

# Cloud Lab Assignment 1

RASHMIKA KASHYAP

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

The screenshot shows the AWS Lightsail console interface. At the top, there's a search bar and navigation links. The main content area displays the 'Database-1' instance details, including its specifications (1 GB RAM, 2 vCPUs, 40 GB SSD), MySQL database version (8.0.40), and location (Virginia, Zone A (us-east-1a)). The status is 'Available'. Below this, the 'Network security' section is highlighted, showing 'Public mode' is enabled. A warning message states: 'Anyone with your database user name and password can connect to it.' The bottom part of the screenshot shows a SQL query editor with a script to create a database, create a table, insert data, and select from the table. The 'Result Grid' shows the output of the queries, including the table structure and the inserted data.

Database-1

1 GB RAM, 2 vCPUs, 40 GB SSD  
MySQL database (8.0.40)  
Virginia, Zone A (us-east-1a)

Status: **Available**

Endpoint: `ls-1b5af52cae560fc1ec4b772981a91adade902276.crwvw26ge66mj.us-east-1.rds.amazonaws.com`  
Port: **3306**

Connect Logs & history Metrics **Networking** Snapshots & restore Tags Delete

Network security

☒ Public mode

When public mode is enabled, anyone with your database user name and password can connect to it. When this mode is disabled, only your Lightsail resources in the same Region as your database can connect to it.

Public mode is **enabled**.

⚠️ Anyone with your database user name and password can connect to it.

SQL Script:

```
1 CREATE DATABASE database1;
2 USE database1;
3 CREATE TABLE data (Name varchar(255), City varchar(255));
4 SHOW TABLES;
5 DESCRIBE data;
6 INSERT INTO data(Name, City) VALUES ('Rashmika', 'Lucknow'), ('Nazeem', 'Delhi');
7 SELECT * FROM data;
```

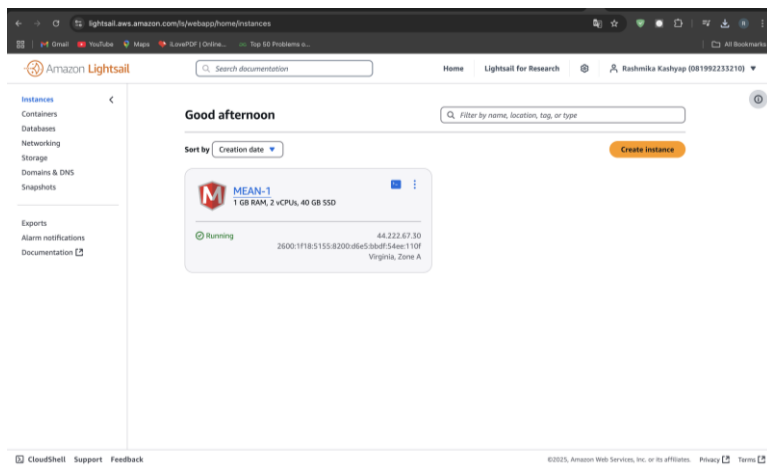
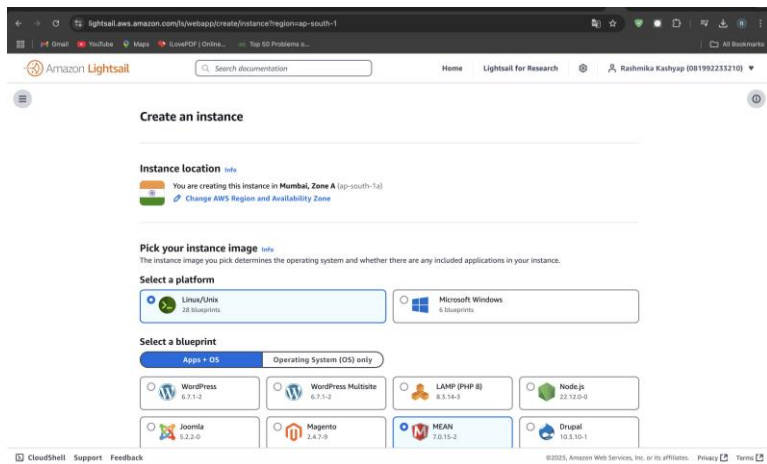
Result Grid:

Name	City
Rashmika	Lucknow
Nazeem	Delhi

Action Output:

Time	Action	Response	Duration / Fetch Time
16:07:00	DESCRIBE data	2 rows(s) returned	0.225 sec / 0.000043...
16:08:41	SELECT * FROM data LIMIT 0, 1000	2 rows(s) returned	0.308 sec / 0.000033...

