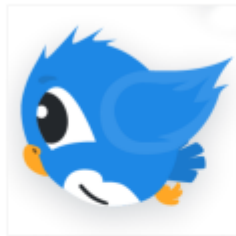


# How to Deploy Angular on Nginx remote Server Example – Use Vultr VPS Hosting

grokonez.com



# Deploy Angular

# NGINX

in **Nginx**  
+ **Vultr Vps**

In the tutorial, We show how to deploy Angular Client with Production mode on Nginx Remote Server with Vultr Hosting.

Related post:

- [Angular 6 dynamic Navigation Bar – add/remove Route dynamically](#)

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## **Technologies**

- Vultr Hosting
- Nginx Server
- Angular

## **Goal**

## **Video Demo**

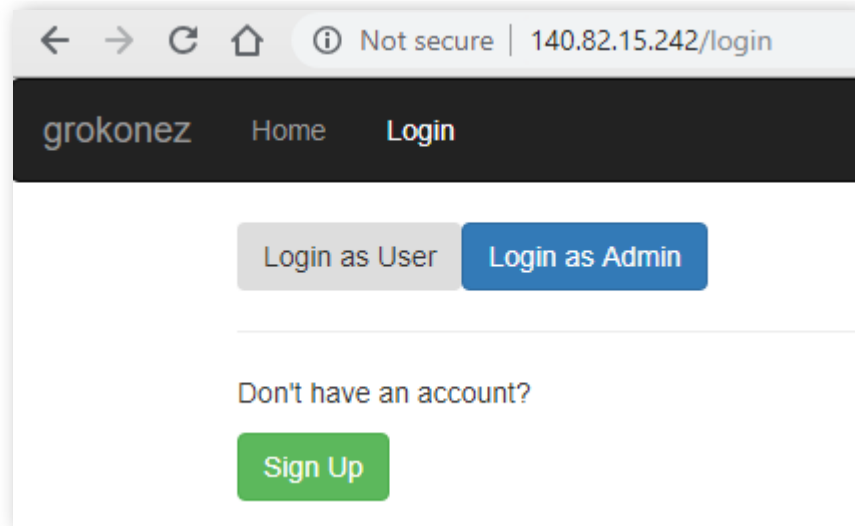
## How to Deploy Angular on Nginx remote Server Example – Use Vultr VPS...



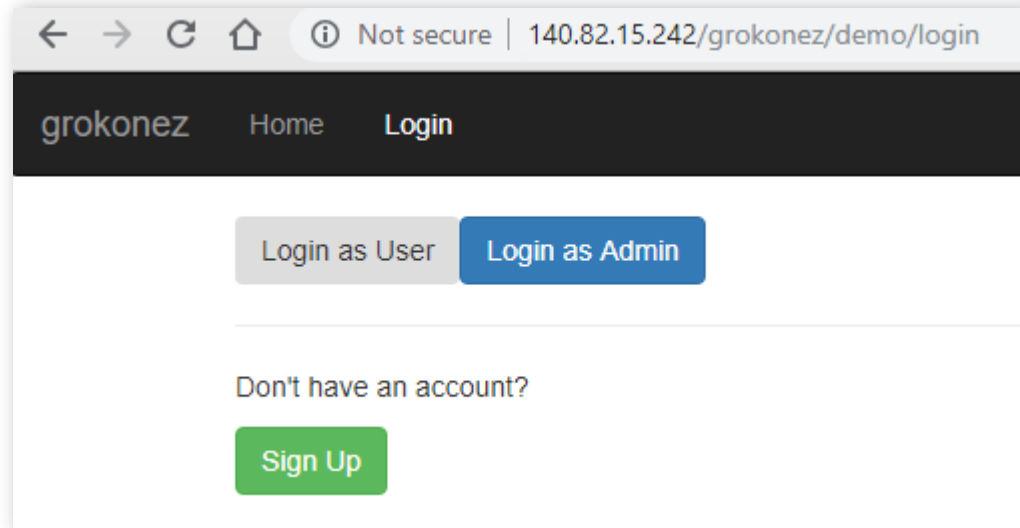
### Objectives

Deploy Angular Client on Nginx remote server:

- Normal deployment ->



- Sub-folder deployment ->



## How to achieve it?

Start with production build `ng build --prod`.

-> Then copy output folder (`dist/` by default) to Nginx server.

