

- ① Licence Cost
 - ② Integration with other App.
 - ③ Customer / Community Support
 - ④ Analysis engine
 - ⑤ Supported Data type
- } Major factors

Observability vs Monitoring

① Proactive Approach

① Reactive Approach

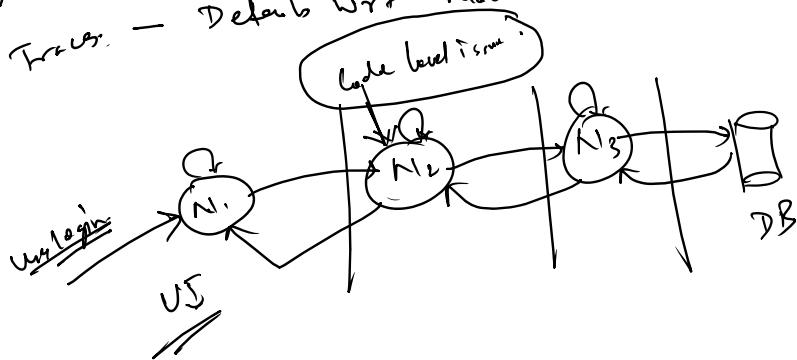
① Log - timestamp details with add'l info.

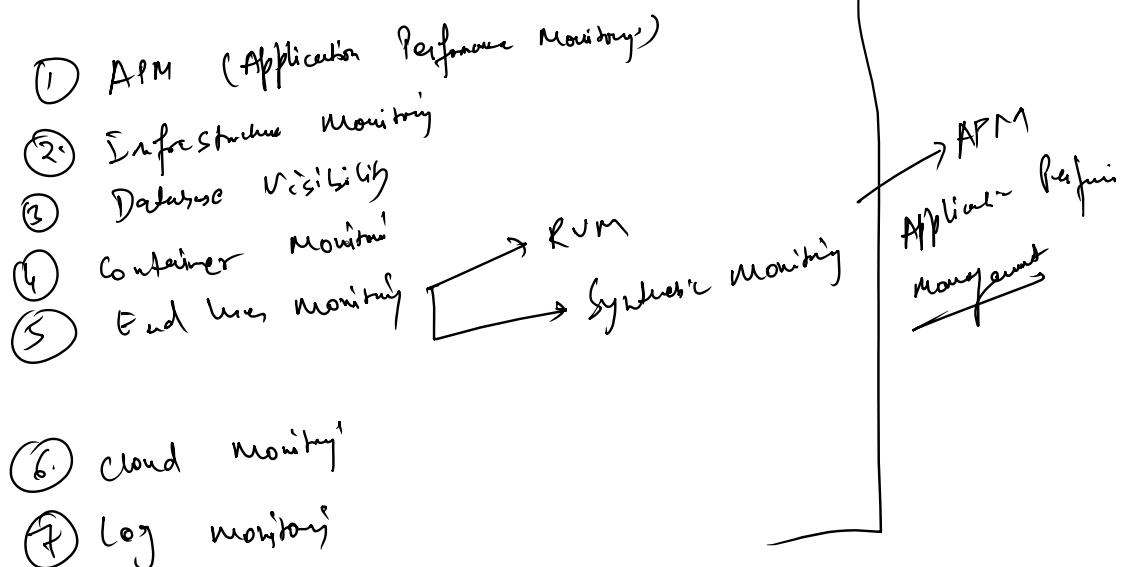
CPU = 45%

Memory = 40%

② Metric - Aggregate value.

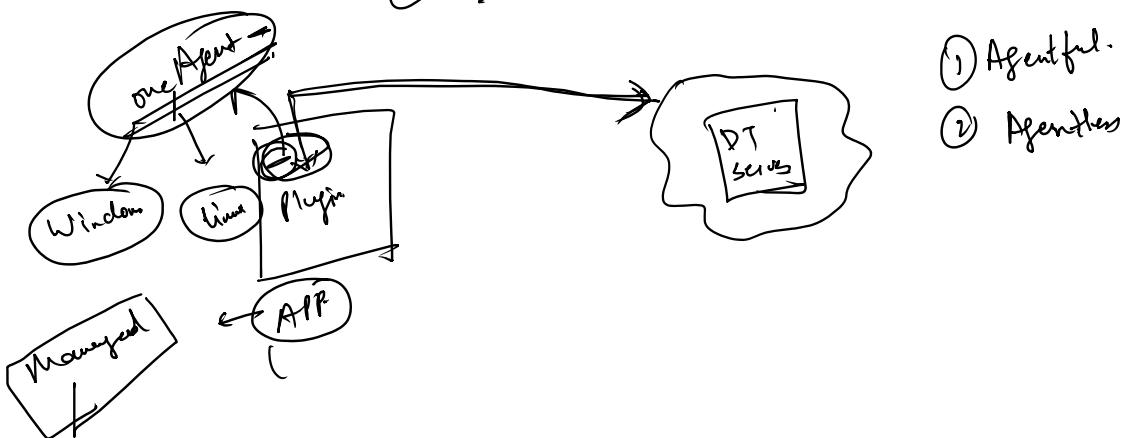
③ Trace - Details wrt Node wise.





