

Nginx

Nginx Docs: <https://nginx.org/en/docs/>

Nginx Directives Configuration: <https://nginx.org/en/docs/dirindex.html>

- It acts as a Proxy server where it can be used to create Forward/backward proxy
 - Load Balancing
 - Caching Data
 - Security: It helps in authentication with ssl certificate, https over http network.
- NginX Configuration
 - It can be configurated as a WebServer or a proxy server
 - Nginx.conf file can be used to configure, its usual location is '/etc/nginx/'
 - Web Server Config & Proxy Server Configs



- Https Config

```
server {  
    listen 80;  
    server_name example.com www.example.com;  
  
    # Redirect all HTTP requests to HTTPS  
    return 301 https://$host$request_uri;  
}  
  
  


```
server {
 listen 443 ssl;
 server_name example.com www.example.com;

 # SSL Configuration
 ssl_certificate /etc/letsencrypt/live/example.com/fullchain.pem;
 ssl_certificate_key /etc/letsencrypt/live/example.com/privkey.pem;

 # Security Headers
 add_header Strict-Transport-Security "max-age=31536000;
 includeSubDomains" always;
 #...

 location / {
 root /var/www/example.com;
 index index.html index.htm;
 }
}
```


```

```

http {
    upstream myapp1 {
        server srv1.example.com;
        server srv2.example.com;
        server srv3.example.com;
    }

    server {
        listen 80;

        location / {
            proxy_pass http://myapp1;
        }
    }
}

```

Configure Load Balancing



- In the example, there are 3 instances of the same app running on `srv1-srv3`
- All requests are proxied to the server group `myapp1`

Load Balancing Config

```

http {
    # ...
    proxy_cache_path /data/nginx/cache keys_zone=mycache:10m;
}

```

Enable the Caching of Responses



Then include the `proxy_cache` directive in the context (protocol type, virtual server, or location) for which you want to cache server responses, specifying the zone name defined by the `keys_zone` parameter to the `proxy_cache_path` directive (in this case, `mycache`):

```

http {
    # ...
    proxy_cache_path /data/nginx/cache keys_zone=mycache:10m;
    server {
        proxy_cache mycache;
        location / {
            proxy_pass http://localhost:8000;
        }
    }
}

```

Caching Config

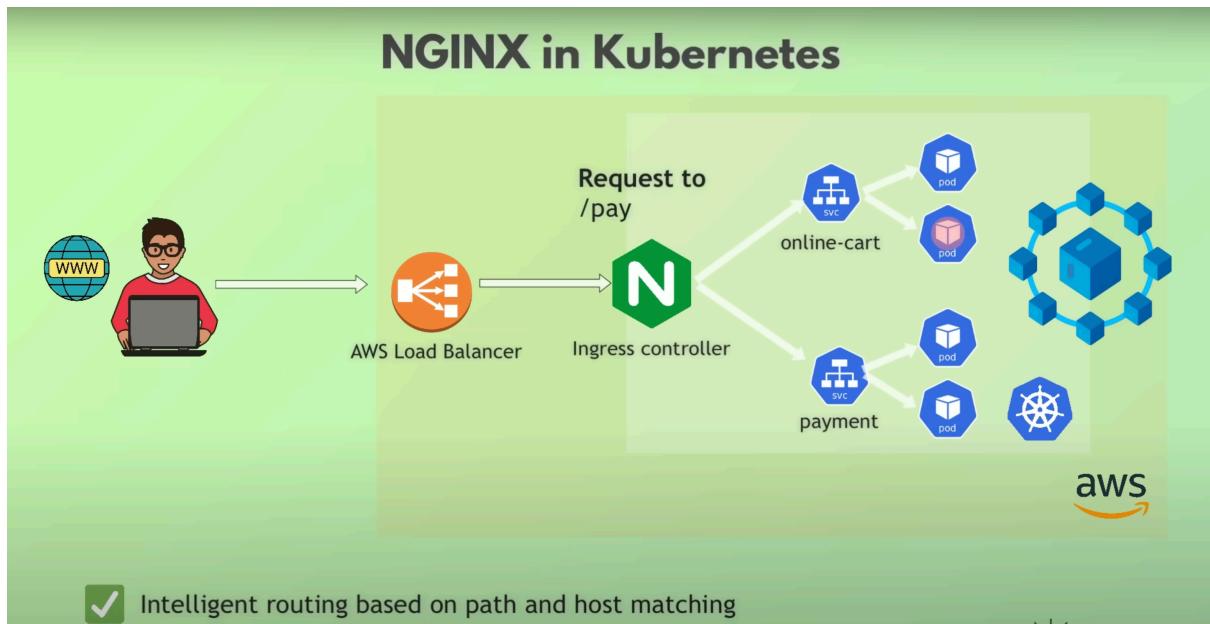


High Performance
Low Resource Usage

Flexibility
...

Scalability
Reliability

Ease of Deployment and Management
...



Nginx in Kubernetes



Apache Vs Nginx