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# Step by Step guide to Enable HTTPS or SSL correct way on Apache Tomcat Server – Port 8443

Last Updated on July 16th, 2017 by  [App Shah](#)

 20 comments

It's been almost 12 years I started using [Apache Tomcat](#). I believe when I did my 1st under grade project, it was on Tomcat version `1.x`. Now it's already on version `8.0`. Mostly I've been in touch with Tomcat Server in my daily work life, simply can't live without it.

On Crunchify we have already published [almost 40 articles](#) on `Apache Tomcat`. In most of the tutorial I've run server on port 8080 which is default port configured in `server.xml` file.

In this tutorial we will go over all steps in details on `how to enable HTTPS/SSL on Apache Tomcat Server`.

## Let's get started:

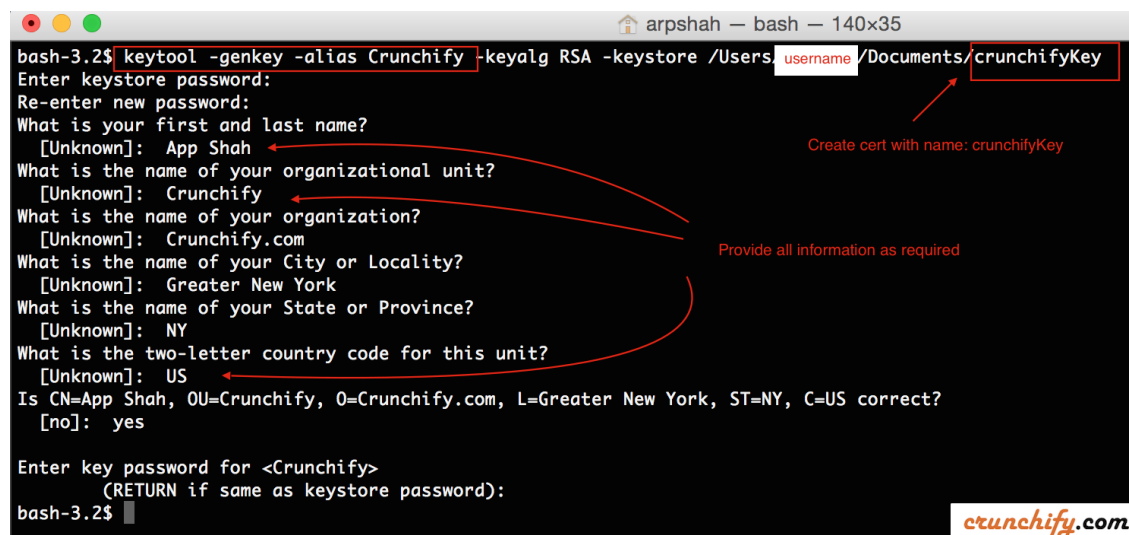
## Step-1

`keytool` : we will generate secure key using `keytool` command – which is key and certificate management tool.

### Command:

```
keytool -genkey -alias Crunchify -keyalg RSA -keystore /Users/<username>/Documents/c
```

I'm using **Mac OS X**, so replace your path accordingly if you are on windows.



```
bash-3.2$ keytool -genkey -alias Crunchify -keyalg RSA -keystore /Users/<username>/Documents/crunchifyKey
Enter keystore password:
Re-enter new password:
What is your first and last name?
[Unknown]: App Shah
What is the name of your organizational unit?
[Unknown]: Crunchify
What is the name of your organization?
[Unknown]: Crunchify.com
What is the name of your City or Locality?
[Unknown]: Greater New York
What is the name of your State or Province?
[Unknown]: NY
What is the two-letter country code for this unit?
[Unknown]: US
Is CN=App Shah, OU=Crunchify, O=Crunchify.com, L=Greater New York, ST=NY, C=US correct?
[no]: yes

Enter key password for <Crunchify>
(RETURN if same as keystore password):
bash-3.2$
```

## Step-2

`start` tomcat server using command: `<tomcat_home>/bin/startup.sh` . Make sure you are this location.

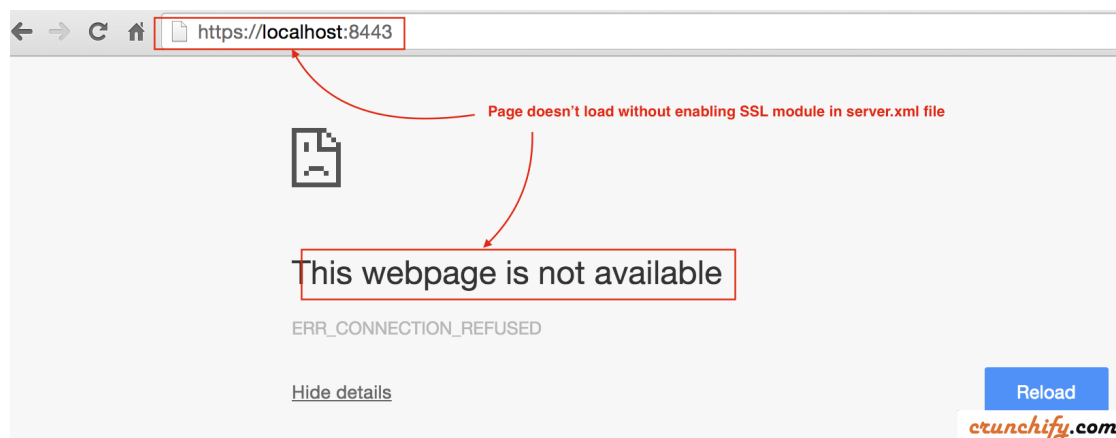
```
bash-3.2# pwd
/Users/<username>/Documents/apache-tomcat-8.0.26/bin
bash-3.2# ./startup.sh
```

## Step-3

Hit URL: `http://localhost:8080` to make sure server is up and running.

