MPRASHANT

Amazon Route 53

192.168.0.1

192.168.0.1

EC2 instance

Amazon
S3

I want to use my own custom domain

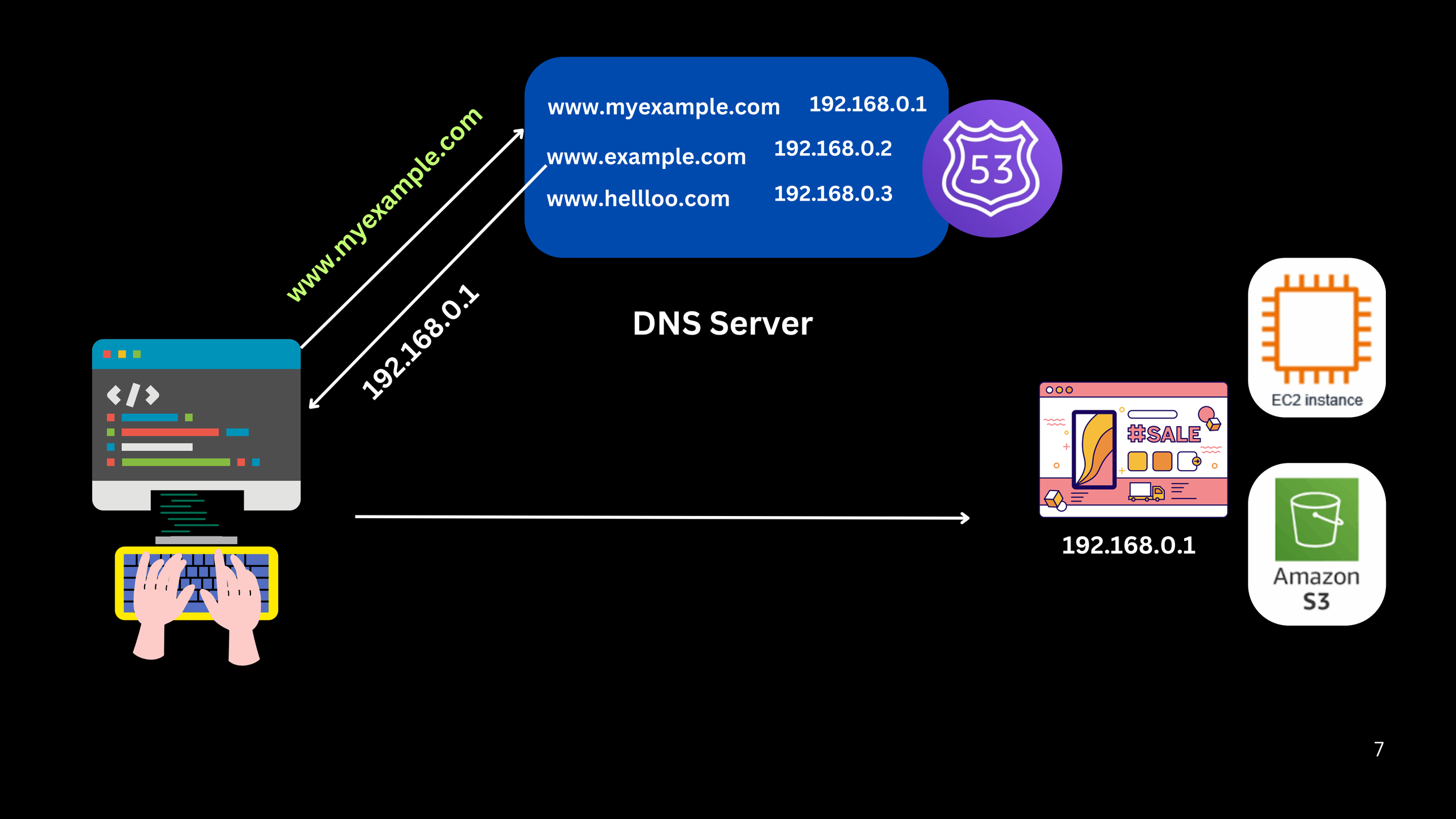
www.myexample.com

AWS Route 53 is a scalable DNS service for domain registration, traffic routing, and health checking capabilities.

What is DNS?

