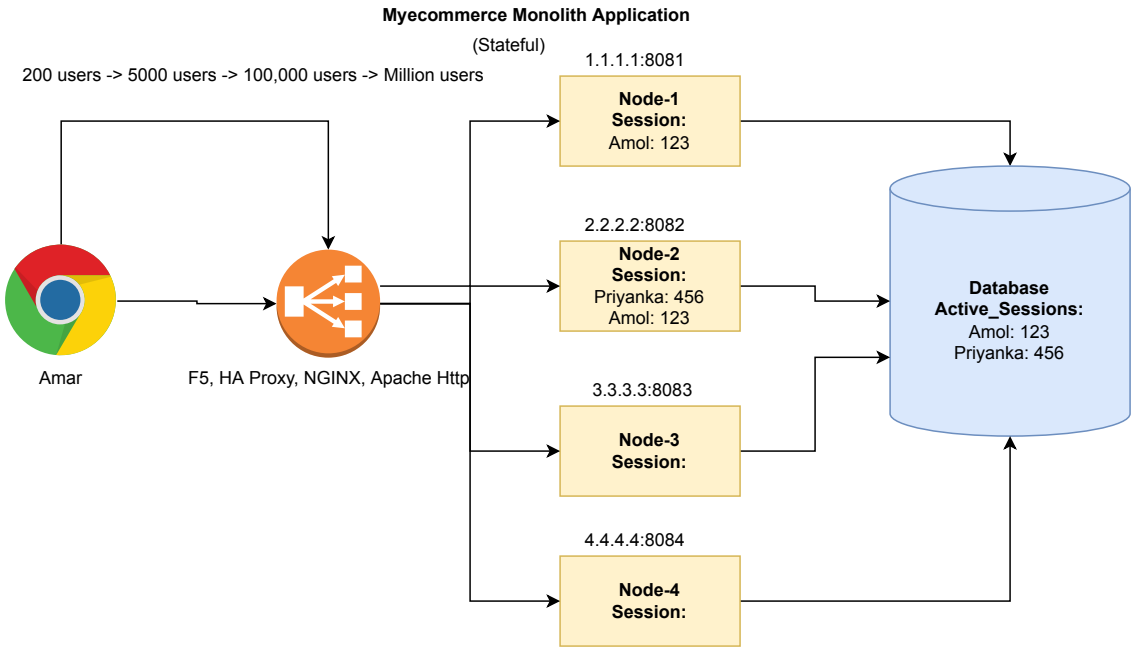
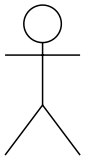

Myecommerce Monolith Application
(Stateful)
200 users -> 5000 users -> 100,000 users -> Million users
1.1.1.1:8081
Node-1
Session:
Amol: 123
2.2.2.2:8082
Node-2
Session:
Priyanka: 456
Amol: 123
3.3.3.3:8083
Node-3
Session:
4.4.4.4:8084
Node-4
Session:
Database
Active_Sessions:
Amol: 123
Priyanka: 456
Amar
F5, HA Proxy, NGINX, Apache Http