## Step-4

Now check port 8443 (HTTPS/SSL URL). Hit URL: `https://localhost:8443` – you should see error message. Page shouldn't load at all.



## Step-5

Change `server.xml` file which is located at `<tomcat_home>/conf/` folder and modify settings. In our case it's `/Users/<username>/Documents/apache-tomcat-8.0.26/conf` folder.

Look for below properties and add `keystoreFile` and `keystorePass` values. Here password is `123456` which I used in `Step-1`.

```
<Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"
  maxThreads="150" SSLEnabled="true" scheme="https" secure="true"
  clientAuth="false" sslProtocol="TLS"
  keystoreFile="/Users/<username>/Documents/crunchifyKey"
  keystorePass="123456" />
```

`<!-- Define a SSL/TLS HTTP/1.1 Connector on port 8443`  
This connector uses the NIO implementation that requires the JSSE style configuration. When using the APR/native implementation, the OpenSSL style configuration is required as described in the APR/native documentation `-->`

```
<Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"
  maxThreads="150" SSLEnabled="true" scheme="https" secure="true"
  clientAuth="false" sslProtocol="TLS"
  keystoreFile="/Users/username /Documents/crunchifyKey"
  keystorePass="123456" />
```

Enable HTTPS in server.xml file  
Just add below two fields

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## Step-6

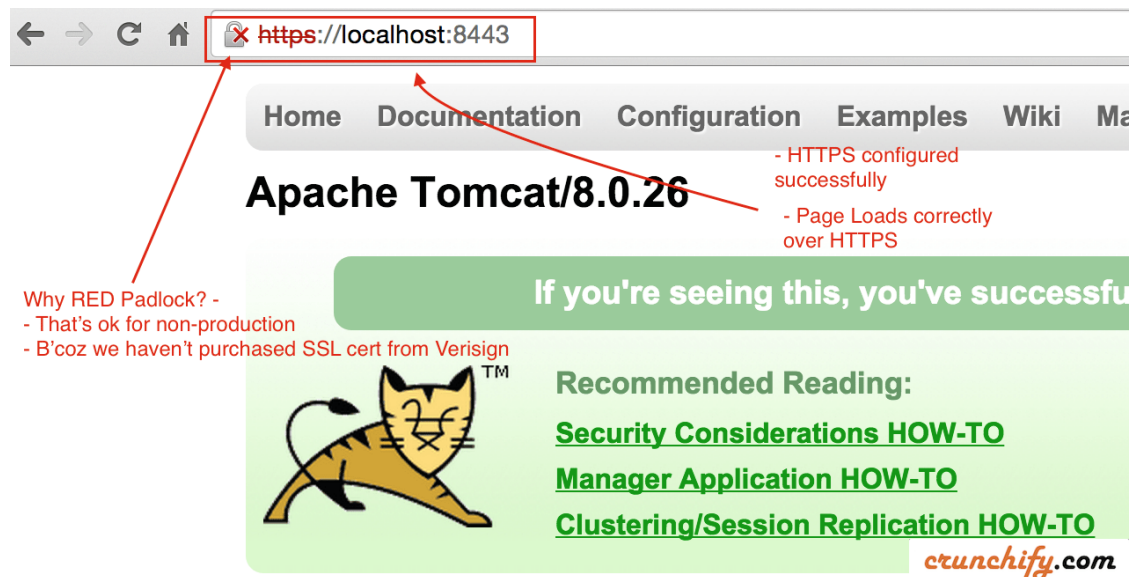
Stop and start server again using commands:

```
bash-3.2# ./shutdown.sh
bash-3.2# ./startup.sh
```

## Step-7

Now hit HTTPS secure URL again to check you page loaded successfully:

```
https://localhost:8443
```



and you are all set. Have you noticed `red padlock` ? Don't worry. We haven't purchase SSL cert from Verisign or Comodo. In production environment you may not see that red cross sign.

## Bonus point:

How to check your `cert content` using command `keytool` ?

```
bash-3.2# keytool -list -keystore /Users/<username>/Documents/crunchifyKey
```

## Result:

```
bash-3.2$ keytool -list -keystore /Users/<username>/Documents/crunchifyKey
Enter keystore password:

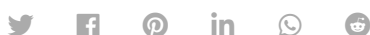
Keystore type: JKS
Keystore provider: SUN

Your keystore contains 1 entry
```

```
crunchify, Sep 17, 2015, PrivateKeyEntry,  
Certificate fingerprint (SHA1): 3E:F2:95:62:F5:B0:88:09:27:C6:8F:F6:91:84:CD:A0:80:ED  
bash-3.2$
```

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### About App Shah

I'm an Engineer by profession, Blogger by passion & Founder of Crunchify, LLC, the largest free blogging & technical resource site for beginners. Love SEO, SaaS, #webperf, WordPress, Java. With over 16 millions+ pageviews/month, Crunchify has changed the life of over thousands of individual around the globe teaching Java & Web Tech for FREE. Get latest update on and .

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