Xampp installation

XAMPP Apache SSL Certificate Installation Manual for Windows Server

Table of Contents

Prerequisites

Before starting, ensure you have:

- XAMPP installed on Windows Server
- Administrative privileges on the server
- SSL certificate files (`.crt`, `.key`, and optionally `.ca-bundle` or intermediate certificates)
- Domain name pointing to your server's IP address

Certificate Preparation

Step 1: Organize Certificate Files

Create a dedicated folder for your SSL certificates:

```
C:\xampp\apache\conf\ssl\
```

Place your certificate files in this directory:

- `your-domain.crt` (SSL certificate)
- `your-domain.key` (Private key)
- `intermediate.crt` (Intermediate/Chain certificate - if provided)

Step 2: Verify Certificate Files

Ensure your certificate files are in the correct format:

- **Certificate file**: Should start with `-----BEGIN CERTIFICATE-----`
- **Private key**: Should start with `-----BEGIN PRIVATE KEY-----` or `-----BEGIN RSA PRIVATE KEY-----`

XAMPP Configuration

Step 3: Enable SSL Module

1. Open XAMPP Control Panel as Administrator
2. Stop Apache if it's running
3. Navigate to `C:\xampp\apache\conf\httpd.conf`
4. Find and uncomment (remove `#`) the following line:

   ```
   Include conf/extra/httpd-ssl.conf
   ```

5. Also ensure the SSL module is loaded by uncommenting:

   ```
   LoadModule ssl_module modules/mod_ssl.so
   ```

Step 4: Configure SSL Settings

1. Open `C:\xampp\apache\conf\extra\httpd-ssl.conf`

2. Locate the default SSL virtual host section (usually starts around line 104)
3. Comment out or modify the default SSL virtual host to avoid conflicts

Virtual Host Setup

Step 5: Create Virtual Host Configuration

1. Open `C:\xampp\apache\conf\extra\httpd-vhosts.conf`
2. Add your HTTP virtual host (port 80):

```
<VirtualHost brspace.bankrakyat.com.my:80>
 ServerAdmin dev@dev.com
 DocumentRoot "C:/xampp/htdocs/brspace/www"
 ServerName brspace.bankrakyat.com.my
 ServerAlias brspace.bankrakyat.com.my
 ErrorLog "logs/brspace.local-error.log"
 CustomLog "logs/brspace.local-access.log" common
 DirectoryIndex index.php

 RewriteEngine On
 RewriteCond %{HTTPS} off
 RewriteRule ^ https://%{HTTP_HOST}%{REQUEST_URI}



 <Directory "C:/xampp/htdocs/htdocs/brspace/www">
     AllowOverride all
     Options FollowSymLinks MultiViews
     Require all granted
 </Directory>
 </VirtualHost>
```

3. Add your HTTPS virtual host (port 443):

```
 <VirtualHost brspace.bankrakyat.com.my:443>
 ServerAdmin dev@dev.com
 DocumentRoot "C:/xampp/htdocs/brspace/www"
 ServerName brspace.bankrakyat.com.my
 ServerAlias brspace.bankrakyat.com.my
```

```
ErrorLog "logs/brspacessl.local-error.log"
CustomLog "logs/brspacessl.local-access.log" common
DirectoryIndex index.php

<Directory "C:/xampp/htdocs/htdocs/brspace/www">
    AllowOverride all
    Options FollowSymLinks MultiViews
    Require all granted
</Directory>

# SSL Engine Switch:
SSLEngine on
SSLCertificateFile C:\xampp\apache\conf\ssl\bundle.brspace.bankrakyat.com.my.crt
SSLCertificateKeyFile C:\xampp\apache\conf\ssl\new.brspace.bankrakyat.com.my.key

</VirtualHost>
```

Step 6: Enable Virtual Hosts

1. Open `C:\xampp\apache\conf\httpd.conf`
2. Find and uncomment:

```
Include conf/extra/httpd-vhosts.conf
```

Step 7: Enable Rewrite Module (for HTTP to HTTPS redirect)

In `C:\xampp\apache\conf\httpd.conf`, uncomment:

```
LoadModule rewrite_module modules/mod_rewrite.so
```

Testing and Verification

Step 8: Test Configuration

1. Open Command Prompt as Administrator
2. Navigate to `C:\xampp\apache\bin\`
3. Test Apache configuration:

   ```
   httpd.exe -t
   ```

   You should see "Syntax OK"

Step 9: Restart Apache

1. In XAMPP Control Panel, start Apache
2. Check for any error messages in the control panel

Step 10: Verify SSL Certificate

1. Open your browser and navigate to `https://brspace.bankrakyat.com.my`
2. Check that:
   - The site loads without SSL warnings
   - The padlock icon appears in the address bar
   - HTTP automatically redirects to HTTPS

Step 11: Online SSL Testing

Use online tools to verify your SSL installation:

- SSL Labs SSL Test: `https://www.ssllabs.com/ssltest/`
- SSL Checker: Various online SSL checker tools

Troubleshooting

Common Issues and Solutions

Issue 1: "Cannot load SSL certificate"

Solution:

- Verify file paths in virtual host configuration
- Ensure certificate files have proper permissions
- Check that certificate files are not corrupted

Issue 2: "SSL handshake failed"

Solution:

- Verify that port 443 is open in Windows Firewall
- Check that no other service is using port 443
- Ensure SSL module is properly loaded

Issue 3: "Certificate chain incomplete"

Solution:

- Add intermediate certificate using `SSLCertificateChainFile`
- Ensure intermediate certificate is in the correct order

Issue 4: Mixed content warnings

Solution:

- Update all internal links to use HTTPS
- Check for hardcoded HTTP resources in your website

Log File Locations

- Apache Error Log: `C:\xampp\apache\logs\error.log`
- Custom Error Logs: `C:\xampp\apache\logs\your-domain-ssl-error.log`
- Custom Access Logs: `C:\xampp\apache\logs\your-domain-ssl-access.log`

Useful Commands

```
# Test Apache configuration
C:\xampp\apache\bin\httpd.exe -t

# View loaded modules
C:\xampp\apache\bin\httpd.exe -M

# Check SSL certificate details
openssl x509 -in your-domain.crt -text -noout
```

Security Best Practices

1. **Keep certificates secure**: Store certificate files in a protected directory
2. **Regular updates**: Keep XAMPP and Apache updated
3. **Strong SSL configuration**: Use modern protocols and ciphers only
4. **HSTS headers**: Implement HTTP Strict Transport Security
5. **Regular certificate renewal**: Monitor certificate expiration dates
6. **Backup certificates**: Keep secure backups of your certificate files

This manual provides a complete guide for setting up SSL certificates with virtual hosts on XAMPP Apache in a Windows Server environment. Follow each step carefully and test thoroughly before deploying to production.

Revision #3
Created 26 August 2025 06:28:14 by Admin
Updated 26 August 2025 08:11:20 by Admin