RAMPEX SERVER CONFIGURATION

Server Deployment Tools Configuration:

1. Tools Required:
   - NPM & Node for backend and frontend
   - Nginx – For server port proxy
   - Cerbot – for SSL
   - Git – for Repository Manangement
   - C, C++, Java, Python, Golang, Ruby, MySql compilers

2. Procedures for installation and Deployment :
   - First Run the below commands to install the tools required

```
sudo apt update
```

```
sudo apt upgrade
```

```
sudo apt install build-essential libssl-dev curl -y
```

```
curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.39.3/install.sh | bash
```

```
source ~/.bashrc
```

```
nvm install node
```

```
sudo apt install build-essential openjdk-11-jdk python3 python3-pip golang ruby-full mysql-server -y
```

```
sudo apt install nginx certbot python3-certbot-nginx -y
```

3. Configure the files for frontend , backend, compilers

FRONTEND CONFIG:

1. Clone the repository on server

```
git clone https://github.com/RAMPeXTechnologies/FrontendProduct.git
```

2. Install the react dependencies

```
npm install
```

3. Build the react project :

```
npm run build
```

\------------------------- **Frontend Files Setup Completed**----------------------------/

\----------------------- **Scroll Down For Deployment setup** -------------------------/

BACKEND CONFIG:

1. Clone the repository on server

```
git clone https://github.com/RAMPeXTechnologies/BackendProduct.git
```

2. Install the node dependencies

```
npm install
```

\-------------------------- **Backend Files Setup Completed**----------------------------/

\----------------------- **Scroll Down For Deployment setup** --------------------------/

COMPILER CONFIG:

1. **Clone the repository on server**

   git clone https://github.com/RAMPeXTechnologies/CodeCompiler.git

2. **Install the node dependencies**

   npm install

\------------------------- **Compiler Files Setup Completed**----------------------------/

\------------------------- **Scroll Down For Deployment setup** --------------------------/

4. Run and deployment of applications

DEPLOYMENT:

1. **Install serve, pm2 server and nodemon**

```
npm install -g serve
```

```
npm install -g pm2
```

```
npm install -g nodemon
```

2. **Get the SSL for domain platform.rampex.in, backend.rampex.in, sqladmin.rampex.in (Follow the prompts on each commands)**

```
sudo certbot --nginx -d platform.rampex.in
```

```
sudo certbot --nginx -d backend.rampex.in
```

```
sudo certbot --nginx -d sqladmin.rampex.in
```

3. Frontend Deployment Setup:

- **Navigate to frontend react project folder**
- **Start react project by pm2 on port 3000**

```
pm2 serve build 3000 --spa --name frontend
```

- **Configure proxy of port 3000 to platform.rampex.in by Nginx**

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

- **Paste the Server block in the above file**

```
server {
  server_name platform.rampex.in;

  location / {
    proxy_pass http://localhost:3000;
    proxy_set_header Host $host;
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_set_header X-Forwarded-Proto $scheme;
  }

  listen 443 ssl; # managed by Certbot
  ssl_certificate /etc/letsencrypt/live/platform.rampex.in/fullchain.pem; # managed by Certbot
  ssl_certificate_key /etc/letsencrypt/live/platform.rampex.in/privkey.pem; # managed by Certbot
  include /etc/letsencrypt/options-ssl-nginx.conf; # managed by Certbot
  ssl_dhparam /etc/letsencrypt/ssl-dhparams.pem; # managed by Certbot
}
```

```
server {

  if ($host = platform.rampex.in) {

     return 301 https://$host$request_uri;

  } # managed by Certbot


  listen 80;

  server_name platform.rampex.in;

  return 404; # managed by Certbot

}
```

- **Make the SSL enabled over the website**

```
sudo ln -s /etc/nginx/sites-available/frontend /etc/nginx/sites-enabled/
```

- **Check for Syntax error & Restart the Nginx server**

```
sudo nginx -t
```

```
sudo systemctl restart nginx
```

- **Now load the platform.rampex.in site and check the https protocol is enabled or not.**

\---------------------- **Frontend Deployment Completed** --------------------/

4. Backend Deployment Setup:

- **Navigate to backend project folder**
- **Start project by pm2 on port 8000**

```
pm2 start server.js –name backend
```

- **Configure proxy of port 8000 to backend.rampex.in by Nginx**

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

- **Paste the Server block in the above file**

```
server {

  server_name backend.rampex.in;


  location / {

    proxy_pass https://localhost:8000;

    proxy_set_header Host $host;

    proxy_set_header X-Real-IP $remote_addr;

    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;

    proxy_set_header X-Forwarded-Proto $scheme;

  }


  listen 443 ssl; # managed by Certbot

  ssl_certificate /etc/letsencrypt/live/backend.rampex.in/fullchain.pem; # managed by
Certbot

  ssl_certificate_key /etc/letsencrypt/live/backend.rampex.in/privkey.pem; # managed by
Certbot

  include /etc/letsencrypt/options-ssl-nginx.conf; # managed by Certbot

  ssl_dhparam /etc/letsencrypt/ssl-dhparams.pem; # managed by Certbot

}
```

```
server {

   if ($host = backend.rampex.in) {

      return 301 https://$host$request_uri;

   } # managed by Certbot


   listen 80;

   server_name backend.rampex.in;

   return 404; # managed by Certbot

}
```

- **Make the SSL enabled over the website**

```
sudo ln -s /etc/nginx/sites-available/backend /etc/nginx/sites-enabled/
```

- **Check for Syntax error & Restart the Nginx server**

```
sudo nginx -t
```

```
sudo systemctl restart nginx
```

- **Now load the backend.rampex.in site and check the https protocol is enabled or not.**

\---------------------- **Backend Deployment Completed** --------------------/

5. Compiler Deployment Setup:

- **Navigate to backend project folder**
- **Start project by pm2 on port 8001**

```
pm2 start index.js –name compilers
```

\--------------------- **Compiler Deployment Completed** -------------------/

6. SqlAdmin Deployment Setup:

- **Install PhpMyadmin**

```
sudo apt install php-fpm php-mysql
```

```
sudo systemctl restart php8.3-fpm
```

```
sudo apt install phpmyadmin
```

- **Paste the server block to proxy phpmyadmin to sqladmin.rampex.in**

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

- **Paste the Server block in the above file**

```
server {

    listen 80;

    server_name sqladmin.rampex.in;

    root /usr/share/phpmyadmin;

    index index.php;


    location / {

        try_files $uri $uri/ =404;

    }

    location ~ \.php$ {

        include snippets/fastcgi-php.conf;

        fastcgi_pass unix:/run/php/php8.3-fpm.sock; # Change PHP version accordingly

    }

    location ~ /\.ht {

        deny all;

    }

}
```

- **Make the SSL enabled over the website**

```
sudo ln -s /etc/nginx/sites-available/phpmyadmin /etc/nginx/sites-enabled/
```

```
sudo nginx -t
```

```
sudo systemctl restart nginx
```

- **Now load the sqladmin.rampex.in site and check the https protocol is enabled or not.**

\--------------------- **SqlAdmin Deployment Completed** ---------------------/