

AZURE CLOUD

Assignment 23 – Create and Set Up Your Azure Free Account

Azure Portal Home

The screenshot shows the Microsoft Azure Portal Home page. At the top, there's a navigation bar with links for 'Home', 'Quickstart Center - Microsoft Azure', and a search bar. The main content area is titled 'Quickstart Center' under 'Microsoft Azure'. It features a 'Get Started' section with a 'Starter checklist' that includes 'Navigating the Azure Portal', 'Starting your project', 'Pricing and management', and a 'Complete' button. To the left, there's a sidebar with 'Overview' sections for 'Starter checklist', 'Create', 'Learn and optimize', and 'Help'. Below the checklist, there's a 'Create' section with 'Popular services' and 'Popular solutions' sections. A large watermark reading 'Assignment 23' is overlaid across the bottom left of the page.

Subscription Overview

Azure subscription 1 - Microsoft | Microsoft account | Subscriptions

portal.azure.com/#@adcola13gmail.onmicrosoft.com/resource/subscriptions/4aaefc3f-e730-4757-944c-df72e636bfe6/overview?subscriptionId=4aaefc3f-e730-4757-944c-df72e636bfe6

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

adcola13@gmail.com DEFAULT DIRECTORY

Azure subscription 1

Subscription

Check for outages affecting this Subscription. Show me recent resource deployments in this Subscription. What security features does this Subscription provide?

Overview

Essentials

- Subscription ID : 4aaefc3f-e730-4757-944c-df72e636bfe6
- Directory : Default Directory (adcola13@gmail.onmicrosoft.com)
- Status : Active
- Parent management group : 6e357e34-1d9d-4755-aea0-13cd3ef3ddda
- Subscription name : Azure_subscription_1
- My role : Owner
- Plan : Azure Plan
- Secure Score : Not available

Spending rate and forecast
No data to display
Current cost 0.00 Forecast 0.00

Costs by resource
No active resource emitted usage yet.

Top free services by usage

Service	Usage
Azure Cosmos DB, Free Data Stored	0 / 25 (1 GB/Month)
Azure Cosmos DB, Free 100 RU/s	0 / 2976 (1/Hour)
Storage, Files, LRS Data Stored	0 / 100 (1 GB/Month)
Storage, Files, LRS Data Stored	0 / 100 (1 GB/Month)
Storage, Premium Page Blob, P6 Disks	0 / 2.2 (1/Month)
Storage, Standard HDD Managed Disks, LRS Snapshots	0 / 1 (1 GB/Month)
Storage, Standard HDD Managed Disks, Disk Operations	0 / 200 (10K)

Used within limit Limit exceeded Unused services 58

Resource groups

Resources

Cost Management

Billing

Settings

Help

Top products by number of resources
You don't have any resources in this subscription

Azure Defender coverage
Azure Defender is not enabled for this subscription
Upgrade coverage

Add or remove favorites by pressing Ctrl+Shift+F

Assignment 24 – Deploy a React Application on an Azure Virtual Machine

1. Create a Resource Group

ReactAppRG1 | Microsoft Azure

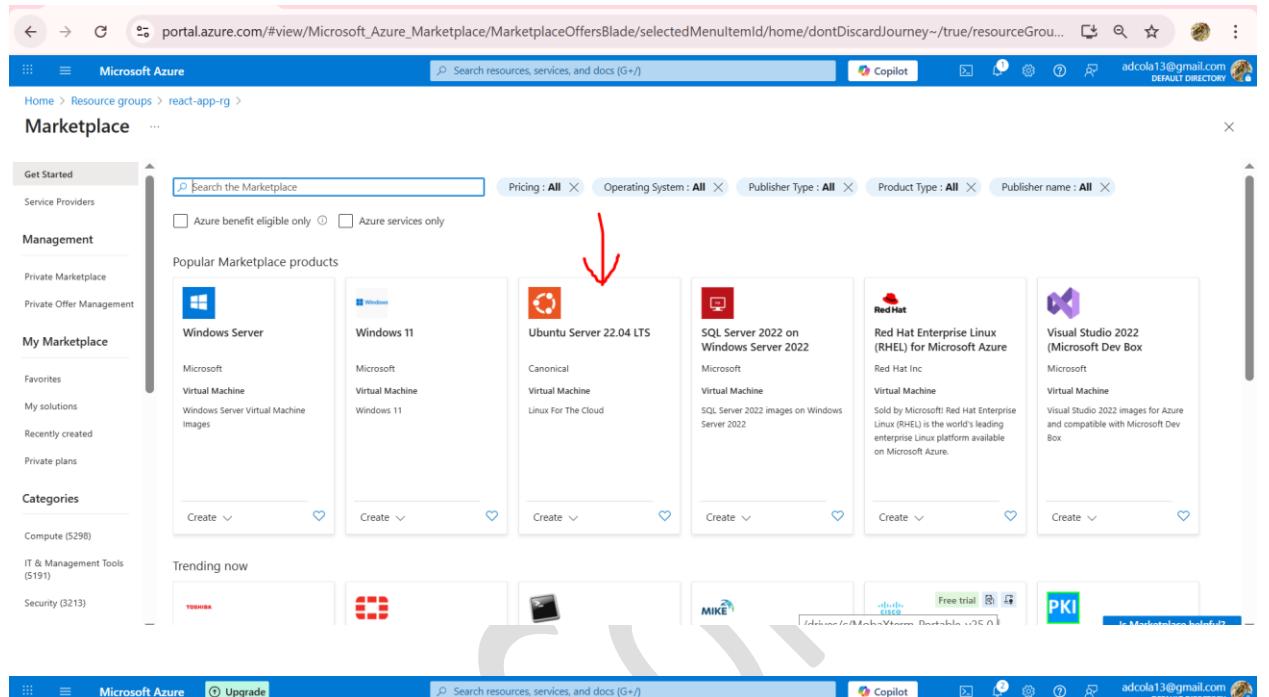
Help me generate Terraform for this resource group configuration. How to manage these changes more efficiently with deployment tools? Generate Bicep code to duplicate this resource group.

Overview

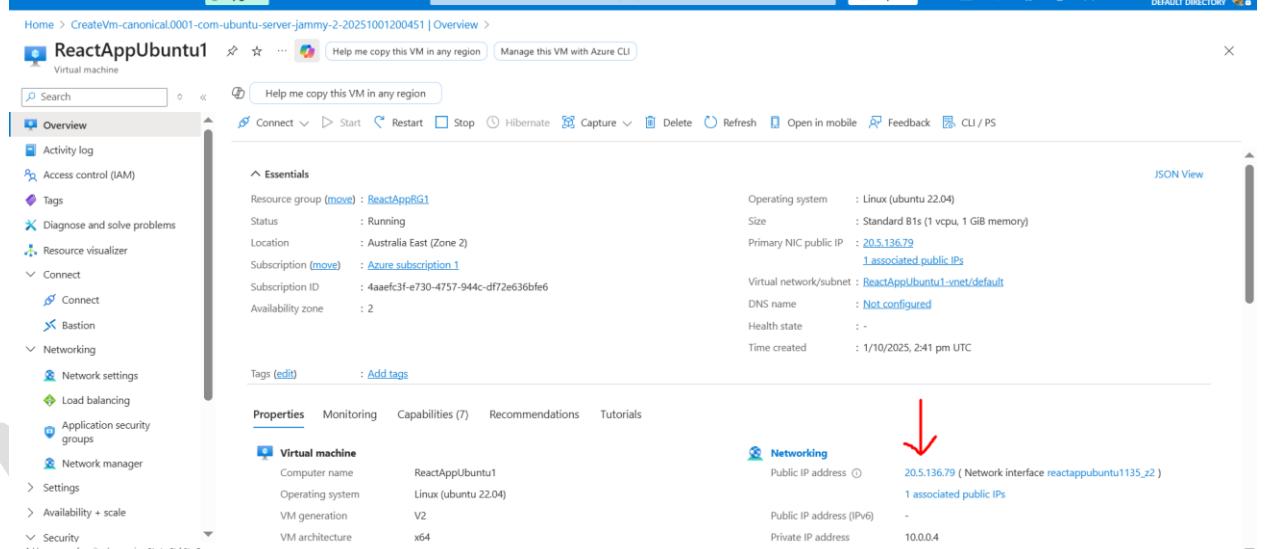
Resources

Name	Type	Location
ReactAppUbuntu1	Virtual machine	Australia East
ReactAppUbuntu1-ip	Public IP address	Australia East
ReactAppUbuntu1-nsg	Network security group	Australia East
ReactAppUbuntu1-vnet	Virtual network	Australia East
reactappubuntu1135_z2	Network Interface	Australia East
ReactAppUbuntu1_key	SSH key	Australia East
ReactAppUbuntu1_OsDisk_1_58a3cba856c54ac9a206fea7fc3a0cdc	Disk	Australia East

2. Provision an Ubuntu on Azure VM



The screenshot shows the Microsoft Azure Marketplace interface. In the center, there is a grid of "Popular Marketplace products". The third item from the left in the first row is "Ubuntu Server 22.04 LTS", which is highlighted with a red arrow. The product details show it's provided by Canonical, is a Virtual Machine, and runs on Linux For The Cloud. It has a "Create" button.



The screenshot shows the Azure VM Overview page for a VM named "ReactAppUbuntu1". The left sidebar includes options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Connect, Network settings, Load balancing, Application security groups, Network manager, Settings, Availability + scale, and Security. The main pane displays the VM's configuration under the "Essentials" tab. The "Networking" section is highlighted with a red arrow. It shows the Public IP address (20.5.136.79) and Private IP address (10.0.0.4). The Networking tab also lists 1 associated public IP.

