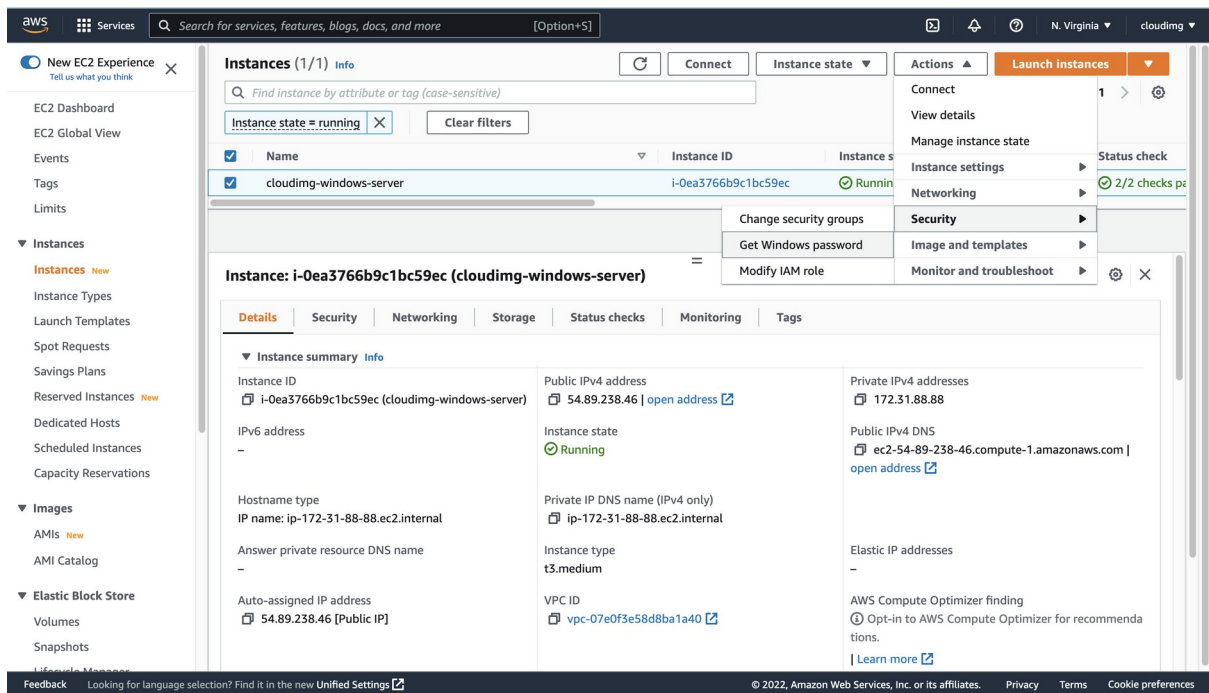
<https://console.aws.amazon.com/console/home?region=us-east-1> Unified Settings [\[?\]](#) © 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Select Instances (running)

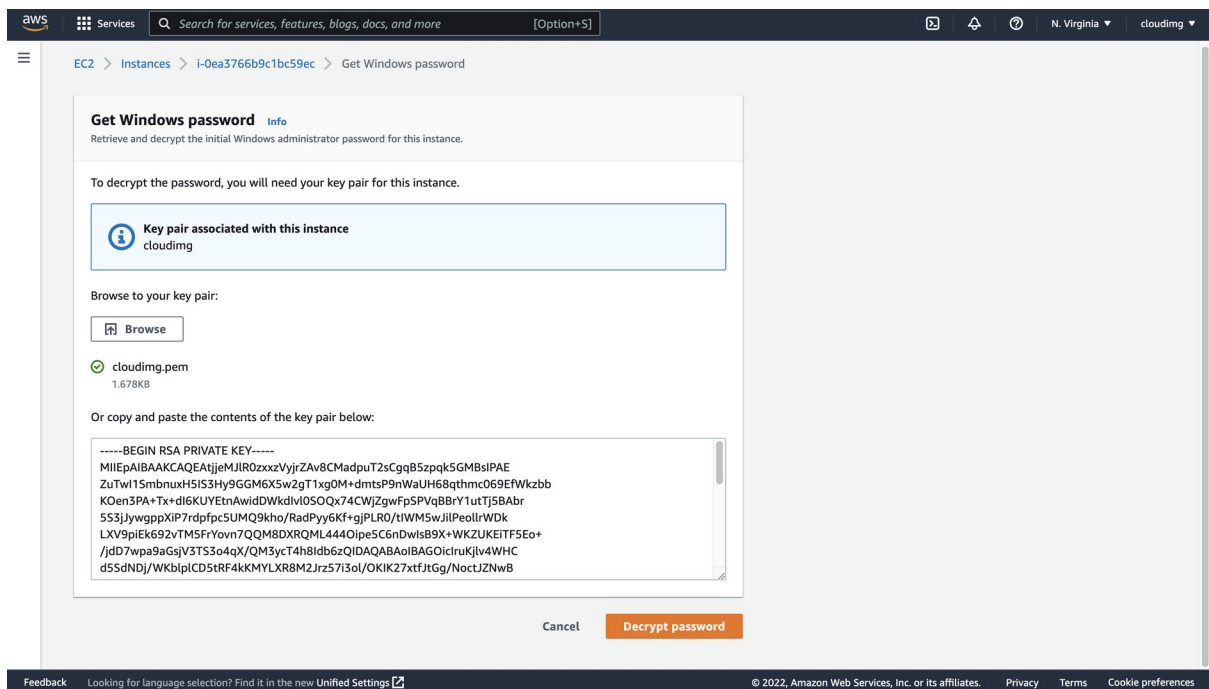


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Search for the newly launched EC2 Instance
 Select the Radio button above for the instance
 Click Actions > Security > Get Windows password

