# NGINX INSTALLATION AND CONFIGURATION

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## INTRODUCTION

Nginx is a high-performance web server and reverse proxy server widely used for serving static content, load balancing, and handling high-traffic applications. This guide provides a step-by-step process for installing and configuring Nginx on an Ubuntu system.

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## COMMAND EXPLANATION

### 1. Shebang (`#!/bin/bash`)

- The script starts with a shebang (`#!`), specifying that it should be executed using the **Bash shell** (`/bin/bash`).

### 2. Update & Upgrade the System

sudo apt update -y && sudo apt upgrade -y

- `sudo apt update -y`: Fetches the latest package information.
- `sudo apt upgrade -y`: Upgrades all installed packages.
- `-y`: Automatically confirms the upgrade.

### 3. Install Nginx

sudo apt install -y nginx

- Installs **Nginx**, a powerful and efficient web server.
- `-y` ensures installation proceeds without user confirmation.

## 4. Start & Enable Nginx Service

sudo systemctl start nginx
sudo systemctl enable nginx

- `sudo systemctl start nginx`: Starts the Nginx service.
- `sudo systemctl enable nginx`: Ensures Nginx starts automatically on boot.

## 5. Restore the Default Nginx Page

sudo cp /usr/share/nginx/html/index.html /var/www/html/index.nginx-debian.html

- Copies the default **Nginx welcome page** (`index.html`) to `/var/www/html/`, renaming it as `index.nginx-debian.html`.
- Useful for restoring the default page if it was modified or deleted.

## 6. Restart Nginx to Apply Changes

sudo systemctl restart nginx

- Restarts the Nginx service to apply any modifications.

```
root@LAPTOP-DEQKQVPU:/var/www/html# sudo visudo
visudo: /etc/sudoers.tmp unchanged
root@LAPTOP-DEQKQVPU:/var/www/html# touch index.html
root@LAPTOP-DEQKQVPU:/var/www/html# nano index.html
root@LAPTOP-DEQKQVPU:/var/www/html# pwd
/var/www/html
root@LAPTOP-DEQKQVPU:/var/www/html#
```

# DEFAULT NGINX PAGE OUTPUT

When successfully installed, Nginx serves the following **default HTML page**:

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">

```
  <title>NGINX</title>
  <style>
    body {
        font-family: Arial, sans-serif;
        text-align: center;
        margin: 50px;
    }
    h1 {
        color: #009639;
    }
  </style>
</head>
<body>
  <h1>NGINX</h1>
  <p>Welcome to the NGINX server. This is a simple HTML page.</p>
</body>
</html>
```



**Welcome to nginx!**

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org. Commercial support is available at nginx.com.

Thank you for using nginx.

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# VERIFICATION AND ACCESSING NGINX

## 1. Check Nginx Status

To confirm that Nginx is running, execute:

sudo systemctl status nginx

If successful, the output will show:

Active: active (running)

## 2. Open Nginx in Browser

After installation, open your **web browser** and navigate to:

http://localhost

You should see the **default Nginx welcome page**.

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# CONCLUSION

Following this guide, you have successfully installed, configured, and verified Nginx on Ubuntu. Nginx is now ready for serving static content and can be further customized for different web hosting needs.

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# CUSTOM WEBPAGE

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My Nginx Website</title>
                                                    <link                rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/bootstrap/5.3.0/css/bootstrap.min.css">
    <script src="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.2/js/all.min.js"></script>
    <style>
        body {
            font-family: Arial, sans-serif;
            background: linear-gradient(45deg, #1a1a2e, #16213e);
            color: white;
            text-align: center;
        }
        .hero {
            padding: 100px 20px;
            background: rgba(255, 255, 255, 0.1);
            border-radius: 10px;
            margin: 20px;
            animation: fadeIn 2s ease-in-out;
        }
```

```html
        @keyframes fadeIn {
            from { opacity: 0; transform: translateY(-20px); }
            to { opacity: 1; transform: translateY(0); }
        }
        .btn-custom {
            background-color: #ff5733;
            color: white;
            padding: 10px 20px;
            border-radius: 5px;
            transition: all 0.3s ease-in-out;
        }
        .btn-custom:hover {
            background-color: #ff2e00;
        }
        .section {
            padding: 50px 20px;
        }
        .card {
            background-color: rgba(255, 255, 255, 0.1);
            border: none;
            padding: 20px;
            border-radius: 10px;
        }
    </style>
</head>
<body>

    <!-- Hero Section -->
    <div class="container">
        <div class="hero">
            <h1>Welcome to My Nginx Website</h1>
            <p>A fast, responsive, and professional webpage served with Nginx.</p>
            <a href="#services" class="btn btn-custom">Explore More</a>
        </div>
    </div>

    <!-- Services Section -->
    <div class="container section" id="services">
        <h2>Our Services</h2>
        <div class="row mt-4">
            <div class="col-md-4">
                <div class="card">
                    <i class="fas fa-code fa-3x mb-3"></i>
                    <h4>Web Development</h4>
```

```html
            <p>Build modern and high-performance websites.</p>
          </div>
        </div>
        <div class="col-md-4">
          <div class="card">
            <i class="fas fa-server fa-3x mb-3"></i>
            <h4>Hosting Solutions</h4>
            <p>Reliable and scalable hosting with Nginx.</p>
          </div>
        </div>
        <div class="col-md-4">
          <div class="card">
            <i class="fas fa-shield-alt fa-3x mb-3"></i>
            <h4>Security Services</h4>
            <p>Ensure your website is secure and optimized.</p>
          </div>
        </div>
      </div>
    </div>

    <!-- Contact Section -->
    <div class="container section">
      <h2>Contact Us</h2>
      <form>
        <input type="text" class="form-control mb-3" placeholder="Your Name">
        <input type="email" class="form-control mb-3" placeholder="Your Email">
        <textarea class="form-control mb-3" placeholder="Your Message"></textarea>
        <button class="btn btn-custom">Send Message</button>
      </form>
    </div>

</body>
</html>
```

# Welcome to My Nginx Website

A fast, responsive, and professional webpage served with Nginx.

Explore More

## Our Services

### Web Development

Build modern and high-performance websites.

### Hosting Solutions

Reliable and scalable hosting with Nginx.

### Security Services

Ensure your website is secure and optimized.