Scaling:
Vertical Scaling: scale up
Horizontal Scaling: scale out

Vertical Scaling

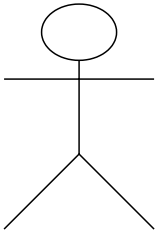
Boxer
10$ /hour
beat < 3 guys

i3, 4GB, 250GB



Mr. Rock
20$ /hour
beat < 6 guys

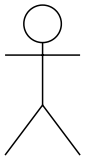
i5, 8GB, 500GB



John Rambo
50$ /hour
beat < 10 guys

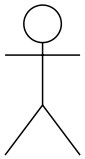
i7, 16GB, 1TB

Horizontal Scaling



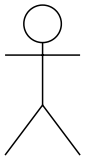
Mr. Rock
20$ /hour
beat < 6 guys

i5, 8GB, 500GB



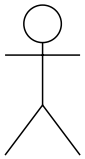
Mr. Rock
20$ /hour
beat < 6 guys

i5, 8GB, 500GB



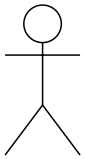
Mr. Rock
20$ /hour
beat < 6 guys

i5, 8GB, 500GB



Mr. Rock
20$ /hour
beat < 6 guys

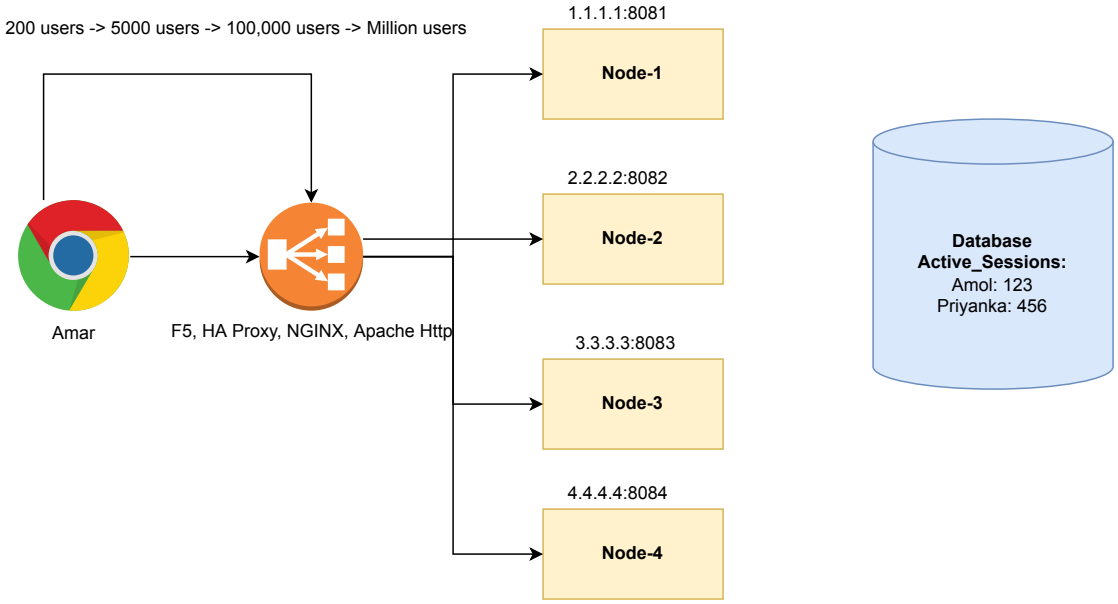
i5, 8GB, 500GB



Mr. Rock
20$ /hour
beat < 6 guys

i5, 8GB, 500GB

Myecommerce Monolith Application
(Stateless)



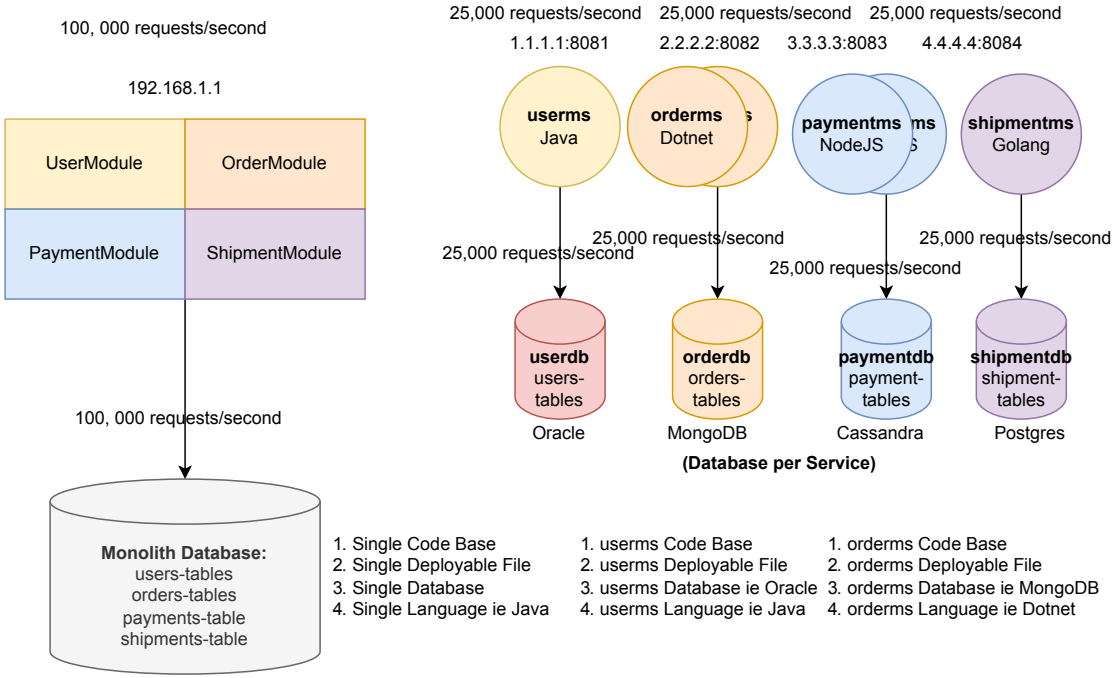
Black Friday/Diwali Sale Season

100 microservice x 5 instances = 500 instances

Myecommerce Monolith Application

Microservice Application

(Collection of standalone miniature applications)



1. Single Code Base
2. Single Deployable File
3. Single Database
4. Single Language ie Java

1. userms Code Base
2. userms Deployable File
3. userms Database ie Oracle
4. userms Language ie Java

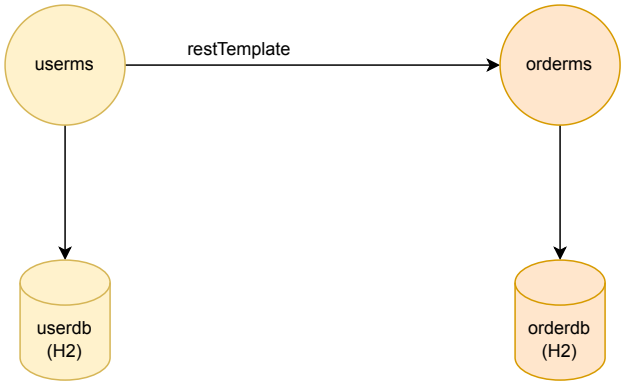
1. orderms Code Base
2. orderms Deployable File
3. orderms Database ie MongoDB
4. orderms Language ie Dotnet

Pros of Microservices:

1. Cherry-pick scaling
2. Agility-1: Development is fast
3. Agility-2: Build is fast
4. Agility-3: Testing is fast
5. Agility-4: CI/CD is fast
6. Agility-5: Release is fast
7. Resiliency
8. Distributed Service Load
9. Distributed DB Load
10. Security (Segregation)
11. Technology Hetrogenity
12. DB Hetrogenity

Cons of Microservices:

1. Latency between Microservices calls
2. Distributed Database (Aggregation/TxManagement)
3. Complexity in managing Nodes (services + DB)
4. Cost (Infra + Resources)

2-Pizza Team: Team size should be small

Microservice-to-Microservice Communication