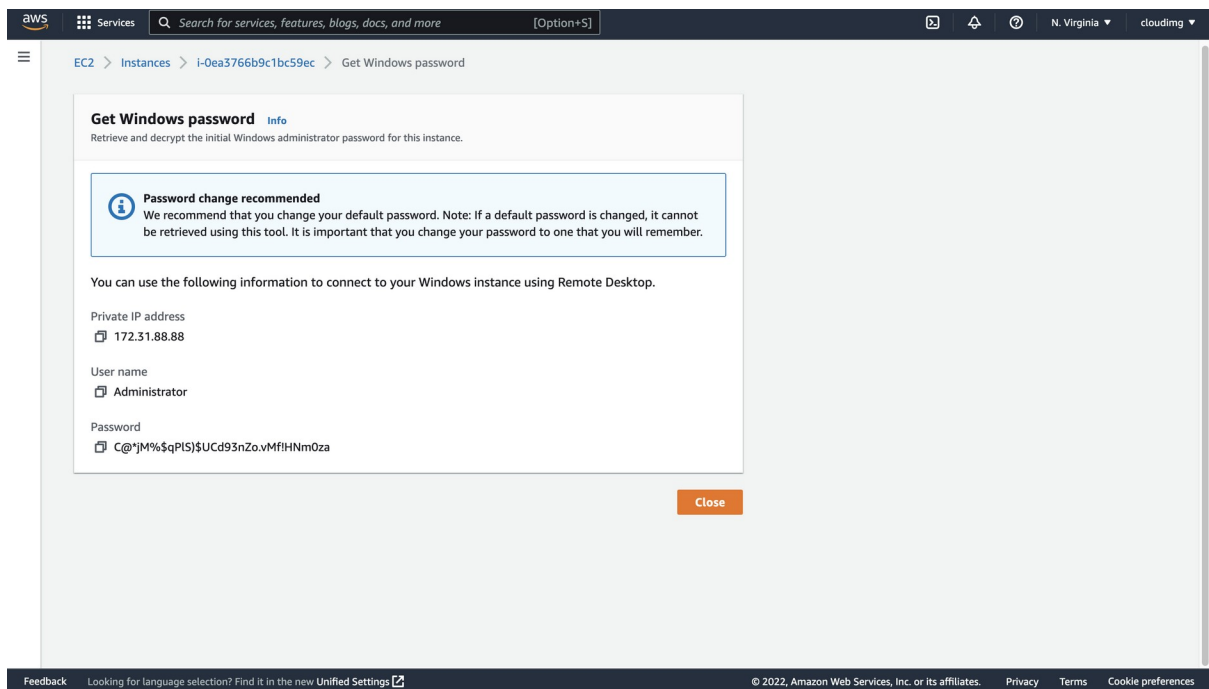


Click Browse and upload the key pair selected during the launch of the EC2 instance from the AWS Marketplace.
 Click Decrypt password

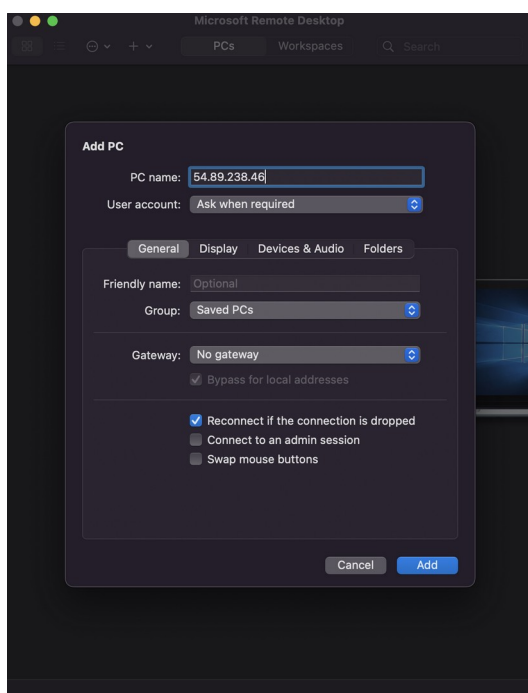


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The Administrator password will now appear in plain text like the above example. Take a copy of this value and open a Remote Desktop Client Application.



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.

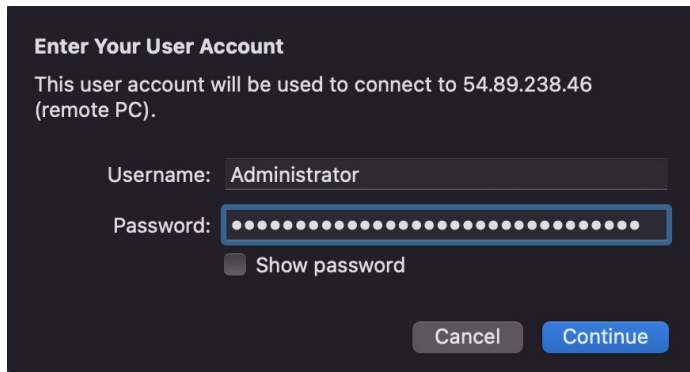


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Click Add

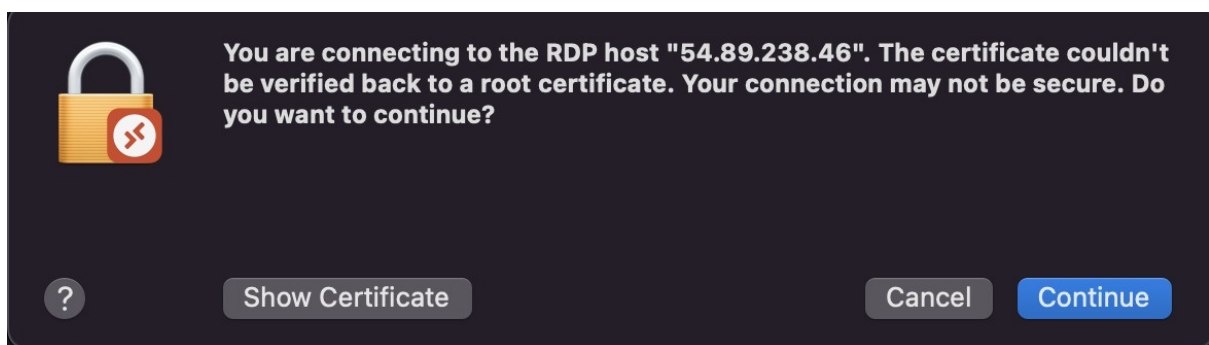
Once added, double click the connection profile created in the above step, you will be prompted for a username & password. Enter the below values.