TASK 2. Creating a Lightsail instance and deploying web application on it



## Congratulations!

You are now running **MEAN packaged by Bitnami**.

### Useful Links

The following links will help you to understand better how to get started and configure the application you just launched.

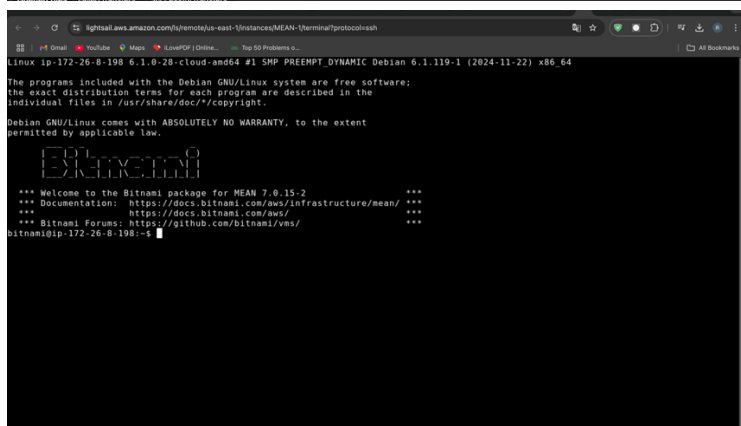
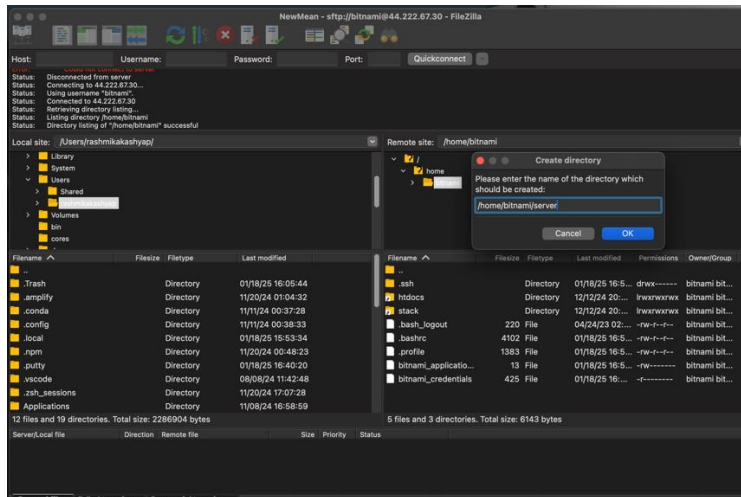
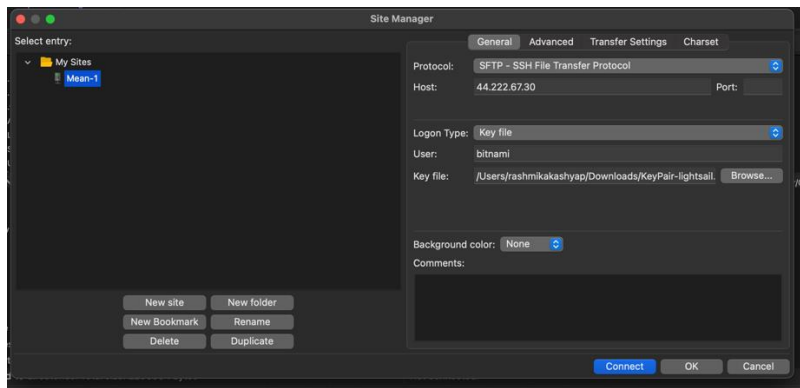
[Get Started](#)[Documentation](#)[Support](#)

### Quick Start

[Connect to your server](#) and start developing your Meantack application!

