

Free SSL Certificate Installation: HTTPS Guide

Fix Chrome 'Not Secure' warnings with Certbot and Cloudflare. For webmasters and developers.

Cybersecurity Instructor: Sabina Rose • 5 sections • 45 lessons • 16.00h total

[View this course online](#) [Browse all courses](#)

About this course

In 2026, browsers like Chrome flag HTTP sites as 'Not Secure', damaging user trust and search rankings. This course addresses the issue by walking you through SSL implementation, so your site becomes secure and reliable.

You'll learn to install free SSL certificates using Certbot, set up Cloudflare for performance and security, and apply optimization techniques. The format includes step-by-step videos, real-world case studies, and hands-on problem-solving sessions.

Course curriculum

Introduction to SSL/HTTPS and Browser Warnings

- **What SSL/TLS Encryption Does for Your Website (12m)**
Understand how SSL/TLS works to protect data and why it's essential for modern web security.
- **HTTP vs. HTTPS: Key Differences Explained (18m)**
Compare HTTP and HTTPS, focusing on encryption, port numbers, and the padlock icon.
- **Why Browsers Show 'Not Secure' Warnings (15m)**
Learn how browsers detect insecure connections and why this impacts user behavior.
- **The Impact of SSL on SEO and User Trust (20m)**
See how HTTPS affects search engine rankings and visitor confidence in 2026.
- **Quick Fix: Switching from HTTP to HTTPS in Chrome (10m)**
A simple guide to resolving the Chrome 'Not Secure' warning by enabling HTTPS.
- **Overview of SSL Certificate Types: DV, OV, EV (25m)**
Examine Domain Validation, Organization Validation, and Extended Validation certificates.
- **Introduction to Let's Encrypt and Free SSL (22m)**
Discover how Let's Encrypt provides free, automated certificates for widespread use.

SSL Certificate Fundamentals and Free Options

- **Deep Dive into Domain Validation (DV) Certificates (18m)**
Explore DV certificates, their issuance process, and typical use cases.
- **Organization Validation (OV) and Extended Validation (EV) Explained (20m)**
Understand the differences between OV and EV, including validation steps and visual cues.
- **How Let's Encrypt Works: Automated Certificate Issuance (25m)**
Step-by-step look at Let's Encrypt's protocol and why it's trusted in 2026.
- **Comparing Free vs. Paid SSL Certificates in 2026 (15m)**
Evaluate when free SSL is enough and when paid options might be needed.
- **Setting Up Let's Encrypt on Your Server: Prerequisites (30m)**
Prepare your server environment with the right access and domain setup.
- **Using Certbot for Certificate Installation: Basics (22m)**
Get started with Certbot, from installation to your first certificate request.
- **Configuring Web Servers for SSL: Apache vs. Nginx (35m)**
Configure Apache and Nginx to serve content over HTTPS after certificate installation.
- **Testing Your SSL Configuration (20m)**
Use online tools and command-line methods to verify SSL is working correctly.
- **Common Pitfalls in SSL Certificate Setup (18m)**
Avoid frequent mistakes like incorrect permissions or incomplete chains.

Hands-On SSL Installation with Certbot

- **Preparing Your Server for SSL Installation (15m)**
Check server requirements, including OS compatibility and firewall settings.

- **Installing Certbot: A Step-by-Step Guide (20m)**
Follow along to install Certbot on various Linux distributions.
- **Running Certbot for Apache: Automated Setup (25m)**
Use Certbot to automatically configure Apache with SSL certificates.
- **Running Certbot for Nginx: Automated Setup (25m)**
Apply Certbot's automation to set up Nginx with HTTPS.
- **Manual Certificate Configuration with Certbot (30m)**
Handle scenarios where automation fails, using manual certificate paths.
- **Setting Up Auto-Renewal for SSL Certificates (18m)**
Ensure certificates renew automatically to prevent expiration issues.
- **Verifying SSL Installation and Testing (15m)**
Run final checks with browser tests and SSL verification tools.

Cloudflare SSL Integration

- **Introduction to Cloudflare and Its SSL Features (15m)**
Learn how Cloudflare enhances security and performance with SSL.
- **Understanding Cloudflare SSL Modes: Flexible, Full, Full (Strict) (20m)**
Break down each SSL mode and when to use them for your setup.
- **Setting Up Cloudflare for Your Domain (25m)**
Add your site to Cloudflare and update nameservers for DNS management.
- **Configuring SSL/TLS Encryption in Cloudflare Dashboard (30m)**
Navigate the dashboard to select and apply the right SSL mode.
- **Origin Server Setup for Cloudflare SSL (22m)**
Configure your origin server to work with Cloudflare's SSL, including certificate uploads.
- **Using Cloudflare with Let's Encrypt: A Combined Approach (18m)**
Integrate Let's Encrypt certificates with Cloudflare for added flexibility.
- **Performance Benefits of Cloudflare SSL (15m)**
See how Cloudflare's global network speeds up SSL handshakes.
- **Security Enhancements with Cloudflare (20m)**
Explore features like DDoS protection and WAF that complement SSL.
- **Troubleshooting Cloudflare SSL Issues (25m)**
Solve common problems like mixed content or certificate mismatches.
- **Cloudflare SSL and E-commerce Sites (30m)**
Apply Cloudflare SSL to online stores for secure transactions and compliance.

Advanced Tips and Optimization

- **Enabling HTTP Strict Transport Security (HSTS) (20m)**
Force browsers to use HTTPS, improving security and avoiding redirects.
- **Implementing OCSP Stapling for Faster SSL Handshakes (25m)**
Reduce latency by stapling OCSP responses to your certificate.
- **Upgrading to TLS 1.3: Benefits and Setup (30m)**
Move to the latest TLS version for better performance and security.

- **Fixing Mixed Content Errors After SSL Migration (18m)**
Identify and resolve mixed content warnings in browser consoles.
- **Certificate Renewal Strategies and Automation (22m)**
Set up cron jobs or Cloudflare integrations for hassle-free renewals.
- **Monitoring SSL Health with Online Tools (15m)**
Use tools like SSL Labs to test and grade your SSL configuration.
- **Adding Security Headers for Enhanced Protection (25m)**
Implement headers like Content-Security-Policy to mitigate attacks.
- **SSL and Content Delivery Networks (CDNs) Integration (30m)**
Combine SSL with CDNs for global content delivery and security.
- **Future-Proofing Your SSL Setup for 2026 and Beyond (20m)**
Prepare for upcoming changes in web standards and encryption.
- **Case Study: Migrating a Large Site to HTTPS (35m)**
Walk through a real-world migration, including planning and execution.
- **Expert Tips for SSL Optimization (18m)**
Gain insights from professionals on tuning SSL for speed and security.
- **Course Wrap-Up and Next Steps (10m)**
Review key takeaways and explore further resources for SSL management.

Discover our blog

Learn more with free articles written by our professors and guest experts.

Latest article: **Flight Attendant Preparation: What to Study Before You Apply**

[Visit the blog](#) [All courses](#) [This course](#)