3. Connect to the VM

```
2025-10-01 20:04:47 /drives/c/MobaXterm Portable v25.0 ssh -i ReactAppUbuntu1_key.pem azureuser@20.5.136.79
Warning: Permanently added '20.5.136.79' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1031-azure x86_64)

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

System information as of Wed Oct 1 14:43:57 UTC 2025

System load: 0.56      Processes:          109
Usage of /: 5.4% of 28.89GB  Users logged in:     0
Memory usage: 30%           IPv4 address for eth0: 10.0.0.4
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

/usr/bin/xauth: file /home/azureuser/.Xauthority does not exist
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```

1. Install Node.js & npm

1. sudo apt update
2. sudo apt install -y nodejs npm
3. node -v && npm -v

```
azureuser@ReactApp:~$ node -v
v12.22.9
azureuser@ReactApp:~$ npm -v
8.5.1
azureuser@ReactApp:~$
```

2. Install and Start Nginx

1. sudo apt install -y nginx
2. sudo systemctl start nginx
3. sudo systemctl enable nginx

```
azureuser@ReactAppUbuntu1:~$ sudo systemctl start nginx
azureuser@ReactAppUbuntu1:~$ sudo systemctl enable nginx
Synchronizing state of nginx.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable nginx
```

3. Clone the React App Repo

1. git clone https://github.com/pravinmishraaws/my-react-app.git
2. cd my-react-app

```
azureuser@ReactAppUbuntu1:~$ git clone https://github.com/pravinmishraaws/my-react-app.git
Cloning into 'my-react-app'...
remote: Enumerating objects: 69, done.
remote: Counting objects: 100% (69/69), done.
remote: Compressing objects: 100% (66/66), done.
remote: Total 69 (delta 28), reused 26 (delta 2), pack-reused 0 (from 0)
Receiving objects: 100% (69/69), 188.95 KiB | 3.37 MiB/s, done.
Resolving deltas: 100% (28/28), done.
azureuser@ReactAppUbuntu1:~$ cd my-react-app/
```

4. Open the App.js file

- a. Navigate to your React app's source folder:

1. cd my-react-app/src

- b. Open the App.js file in a text editor:

1. nano App.js

(or use vi/vim if you prefer)

- c. **Modify the content**

```
<h2>Deployed by: <strong>Your Full Name</strong></h2>
```

```
<p>Date: <strong>DD/MM/YYYY</strong></p>
```

Update your details like: Your Full Name & Date

Build Application for Production:

1. Install Dependencies & Build App

1. npm install
2. npm run build

```
azureuser@ReactAppUbuntu1:~/my-react-app$ npm run build
> my-react-app@0.1.0 build
> react-scripts build

Creating an optimized production build...
Browserslist: browsers data (caniuse-lite) is 8 months old. Please run:
  npx update-browserslist-db@latest
  Why you should do it regularly: https://github.com/browserslist/update-db#readme
Compiled successfully.

File sizes after gzip:

  59.21 kB  build/static/js/main.e940c00a.js
  1.78 kB   build/static/js/453.ad6eb26e.chunk.js
  264 B     build/static/css/main.e6c13ad2.css

The project was built assuming it is hosted at /.
You can control this with the homepage field in your package.json.

The build folder is ready to be deployed.
You may serve it with a static server:

  npm install -g serve
  serve -s build

Find out more about deployment here:

  https://cra.link/deployment
```

2. Serve React App via Nginx

1. `sudo rm -rf /var/www/html/*`
2. `sudo cp -r build/* /var/www/html/`
3. `sudo chown -R www-data:www-data /var/www/html`
4. `sudo chmod -R 755 /var/www/html`

3. Configure Nginx

Replace the default config:

```
echo 'server {
  listen 80;
  server_name _;
  root /var/www/html;
  index index.html;
```

```
location / {
```

```
try_files $uri /index.html;
}

error_page 404 /index.html;
}' | sudo tee /etc/nginx/sites-available/default > /dev/null

sudo systemctl restart nginx
```

```
azureuser@ReactAppUbuntu1:~/my-react-app$ sudo rm -rf /var/www/html/*
azureuser@ReactAppUbuntu1:~/my-react-app$ sudo cp -r build/* /var/www/html/
azureuser@ReactAppUbuntu1:~/my-react-app$ sudo chown -R www-data:www-data /var/www/html
azureuser@ReactAppUbuntu1:~/my-react-app$ sudo chmod -R 755 /var/www/html
azureuser@ReactAppUbuntu1:~/my-react-app$ echo 'server {
    listen 80;
    server_name _;
    root /var/www/html;
    index index.html;

    location / {
        try_files $uri /index.html;
    }

    error_page 404 /index.html;
}' | sudo tee /etc/nginx/sites-available/default > /dev/null
azureuser@ReactAppUbuntu1:~/my-react-app$ sudo systemctl restart nginx
azureuser@ReactAppUbuntu1:~/my-react-app$ curl ifconfig.me
20.5.136.79azureuser@ReactAppUbuntu1:~/my-react-app$ history
```

4. Test the App

Get your public IP:

1. curl ifconfig.me

```
azureuser@ReactAppUbuntu1:~/my-react-app$ curl ifconfig.me
20.5.136.79azureuser@ReactAppUbuntu1:~/my-react-app$ history
 1 sudo apt update
 2 sudo apt upgrade
 3 sudo apt install -y nodejs npm
 4 node -v
 5 npm -v
 6 sudo apt install -y nginx
 7 sudo systemctl start nginx
 8 sudo systemctl enable nginx
 9 git clone https://github.com/pravinmishraaws/my-react-app.git
10 cd my-react-app/
11 cd src/
12 nano App.js
13 cd ..
14 npm install
15 npm run build
16 sudo rm -rf /var/www/html/*
17 sudo cp -r build/* /var/www/html/
18 sudo chown -R www-data:www-data /var/www/html
19 sudo chmod -R 755 /var/www/html
20 echo 'server {
listen 80;
server_name _;
root /var/www/html;
index index.html;

location / {
  try_files $uri /index.html;
}

error_page 404 /index.html;
}' | sudo tee /etc/nginx/sites-available/default > /dev/null
21 sudo systemctl restart nginx
22 curl ifconfig.me
23 history
azureuser@ReactAppUbuntu1:~/my-react-app$
```

Access it in your browser:

<http://<your-public-ip>>

Public URL of app: <http://20.5.136.79/>

ReactAppUbuntu1 | Overview

Resource group: ReactAppRG1
Status: Running
Location: Australia East (Zone 2)
Subscription: Azure subscription 1
Subscription ID: 4aaefc3f-e730-4757-944c-df72e636bfe6
Availability zone: 2

Operating system: Linux (ubuntu 22.04)
Size: Standard B1s (1 vcpu, 1 GiB memory)
Primary NIC public IP: 20.5.136.79
Virtual network/subnet: ReactAppUbuntu1-vnet/default
DNS name: Not configured
Health state: -
Time created: 1/10/2025, 2:41 pm UTC

Networking

Public IP address	20.5.136.79 (Network interface reactappubuntu1135_z2)
Public IP address (IPv6)	-
Private IP address	10.0.0.4

Screenshot of the browser view

React App

Not secure 20.5.136.79

Welcome to My React App

This app is running on Nginx!

Deployed by: Adrina Colaco

Date: 01/Oct/2025

P.S. This post is part of the FREE DevOps for Beginners Cohort run by **Pravin Mishra**.

You can start your DevOps journey for free from his [YouTube Playlist](#).

Connect with Pravin on [LinkedIn](#).

Assignment 25 – Design a Three-Tier Network with Load Balancer on Azure

1. Create Resource Group

The screenshot shows the Azure portal interface for a resource group named 'VnetDemoRG'. The left sidebar includes options like Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Settings, Cost Management, Monitoring, Automation, and Help. The main content area is titled 'Essentials' under 'Resources' and displays a message: 'No resources match your filters'. It includes a 'Create' button and a 'Clear filters' link.

2. Create a Virtual Network

The screenshot shows the Azure portal interface for a virtual network named 'ebDemoVnet'. The left sidebar lists options such as Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Settings (with Address space and Connected devices), and Subnets. The main content area displays a table of subnets:

Name	IPv4	IPv6	Available IPs	Delegated to	Security group	Route table
default	10.0.0.0/24	-	251	-	-	-
AzureBastionSubnet	10.0.1.0/26	-	57	-	-	-
web-subnet	10.0.2.0/24	-	250	-	-	-
app-subnet	10.0.3.0/25	-	123	-	-	-
db-subnet	10.0.4.0/26	-	59	-	-	-

3. Create a VM in the Web Subnet

Virtual machine

Properties

Virtual machine	
Computer name	web-nginx
Operating system	Linux (Ubuntu 24.04)
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.15.0.1
Information	N/A

Networking	
Public IP address	20.5.40.18 (Network interface web-nginx661_z1) 1 associated public IPs
Public IP address (IPv6)	-
Private IP address	10.0.2.4
Private IP address (IPv6)	-
Virtual network/subnet	ebDemoVnet/web-subnet DNS name: Cnfgnqo

4. Install and Configure NGINX

```
ssh -i web-nginx_key.pem azureuser@20.5.40.18
```

```
sudo apt update
```

```
sudo apt install -y nginx
```

```
sudo systemctl enable nginx
```

```
sudo systemctl start nginx
```

```
azureuser@web-nginx:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
   Active: active (running) since Wed 2025-10-01 18:05:18 UTC; 2min 14s ago
     Docs: man:nginx(8)
 Main PID: 2468 (nginx)
   Tasks: 2 (limit: 995)
  Memory: 1.7M (peak: 3.7M)
    CPU: 23ms
   CGroup: /system.slice/nginx.service
           └─2468 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"

Oct 01 18:05:18 web-nginx systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Oct 01 18:05:18 web-nginx systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
azureuser@web-nginx:~$
```

5. Create a Public Load Balancer

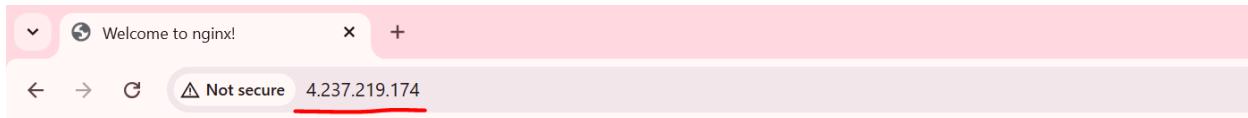
Load balancer

Essentials

Resource group (move)	: VnetDemoRG
Location (move)	: Australia East
Subscription (move)	: Azure subscription 1
Subscription ID	: 4aaefc3f-e730-4757-944c-df72e636bfe6
SKU	: Standard
Tier	: Regional

Backend pool	: web-backend-pool (1 virtual machine)
Load balancing rule	: web-http-rule (Tcp/80)
Health probe	: web-health-probe (Tcp:80)
Inbound NAT rules	: -
Outbound rules	: -
Frontend IP address	: 4.237.219.174 (LoadBalancer)

6. Test the Architecture



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Assignment 26 – Host a Static Website on Azure Storage

1. Clone the repo