You can get more information in our [introduction to Meantack tutorial](#)

# Using Filezilla to work on the server as well as client side for file transfer

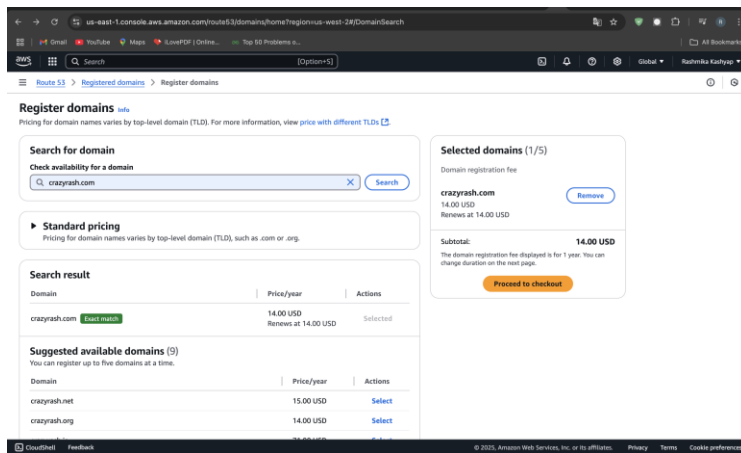


MEAN-1  
44.222.67.30

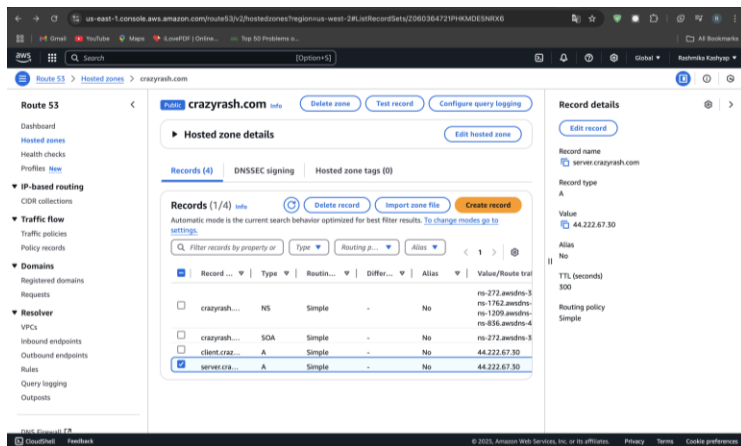
## Deploying application on local host



## Registering a Domain Name and deploying the application



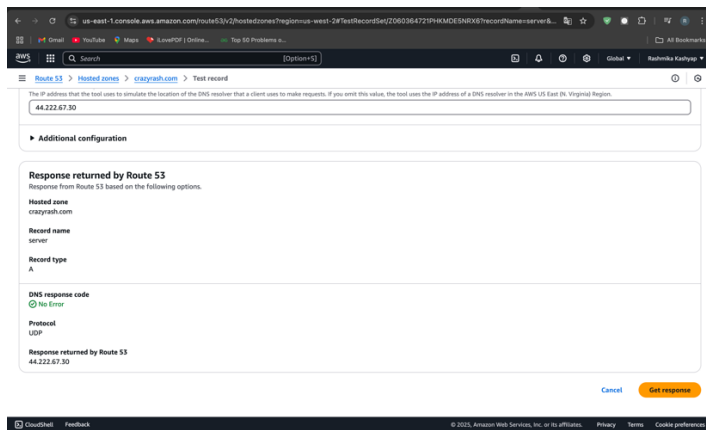
# Creating records



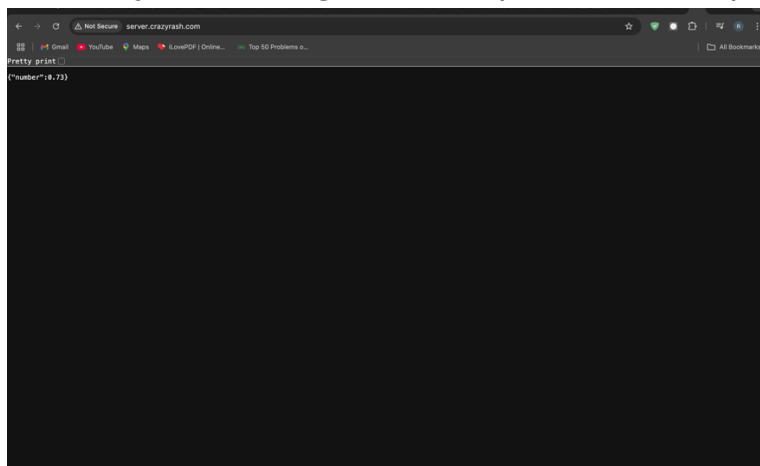
```
bitnami@ip-172-26-8-198:~/servers$ cd ..
bitnami@ip-172-26-8-198:~$ cat vhost.conf
<VirtualHost *:80>
    ServerName client.crazyrash.com

</VirtualHost>
<VirtualHost *:80>
    ServerName server.crazyrash.com
    ProxyPass / http://localhost:8000/
    ProxyPassReverse / http://localhost:8000/
</VirtualHost>
bitnami@ip-172-26-8-198:~$ cp vhost.conf /opt/bitnami/apache/conf/vhosts/
bitnami@ip-172-26-8-198:~$ cd /opt/bitnami/apache/conf/vhosts/
bitnami@ip-172-26-8-198:/opt/bitnami/apache/conf/vhosts$ ls
00_status-vhost.conf  htaccess  sample-https-vhost.conf.disabled  sample-vhost.conf.disabled  vhost.conf
```

```
ProxyPassReverse / http://localhost:8000/
</VirtualHost>