- ① Dynatrace
 ② Appdynamics
 ③ DataDog
④ Dynatrace
- ④ Splunk
 ⑤ New Relic

- ① Market Acceptance.
 ② Feature & SRE concept.
 ③ Integration with App very simple.



Dynatrace:-

2005 - Founded by Linz, Austria

APM - Deep dive into the code level insights

2011 - Compuware.

① Application Monitoring

2011 - Compuware.

2014 - Redit

Dynatrace
APM (Application Performance management)

① AppMon

② Synthetic monitoring

③ UEM (User Experience Monitoring)

④ DCROM (Data Centre Real User Monitoring)



Dynatrace

SaaS - Instagram

managed - Access to the underlying infrastructure

one Agent.
APP.

Port - 4443

DT
Sync

① One Agent's Independent of the App Type (Java / .NET / Python)
Dependent on the O.S. (Windows / Linux)

② DT Server

→ Reverse Proxy

1. Nginx Server → Reverse Proxy
Database where data is scattered

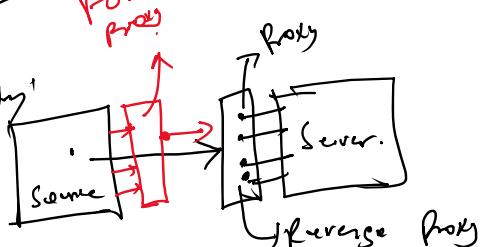
2. Cassandra → Distributed Database

3. Elasticsearch → Search your data.

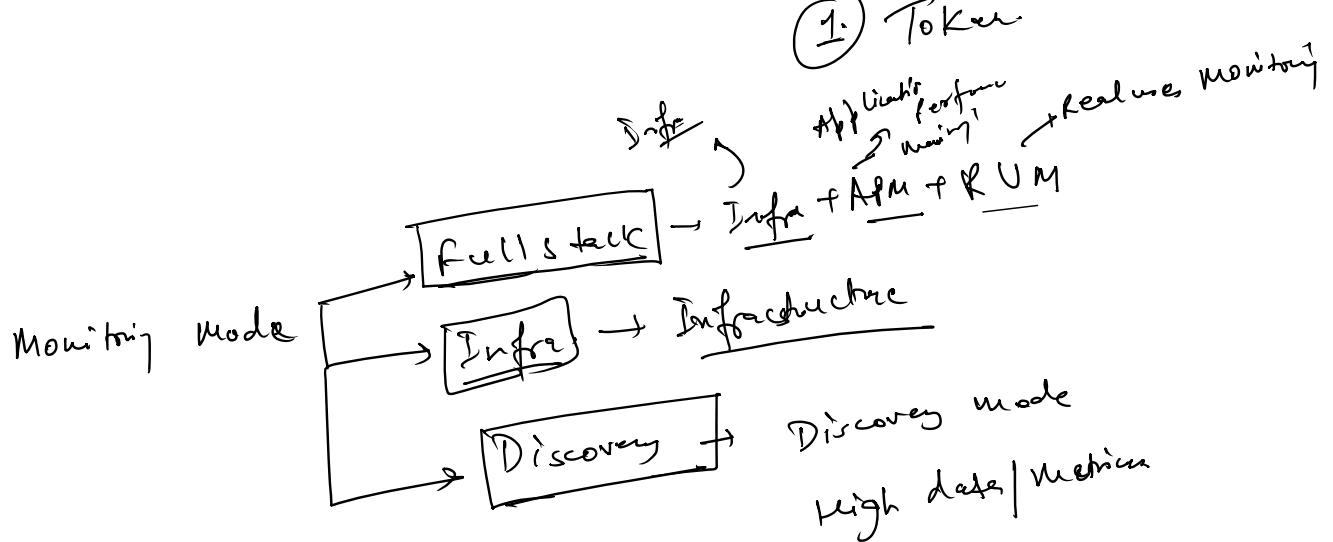
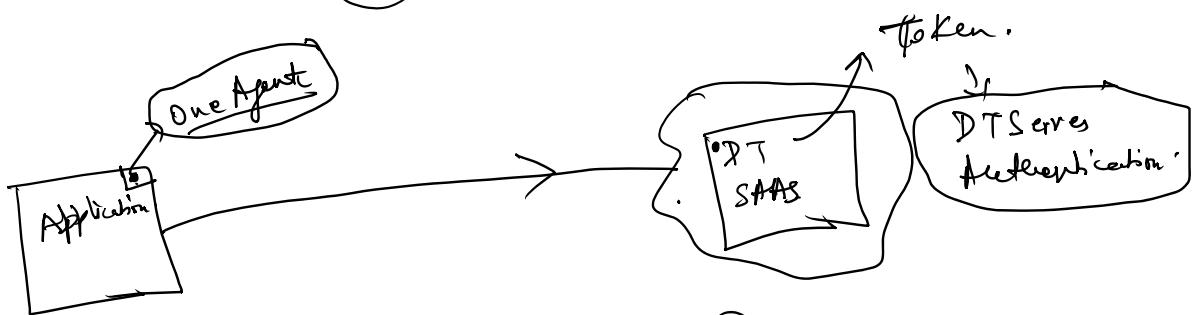
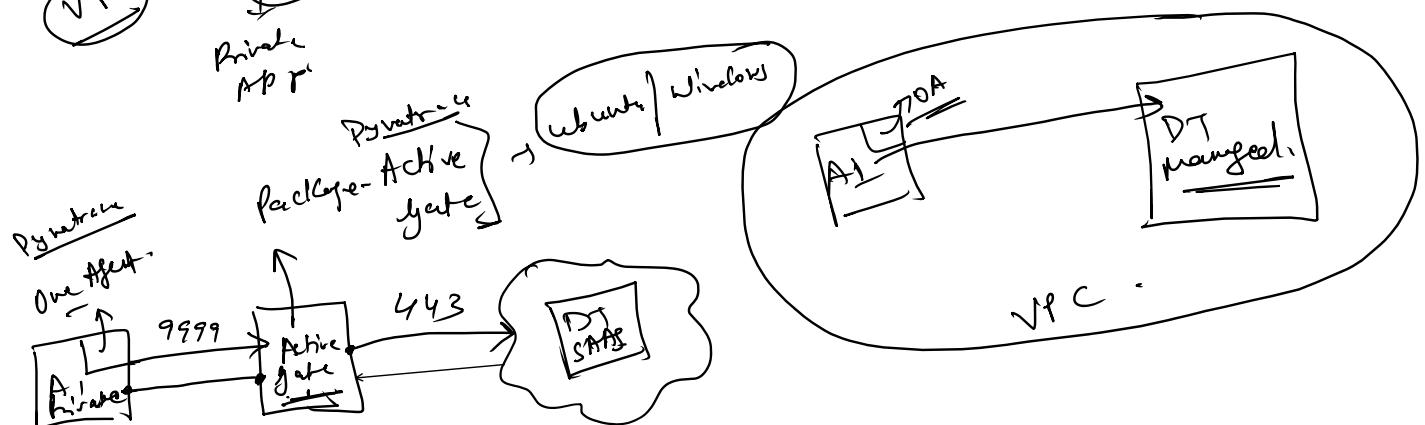
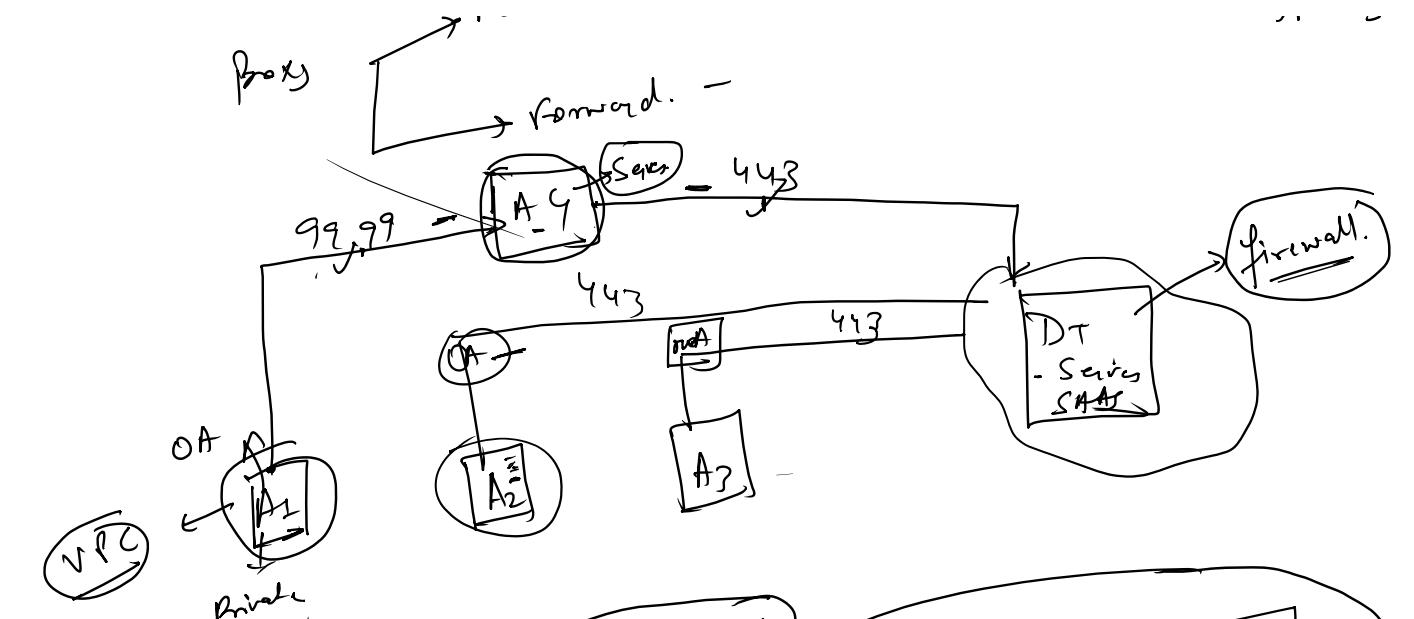
4. Active gate → SaaS