```
alanm@DESKTOP-TSHFOQK MINGW64 ~
$ git clone https://github.com/pravinmishraaws/Azure-Static-Website
Cloning into 'Azure-Static-Website'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 7 (delta 1), reused 7 (delta 1), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), 4.55 KiB | 518.00 KiB/s, done.
Resolving deltas: 100% (1/1), done.

alanm@DESKTOP-TSHFOQK MINGW64 ~
$ cd Azure-Static-Website

alanm@DESKTOP-TSHFOQK MINGW64 ~/Azure-Static-Website (main)
$ ls
README.md  index.html
```

2. Personalize

```

<div class="cta-row">
    <a class="btn"
        href="https://docs.google.com/forms/d/e/1FAIpQLSexp5B8_LW3gJI8oczG3b7YxHyFbJ-jqX5F58_YBsYa3KMJDQ/viewform"
        target="_blank" aria-label="Pre-register for DMI Cohort 2">Pre-register</a>
    <span class="badge-note">Limited seats</span>
</div>

<footer>
    Hosted By <span id="yr"></span> ADRINA COLACO.
    <a href="https://www.youtube.com/playlist?list=PLV0dqXbCs7bX88JeUZmK4fKTq2hJ5VS89" target="_blank"
       rel="noopener">
        Checkout DevOps Micro Internship Cohort 1
    </a>
</footer>
</main>
<script>document.getElementById('yr').textContent = new Date().getFullYear();</script>
</body>

```

index.html [dos] (02:05 02/10/2025) 477,59 99%
"index.html" [dos] 487L, 16284B

3. Create a Storage Account

staticwebsiteadrina

Storage account

Overview

Properties Monitoring Capabilities (7) Recommendations (0) Tutorials Tools + SDKs

Blob service

Hierarchical namespace	Disabled
Default access tier	Hot
Blob anonymous access	Disabled
Blob soft delete	Enabled (7 days)
Container soft delete	Enabled (7 days)
Versioning	Disabled
Change feed	Disabled
NFS v3	Disabled

Security

Require secure transfer for REST API operations	Enabled
Storage account key access	Enabled
Minimum TLS version	Version 1.2
Infrastructure encryption	Disabled

Networking

Public network access	Enabled
Public network access scope	Enable from all networks

4. Enable Static Website

staticwebsiteadrina | Static website

Overview

Activity log

Tags

Diagnose and solve problems

Access Control (IAM)

Data migration

Events

Storage browser

Storage Mover

Partner solutions

Resource visualizer

Data storage

Security + networking

Networking

Primary endpoint [Copied](https://staticwebsiteadrina.z8.web.core.windows.net/)

Index document name [index.html](#)

Error document path [404.html](#)

5. Upload site files

staticwebsiteadrina | Storage browser

Storage account

Search

Diagnose and solve problems

Access Control (IAM)

Data migration

Events

Storage browser

Storage Mover

Partner solutions

Resource visualizer

Data storage

Add Directory

Upload

Change access level

Refresh

Delete

Copy

Paste

Rename

Acquire lease

Blob containers > \$web

Authentication method: Access key (Switch to Microsoft Entra user account)

Add filter

Search blobs by prefix (case-sensitive)

Only show active blobs

Name	Last modified	Access tier	Blob type	Size	Lease state
README.md	10/2/2025, 2:19:55 AM	Hot (Inferred)	Block blob	24 B	Available
index.html	10/2/2025, 2:19:55 AM	Hot (Inferred)	Block blob	15.9 KiB	Available

6. Test

staticwebsiteadrina.z8.web.core.windows.net

Mandatory learning & regular reshuffling — no passengers.

- Principle: no shortcuts — doing is how you learn
- Submit all assignments on time
- Show your work on LinkedIn/blogs
- Help peers grow with you

Missing without valid reason → seat given to a more committed learner

Champion of the Week — own outcomes, get recognized.

- From Week 1, join a project squad
- Build and ship as a team

Weekly Champion per squad (impact • ownership • collaboration)

Yes, it's still FREE — reserved for committed learners only.

Pre-register • Limited seats

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Assignment 27 – Deploy EpicBook on Azure VM + Azure Database for MySQL

1) Network & Security

1.1 Create VNet + Subnets(1 for Public and 1 for MySQL)

Microsoft Azure | Upgrade | Search resources, services, and docs (G+) | Copilot | adcola13@gmail.com | DEFAULT DIRECTORY

Home > epic-vnet-1759354376237 | Overview > epic-vnet | Subnets

epic-vnet | Subnets

Virtual network

Search subnets

Name	IPv4	IPv6	Available IPs	Delegated to	Security group	Route table
default	10.0.0.0/24	-	251	-	-	-
public-subnet	10.0.1.0/24	-	251	-	-	-
mysql-subnet	10.0.2.0/24	-	251	Microsoft.DBforMySQL/flexi...	-	-

1.2 Create Network Security Groups(NSGs)

Microsoft Azure | Upgrade | Search resources, services, and docs (G+) | Copilot | adcola13@gmail.com | DEFAULT DIRECTORY

Home > nsg-public | Inbound security rules

nsg-public | Inbound security rules

Network security group

Add Hide default rules Refresh Delete Give feedback

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Resource visualizer Settings Inbound security rules Outbound security rules Network interfaces Subnets

Filter by name Priority ↑ Name ↑ Port ↑ Protocol ↑ Source ↑ Destination ↑ Action ↑

Priority ↑	Name ↑	Port ↑	Protocol ↑	Source ↑	Destination ↑	Action ↑
100	allow-ssh	22	TCP	223.177.210.62	Any	Allow
110	allow-http	80	TCP	0.0.0.0/0	Any	Allow
65000	AllowNetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInbound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInbound	Any	Any	Any	Any	Deny

1.3 Create a Public IP & NIC to be associated with the Public VM.

EBpublicIP Public IP address

Resource group (move) : [epicbooks](#)

Location (move) : Australia East

Subscription (move) : [Azure subscription 1](#)

Subscription ID : 4aaefc3f-e730-4757-944c-df72e636bfe6

SKU : Standard

Tier : Regional

IP address : 20.227.90.228

DNS name : -

Associated to : -

Virtual machine : -

Public IP address

Resource GUID : 5bad9d75-17ee-41e0-9904-93daf46400bd

IP address : 20.227.90.228

IP address version : IPv4

Provisioning state : Succeeded

Allocation method : Static

Domain name label scope : -

Idle timeout (change) : 4

Associated to : -

DDoS Protection

Protection status : Not connected to backend

Protection type : Network inherited protection

Plan ID : -

2) Provision the Azure VM

Note: The IP address will change after attaching the Public IP to this VM.

epicbook-vm Virtual machine

Resource group (move) : [epicbooks](#)

Status : Running

Location : Australia East (Zone 1)

Subscription (move) : [Azure subscription 1](#)

Subscription ID : 4aaefc3f-e730-4757-944c-df72e636bfe6

Availability zone : 1

Operating system : Linux (ubuntu 24.04)

Size : Standard B1s (1 vcpu, 1 GiB memory)

Primary NIC public IP : [20.211.149.37](#) (1 associated public IPs)

Virtual network/subnet : [epic-vnet/public-subnet](#)

DNS name : Not configured

Health state : -

Time created : 2/10/2025, 5:12 am UTC

Virtual machine

Computer name : epicbook-vm

Operating system : Linux (ubuntu 24.04)

VM generation : V2

VM architecture : x64

Networking

Public IP address : [20.211.149.37](#) (Network interface epicbook-vm580_x1)

1 associated public IPs

Public IP address (IPv6) : -

Private IP address : 10.0.1.4

IP of the VM changed when it was associated with previously created Public IP.

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Home > epicbook-vm | Network settings > epicbook-vm580_z1

epicbook-vm580_z1 | IP configurations

Network interface

IP Settings

- Enable IP forwarding:
- Virtual network: epic-vnet
- Gateway load balancer: None
- Subnet:

Private and public IP addresses can be assigned to a virtual machine's network interface controller. You can add as many private and public IPv4 addresses as necessary to a network interface, within the limits listed in the Azure limits article. Private IP address prefix type can only be created as a secondary IP configuration. [Learn more](#)

Add **Make primary** **Delete**

Name	IP Version	Type	Private IP Address	Public IP Address
ipconfig1	IPv4	Primary	10.0.1.4 (Dynamic)	20.227.90.228 (EBpublicIP)

Apply **Discard changes**

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Home >

epicbook-vm | Virtual machine

Help me copy this VM in any region | **Manage this VM with Azure CLI**

Overview

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

Essentials

Resource group: epicbooks	Operating system: Linux (ubuntu 24.04)
Status: Running	Size: Standard B1s (1 vcpu, 1 GiB memory)
Location: Australia East (Zone 1)	Primary NIC public IP: 20.227.90.228 1 associated public IPs
Subscription: Azure subscription 1	Virtual network/subnet: epic-vnet/public-subnet
Subscription ID: 4aaefc3f-e730-4757-944c-df72e636bfe6	DNS name: Not configured
Availability zone: 1	Health state: -
	Time created: 2/10/2025, 5:12 am UTC

Tags (edit): [Add tags](#)

Properties **Monitoring** **Capabilities (7)** **Recommendations** **Tutorials**

Virtual machine

Computer name: epicbook-vm	Networking
Operating system: Linux (ubuntu 24.04)	Public IP address: 20.227.90.228 (Network interface epicbook-vm580_z1) 1 associated public IPs
VM generation: V2	Public IP address (IPv6): -
VM architecture: x64	Private IP address: 10.0.1.4

ADD PORT 8080 to the NSG of your VM

Attach network interface Detach network interface View topology Troubleshoot Refresh Give feedback

Network interface / IP configuration
epicbook-vm580_z1 (primary) / ipconfig1 (primary)

Essentials

Network interface	: epicbook-vm580_z1	Load balancers	: 0 (Configure)
Virtual network / subnet	: epic-vnet / public-subnet	Application security groups	: 0 (Configure)
Public IP address	: 20.227.90.228	Network security group	: epicbook-vm-nsg
Private IP address	: 10.0.1.4	Accelerated networking	: Disabled
Admin security rules	: 0 (Configure)	Effective security rules	: 0

Rules Collapse all

Network security group epicbook-vm-nsg (attached to networkInterface: epicbook-vm580_z1)
Impacts 0 subnets, 1 network interfaces

+ Create port rule

Priority ↑	Name	Port	Protocol	Source	Destination	Action
300	SSH	22	TCP	Any	Any	Allow
320	HTTP	80	TCP	Any	Any	Allow
330	MySQL	3306	TCP	223.177.210.62	Any	Allow
340	Http8080	8080	TCP	Any	Any	Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny

Inbound port rules (7)

> Outbound port rules (3)

Testing the Original NGINX page

mysqlflexserv - Microsoft Azure Welcome to nginx! +

Not secure 20.227.90.228

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

3) Deploy EpicBook App

3.1 Clone repo into your VM

