Cloud Lab Assignment 1

RASHMIKA KASHYAP

TASK 1. Creating a database instance in Lightsail and connecting to sql server using generated username and password

TASK 2. Creating a Lightsail instance and deploying web application on it
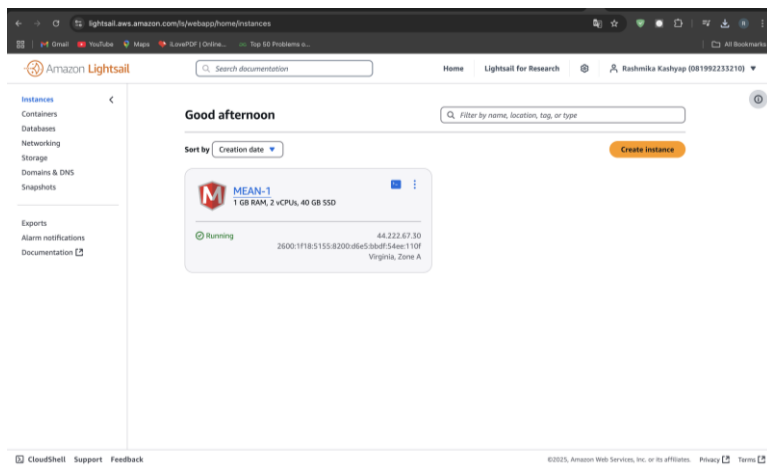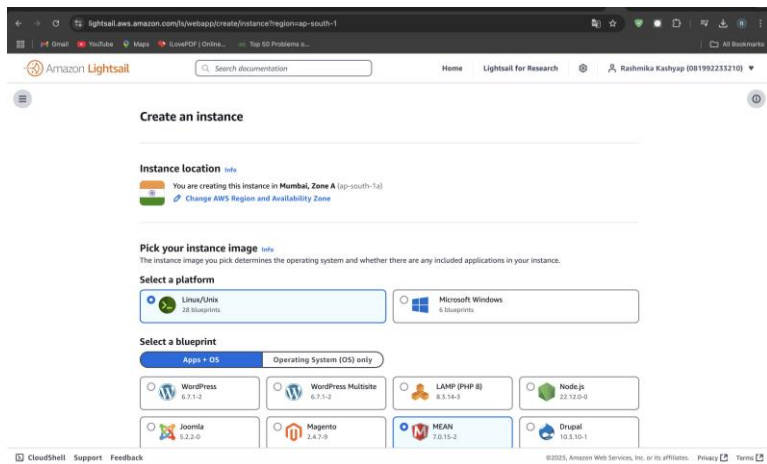
Using Filezilla to work on the server as well as client side for file transfer
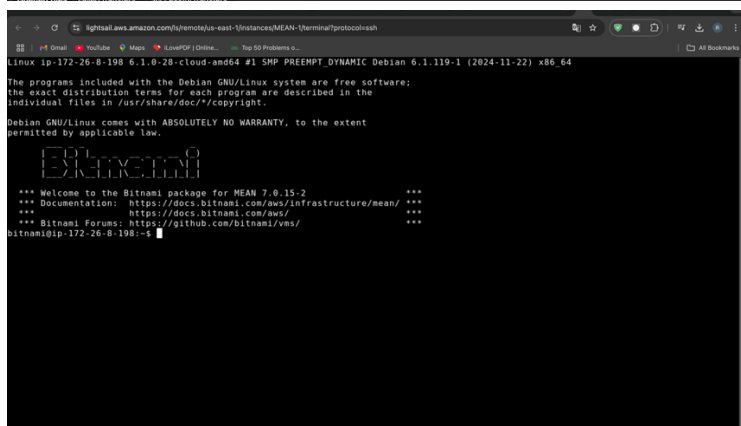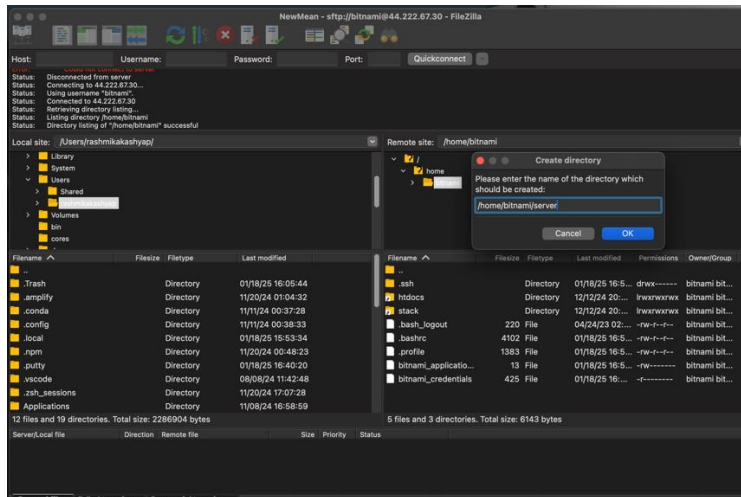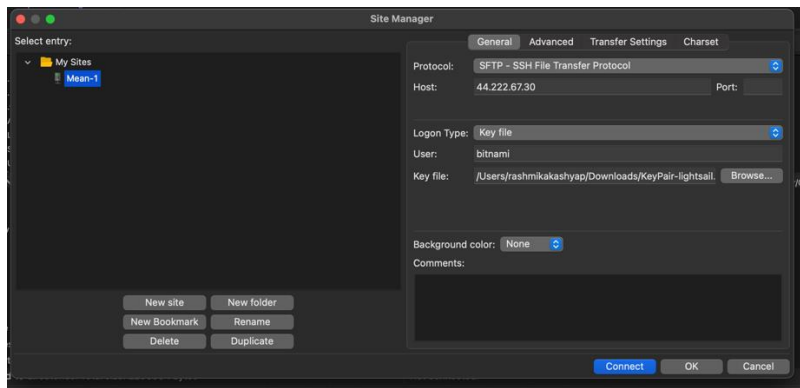
Deploying application on local host