Username: Administrator

Password: DECRYPTED VALUE RETRIEVED FROM THE ABOVE STEPS

Click Continue

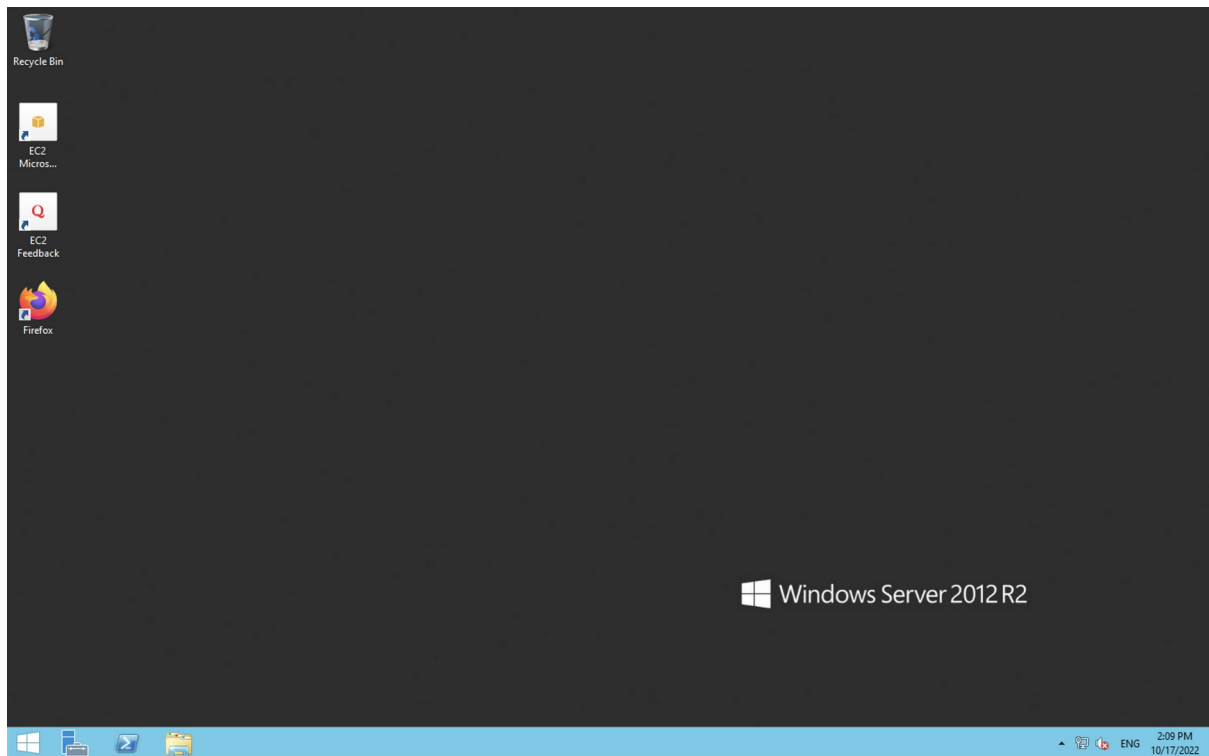


Click Continue if a pop up like the above appears.



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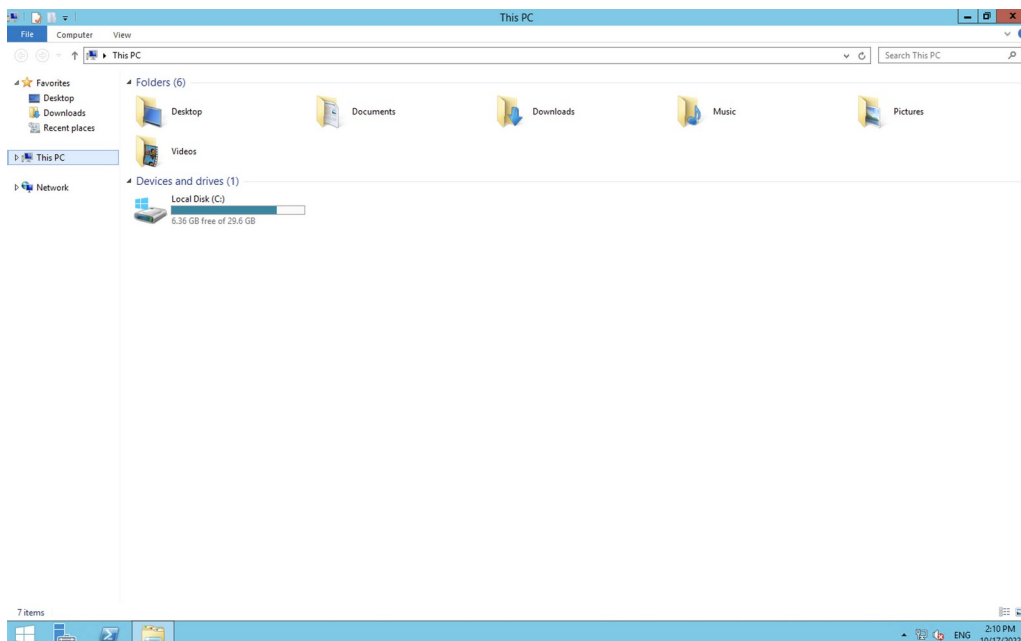
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You have now successfully connected to the Windows Server hosted in AWS.

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
MongoDB Community
MongoDB Compass
NodeJS
Express
ReactJS
Git for Windows
Chocolatey
Python
Visual Studio Build Tools

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.