DNS, or Domain Name System, is the internet service that translates human-friendly domain names like www.example.com into machine-readable IP addresses.

Default port for DNS (Domain Name System) service is: 53


www.myexample.com
192.168.0.1
www.myexample.com 192.168.0.1
www.example.com 192.168.0.2
www.hellloo.com 192.168.0.3
53
DNS Server
#SALE
192.168.0.1
EC2 instance
Amazon
S3

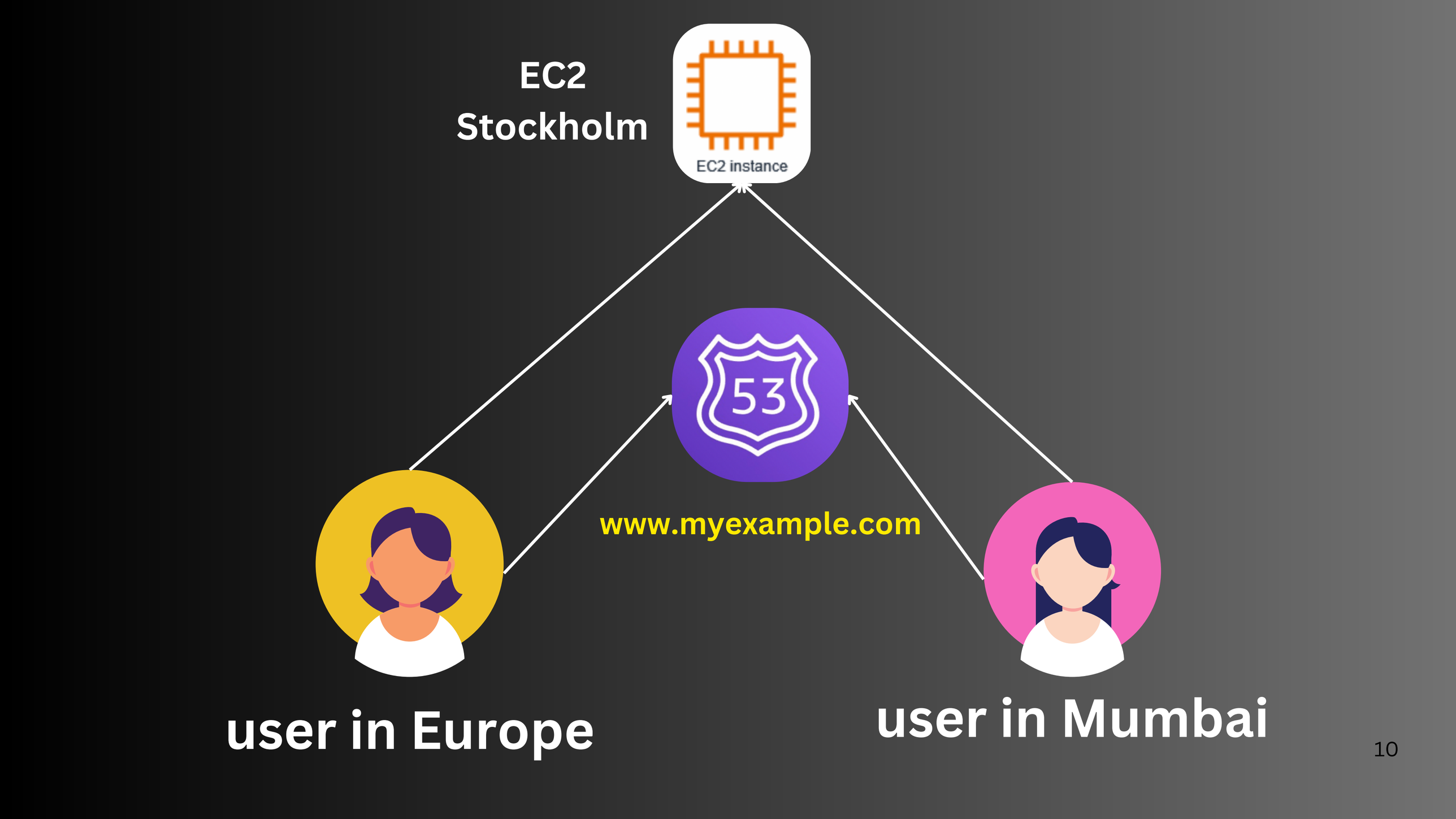
Userdata script to install and run Apache Webserver