bitnami@ip-172-26-8-198:~$ cp vhost.conf /opt/bitnami/apache/conf/vhosts/
bitnami@ip-172-26-8-198:~$ cd /opt/bitnami/apache/conf/vhosts/
bitnami@ip-172-26-8-198:/opt/bitnami/apache/conf/vhosts$ ls
00_status-vhost.conf  htaccess  sample-https-vhost.conf.disabled  sample-vhost.conf.disabled  vhost.conf
bitnami@ip-172-26-8-198:/opt/bitnami/apache/conf/vhosts$ apachectl configtest
Syntax OK
bitnami@ip-172-26-8-198:/opt/bitnami/apache/conf/vhosts$ sudo /opt/bitnami/ctlscript.sh restart apache
Restarted apache
bitnami@ip-172-26-8-198:/opt/bitnami/apache/conf/vhosts$ apachectl -S
VirtualHost configuration:
127.0.0.1:80
*:80
    status localhost (/opt/bitnami/apache/conf/vhosts/00_status-vhost.conf:1)
    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 www.example.com (/opt/bitnami/apache/conf/bitnami/bitnami.conf:6)
*:443
    www.example.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 default: dir="/opt/bitnami/apache/logs/" mechanism=default
Mutex proxy-balancer: shm: using defaults
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
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:/opt/bitnami/apache/conf/vhosts$
```



Deployed using HTTP (not secure)