```
azureuser@epicbook-vm:~$ cd ~
azureuser@epicbook-vm:~$ git clone https://github.com/pravinmishraaws/theepicbook.git
Cloning into 'theepicbook'...
remote: Enumerating objects: 156, done.
remote: Counting objects: 100% (156/156), done.
remote: Compressing objects: 100% (146/146), done.
remote: Total 156 (delta 43), reused 93 (delta 4), pack-reused 0 (from 0)
Receiving objects: 100% (156/156), 30.70 MiB | 13.27 MiB/s, done.
Resolving deltas: 100% (43/43), done.
azureuser@epicbook-vm:~$ cd theepicbook
azureuser@epicbook-vm:~/theepicbook$ ls
'Installation & Configuration Guide.md'  config  models  package.json  routes  views
 README.md                                db      package-lock.json  public  server.js
azureuser@epicbook-vm:~/theepicbook$
```

3.2 Install project dependences into your VM

```
sudo apt update
```

```
sudo apt upgrade -y
```

```
sudo apt install nodejs npm
```

```
azureuser@epicbook-vm:~$ node -v
v18.19.1
azureuser@epicbook-vm:~$ npm -v
9.2.0
azureuser@epicbook-vm:~$
```

Install NPM

```
azureuser@epicbook-vm:~/theepicbook$ npm install
npm WARN deprecated ini@1.3.5: Please update to ini >=1.3.6 to avoid a prototype pollution issue
npm WARN deprecated debug@4.1.1: Debug versions >=3.2.0 <3.2.7 || >4 <4.3.1 have a low-severity ReDos regression when used in a Node.js environment. It is recommended you upgrade to 3.2.7 or 4.3.1. (https://github.com/visionmedia/debug/issues/797)
npm WARN deprecated debug@4.1.1: Debug versions >=3.2.0 <3.2.7 || >4 <4.3.1 have a low-severity ReDos regression when used in a Node.js environment. It is recommended you upgrade to 3.2.7 or 4.3.1. (https://github.com/visionmedia/debug/issues/797)
npm WARN deprecated debug@3.2.6: Debug versions >=3.2.0 <3.2.7 || >4 <4.3.1 have a low-severity ReDos regression when used in a Node.js environment. It is recommended you upgrade to 3.2.7 or 4.3.1. (https://github.com/visionmedia/debug/issues/797)
added 357 packages, and audited 358 packages in 17s
30 packages are looking for funding
  run npm fund for details
37 vulnerabilities (5 low, 10 moderate, 18 high, 4 critical)

To address issues that do not require attention, run:
  npm audit fix

To address all issues (including breaking changes), run:
  npm audit fix --force

Run 'npm audit' for details.
```

4) Create Azure Database for MySQL – Flexible Server (Private)

Microsoft Azure Upgrade Search resources, services, and docs (G+) Copilot Home > mysqlflexserv Azure Database for MySQL flexible server

Overview

Essentials

Subscription (move)	: Azure subscription 1	Server name	: mysqlflexserv.mysql.database.azure.com
Subscription ID	: 4aaefc3f-e730-4757-944c-df72e636bfe6	Administrator login	: azureuser
Resource group (move)	: epicbooks	Configuration	: Burstable, 81ms, 1 vCores, 2 GiB RAM, 64 storage, 492 IOPS
Status	: Ready	MySQL version	: 8.0 Upgrade
Location	: Australia East	Availability zone	: 1
Tags (edit)	: Add tags	Created on	: 2025-10-02 06:25:40.0617701 UTC

Properties Recommendations Monitoring Tutorials

Compute + storage (Change)

Pricing tier	Burstable	Connectivity method	Private access (VNet Integration)
Compute size	Standard_B1ms (1 vCore, 2 GiB memory, 640 max iops)	Virtual network	epic-vnet/mysql-subnet
Storage	64 GiB	Private DNS zone	mysqlflexserv.private.mysql.database.azure.com
IOPS	Auto scale IOPS	High availability (Change)	High availability
Accelerated Logs	Disabled	Not enabled	
Storage autogrow	Enabled		

Add or remove favorites by pressing **Ctrl+Shift+F**

```
azureuser@epicbook-vm:~$ sudo mysql -h mysqlflexserv.mysql.database.azure.com -u azureuser -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.0.42-azure Source distribution

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 
```

4.1 Install MYSQL on the Azure VM.

```
azureuser@epicbook-vm:~/thecpicbook$ sudo apt upgrade -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
azureuser@epicbook-vm:~/thecpicbook$ sudo apt install mysql-server -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcgifast-perl libcgipm-perl libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64 libhtml-template-perl libmecab2
  libprotobuf-lite32t64 mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-server-8.0 mysql-server-core-8.0
Suggested packages:
  libipc-sharedcache-perl mailx tinyca
The following NEW packages will be installed:
  libcgifast-perl libcgipm-perl libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64 libhtml-template-perl libmecab2
  libprotobuf-lite32t64 mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-server mysql-server-8.0 mysql-server-core-8.0
0 upgraded, 15 newly installed, 0 to remove and 0 not upgraded.
Need to get 26.5 MB of archives.
After this operation, 180 MB of additional disk space will be used.
Get:1 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 libevent-pthreads-2.1-7t64 amd64 2.1.12-stable-9ubuntu2 [7982 B]
Get:2 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 libmecab2 amd64 0.996-14ubuntu4 [201 kB]
Get:3 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 libprotobuf-lite32t64 amd64 3.21.12-8.2ubuntu0.2 [238 kB]
Get:4 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 mysql-server-core-8.0 amd64 8.0.43-0ubuntu0.24.04.2 [17.5 MB]
Get:5 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 mysql-server-8.0 amd64 8.0.43-0ubuntu0.24.04.2 [1439 kB]
Get:6 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 libcgipm-perl all 4.63-1 [185 kB]
Get:7 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 libfcgi0t64 amd64 2.4.2-2.1ubuntu0.24.04.1 [27.0 kB]
Get:8 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 libfcgi-perl amd64 0.82+ds-3build2 [21.7 kB]
Get:9 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 libcgifast-perl all 1:2.17-1 [10.3 kB]
Get:10 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 libfcgi-bin amd64 2.4.2-2.1ubuntu0.24.04.1 [11.2 kB]
Get:11 http://azure.archive.ubuntu.com/ubuntu noble/main amd64 libhtml-template-perl all 2.97-2 [60.2 kB]
azureuser@epicbook-vm:~$ sudo apt install mysql-server -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
mysql-server is already the newest version (8.0.43-0ubuntu0.24.04.2).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
azureuser@epicbook-vm:~$ sudo systemctl enable mysql
sudo systemctl start mysql
Synchronizing state of mysql.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable mysql
```

```
azureuser@epicbook-vm:~$ sudo systemctl status mysql
● mysql.service - MySQL Community Server
  Loaded: loaded (/usr/lib/systemd/system/mysql.service; enabled; preset: enabled)
  Active: active (running) since Thu 2025-10-02 06:51:47 UTC; 9h ago
    Process: 10591 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
   Main PID: 10600 (mysqld)
     Status: "Server is operational"
       Tasks: 37 (limit: 993)
      Memory: 405.9M (peak: 409.9M)
        CPU: 2min 44.307s
      CGroup: /system.slice/mysql.service
              └─10600 /usr/sbin/mysqld

Oct 02 06:51:46 epicbook-vm systemd[1]: Starting MySQL Community Server...
Oct 02 06:51:47 epicbook-vm systemd[1]: Started MySQL Community Server.
```

```
azureuser@epicbook-vm:~$ ping mysqlflexserv.mysql.database.azure.com
PING mysqlflexserv.mysqlflexserv.private.mysql.database.azure.com (10.0.2.4) 56(84) bytes of data.
64 bytes from 10.0.2.4: icmp_seq=1 ttl=63 time=2.82 ms
64 bytes from 10.0.2.4: icmp_seq=2 ttl=63 time=1.29 ms
64 bytes from 10.0.2.4: icmp_seq=3 ttl=63 time=1.36 ms
64 bytes from 10.0.2.4: icmp_seq=4 ttl=63 time=1.04 ms
64 bytes from 10.0.2.4: icmp_seq=5 ttl=63 time=1.27 ms
```

Log into MYSQL from within AZURE VM.