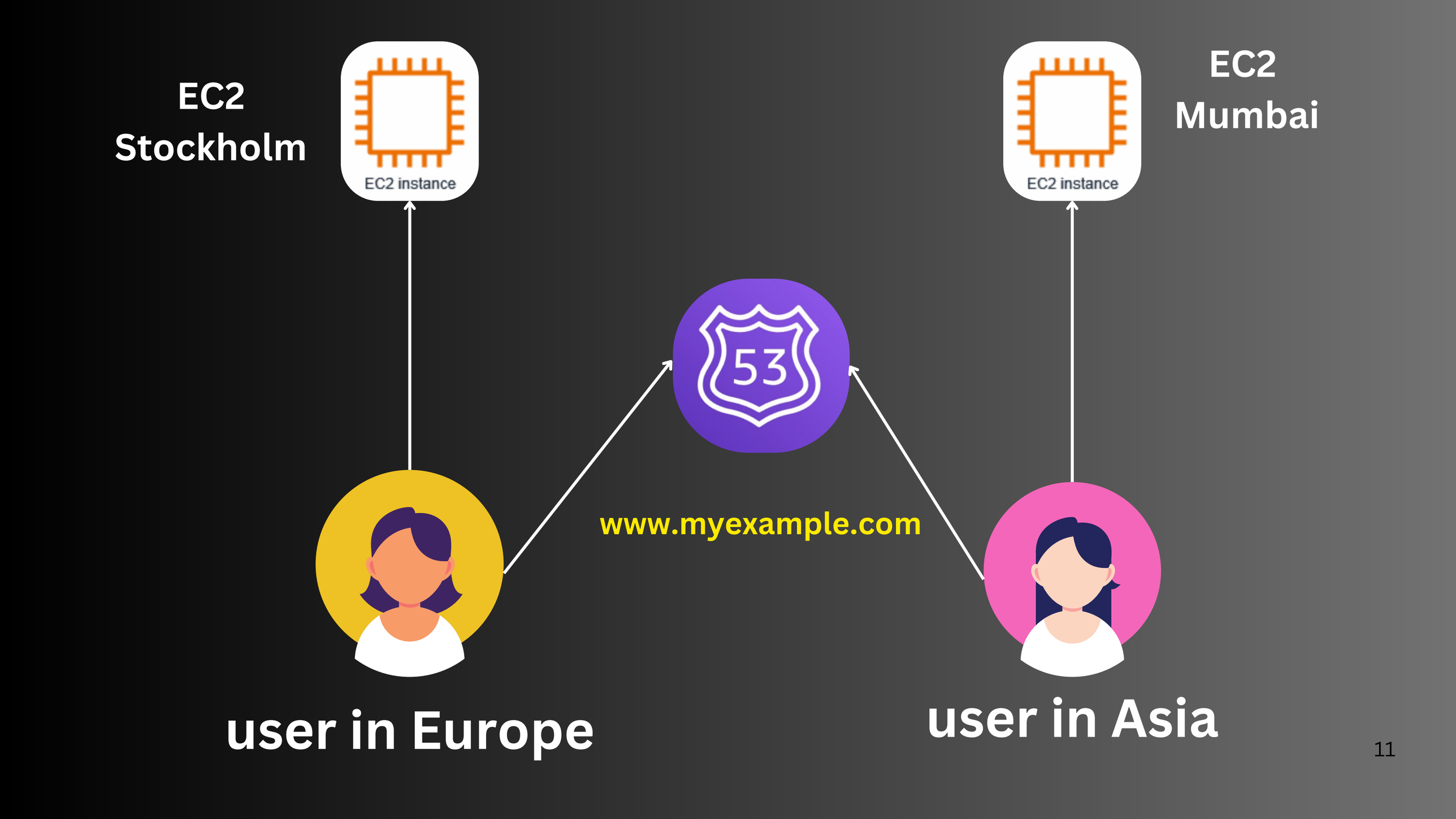
```
#!/bin/bash
sudo yum update -y

# Install Apache web server (httpd)
sudo yum install -y httpd
sudo systemctl start httpd
sudo systemctl enable httpd

# Create a simple HTML file to verify the web server is running
echo "<html><h1>Welcome to Apache Web Server on Amazon Linux!</h1></html>" >
/var/www/html/index.html
```

I also want to serve my website Globally with low latency


EC2
Stockholm
EC2 instance
53
www.myexample.com
user in Europe
user in Mumbai


EC2
Stockholm
EC2 instance
EC2 instance
EC2
Mumbai
53
www.myexample.com
user in Europe
user in Asia

How Route 53 works?