Registering a Domain Name and deploying the application

Creating records

Deployed using HTTP (not secure)

Redirecting traffic from HTTP to HTTPS


```
bitnami@ip-172-26-8-198:~$ sudo /opt/bitnami/bncert-tool
----------------------------------------------------------------------
Welcome to the Bitnami HTTPS Configuration tool.
----------------------------------------------------------------------
Domains

Please provide a valid space-separated list of domains for which you wish to
configure your web server.

Domain list []: client.crazyrash.com server.crazyrash.com

The following domains were not included: www.client.crazyrash.com www.server.crazyrash.com. Do you want to add them? [Y/n]: n

Warning: No www domains (e.g. www.example.com) or non-www domains (e.g.
www.example.com) have been provided, so the following redirections will be
disabled: non-www to www, www to non-www.
Press [Enter] to continue:
----------------------------------------------------------------------
Enable/disable redirections

Please select the redirections you wish to enable or disable on your Bitnami
installation.


Enable HTTP to HTTPS redirection [Y/n]: y


----------------------------------------------------------------------
Changes to perform

The following changes will be performed to your Bitnami installation:
```



```
The Let's Encrypt Subscriber Agreement can be found at:

https://letsencrypt.org/documents/LE-SA-v1.3-September-21-2022.pdf

Do you agree to the Let's Encrypt Subscriber Agreement? [Y/n]: y


----------------------------------------------------------------------
Performing changes to your installation

The Bitnami HTTPS Configuration Tool will perform any necessary actions to your
Bitnami installation. This may take some time, please be patient.
----------------------------------------------------------------------
Success

The Bitnami HTTPS Configuration Tool succeeded in modifying your installation.