MongoDB

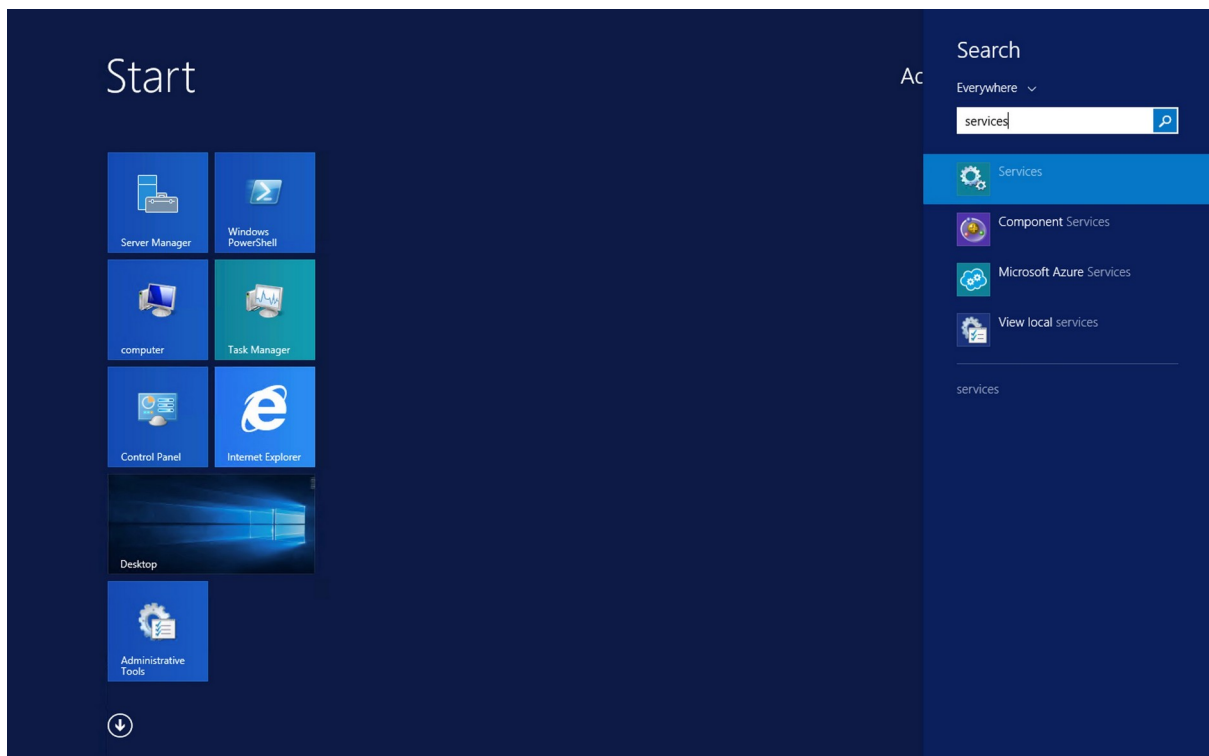
The monogdb database service has been configured to start on boot via a Windows Service. You can stop, start or check the status of the mongodb service by following the below steps.