```
azureuser@epicbook-vm:~$ sudo mysql -h mysqlflexserv.mysql.database.azure.com -u azureuser -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.0.42-azure Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

4.2 Create DB & import schema

```
mysql> CREATE DATABASE bookstore;
Query OK, 1 row affected (0.06 sec)
```

Switch to bookstore database and create the needed tables.

```
mysql> USE bookstore;
Database changed
mysql> CREATE TABLE `bookstore`.`Author` (
    ->   `id` INT NOT NULL AUTO_INCREMENT,
    ->   `firstName` VARCHAR(45) NOT NULL,
    ->   `lastName` VARCHAR(45) NOT NULL,
    ->   `createdAt` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    ->   `updatedAt` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    ->   PRIMARY KEY (`id`));
Query OK, 0 rows affected (0.10 sec)
```

```
mysql> CREATE TABLE `bookstore`.`Book` (
->     `id` INT NOT NULL AUTO_INCREMENT,
->     `title` VARCHAR(255) NOT NULL,
->     `genre` VARCHAR(255) NOT NULL,
->     `pubYear` INT NOT NULL,
->     `price` DECIMAL(13,2) NOT NULL,
->     `inventory` INT NOT NULL,
->     `bookDescription` TEXT NOT NULL,
->     `createdAt` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
->     `updatedAt` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
->     `AuthorId` INT NOT NULL,
->     PRIMARY KEY (`id`),
->     INDEX `AuthorId_idx` (`AuthorId` ASC),
->     CONSTRAINT `AuthorId`
->         FOREIGN KEY (`AuthorId`)
->             REFERENCES `bookstore`.`Author` (`id`)
->             ON DELETE NO ACTION
->             ON UPDATE NO ACTION);
Query OK, 0 rows affected (0.11 sec)
```

```
mysql> CREATE TABLE `bookstore`.`Cart` (
->     `id` INT NOT NULL AUTO_INCREMENT,
->     `quantity` INT NOT NULL,
->     `price` DECIMAL(13,2) NOT NULL,
->     `createdAt` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
->     `updatedAt` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
->     PRIMARY KEY (`id`));
Query OK, 0 rows affected (0.07 sec)
```

Insert records into the tables

```
mysql> INSERT INTO Author(firstName,lastName,createdAt,updatedAt)
-> VALUES
-> ('Elin','Hildebrand',sysdate(),sysdate())
-> ,('Brit','Bennett',sysdate(),sysdate())
-> ,('John','Bolton',sysdate(),sysdate())
-> ,('Robin','DiAngelo',sysdate(),sysdate())
-> ,('Delia','Owens',sysdate(),sysdate())
-> ,('Hortense','Spillers',sysdate(),sysdate())
,('Stephen','Best',sysdate(),sysdate())
,('Anthony B.','Pinn',sysdate(),sysdate())
,('Harvey','Young',sysdate(),sysdate())
,('Michael A.','Gomez',sysdate(),sysdate())
,('Sarah','Haley',sysdate(),sysdate())
,('Daryl Michael','Scott',sysdate(),sysdate())
,('Cheryl','Harris',sysdate(),sysdate())
,('Frank','Herbert',sysdate(),sysdate())
,('Andrzej','Sapkowski',sysdate(),sysdate())
,('J.R.R.','Tolkein',sysdate(),sysdate())
,('J.K.','Rowling',sysdate(),sysdate())
,('Stephenie','Meyer',sysdate(),sysdate())
,('George R. R.','Martin',sysdate(),sysdate())
,('Diana','Gabaldon',sysdate(),sysdate())
,('Robert','Jordan',sysdate(),sysdate())
,('Cixin','Liu',sysdate(),sysdate()),('John','Grisham',sysdate(),sysdate())
-> ,('Ibram X.','Kendi',sysdate(),sysdate())
-> ,('Celeste','Ng',sysdate(),sysdate())
-> ,('Ijeoma','Olouo',sysdate(),sysdate())
-> ,('Harper','Lee',sysdate(),sysdate())
-> ,('L.M.','Montgomery',sysdate(),sysdate())
-> ,('Jack','London',sysdate(),sysdate())
-> ,('Jane','Austen',sysdate(),sysdate())
-> ,('F. Scott','Fitzgerald',sysdate(),sysdate())
-> ,('Emily','Bronte',sysdate(),sysdate())
-> ,('Oscar','Wilde',sysdate(),sysdate())
-> ,('George','Orwell',sysdate(),sysdate())
-> ,('J.D.','Salinger',sysdate(),sysdate())
-> ,('Shel','Silverstein',sysdate(),sysdate())
-> ,('Maurice','Sendak',sysdate(),sysdate())
-> ,('Dr.','Suess',sysdate(),sysdate())
-> ,('Beatrix','Potter',sysdate(),sysdate())
-> ,('C.S.','Lewis',sysdate(),sysdate())
-> ,('E.B.','White',sysdate(),sysdate())
-> ,('Eric','Carle',sysdate(),sysdate())
-> ,('Michael','Ende',sysdate(),sysdate())
-> ,('Howard','Zinn',sysdate(),sysdate())
-> ,('Norton','Juster',sysdate(),sysdate())
-> ,('Kurt','Vonnegut',sysdate(),sysdate())
-> ,('Chinua','Achebe',sysdate(),sysdate())
-> ,('Kazuo','Ishiguro',sysdate(),sysdate())
```

```
-> ,('Art','Spiegelman',sysdate(),sysdate())
-> ,('Margaret','Atwood',sysdate(),sysdate())
-> ,('Douglas','Adams',sysdate(),sysdate())
-> ,('David Foster','Wallace',sysdate(),sysdate())
-> ,('Philip D.','Morgan',sysdate(),sysdate())
-> ,('Hortense','Spillers',sysdate(),sysdate())
-> ,('Stephen','Best',sysdate(),sysdate())
-> ,('Anthony B.','Pinn',sysdate(),sysdate())
-> ,('Harvey','Young',sysdate(),sysdate())
-> ,('Michael A.','Gomez',sysdate(),sysdate())
-> ,('Sarah','Haley',sysdate(),sysdate())
-> ,('Daryl Michael','Scott',sysdate(),sysdate())
-> ,('Cheryl','Harris',sysdate(),sysdate())
-> ,('Frank','Herbert',sysdate(),sysdate())
-> ,('Andrzej','Sapkowski',sysdate(),sysdate())
-> ,('J.R.R.','Tolkein',sysdate(),sysdate())
-> ,('J.K.','Rowling',sysdate(),sysdate())
-> ,('Stephenie','Meyer',sysdate(),sysdate())
-> ,('George R. R.','Martin',sysdate(),sysdate())
-> ,('Diana','Gabaldon',sysdate(),sysdate())
-> ,('Robert','Jordan',sysdate(),sysdate())
-> ,('Cixin','Liu',sysdate(),sysdate());
```

Query OK, 53 rows affected (0.03 sec)