The configuration report is shown below.

Backup files:
* /opt/bitnami/apache/conf/httpd.conf.back.202501181343
* /opt/bitnami/apache/conf/bitnami/bitnami.conf.back.202501181343
* /opt/bitnami/apache/conf/bitnami/bitnami-ssl.conf.back.202501181343

Find more details in the log file:

/tmp/bncert-202501181343.log

If you find any issues, please check Bitnami Support forums at:

https://github.com/bitnami/vms

Press [Enter] to continue:
bitnami@ip-172-26-8-198:~$
```
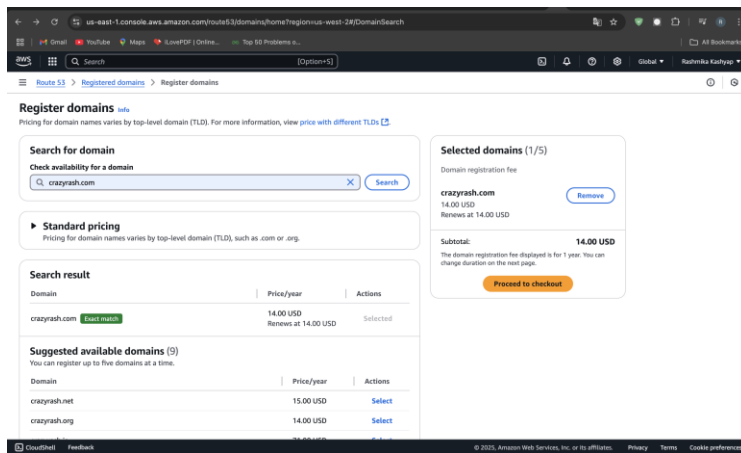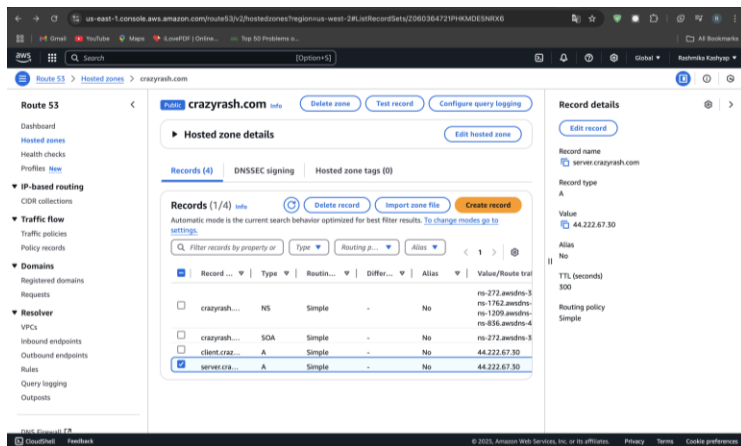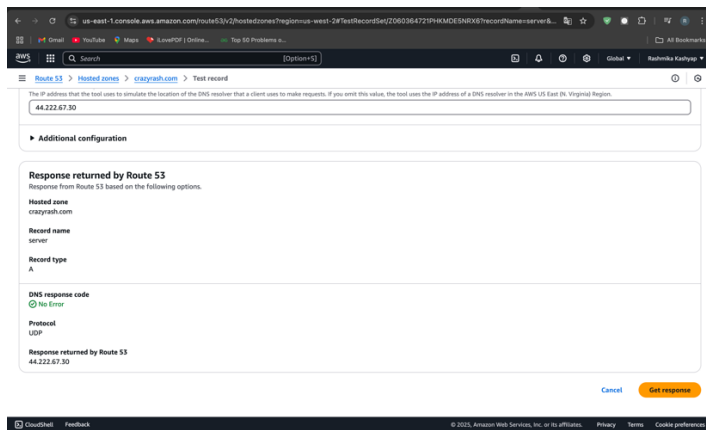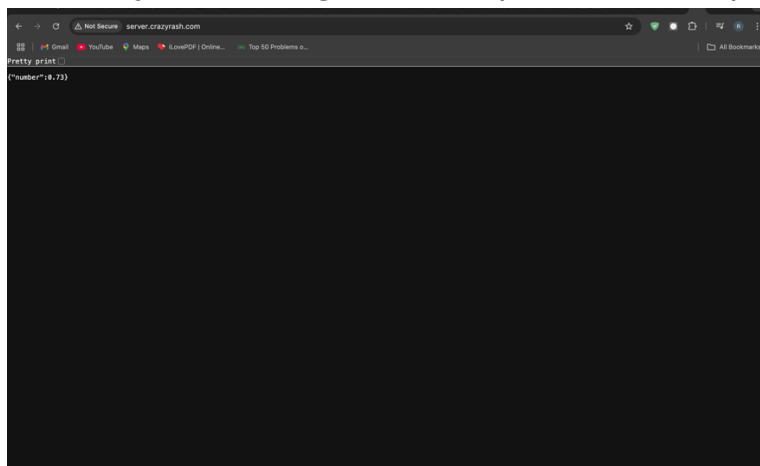


```
bitnami@ip-172-26-8-198:~$ apachectl -S
VirtualHost configuration:
127.0.0.1:80           status.localhost (/opt/bitnami/apache/conf/vhosts/00_status-vhost.conf:1)
*:80                   is a NameVirtualHost
        default server client.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:1)
        port 80 namevhost client.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:1)
        port 80 namevhost server.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:5)
        port 80 namevhost client.crazyrash.com (/opt/bitnami/apache/conf/bitnami/bitnami.conf:6)
*:443                  client.crazyrash.com (/opt/bitnami/apache/conf/bitnami/bitnami-ssl.conf:15)
ServerRoot: "/opt/bitnami/apache"
Main DocumentRoot: "/opt/bitnami/apache/htdocs"
Main ErrorLog: "/opt/bitnami/apache/logs/error_log"
Mutex ssl-stapling-refresh: using_defaults
Mutex rewrite-map: using_defaults
Mutex ssl-stapling: using_defaults
Mutex proxy: using_defaults
Mutex ssl-cache: using_defaults
Mutex default: dir="/opt/bitnami/apache/logs/" mechanism=default
Mutex proxy-balancer-shm: using_defaults
PidFile: "/opt/bitnami/apache/var/run/httpd.pid"
Define: DUMP_VHOSTS
Define: DUMP_RUN_CFG
User: name="daemon" id=1 not_used
Group: name="daemon" id=1 not_used
bitnami@ip-172-26-8-198:~$
```