D:\gkz\article\AngularDynamicRoutes\dist\AngularDynamicRoutes\			/var/www/html/		
Name	Size	Type	Name		
..		Parent directory	..		
3rdpartylicenses.txt	3 KB	Text Document	3rdpartylicenses.txt		
favicon.ico	6 KB	Icon	favicon.ico		
index.html	1 KB	Opera Web Document	index.html		
main.5ed79ab1a6ec54e5bdd9.js	266 KB	JavaScript File	main.5ed79ab1a6ec54e5bdd9.js		
polyfills.2f4a59095805af02bd79.js	59 KB	JavaScript File	polyfills.2f4a59095805af02bd79.js		
runtime.a66f828dca56eeb90e0...	2 KB	JavaScript File	runtime.a66f828dca56eeb90e02.js		
styles.34c57ab7888ec1573f9c.css	0 KB	Cascading Style Sheet Document	styles.34c57ab7888ec1573f9c.css		

What are Production `--prod` optimizations?

- Ahead-of-Time (AOT) Compilation: pre-compiles Angular component templates.
- Production mode: deploys the production environment which enables production mode.
- Bundling: concatenates your many application and library files into a few bundles.
- Minification: removes excess whitespace, comments, and optional tokens.
- Uglification: rewrites code to use short, cryptic variable and function names.
- Dead code elimination: removes unreferenced modules and much unused code.

If the app uses the Angular router, When asked for a file that it does not have, Nginx server will return 404 – Not Found error.

-> Configure 404 error on the server to redirect requests for missing files to `index.html` :

```
try_files $uri $uri/ /index.html;
```

With sub-folder deployment, we re-build our sourcecoded with `--base-href` option:

```
ng build --prod --base-href "/grokonez/demo/"
```

– The HTML base href="..." specifies a base path for resolving relative URLs to assets such as images, scripts, and style sheets.

Then re-upload output( dist/ by default) to sub-folder of Nginx server:

D:\...\dist\AngularDynamicRoutes\		/var/www/html/grokonez/demo/	
Name		Name	Size
..		..	
3rdpartylicenses.txt		3rdpartylicenses.txt	3 KB
favicon.ico		favicon.ico	6 KB
index.html		index.html	1 KB
main.5ed79ab1a6ec54e5bdd9.js		main.5ed79ab1a6ec54e5bdd9.js	266 KB
polyfills.2f4a59095805af02bd79.js		polyfills.2f4a59095805af02bd79.js	59 KB
runtime.a66f828dca56eeb90e02.js		runtime.a66f828dca56eeb90e02.js	2 KB
styles.34c57ab7888ec1573f9c.css		styles.34c57ab7888ec1573f9c.css	0 KB


## Practice

Sourcecode for deployment at: [link](#)

### Start Vultr Hosting Server

Follow the [link](#) to Login to Vultr Hosting.

– Create a small server **grokonez-angular-deploy** such as:



## Server Information (grokonez-angular-deploy)

140.82.15.242   New Jersey   Ubuntu 18.10 x64


[Overview](#)   [Usage Graphs](#)   [Settings](#)   [Snapshots](#)   [Backups](#)   [DDOS](#)


Bandwidth Usage


**0.04GB**/500GB

CPU Usage



**4%**



Location:  New Jersey

IP Address: 140.82.15.242 

Username: root

Password: .....  

CPU: 1 vCore

RAM: 512 MB

Storage: 20 GB SSD

Bandwidth: 0.04 GB of 500 GB

### Install Nginx Server

– Use **Putty**, login to above server **grokonez-angular-deploy**:

```
root@grokonez-angular-deploy: ~  
login as: root  
root@140.82.15.242's password:  
Welcome to Ubuntu 18.10 (GNU/Linux 4.18.0-10-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
System information as of Thu Nov 15 11:03:57 UTC 2018  
  
System load:  0.0                Processes:            83  
Usage of /:   8.4% of 19.63GB    Users logged in:     0  
Memory usage: 25%              IP address for ens3: 140.82.15.242  
Swap usage:   0%  
  
0 packages can be updated.  
0 updates are security updates.  
  
root@grokonez-angular-deploy:~#
```

– Install Nginx server by cmd:

```
sudo apt-get update  
sudo apt-get install nginx
```

– Check your Nginx server: `systemctl status nginx`



```

root@grokonez-angular-deploy:~# systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2018-11-18 08:12:04 UTC; 42s ago
     Docs: man:nginx(8)
  Process: 26659 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
  Process: 26647 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
 Main PID: 26662 (nginx)
    Tasks: 2 (limit: 503)
   Memory: 5.3M
   CGroup: /system.slice/nginx.service
           └─26662 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
              └─26664 nginx: worker process

Nov 18 08:12:04 grokonez-angular-deploy systemd[1]: Starting A high performance web server and a reverse proxy server: nginx.
Nov 18 08:12:04 grokonez-angular-deploy systemd[1]: nginx.service: Failed to parse PID from file description: 'Main PID: 26662 (nginx)'.
Nov 18 08:12:04 grokonez-angular-deploy systemd[1]: Started A high performance web server and a reverse proxy server: nginx.
root@grokonez-angular-deploy:~#