Monitors cloud, DB
private Synthetic monitoring
private APM.

Forward proxy



Proxy
Forward -
Reverse -



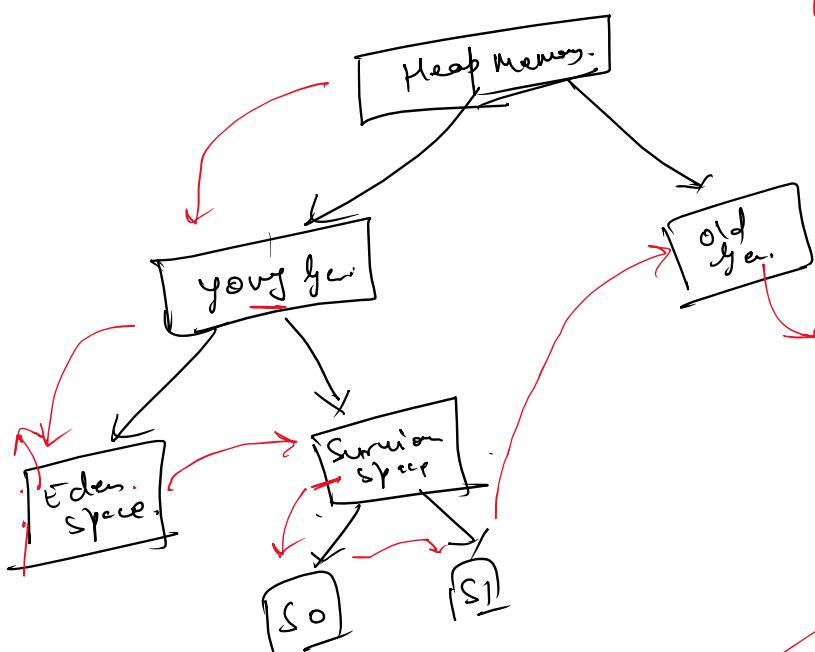
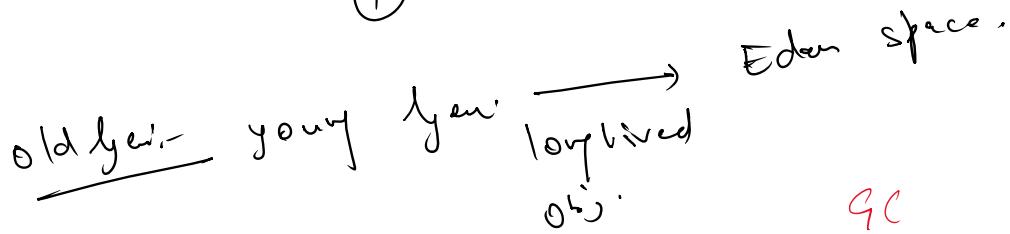
JVM - Java Virtual Machine
that run java application.