Records: 53 Duplicates: 0 Warnings: 0

mysql> █

```

mysql> INSERT INTO Book(title,genre,pubYear,price,inventory,bookDescription,createdAt,updatedAt,AuthorId)
-> VALUES
-> ('28 Summers','NYT',2020,'28',4,'A relationship that started in 1993 between Mallory Blessing and Jake McCloud comes to light while she is on her deathbed and his wife runs for president.',sysdate(),sysdate(),1)
-> ,('The Vanishing Half','NYT',2020,'27',8,'The lives of twin sisters who run away from a Southern Black community at age 16 diverge as one returns and the other takes on a different racial identity but their fates intertwine.',sysdate(),sysdate(),2)
-> ,('The Room Where it Happened','NYT',2020,'32.50',7,'The former national security advisor gives his account of the 17 months he spent working for President Trump.',sysdate(),sysdate(),3)
-> ,('White Fragility','NYT',2018,'16',4,'Historical and cultural analyses on what causes defensive moves by white people and how this inhibits cross-racial dialogue.',sysdate(),sysdate(),4)
-> ,('Where the Crawdads Sing','NYT',2018,'26',7,'In a quiet town on the North Carolina coast in 1969, a young woman who survived alone in the marsh becomes a murder suspect.',sysdate(),sysdate(),5)
-> ,('Camino Winds','NYT',2020,'28.95',9,'The line between fact and fiction becomes blurred when an author of thrillers is found dead after a hurricane hits Camino Island.',sysdate(),sysdate(),6)
-> ,('How to be an Antiracist','NYT',2019,'27',3,'A primer for creating a more just and equitable society through identifying and opposing racism.',sysdate(),sysdate(),7)
-> ,('Little Fires Everywhere','NYT',2017,'17.5',4,'An artist with a mysterious past and a disregard for the status quo upends a quiet town outside Cleveland.',sysdate(),sysdate(),8)
-> ,('So You Want To Talk About Race','NYT',2019,'16.99',2,'A look at the contemporary racial landscape of the United States.',sysdate(),sysdate(),9)
-> ,('To Kill A Mockingbird','Classic',1960,'15.99',10,'In "To Kill A Mockingbird", author Harper Lee uses memorable characters to explore civil rights and racism in the segregated Southern United States of the 1930s. Told through the eyes of Scout Finch, you learn about her father Atticus Finch, an attorney who hopelessly strives to prove the innocence of a black man unjustly accused of rape; and about Boo Radley, a mysterious neighbor who saves Scout and her brother Jem from being killed.',sysdate(),sysdate(),10)
-> ,('Anne of Green Gables','Classic',1908,'5.99',8,'Anne of Green Gables is the story of a young orphan girl, Anne, who is mistakenly delivered to an older couple looking to adopt a boy to work on their farm in Avonlea on Prince Edward Island. After the couple meets Anne, they decide to keep her despite her not being of the appropriate gender.',sysdate(),sysdate(),11)
-> ,('The Call of the Wild','Classic',1903,'12.95',6,'Based on Jack London's experiences as a gold prospector in the Canadian wilderness and his ideas about nature and the struggle for existence, "The Call of the Wild" is a tale about an unbreakable spirit and the fight for survival in the frozen Alaskan Klondike.',sysdate(),sysdate(),12)
-> ,('Pride and Prejudice','Classic',1813,'9.00',9,'The classic novel, written with wit, irony and superb characterization, it centres on the turbulent relationship between Elizabeth Bennet, the daughter of a country gentleman, and Fitzwilliam Darcy, a rich and aristocratic landowner.',sysdate(),13)
-> ,('The Great Gatsby','Classic',1925,'17.00',4,'The story is of the fabulously wealthy Jay Gatsby and his new love for the beautiful Daisy Buchanan, of lavish parties on Long Island at a time when The New York Times noted "gin was the national drink and sex the national obsession," it is an exquisitely crafted tale of America in the 1920s.',sysdate(),14)
-> ,('Wuthering Heights','Classic',1847,'8.00',7,'Wuthering Heights is a classic gothic horror/romance novel written by Emily Brontë and published in England in 1847. The book was originally published under the pen name Ellis Bell and Bronte died the year after it was released. When the book was first released it was considered controversial for its themes of violence and its challenge of Victorian ideals.',sysdate(),sysdate(),15)
-> ,('The Picture of Dorian Gray','Classic',1890,'6.99',5,'In the stately London home of his aunt, Lady Brandon, the well-known artist Basil Hallward meets Dorian Gray. Dorian is a cultured, wealthy, and impossibly beautiful young man who immediately captures Basil's artistic imagination. Dorian sits for several portraits, and Basil often depicts him as an ancient Greek hero or a mythological figure. The Picture of Dorian Gray is the story of one beautiful, innocent young man's seduction, moral corruption, and eventual downfall.',sysdate(),sysdate(),16)
-> ,('Animal Farm','Classic',1945,'18.50',3,'One of Orwell's finest works, it is a political fable based on the events of Russia's Bolshevik revolution and the betrayal of the cause by Joseph Stalin. The book concerns a group of barnyard animals who overthrow and chase off their exploitative human masters and set up an egalitarian society of their own.',sysdate(),sysdate(),17)
-> ,('The Catcher in the Rye','Classic',1951,'9.99',2,'The novel details two days in the life of 16-year-old Holden Caulfield after he has been expelled from prep school. Confused and disillusioned, Holden searches for truth and rails against the phoniness of the adult world. He ends up exhausted and emotionally unstable.',sysdate(),sysdate(),18)
-> ,('The Giving Tree','Childrens',1964,'17.99',8,'The book follows the lives of an apple tree and a boy, who develop a relationship with one another. The tree is very "giving" and the boy evolves into a "taking" teenager, man, then elderly man. Despite the fact that the boy ages in the story, the tree addresses the boy as "Boy" his entire life.',sysdate(),sysdate(),19)
-> ,('Where the Wild Things Are','Childrens',1963,'8.95',9,'This story focuses on a young boy named Max who, after dressing in his wolf costume, wreaks such havoc through his household that he is sent to bed without his supper. Max's bedroom undergoes a mysterious transformation into a jungle environment, and he winds up sailing to an island inhabited by malicious beasts known as the "Wild Things".',sysdate(),sysdate(),19)
-> ,('The Cat in the Hat','Childrens',1957,'9.99',4,'The Cat in the Hat is a book where an eccentric stranger (who's a cat!) comes into the house of two young children, Sally and Sam, who are having a very bad day. Their mother is out, and when the Cat comes in, he reassures the kids that their mother won't mind him or his tricks!',sysdate(),sysdate(),20)
-> ,('The Tale of Peter Rabbit','Childrens',1902,'7.99',6,'The widowed mother rabbit warns her four rabbit children, Flopsy, Mopsy, Cottontail and Peter not to enter the vegetable garden of a man named Mr. McGregor, whose wife, she tells them, put their father in a pie after he entered. Her triplets (Flopsy, Mopsy and Cottontail) obediently refrain from entering the garden, but Peter enters the garden to snack on some vegetables.',sysdate(),sysdate(),21)
-> ,('The Lion, The Witch, and The Wardrobe','Childrens',1950,'8.99',5,'Peter, Susan, Edmund, and Lucy Pevensie are four siblings sent to live in the country with the eccentric Professor Kirke during World War II. The children explore the woods on a rainy day and Lucy, the youngest, finds an enormous wardrobe. Lucy steps inside and finds herself in a strange, snowy wood.',sysdate(),sysdate(),22)
-> ,('Charlotte's Web','Childrens',1952,'9.99',9,'A masterpiece of American childrens literature, Charlotte's Web is a fable by E.B. White about a runt of a pig named Wilbur, who is loved by a little girl and befriended by a very clever spider named Charlotte.',sysdate(),sysdate(),23)
-> ,('Where the Sidewalk Ends','Childrens',1974,'19.99',7,'Where the Sidewalk Ends is a collection of quirky and imaginative poems by Shel Silverstein. The poems are accompanied by illustrations that capture the often silly, peculiar nature of Silverstein's witty words.',sysdate(),sysdate(),24)
-> ,('The Very Hungry Caterpillar','Childrens',1969,'5.99',5,'This story follows the life of a growing caterpillar who begins as an egg. When he emerges from the egg he is very hungry. He starts to eat everything he can find, more and more each day.',sysdate(),sysdate(),25)
-> ,('The Neverending Story','Childrens',1979,'8.99',3,'The book centres on a boy, Bastian, a strange child who is neglected by his father after the death of Bastian's mother. While escaping from some bullies, Bastian bursts into the antiquarian book store of Carl Conrad Corleander , where he finds his interest held by a book called The Neverending Story.',sysdate(),sysdate(),26)
-> ,('A People's History of the United States','Top 9',1980,'21.99',5,'A People's History of the United States is the only volume to tell America's story from the point of view of and in the words of America's women, factory workers, African-Americans, Native Americans, the working poor, and immigrant laborers.',sysdate(),sysdate(),27)
-> ,('The Phantom Tollbooth','Top 9',1961,'19.99',6,'The Phantom Tollbooth is the story of a boy who comes to the Land of Counterpane and a magical tollbooth in his room. When Milo drives his car through the tollbooth gate, he finds himself in the Land of Beyond, a country populated by living things in the forms of animals, intellect, royalty, mountains, seas, and cities. From Tock the Watchdog to the listless region of the Doldrums, Milo shakes off boredom as he pursues the Kidnapped Princesses Rhyme and Reason and restores peace to the Lands (currently in the clutches of the warring princes, Azaz of Digitopolis and the Mathemagician of Digitopolis) along with a pack of demons.',sysdate(),sysdate(),28)
-> ,('Slaughterhouse-Five','Top 9',1969,'17.00',10,'Slaughterhouse-Five, an American classic, is one of the worlds great antiwar books. Centering on the infamous firebombing of Dresden, Billy Pilgrim's odyssey through time reflects the mythic journey of our own fractured lives as we search for meaning in what we fear most.',sysdate(),sysdate(),29)
-> ,('Things Fall Apart','Top 9',1958,'13.00',11,'It is a classic narrative about Africa's cataclysmic encounter with Europe as it establishes a colonial presence on the continent. Told through the fictional experiences of Okonkwo, a wealthy and fearless Igbo warrior of Umuofia in the late 1800s, Things Fall Apart explores one man's futile resistance to the devaluation of his Igbo traditions by British political and religious forces and his despair as his community capitulates to the powerful new order.',sysdate(),sysdate(),30)
-> ,('Never Let Me Go','Top 9',2005,'16.00',4,'Friends Kathy, Tommy and Ruth grow up together at a seemingly idyllic boarding school in the English countryside. When they leave the school and the horrible truth of their true purpose is revealed to them, they must simultaneously confront deep-seated feelings of love, jealousy and betrayal that threaten to tear their friendship apart.',sysdate(),sysdate(),31)
-> ,('Maus I & II','Top 9',1991,'35.00',8,'Maus depicts Spiegelman interviewing his father about his experiences as a Polish Jew and Holocaust survivor. The work employs postmodernist techniques and represents Jews as mice, Germans as cats, and Poles as pigs.',sysdate(),sysdate(),32)
-> ,('The Handmaid's Tale','Top 9',1985,'15.95',7,'The world of the narrator, Offred (from "Of Fred" women no longer have their own names), is chilling, but she is a magnificent survivor and chronicler, and the details of everything from mundane daily life to ritualized sex and violence to her reminiscences of the time before (our contemporary reality, as seen in the '80s) are absolutely realistic.',sysdate(),sysdate(),33)
-> ,('The Hitchhiker's Guide to the Galaxy','Top 9',1980,'16.00',8,'A hapless hero with astonishing luck? Ill-tempered aliens hell-bent on destroying Earth? Pithy advice (e.g., "DON'T PANIC")? Check, check, and check and so much more. Even nonsci-fi geeks will be charmed by this hilarious and endlessly entertaining read, with (of course) sequels following.',sysdate(),sysdate(),34)
-> ,('Infinite Jest','Top 9',1996,'20.00',9,'Infinite Jest is unique; it was bred in the optimism and new frontiersmanship of the dot-com 1990s but was simultaneously an early omen of where we are today. It looks into our present beyond what were only horizons when it was written: the tensions of a global economy, the opiate of on-demand entertainment, the near-impossible pursuit of greatness in a winner-take-all society. Tennis phenoms struggle in an absurdly demanding academy and recovering addicts search for something strong enough to help them through, all while a cadre of legless Quebecois assassins search for a movie star to entertain that they plan to use it as a weapon.',sysdate(),sysdate(),35)
-> ,('The Slave Next Door','Top 9',2008,'17.00',12,'A detailed and thorough overview of how American slavery fits into larger historical processes of the subjugation of black people. Philip Morgans description of slavery as an international institution looks at the institutions centrality in shaping global trends throughout the eighteenth and nineteenth centuries. By placing American slavery in a global context, Morgan explains how the expanding scale of capitalism and a long-standing perception of black inferiority converged to produce an instantiation of slavery that stands out as peculiarly heinous.',sysdate(),sysdate(),36)
-> ,('Mama's Baby, Papa's Maybe: An American Grammar Book','Social Justice',1987,'13.00',5,'Hortense Spillers argues that discourses around blackness and gender during slavery continue to determine the ways in which black bodies are read in the United States. By focusing on black women, Spillers contends that we get it wrong when we only view slavery through the experience of enslaved people who identified as male. The machinations of enslavement as an institution fundamentally relied on fully disarticulating black women from the categories of woman and human.',sysdate(),sysdate(),37)
-> ,('Neither Lost nor Found: Slavery and the Visual Archive','Social Justice',2011,'17.00',7,'Stephen Best argues that black people have often been understood as object rather than subjects. Best cites a case in which a photograph of two young black boys from the nineteenth century was advertised as rare at an estate sale. It was later discovered that copies of the photograph could be found at the Schomburg Center for Research in Black Culture and on ebay. Best addresses the paradox of the archival turn in studies of slavery: How can we claim to know that which cannot be known? That is, whether evidence can be found in the archive or not?',sysdate(),sysdate(),38)