```

## Build Angular Client

– Build Production for Angular Client: `ng build --prod`

```

D:\gkz\article\AngularDynamicRoutes>ng build --prod

Date: 2018-11-14T15:46:55.097Z
Hash: 34247ce20fcf873e6409
Time: 82549ms
chunk {0} runtime.a66f828dca56eeb90e02.js (runtime) 1.05 kB [entry] [rendered]
chunk {1} styles.34c57ab7888ec1573f9c.css (styles) 0 bytes [initial] [rendered]
chunk {2} polyfills.2f4a59095805af02bd79.js (polyfills) 59.6 kB [initial] [rendered]
chunk {3} main.5ed79ab1a6ec54e5bdd9.js (main) 272 kB [initial] [rendered]

D:\gkz\article\AngularDynamicRoutes>

```

– Output is **dist** folder:

gkz > article > AngularDynamicRoutes > dist > AngularDynamicRoutes

Name	Date modified	Type	Size
3rdpartylicenses.txt	11/14/2018 10:46 ...	Text Document	3 KB
favicon.ico	11/14/2018 10:46 ...	Icon	6 KB
index.html	11/14/2018 10:46 ...	Opera Web Docu...	1 KB
main.5ed79ab1a6ec54e5bdd9.js	11/14/2018 10:46 ...	JavaScript File	266 KB
polyfills.2f4a59095805af02bd79.js	11/14/2018 10:46 ...	JavaScript File	59 KB
runtime.a66f828dca56eeb90e02.js	11/14/2018 10:46 ...	JavaScript File	2 KB
styles.34c57ab7888ec1573f9c.css	11/14/2018 10:46 ...	Cascading Style S...	0 KB

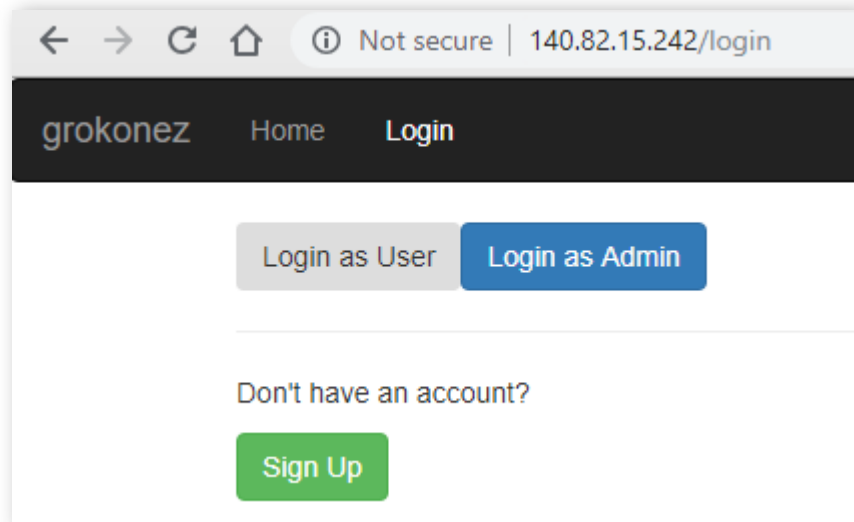
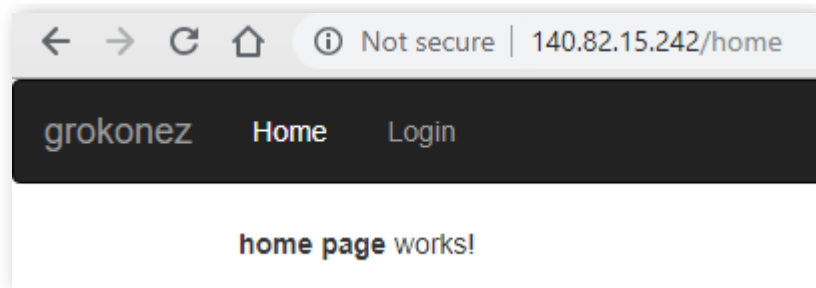
## Deploy Angular Client on Nginx Server

– Use **scp** to copy building files from local to remote server:

D:\gkz\article\AngularDynamicRoutes\dist\AngularDynamicRoutes\			/var/www/html/	
Name	Size	Type	Name	
..		Parent directory	..	
3rdpartylicenses.txt	3 KB	Text Document	3rdpartylicenses.txt	
favicon.ico	6 KB	Icon	favicon.ico	
index.html	1 KB	Opera Web Document	index.html	
main.5ed79ab1a6ec54e5bdd9.js	266 KB	JavaScript File	main.5ed79ab1a6ec54e5bdd9.js	
polyfills.2f4a59095805af02bd79.js	59 KB	JavaScript File	polyfills.2f4a59095805af02bd79.js	
runtime.a66f828dca56eeb90e0...	2 KB	JavaScript File	runtime.a66f828dca56eeb90e02.js	
styles.34c57ab7888ec1573f9c.css	0 KB	Cascading Style Sheet Document	styles.34c57ab7888ec1573f9c.css	

– Restart Nginx server by cmd `sudo service nginx restart;`

-> Check results:



– Press **SignUp** button, got 404 Error:



– Press a link on Browser URL, got Error 404 ->



## Configure 404 Error Redirect

Open nginx configuration: `sudo nano /etc/nginx/sites-available/default`

Redirect 404 error to `index.html` file by `try_files`:

```
try_files $uri $uri/ /index.html;
```

-> Details:

```
server {
    listen 80 default_server;
    listen [::]:80 default_server;

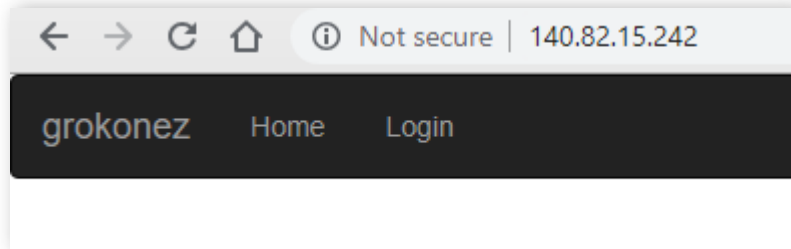
    root /var/www/html;

    index index.html index.htm index.nginx-debian.html;

    server_name _;

    location / {
        # First attempt to serve request as file, then
        # as directory, then fall back to displaying a 404.
        # try_files $uri $uri/ =404;
        try_files $uri $uri/ /index.html;
    }
}
```

- Restart Nginx server by cmd `sudo service nginx restart`
- Press SignUp button, index.html is redirected:



### Deploy in Sub Folder

Rebuid Angular sourcecode with `--base-href` as below:

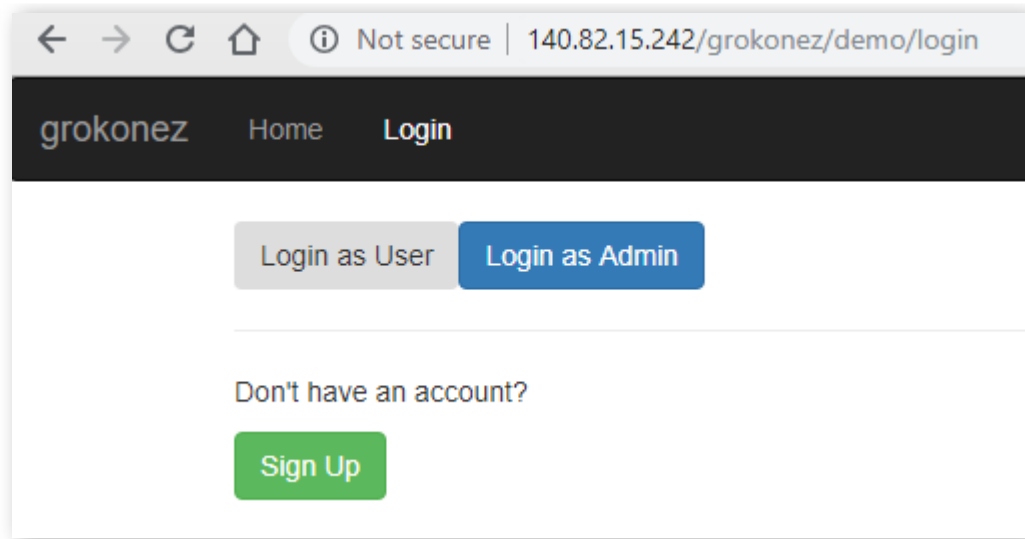
```
ng build --prod --base-href "/grokonez/demo/"
```

- Change 404 error redirect to `/grokonez/demo/index.html` file with `try_files` as below:

```
try_files $uri $uri/ /grokonez/demo/index.html;
```

- Restart Nginx server by cmd `sudo service nginx restart`

-> results:



## SourceCode

### [AngularDynamicRoutes](#)

By [grokonez](#) | November 18, 2018.

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