From the Windows Start Menu > Search for Services

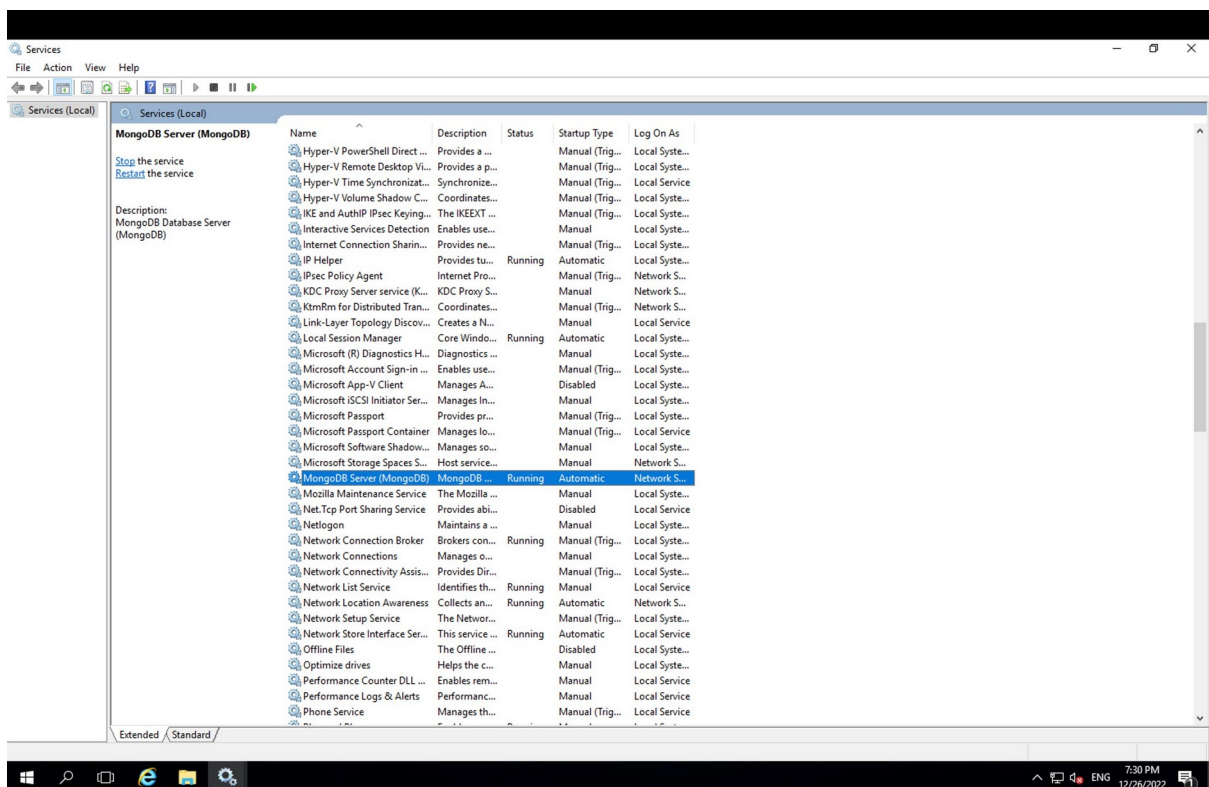


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Click Services



Search for the Service – MongoDB Server* > Double Click



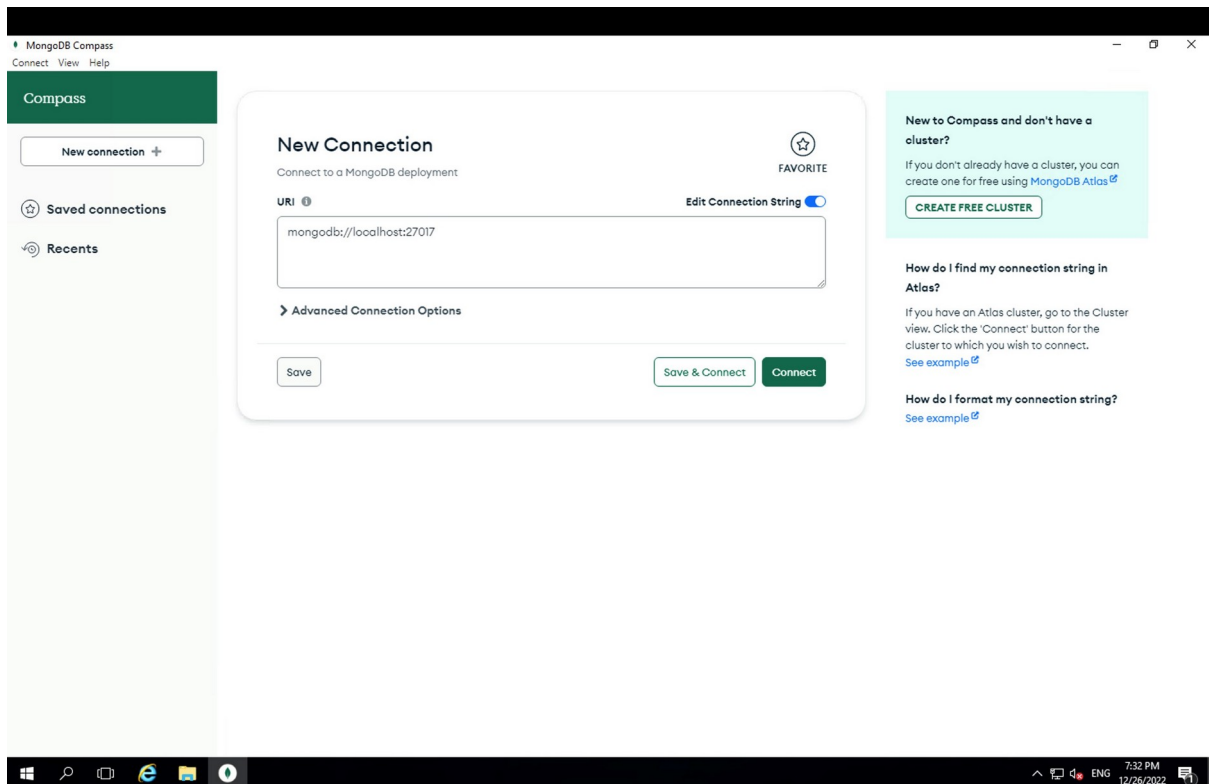
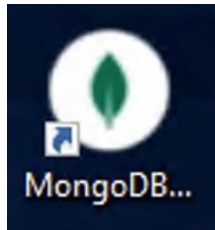
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From the above menu you can reconfigure the service to not start on boot, stop, start and or restart the service manually.