Changing the virtual host configuration [HTTP to HTTPS port 80 to 443]

```
bitnami@ip-172-26-8-198:~$ ls /opt/bitnami/apache/conf/
bitnami              deflate.conf    httpd.conf.back.202501181343    modsecurity.conf    vhosts
client.crazyrash.com.crt    extra         magic                       original
client.crazyrash.com.key    httpd.conf    mime.types                  unicode.mapping
bitnami@ip-172-26-8-198:~$ cat vhost.conf
<VirtualHost *:443>
    ServerName client.crazyrash.com
    SSLEngine on
    SSLCertificateFile "/opt/bitnami/apache/conf/client.crazyrash.com.crt"
    SSLCertificateKeyFile "/opt/bitnami/apache/conf/client.crazyrash.com.key"

</VirtualHost>
<VirtualHost *:443>
    ServerName server.crazyrash.com
    ProxyPass / http://localhost:8000/
    ProxyPassReverse / http://localhost:8000/
    SSLEngine on
    SSLCertificateFile "/opt/bitnami/apache/conf/client.crazyrash.com.crt"
    SSLCertificateKeyFile "/opt/bitnami/apache/conf/client.crazyrash.com.key"

</VirtualHost>bitnami@ip-172-26-8-198:~$
```

```
bitnami@ip-172-26-8-198:~$ cat vhost.conf
<VirtualHost *:443>
    ServerName client.crazyrash.com
    SSLEngine on
    SSLCertificateFile "/opt/bitnami/apache/conf/client.crazyrash.com.crt"
    SSLCertificateKeyFile "/opt/bitnami/apache/conf/client.crazyrash.com.key"

</VirtualHost>
<VirtualHost *:443>
    ServerName server.crazyrash.com
    ProxyPass / http://localhost:8000/
    ProxyPassReverse / http://localhost:8000/
    SSLEngine on
    SSLCertificateFile "/opt/bitnami/apache/conf/client.crazyrash.com.crt"
    SSLCertificateKeyFile "/opt/bitnami/apache/conf/client.crazyrash.com.key"
</VirtualHost>bitnami@ip-172-26-8-198:~$ cp vhost.conf /opt/bitnami/apache/conf/vhosts/
bitnami@ip-172-26-8-198:~$ apachectl configtest
Syntax OK
bitnami@ip-172-26-8-198:~$ sudo /opt/bitnami/ctlscript.sh restart apache
Restarted apache
bitnami@ip-172-26-8-198:~$ apachectl -S
VirtualHost configuration:
127.0.0.1:80           status.localhost (/opt/bitnami/apache/conf/vhosts/00_status-vhost.conf:1)
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         port 443 namevhost server.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:8)
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Main DocumentRoot: "/opt/bitnami/apache/htdocs"
Main ErrorLog: "/opt/bitnami/apache/logs/error_log"
Mutex proxy-balancer-shm: using_defaults
Mutex ssl-stapling-refresh: using_defaults
Mutex rewrite-map: using_defaults
Mutex ssl-stapling: using_defaults
```

MEAN-1
44.222.67.30


```
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PidFile: "/opt/bitnami/apache/var/run/httpd.pid"
Define: DUMP_VHOSTS
Define: DUMP_RUN_CFG
User: name="daemon" id=1 not_used
Group: name="daemon" id=1 not_used
bitnami@ip-172-26-8-198:~$
```


Pretty print

{"number":4.13}

Connection is secure now, both on client as well as server side

TASK 3. PIZZA DELIVERY CHATBOT

Creating intent
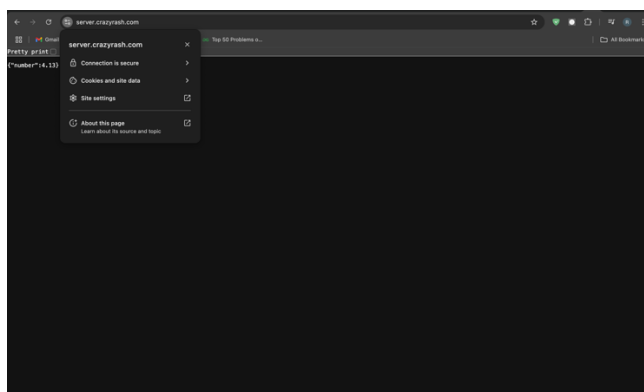
Creating slots for First name, Type of pizza, Pizza Crust, Add Ons and delivery time.

Building the chatbot and testing it

vegan

Would you like any additional add ons?

Appetizers:

Coke

Chocolava

Fries

None

chocolava

Please let me know your preferred delivery time.

12 am

Order details: Vegan with Cheese Burst . Add ons: Chocolava.Should i confirm you order?

12 am

Order details: Vegan with Cheese Burst . Add ons: Chocolava.Should i confirm you order?

yes

Thankyou for your order Mayank! Your pizza will be delivered to you by 00:00.