JVM - Java Virtual Machine
Runtime engine that run java application.

- ① Runtime engine that run java application.
- ② classload
Execution of java bytecode.
memory management. (.jar)

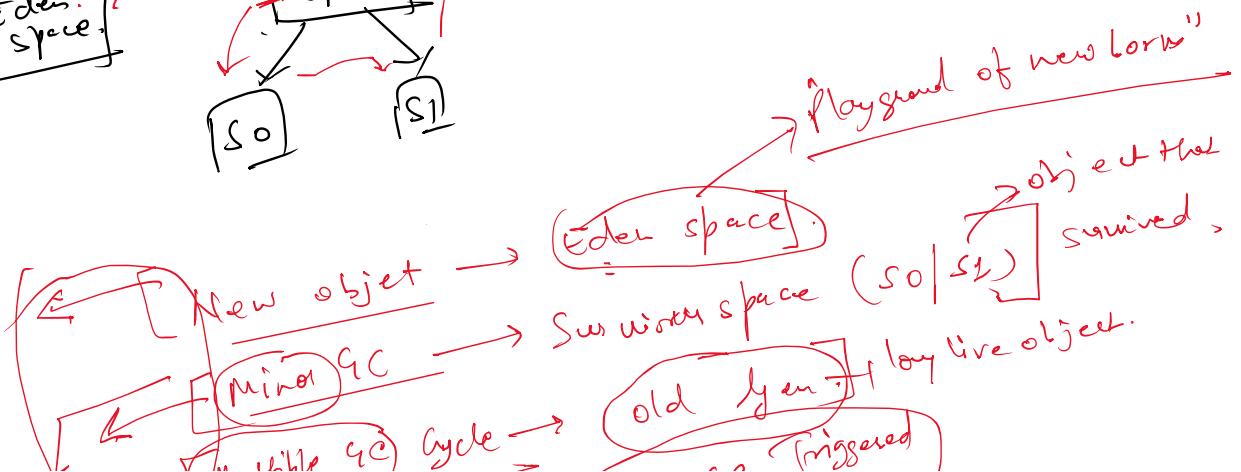
Heap memory:-
① Main memory, All object stored.
② managed by Garbage collector (GC)
(Instance of classes) here

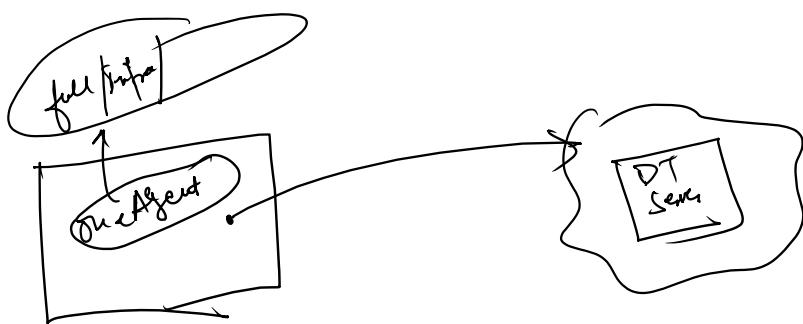
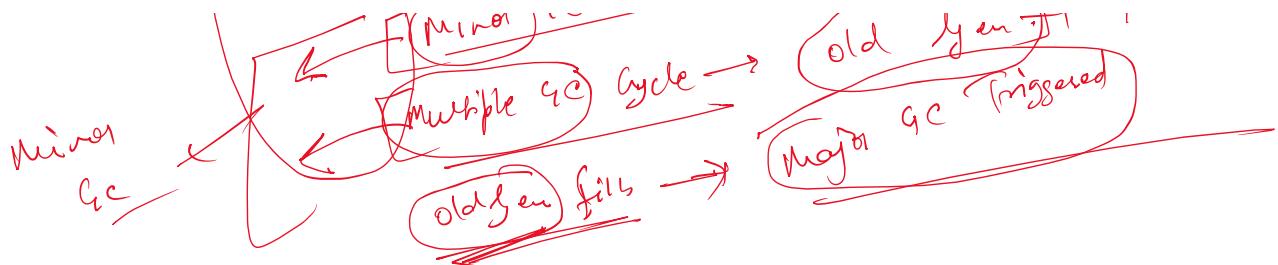
Eden space (young gen):-
① New object → first allocated.