MongoDB Compass

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

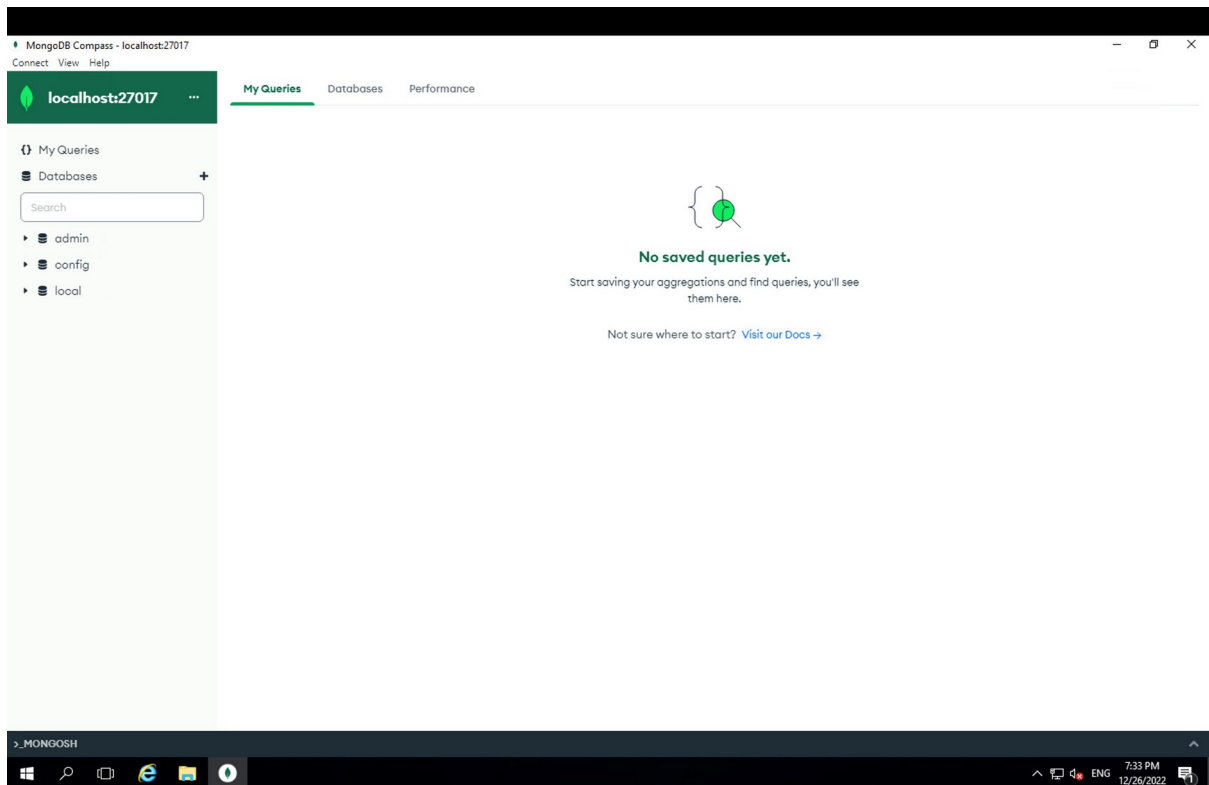


Select 'Connect' to establish a local connection to the running MongoDB Database instance.



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You have now successfully connected to the MongoDB Database Instance.

NodeJS

Node.js has been preinstalled. You can check the version of the installed Node.js package from the CMD programme via the below command.

```
node --version
```

You may also interact with Node.js via the Administrator user Desktop shortcut shown below.

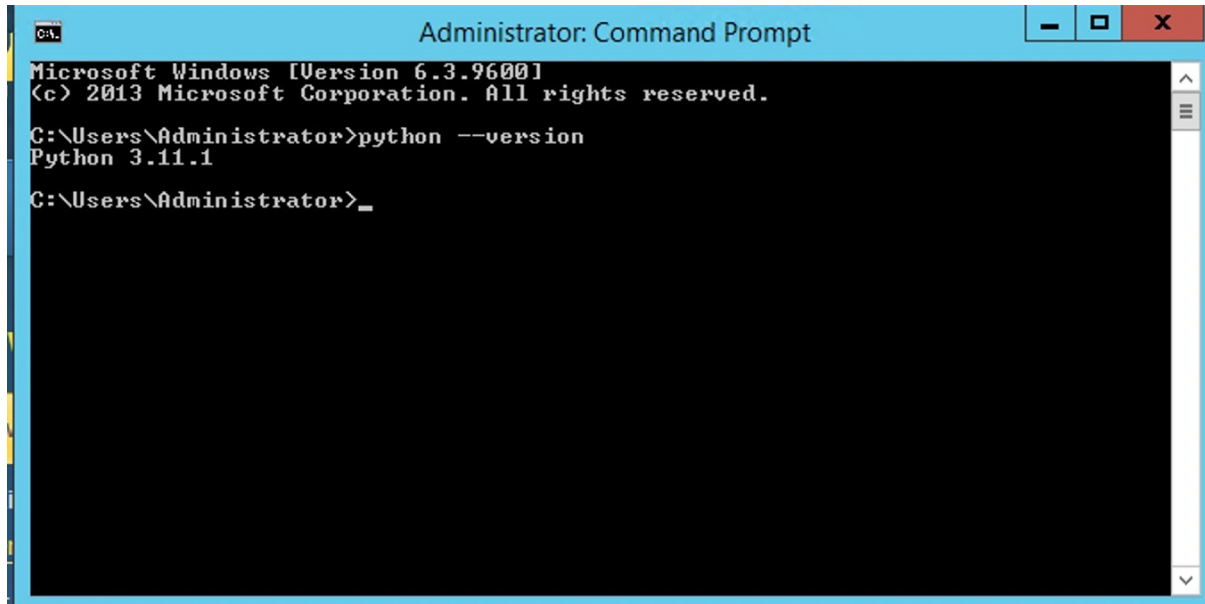


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Python

Python 3 has been preinstalled. You can check the version of Python via the CMD program via the below command.



