

Linux Based Apache Server Hosting Guide (MERN Stack)

If hosting server is running on Domain with SSL

- ❖ To serve React Client build on hosting server on domain.
 - Example: <https://theupvote.com/>

Step 1:

- Ensure Required Modules are enabled.
- You need to have proxy and proxy_http modules enabled.
- Run the following commands to enable them.

Ex:

```
sudo a2enmod proxy
sudo a2enmod proxy_http
sudo systemctl restart apache2
```

```
sudo a2enmod rewrite (Enable this for solving React Routing Issue)
```

Step 2:

- Set Up a Virtual Host for React.
- Create a virtual host configuration for your React app.
- Create a file named react-app.conf in /etc/apache2/sites-available/

```
sudo nano /etc/apache2/sites-available/react-app.conf
```

Ex:

```
<IfModule mod_ssl.c>
<VirtualHost *:443>
    ServerAdmin webmaster@localhost
    DocumentRoot /var/www/html/client

    ErrorLog ${APACHE_LOG_DIR}/client_error.log
    CustomLog ${APACHE_LOG_DIR}/client_access.log combined

    ServerName theupvote.com
    SSLCertificateFile /etc/letsencrypt/live/theupvote.com/fullchain.pem
    SSLCertificateKeyFile /etc/letsencrypt/live/theupvote.com/privkey.pem
    Include /etc/letsencrypt/options-ssl-apache.conf

    <Directory /var/www/html/client >
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>
```

```
</VirtualHost>
</IfModule>
```

Step 3:

- Enable the New Virtual Host.

Ex:

```
sudo a2ensite react-app.conf
sudo systemctl reload apache2
```

Step 4:

- Restart Apache

Ex:

```
sudo systemctl restart apache2
```

Step 5:

- Upload your build files to /var/www/html/client folder and create .htaccess file in the client folder.
- Write the below configuration in .htaccess file.

Ex:

```
<IfModule mod_rewrite.c>
    RewriteEngine On
    RewriteBase /

    RewriteRule ^index\.html$ - [L]
    RewriteCond %{REQUEST_FILENAME} !-f
    RewriteCond %{REQUEST_FILENAME} !-d
    RewriteRule ^ /index.html [L]
</IfModule>
```

- ❖ To serve Admin build on hosting server on domain.
 - Example: <https://admin.theupvote.com/>

Step 1:

- Ensure Required Modules are enabled.
- You need to have proxy and proxy_http modules enabled.
- Run the following commands to enable them.

Ex:

```
sudo a2enmod proxy
sudo a2enmod proxy_http
sudo systemctl restart apache2
```

Step 2:

- Set Up a Virtual Host for React Admin.
- Create a virtual host configuration for your React Admin app.

- Create a file named admin.theupvote.com.conf in /etc/apache2/sites-available/

```
sudo nano /etc/apache2/sites-available/admin.theupvote.com.conf
```

Ex:

```
<IfModule mod_ssl.c>
  <VirtualHost *:443>
    ServerAdmin webmaster@localhost
    DocumentRoot /var/www/html/admin

    ErrorLog ${APACHE_LOG_DIR}/admin_error.log
    CustomLog ${APACHE_LOG_DIR}/admin_access.log combined

    ServerName admin.theupvote.com
    SSLCertificateFile /etc/letsencrypt/live/admin.theupvote.com/fullchain.pem
    SSLCertificateKeyFile /etc/letsencrypt/live/admin.theupvote.com/privkey.pem
    Include /etc/letsencrypt/options-ssl-apache.conf

    <Directory /var/www/html/admin>
      Options Indexes FollowSymLinks
      AllowOverride All
      Require all granted
    </Directory>
  </VirtualHost>
</IfModule>
```

Step 3:

- Enable the New Virtual Host.

Ex:

```
sudo a2ensite admin.theupvote.com.conf
sudo systemctl reload apache2
```

Step 4:

- Restart Apache

Ex:

```
sudo systemctl restart apache2
```

Step 5:

- Upload your build files to /var/www/html/admin folder and create .htaccess file in the admin folder.
- Write the below configuration in .htaccess file.

Ex:

```
<IfModule mod_rewrite.c>
  RewriteEngine On
```

```

RewriteBase /

RewriteRule ^index\.html$ - [L]
RewriteCond %{REQUEST_FILENAME} !-f
RewriteCond %{REQUEST_FILENAME} !-d
RewriteRule ^/index.html [L]
</IfModule>

```

- ❖ To Host Node backend server code on Linux based Apache Server using pm2 with SSL

Step 1:

- Ensure Required Modules are enabled.
- You need to have proxy and proxy_http modules enabled.
- Run the following commands to enable them.

Ex:

```

sudo a2enmod proxy
sudo a2enmod proxy_http
sudo systemctl restart apache2

```

Step 2:

- Set Up a Virtual Host for Server.
- Create a virtual host configuration for your Server.
- Create a file named server.theupvote.com.conf in /etc/apache2/sites-available/

```

sudo nano /etc/apache2/sites-available/server.theupvote.com.conf

```

Ex:

```

<VirtualHost *:80>
    ServerName server.theupvote.com
    ProxyPreserveHost On

    ErrorLog ${APACHE_LOG_DIR}/server_error.log
    CustomLog ${APACHE_LOG_DIR}/server_access.log combined

    RewriteEngine on
    RewriteCond %{SERVER_NAME} =server.theupvote.com
    RewriteRule ^
https://%{SERVER_NAME}%{REQUEST_URI}[END,NE,R=permanent]
</VirtualHost>

<IfModule mod_ssl.c>
<VirtualHost *:443>
    ServerName server.theupvote.com

    ProxyPreserveHost On

```

```
ProxyPass / http://localhost:8080/
ProxyPassReverse / http://localhost:8080/
```

```
ErrorLog ${APACHE_LOG_DIR}/server_ssl_error.log
CustomLog ${APACHE_LOG_DIR}/server_ssl_access.log combined
```

```
SSLCertificateFile /etc/letsencrypt/live/server.theupvote.com/fullchain.pem
SSLCertificateKeyFile /etc/letsencrypt/live/server.theupvote.com/privkey.pem
Include /etc/letsencrypt/options-ssl-apache.conf
```

```
</VirtualHost>
</IfModule>
```

Step 4:

- Set Up a Virtual Host for Server for specifying port.
- Create a virtual host configuration for your Server.
- Create a file named server.theupvote.com.8080.conf in /etc/apache2/sites-available/

```
sudo nano /etc/apache2/sites-available/server.theupvote.com.8080.conf
```

Ex:

```
<VirtualHost *:8080>
    ServerName server.theupvote.com
    DocumentRoot /var/www/html/server

    <Directory /var/www/html/server>
        Options Indexes FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    ErrorLog ${APACHE_LOG_DIR}/server_8080_error.log
    CustomLog ${APACHE_LOG_DIR}/server_8080_access.log combined
</VirtualHost>
```

Step 5:

- Enable the New Virtual Host.

Ex:

```
sudo a2ensite server.theupvote.com.8080.conf
sudo systemctl reload apache2
```

Step 6:

- Restart Apache

Ex:

```
sudo systemctl restart apache2
```

Step 7:

- Upload all your backend code of files on /var/www/html/server folder

Step 8:

- Install pm2 globally on server

Ex:

```
npm i pm2 -g
```

Step 9:

- Start main file i.e index.js or app.js with specific pm2 service name and port

Ex:

```
pm2 start index.js or app.js --name "server_name" --env PORT=8080
```