GC
↳ Java automatic
memory management
process performed by JVM.

- ① Out of memory Error
- ② Optimize memory usage.





XHR → XMLHttpRequest Action —

- ① Send or retrieve data from a server in the background.

XHR → User → Request → fetch w/o loading full page
Asynchronous HTTP req -

fetch() → Action

IINP (Interaction to next point) :- Core web vital metric introduced by Google to measure how quickly a web page responds to user interaction (like click, tap, key presses)

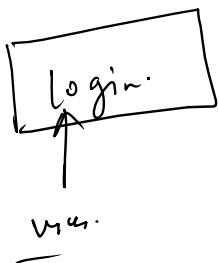
IINP ↑ Slow ↑ Bad User Experience

Good → ≤ 200ms (fast, seamless response)

1 second → 200-500ms

Slow → Sluggish or laggy

Need Import → feels sluggish or laggy
 Poor → 500ms



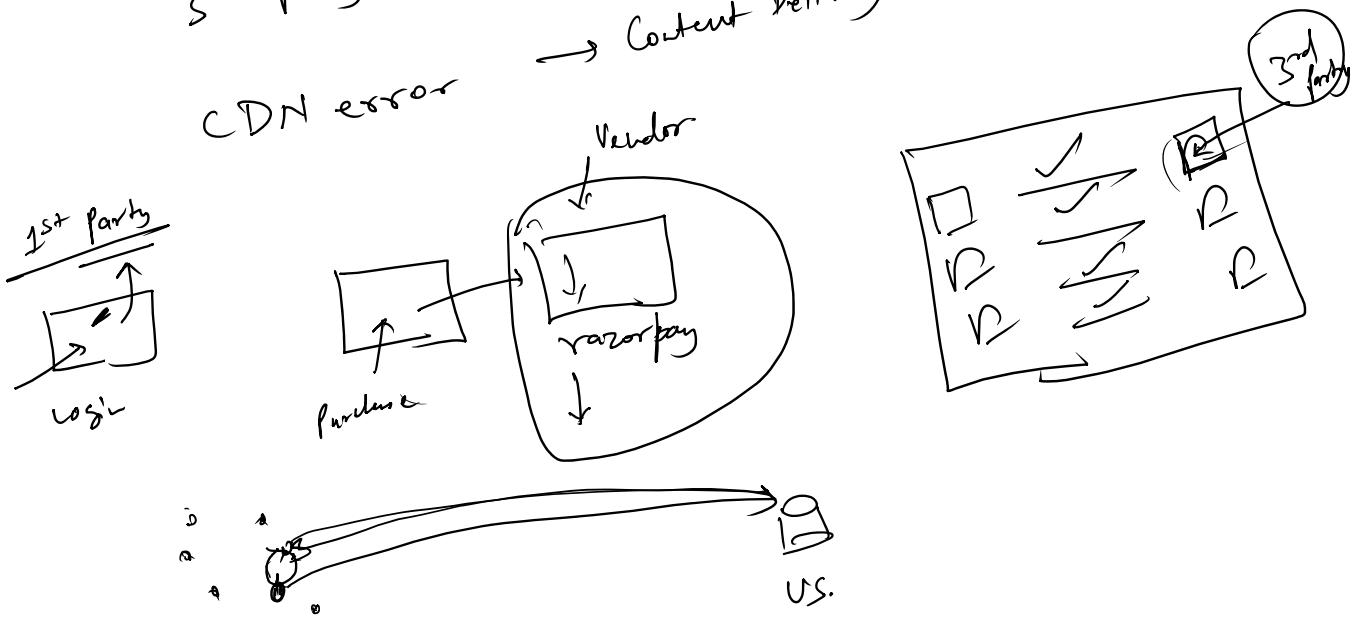
- ① Click event is registered.
 - ② Browser runs event handler & update DOM.
 - ③ A new frame is painted on the screen.
- Step 1 → Step 3 is INP

- Why:
- ① User Experience & SEO ranking.
 - ② Developers optimize JS execution, rendering & event handling for better response.

Errors:- 1st Party error → error is caused due to developer

3rd Party error → error is caused by external vendors.

CDN error → Content Delivery Network.



~~BLUR~~