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

C:\Users\Administrator>python --version
Python 3.11.1

C:\Users\Administrator>_
```

```
python --version
```

You may also interact with Python via the Administrator user Desktop shortcut shown below.



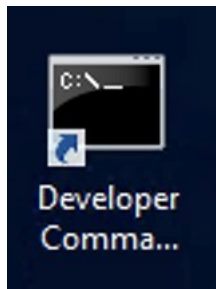
Visual Studio Build Tools



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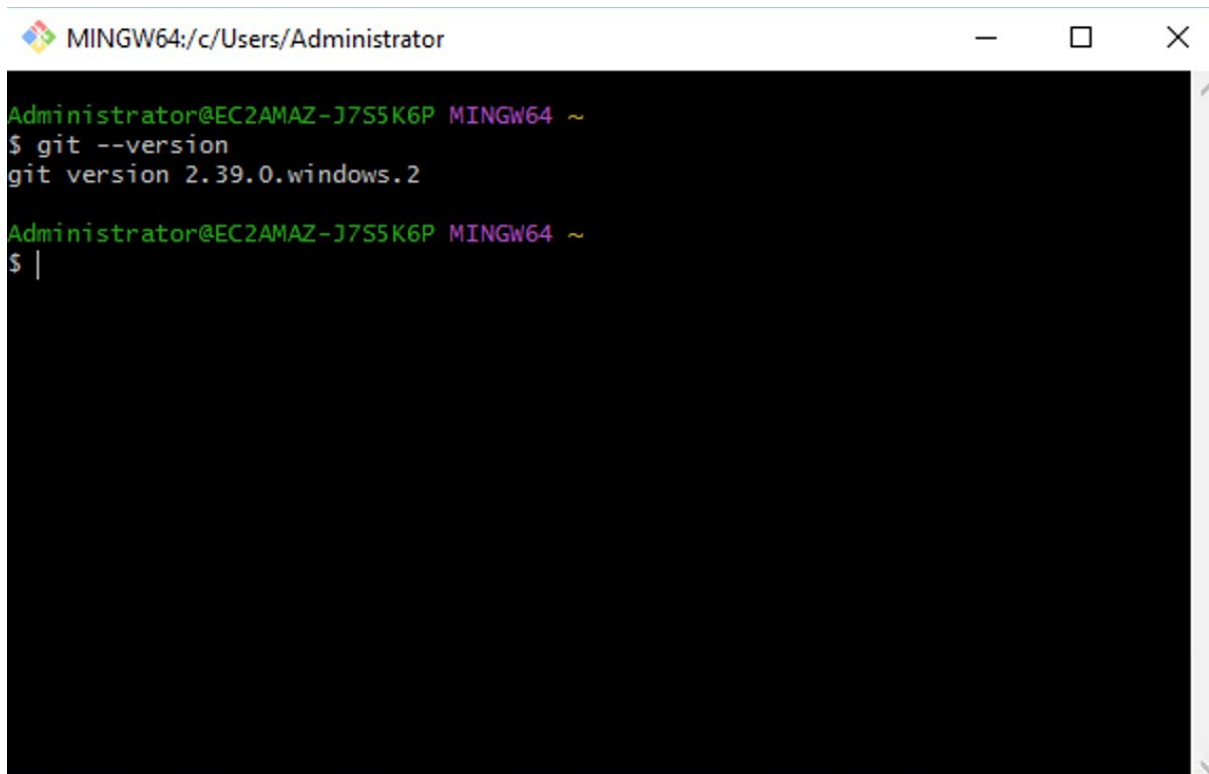
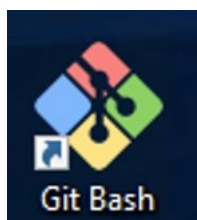
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Visual Studio Build Tools have been preinstalled. An exe for the program can be found on the Desktop of the Administrator user. Example of the icon can be found below.



GIT for Windows

GIT for Windows has been preinstalled. You can check the version of GIT via the GIT Bash programme shortcut located on the Desktop of the Administrator user.

The image is a screenshot of a Git Bash terminal window. The title bar at the top reads 'MINGW64:/c/Users/Administrator'. The terminal content shows the following commands and output:

```
Administrator@EC2AMAZ-J7S5K6P MINGW64 ~  
$ git --version  
git version 2.39.0.windows.2  
  
Administrator@EC2AMAZ-J7S5K6P MINGW64 ~  
$ |
```



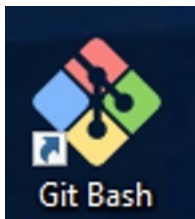
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```
git --version
```

ReactJS

ReactJS has been preinstalled via npm. You can verify the version installed by running the below command from the GIT Bash programme shortcut located on the Desktop of the Administrator user.



```
npm list -g
```

```
MINGW64:/c/Users/Administrator
Administrator@EC2AMAZ-70I555H MINGW64 ~
$ npm list -g

C:\Users\Administrator\AppData\Roaming\npm
├── create-react-app@5.0.1
└── express-generator@4.16.1

Administrator@EC2AMAZ-70I555H MINGW64 ~
$

Administrator@EC2AMAZ-70I555H MINGW64 ~
$
```

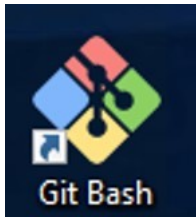
ExpressJS

ExpressJS has been preinstalled via npm. You can verify the version installed by running the below command from the GIT Bash programme shortcut located on the Desktop of the Administrator user.



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```
npm list -g
```

```
MINGW64:/c:/Users/Administrator
Administrator@EC2AMAZ-7OI555H MINGW64 ~
$ npm list -g

C:\Users\Administrator\AppData\Roaming\npm
├─ create-react-app@5.0.1
└─ express-generator@4.16.1

Administrator@EC2AMAZ-7OI555H MINGW64 ~
$

Administrator@EC2AMAZ-7OI555H MINGW64 ~
$
```

Sample Projects (Express & ReactJS)

A sample project has been created for both Express & ReactJS under the directories listed below to demonstrate the successful installation of both packages on the system.

C:\reactjs-example-project

C:\express-example-project

Please follow the below steps for both components for the starting of either example projects.

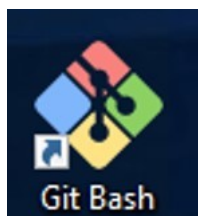


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Starting example Express Project

Via the GIT Bash programme shortcut located on the Desktop of the Administrator user.

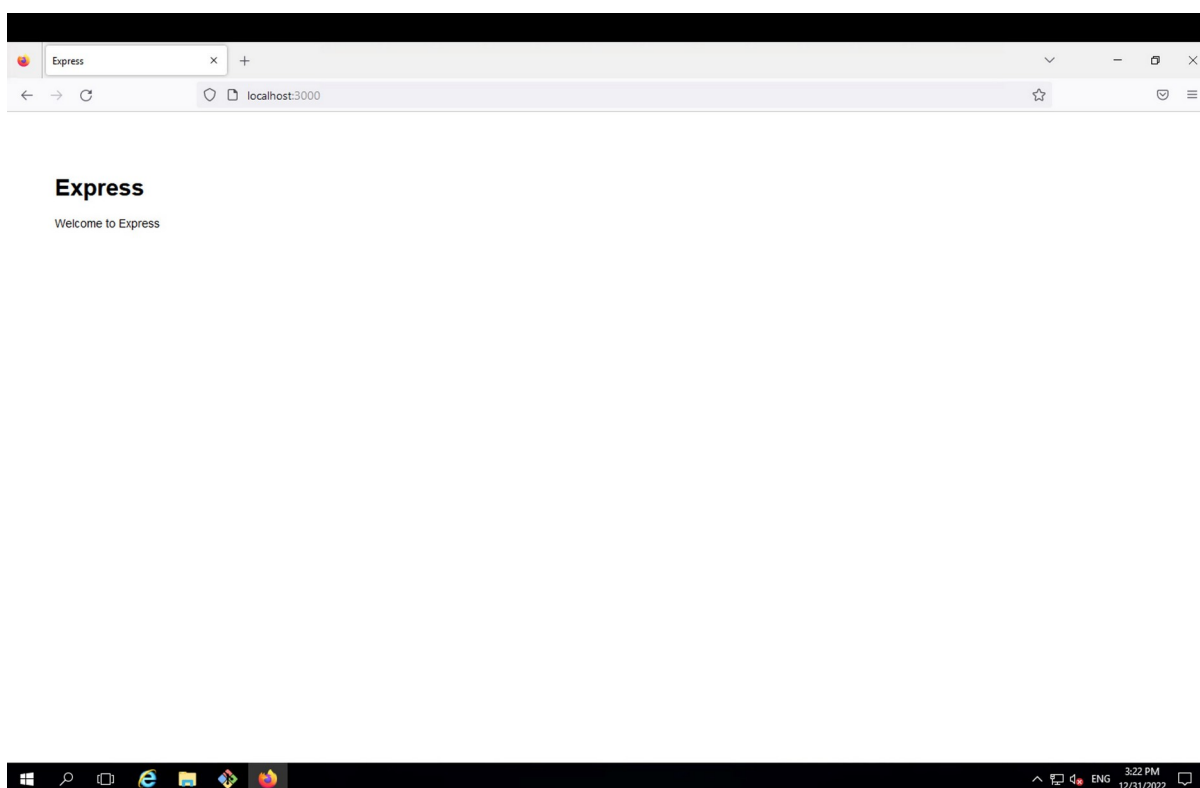


Run the below command to start the example project.