- **Domain Name Registration**: Register a domain and point it to AWS Route 53.
- **Hosted Zone Creation**: Create a hosted zone to manage DNS records.
- **DNS Records**: Add records (e.g., A, CNAME, MX) to route traffic to various endpoints.
- **Routing Policies**: Set up routing policies based on your needs, such as latency-based or failover routing.
- **Health Checks**: Configure health checks to monitor endpoints and trigger failover when needed.

Types of Records Supported by AWS Route 53

- **A Record (IPv4)**: Maps a domain name to an IPv4 address.
  - Example: www.google.com => 12.34.56.78
- **AAAA Record (IPv6)**: Maps a domain name to an IPv6 address.
  - Example: www.example.com => 2001:db8::1
- **CNAME Record**: Maps a domain name to another domain name (alias).
  - Example: blog.example.com => www.example.com
- **MX Record**: Directs mail to an email server.
  - Example: example.com => mail.example.com (Priority 10)

- **TXT Record**: Provides text information to external sources for verification or configuration.
  - Example: example.com => "v=spf1 include:_spf.example.com ~all"

- **NS Record**: Specifies the authoritative name servers for the domain.
  - Example: example.com => ns-123.awsdns-45.org

- **SRV Record**: Specifies the location of services.
  - Example: _sip._tcp.example.com => 10 60 5060 sipserver.example.com

Usecases

- **Hosting Websites**: Manage domain names and route traffic to web applications.
- **Load Balancing**: Distribute traffic across multiple endpoints using weighted or latency-based routing.
- **Disaster Recovery**: Use health checks and failover routing for high availability.
- **Multi-Region Deployments**: Route traffic to the closest region for low latency.

Summary of Billing:

- Billable Components include hosted zones, DNS queries, health checks, domain registration, and traffic policies.
- Costs vary based on usage and the type of configuration (e.g., standard vs. advanced routing policies).
- Free Tier: Route 53 does not include a free tier, so charges start as soon as you use its services.

Domain names

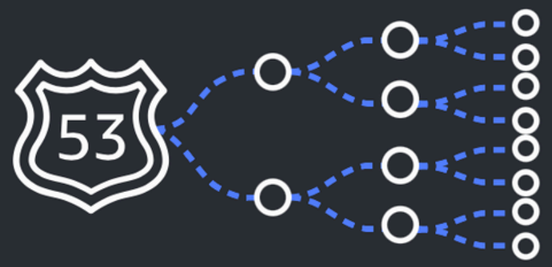
A domain is the name, such as example.com, that your users use to access your application.

Hosted zones

Specify how you want Route 53 to respond to DNS queries for a domain such as example.com.

Health checks

Monitor your applications and web resources, and direct DNS queries to healthy resources.



Traffic flow

Use a visual tool to create policies for multiple endpoints in complex configurations.

Resolver

Route DNS queries between your VPCs and your network.

Benefits and features

Highly available and reliable

Amazon Route 53 is built using AWS's highly available and reliable infrastructure. Our distributed DNS servers ensure that you can consistently route your end users to your application.

Designed for use with other AWS services

You can use Amazon Route 53 to map domain names to your Amazon EC2 instances, Amazon S3 buckets, Amazon CloudFront distributions, and other AWS resources.

Simple

You can quickly sign up, and Amazon Route 53 can start to answer your DNS queries within minutes.

Flexible

Amazon Route 53 routes traffic based on multiple criteria, such as endpoint health, geographic location, and latency.

Use cases

Global traffic management

Route 53 Traffic Flow helps you construct sophisticated routing configurations for resources in multiple AWS and non-AWS locations. Learn more

Alias to AWS resources

You can use Route 53 alias records to map your zone apex (such as example.com) or a subdomain to selected AWS resources. For example, you can route traffic to ELB load balancers, CloudFront distributions, or S3 buckets configured as website endpoints. Learn more