```

```

-> ,('Black Bodies in Pain and Ecstasy: Terror, Subjectivity, and the Nature of Black Religion', 'Social Justice', 2003, 13:00', 4, 'Anthony Pinn argues that black religion, a capacious term that he purposefully deploys to reference a range of religious and spiritual practices beyond Christianity, plays a key role in African Americans' struggle for what he calls complex subjectivity, a sense of self defined by multiple identities. The body, which defined black people by their corporeality during slavery, Pinn argues that black religion, which is a phenomenon of extra-juridical violence used as a tool of social control, continues to be a lesser acknowledged practice in American history. Harvey Young analyzes what it meant for white participants in lynching spectacles to either steal or purchase the body parts of those who had been unjustly hanged, burned, castrated, and otherwise victimized and killed in public. Young asks what it means for white people to treat black bodies as souvenirs, fetish object, and remains.',sysdate(),sysdate(),39)
-> ,('The Black Body as Souvenir in American Lynching', 'Social Justice', 2005, '16:00', 3, 'Lynching, a phenomenon of extra-juridical violence used as a tool of social control, continues to be a lesser acknowledged practice in American history. Harvey Young analyzes what it meant for white participants in lynching spectacles to either steal or purchase the body parts of those who had been unjustly hanged, burned, castrated, and otherwise victimized and killed in public. Young asks what it means for white people to treat black bodies as souvenirs, fetish object, and remains.',sysdate(),sysdate(),40)
-> ,('Of Du Bois and Diaspora: The Challenge of African American Studies', 'Social Justice', 2004, '15:00', 8, 'Michael Gomez focuses on double consciousness, W. E. B. Du Bois' term for the experience mediated by and through the black body, constitutes an important site of resistance against oppression. It contains an aesthetic, both in performance and style, that must be more prominently considered by the field of black religious studies.',sysdate(),sysdate(),39)
-> ,('Like I Was a Man: Chain Gangs, Gender, and Domestic Carceral Sphere in Jim Crow Georgia', 'Social Justice', 2013, '15:95', 9, 'Sarah Haley argues that the prison industrial complex has been an important site in which racialized conceptions of gender have been consolidated. Focusing on a comprehensive and historic prison reform act passed in Georgia in 1908 that forced imprisoned black women onto chain gangs and introduced a system of parole that compelled black women released from prison to become domestic servants in white homes, Haley argues that these reforms illustrate how black women were stripped of their gender. Incarcerated black women were obligated to perform both domestic labor that was gendered as female and hard physical labor that was gendered as male, but, also, as a result of this un-gendering, they were legislated out of the category of the human.',sysdate(),sysdate(),42)
-> ,('How Black Nationalism Became Sui Generis', 'Social Justice', 2012, '16:00', 2, 'Daryl Michael Scott's exploration of the vicissitudes of black nationalism that developed over the course of the early and mid-twentieth century negotiates a tension between black nationalism and other forms of nationalism. While nationalism on its own may be problematic, black nationalism has described everything from black separatism and sovereignty to an imperium in imperio in which black people could self-determine without founding a new nation to a generic notion of racial solidarity among black people in a Pan-African context. The idea continues to have critical purchase in academia.',sysdate(),sysdate(),43)
-> ,('Whiteness as Property', 'Social Justice', 1993, '20:00', 3, 'Cheryl Harris explores the extent to which whiteness became a form of property that had to be protected by juridical and legislative means. As she argues, whiteness became valuable when White people could not be reduced to property under slavery. Given this, it is not only the cultural legacy of enslavement that has kept black people oppressed in the United States, but also a legal tradition that has continued to treat whiteness as normative. This systemic practice excludes people of color from the purview of equal rights and protection while also affording economic benefits exclusively disproportionately to White Americans.',sysdate(),sysdate(),44)
-> ,('Dune', 'Fantasy', 1965, '49:95', 8, 'Set on the desert planet Arrakis, Dune is the story of the boy Paul Atreides, heir to a noble family tasked with ruling an inhospitable world where the only thing of value is the spice melange, a drug capable of extending life and enhancing consciousness. Coveted across the known universe, melange is a prize worth killing for...',sysdate(),sysdate(),45)
-> ,('The Witcher', 'Fantasy', 1994, '39:99', 8, 'The Witcher is a fantasy series of novels and short stories written by Polish author Andrzej Sapkowski. The series revolves around the titular "witcher", Geralt of Rivia. In Sapkowski's works, "witchers" are beast hunters who develop supernatural abilities at a young age to battle wild beasts and monsters.',sysdate(),sysdate(),46)
-> ,('Lord of The Rings', 'Fantasy', 1937, '35:96', 8, 'At 33, the age of adulthood among hobbits, Frodo Baggins receives a magic Ring of Invisibility from his uncle Bilbo. Frodo, a Christian figure, learns that the ring has the power to control the entire world and, he discovers, to corrupt its owner. A fellowship of hobbits, elves, dwarfs, and men is formed to destroy the ring by casting it into the volcanic fires of the Crack of Doom, where it was forged. They are opposed on their harrowing mission by the evil Sauron and his Black Riders. The Lord of the Rings, together with The Hobbit, is considered by many to be the start of the genre known as high fantasy, and these works have had an enormous influence on that genre as a whole.',sysdate(),sysdate(),47)
-> ,('Harry Potter', 'Fantasy', 1998, '55:99', 8, 'Harry Potter, a boy who learns on his eleventh birthday that he is the orphaned son of two powerful wizards and possesses unique magical powers of his own. He is summoned from his life as an unwanted child to become a student at Hogwarts, an English boarding school for wizards. There, he meets several friends who become his closest allies and help him discover the truth about his parents' mysterious deaths.',sysdate(),sysdate(),48)
-> ,('Twilight', 'Fantasy', 2005, '45:00', 8, 'The Twilight saga is a story about love. And vampires. And family. And abstinence. And racism. And the founding of the Mormon faith. And orphans, in a really weird way.',sysdate(),sysdate(),49)
-> ,('A Song of Ice and Fire', 'Fantasy', 1991, '50:00', 8, 'A Song of Ice and Fire is a series of epic fantasy novels by the American novelist and screenwriter George R. R. Martin. He began the first volume of the series, A Game of Thrones, in 1991, and it was published in 1996.',sysdate(),sysdate(),50)
-> ,('Outlander', 'Fantasy', 1991, '70:00', 8, 'Outlander is a series of historical romance science fiction novels by American author Diana Gabaldon. Gabaldon began the first volume of the series, Outlander, in the late 1980s, and it was published in 1991. She has published eight out of a planned ten volumes.',sysdate(),sysdate(),51)
-> ,('Wheel of Time', 'Fantasy', 1984, '32:00', 8, 'Written by Robert Jordan and completed posthumously by Brandon Sanderson, The Wheel of Time is one of the greatest epics of fantasy and a #1 internationally bestselling series. Taking place both in our past and our future, the saga tells the story of a man destined to face the Evil One and save the world or destroy it in the process.',sysdate(),sysdate(),52)

--> ,('Three-Body Problem Trilogy', 'Fantasy', 2008, '50:00', 8, 'From Hugo Award-winning author Liu Cixin, the most prolific and popular science fiction writer in the People's Republic of China, the Remembrance of Earth's Past series is an action-packed, thought-provoking saga of how humanity's first contact with extraterrestrial life divided Earth between those welcoming the superior beings and those fighting the alien invasion.',sysdate(),sysdate(),53);
Query OK, 54 rows affected (0.04 sec)
Records: 54  Duplicates: 0  Warnings: 0
mysql>

```

```

mysql> SHOW TABLES;
+-----+
| Tables_in_bookstore |
+-----+
| author
| book
| cart
+-----+
3 rows in set (0.00 sec)

mysql>

```

5) Configure Nginx (static SPA + API reverse proxy)

5.1 Serve the React build

```
sudo nano /etc/nginx/sites-available/default
```

```
nginx: 7.2
server {
    listen 80 default_server;
    listen [::]:80 default_server;
    server_name _;

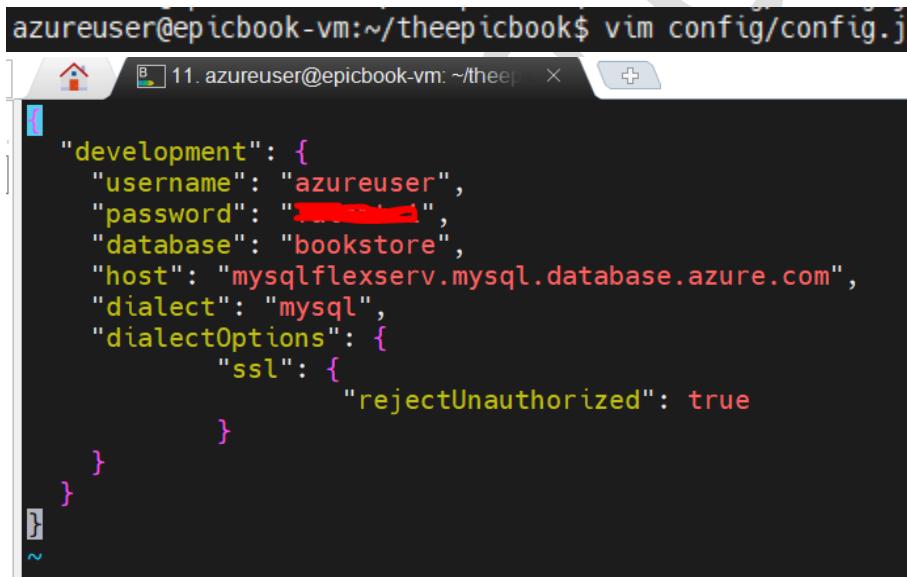
    # Frontend (React build)
    root /home/azureuser/theepicbook/build;
    index index.html;

    location / {
        try_files $uri /index.html;
    }

    # Backend API proxy (change 3001 if your backend uses a different port)
    location /api/ {
        proxy_pass http://127.0.0.1:3306/;
        proxy_http_version 1.1;
        proxy_set_header Host $host;
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header X-Forwarded-For $remote_addr;
        proxy_set_header Connection "";
    }
}
```