```
cd /c/express-example-project && DEBUG=app:* npm start
```

You will now be able to access the example Express application from the instance Web Browser (Firefox or IE) via the below URL.

<http://localhost:3000>

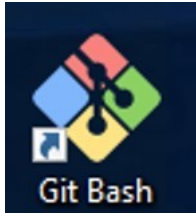


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Starting example ReactJS Project

Via the GIT Bash programme shortcut located on the Desktop of the Administrator user.



Run the below command to start the example project.

```
cd /c/reactjs-example-project && npm start react-native start -port  
8088
```

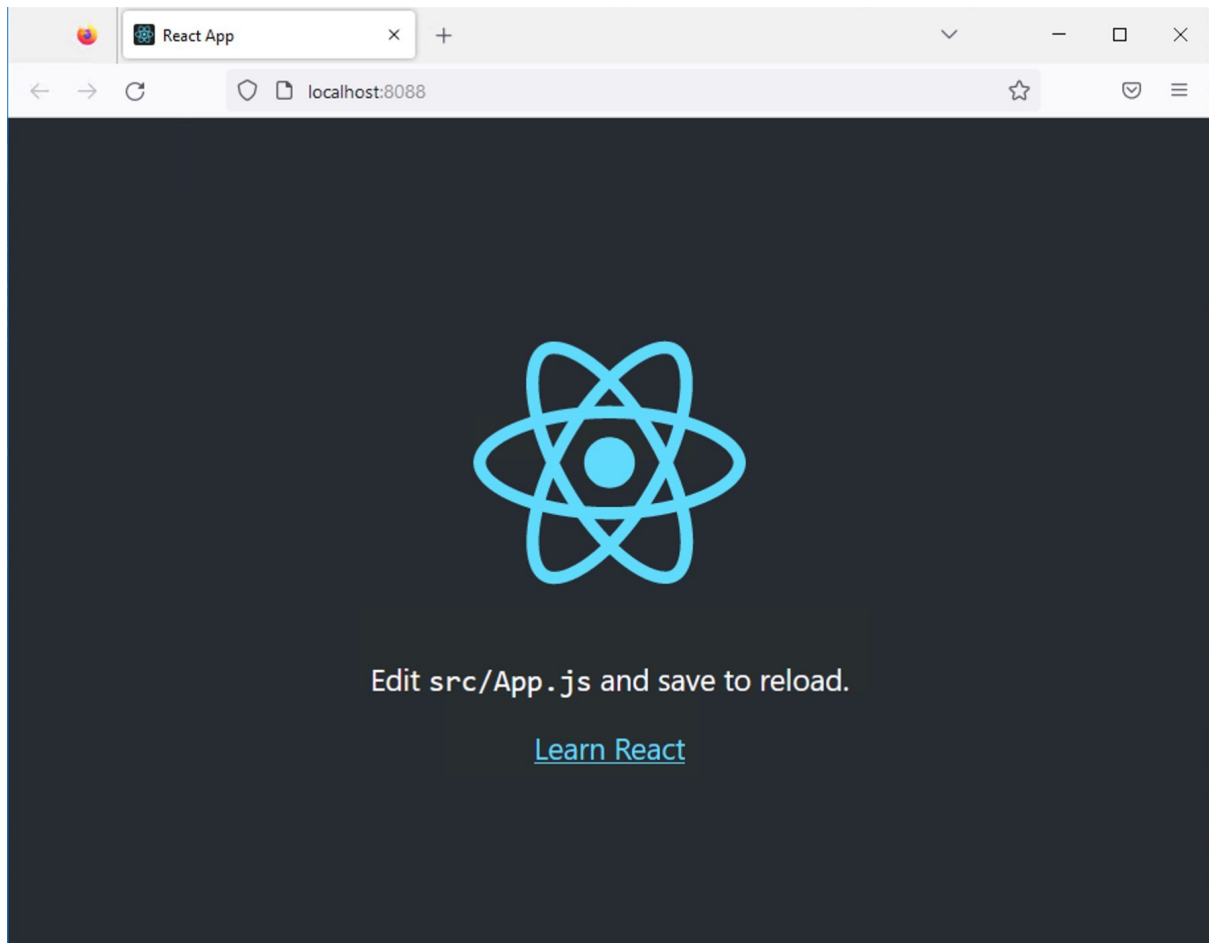
You will now be able to access the example ReactJS application from the instance Web Browser (Firefox or IE) via the below URL.

<http://localhost:8088>



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