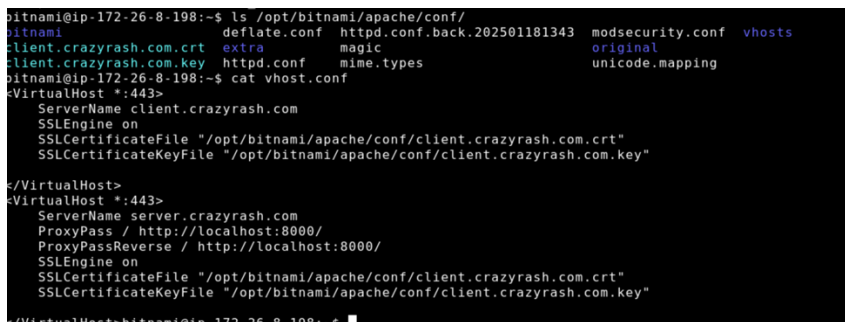
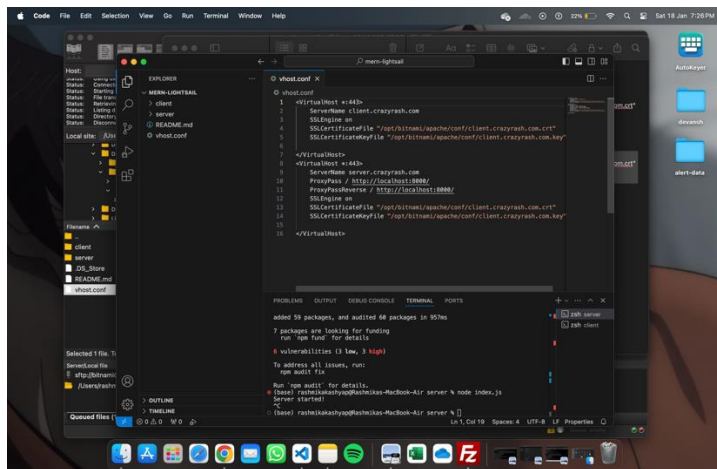
# Redirecting traffic from HTTP to HTTPS

```
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
    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]

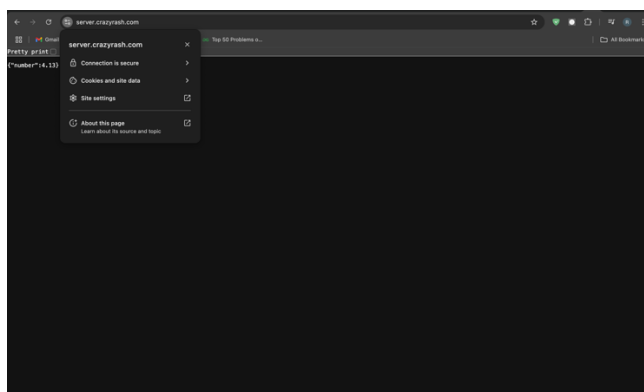


```
lightail.aws.amazon.com[remote(us-east-1)instances/MEAN-1/terminal?protocol=ssh]
bitnami@ip-172-26-8-198:~$ cat vhost.conf
<VirtualHost *:443>
    ServerName client.crazyrash.com
    SSLEngine on
    SSLCertificateFile "/opt/bitnami/apache/conf/client.crazyrash.com.crt"
    SSLCertificateKeyFile "/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)
*:80             client.crazyrash.com (/opt/bitnami/apache/conf/bitnami/bitnami.conf:6)
*:443            is a NameVirtualHost
                  default server client.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:1)
                  port 443 namevhost client.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:1)
                  port 443 namevhost server.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:8)
                  port 443 namevhost 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 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
```

```
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)
*:80             client.crazyrash.com (/opt/bitnami/apache/conf/bitnami/bitnami.conf:6)
*:443            is a NameVirtualHost
                  default server client.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:1)
                  port 443 namevhost client.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:1)
                  port 443 namevhost server.crazyrash.com (/opt/bitnami/apache/conf/vhosts/vhost.conf:8)
                  port 443 namevhost 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 proxy-balancer-shm: using defaults
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
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:~$
```

```
server.crazyrash.com
Pretty print
{"number":4.13}
```

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










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

▶ Prompt for slot: Name Message: Hello, I'm your pizza buddy may I know your ...	Slot type AMAZON.FirstName	×
▶ Prompt for slot: PizzaType Message: What kind of Pizza do you want to order (No...	Slot type PizzaType	×
▶ Prompt for slot: PizzaCrust Message: Tasty! please choose your desired crust.	Slot type Crust	×
▶ Prompt for slot: AddOns Message: Would you like any additional add ons?	Slot type AddOns	×
▼ Prompt for slot: DeliveryTime	Slot type	×

## Building the chatbot and testing it

**Test Draft version**   

Last build submitted: 3 minutes ago

**Inspect**

I would like to order pizza with cheese burst crust.

Hello, I'm your pizza buddy may I know your name?

Mayank

What kind of Pizza do you want to order Mayank?

 Ready for complete testing

What kind of Pizza do you want to order Mayank?

**Pizza type:**

Vegetarian

Italian

Vegan

New York Style

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.