**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