

Web Application Deployment on Amazon Linux EC2 Instance

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This document provides a step-by-step guide for deploying a web application on an Amazon Linux EC2 instance using PuTTY.

Prerequisites

Before starting, ensure you have:

- An AWS account
 - An Amazon Linux EC2 instance running
 - A domain name (optional)
 - PuTTY installed on your local machine
 - Security groups configured to allow HTTP/HTTPS and SSH access
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Step 1: Connect to EC2 Instance via PuTTY

1. Open **PuTTY** on your local machine.
 2. Enter the **Public IP** of your EC2 instance in the "Host Name" field.
 3. Navigate to **SSH -> Auth**, and browse to select your **private key (.ppk file)**.
 4. Click **Open** to initiate the connection.
 5. Login as ec2-user when prompted.
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Step 2: Install Required Packages

Run the following commands to update your instance and install required packages:

```
sudo yum update -y
```

```
sudo yum install -y httpd git
```

Start and enable the Apache web server:

```
sudo systemctl start httpd
```

```
sudo systemctl enable httpd
```

Step 3: Clone the Web Application Repository

Clone your web application code from a Git repository into the Apache document root:

```
cd /var/www/html
```

```
sudo git clone <your-repo-url> .
```

Ensure correct permissions:

```
sudo chmod -R 755 /var/www/html
```

```
sudo chown -R apache:apache /var/www/html
```

Step 4: Configure Firewall and Security Groups

Allow HTTP traffic through the firewall:

```
sudo firewall-cmd --permanent --add-service=http
```

```
sudo firewall-cmd --reload
```

Ensure the security group associated with your EC2 instance allows inbound traffic on port **80 (HTTP)** and **443 (HTTPS)**.

Step 5: Access the Web Application

1. Open a web browser.
 2. Enter your **EC2 instance's public IP address**.
 3. You should see the deployed web application, as shown in the image below:
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Step 6: Verify Deployment Success

After deployment, verify the setup by checking logs and running:

```
sudo systemctl status httpd
```

Additionally, confirm that database connectivity and application components function correctly.

Conclusion

You have successfully deployed a web application on an Amazon Linux EC2 instance using PuTTY. For further enhancements, consider enabling SSL for secure HTTPS access and setting up a CI/CD pipeline for automated deployments.

For any issues, check logs using:

```
sudo journalctl -xe
```

```
sudo tail -f /var/log/httpd/access_log
```

```
sudo tail -f /var/log/httpd/error_log
```

Happy deploying! 🚀