Add database details into the config.json file

```
azureuser@epicbook-vm:~/theepicbook$ vim config/config.json
```



```
{
  "development": {
    "username": "azureuser",
    "password": "*****",
    "database": "bookstore",
    "host": "mysqlflexserv.mysql.database.azure.com",
    "dialect": "mysql",
    "dialectOptions": {
      "ssl": {
        "rejectUnauthorized": true
      }
    }
  }
}
```

```
azureuser@epicbook-vm:~/theepicbook$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
azureuser@epicbook-vm:~/theepicbook$ sudo systemctl restart nginx
azureuser@epicbook-vm:~/theepicbook$
```

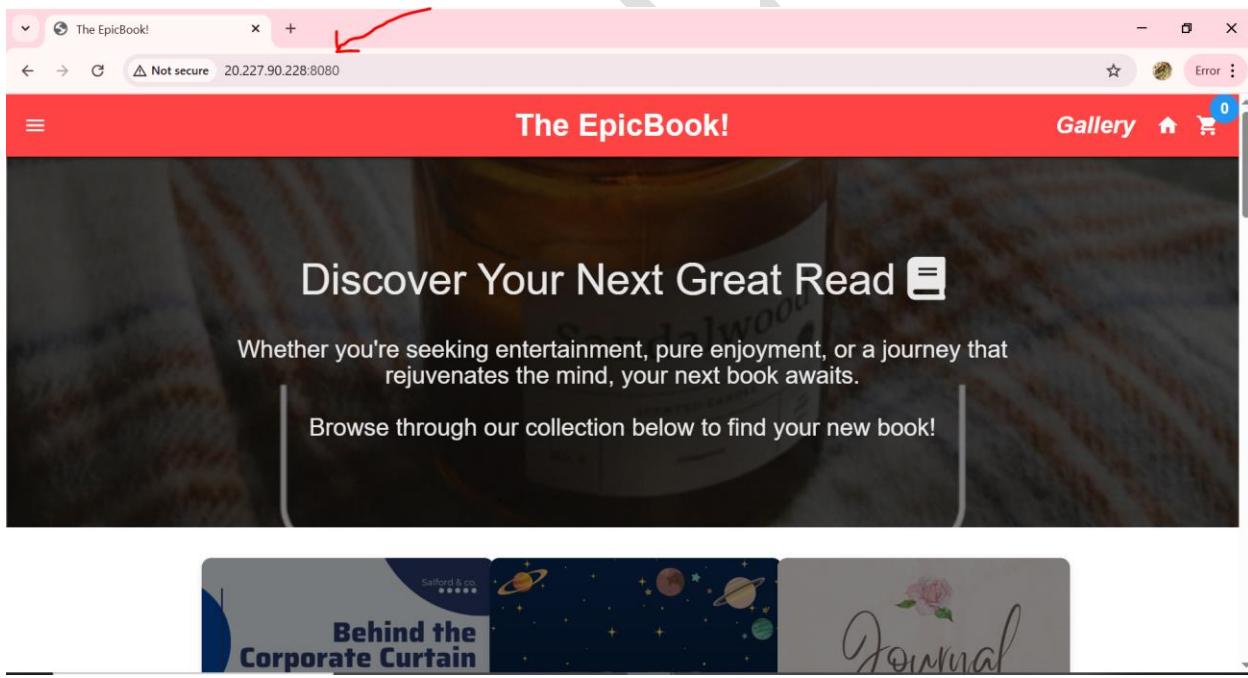
```

azureuser@epicbook-vm:~/theepicbook$ node server.js
going to html route
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Author'
' AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Author` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Book'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Book` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Cart'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Cart` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Checkout'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): CREATE TABLE IF NOT EXISTS `Checkout` ( `id` INTEGER NOT NULL auto_increment , `addressLine1` VARCHAR(255)
NOT NULL, `addressLine2` VARCHAR(255) NOT NULL, `city` VARCHAR(255) NOT NULL, `state` VARCHAR(255) NOT NULL, `zipCode` VARCHAR(255) NOT
NULL, `subTotal` DECIMAL NOT NULL, `createdAt` DATETIME NOT NULL, `updatedAt` DATETIME NOT NULL, `CartId` INTEGER,
PRIMARY KEY (`id`), FOREIGN KEY (`CartId`) REFERENCES `Cart`(`id`) ON DELETE SET NULL ON UPDATE CASCADE) ENGINE=InnoDB;
Executing (default): SHOW INDEX FROM `Checkout` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Cartbook'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): CREATE TABLE IF NOT EXISTS `Cartbook`(`createdAt` DATETIME NOT NULL, `updatedAt` DATETIME NOT NULL, `BookId` INTEGER ,
`CartId` INTEGER , PRIMARY KEY (`BookId`, `CartId`), FOREIGN KEY (`BookId`) REFERENCES `Book`(`id`) ON DELETE CASCADE
ON UPDATE CASCADE, FOREIGN KEY (`CartId`) REFERENCES `Cart`(`id`) ON DELETE CASCADE ON UPDATE CASCADE) ENGINE=InnoDB;
Executing (default): SHOW INDEX FROM `Cartbook` FROM `bookstore`
Executing (default): App listening on PORT 8080

```

6) End-to-End Test

Public IP of the VM with port 8080.



Video of EpicBooks Website Showing books being added to cart and order being placed



EpicBooks_Azure.mp4

Request Sent to the Server

```
azureuser@epicbook-vm:~/theepicbook$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
azureuser@epicbook-vm:~/theepicbook$ node server.js
going to html route
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Author'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Author` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Book'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Book` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Cart'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Cart` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Checkout'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Checkout` FROM `bookstore`
Executing (default): SELECT TABLE_NAME FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_TYPE = 'BASE TABLE' AND TABLE_NAME = 'Cartbook'
AND TABLE_SCHEMA = 'bookstore'
Executing (default): SHOW INDEX FROM `Cartbook` FROM `bookstore`
App listening on port 8080
Executing (default): SELECT `Book`.`id`, `Book`.`title`, `Book`.`genre`, `Book`.`pubYear`, `Book`.`price`, `Book`.`inventory`,
`Book`.`bookDescription`, `Book`.`createdAt`, `Book`.`updatedAt`, `Book`.`AuthorId`, `Author`.`id` AS `Author.id`, `Author`.`
firstName` AS `Author.firstName`, `Author`.`lastName` AS `Author.lastName`, `Author`.`createdAt` AS `Author.createdAt`, `Author`.`
updatedAt` AS `Author.updatedAt` FROM `Book` AS `Book` LEFT OUTER JOIN `Author` AS `Author` ON `Book`.`AuthorId` = `Author`.`
id` LIMIT 9;
Executing (default): SELECT DISTINCT(`genre`) AS `DISTINCT` FROM `Book` AS `Book`;
Executing (default): SELECT count(*) AS `count` FROM `Cart` AS `Cart`;
Executing (default): SELECT `id`, `title`, `genre`, `pubYear`, `price`, `inventory`, `bookDescription`, `createdAt`, `updatedAt` FROM `Book` AS `Book` WHERE `Book`.`id` = 2;
Executing (default): INSERT INTO `Cart`(`id`, `quantity`, `price`, `createdAt`, `updatedAt`) VALUES (DEFAULT,?, ?, ?);
Executing (default): SELECT `createdAt`, `updatedAt`, `BookId`, `CartId` FROM `Cartbook` AS `Cartbook` WHERE `Cartbook`.`CartId` = 1 AND `Cartbook`.`BookId` IN (2);
Executing (default): INSERT INTO `Cartbook`(`createdAt`, `updatedAt`, `BookId`, `CartId`) VALUES ('2025-10-04 10:52:58', '2025-10-04 10:52:58', 2,1);
Executing (default): SELECT `Book`.`id`, `Book`.`title`, `Book`.`genre`, `Book`.`pubYear`, `Book`.`price`, `Book`.`inventory`,
`Book`.`bookDescription`, `Book`.`createdAt`, `Book`.`updatedAt`, `Book`.`AuthorId`, `Author`.`id` AS `Author.id`, `Author`.`
firstName` AS `Author.firstName`, `Author`.`lastName` AS `Author.lastName`, `Author`.`createdAt` AS `Author.createdAt`, `Author`.`
updatedAt` AS `Author.updatedAt` FROM `Book` AS `Book` LEFT OUTER JOIN `Author` AS `Author` ON `Book`.`AuthorId` = `Author`.`
id` LIMIT 9;
Executing (default): SELECT DISTINCT(`genre`) AS `DISTINCT` FROM `Book` AS `Book`;
Executing (default): SELECT count(*) AS `count` FROM `Cart` AS `Cart`;
Executing (default): SELECT `id`, `title`, `genre`, `pubYear`, `price`, `inventory`, `bookDescription`, `createdAt`, `updatedAt`
```

Screenshots of PM installation done during Troubleshooting:

LinkedIn Post1:

https://www.linkedin.com/posts/adrina-colaco_deploy-a-react-application-on-an-azure-virtual-activity-7379232209184104448-2izT?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAPhxLwBOfaV_xhbVwfucz8dVOvN7T9q0RM

LinkedIn post2:

https://www.linkedin.com/posts/adrina-colaco_azure-devops-threetierapp-activity-7379239940330541056-PP_2?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAPhxLwBOfaV_xhbVwfucz8dVOvN7T9q0RM

LinkedIn post3:

https://www.linkedin.com/posts/adrina-colaco_azure-cloudmigration-staticwebsite-activity-7379262125208375296-BueQ?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAPhxLwBOfaV_xhbVwfucz8dVOvN7T9q0RM

LinkedIn post4:

https://www.linkedin.com/posts/adrina-colaco_overcoming-challenges-through-collaboration-activity-7380235245821886464-FQOA?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAPhxLwBOfaV_xhbVwfucz8dVOvN7T9q0RM

Blogs:

<https://medium.com/@adcola13/deploy-a-react-application-on-an-azure-virtual-machine-ba79f4d8d071>

The End

P.S. This document is part of the **FREE DevOps Micro Internship (DMI) Cohort** run by [Pravin Mishra](#). You can start your DevOps journey for free from his [YouTube Playlist](#).