#ASLI ENGINEERING

What is Rolling Deployment?

SWIPE

BY

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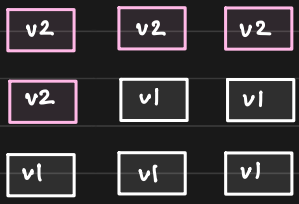
Rolling Deployment

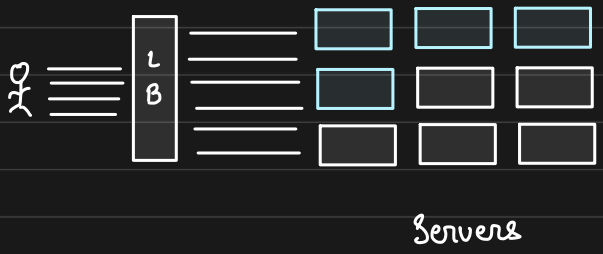
Rolling deployment is a deployment strategy that slowly replaces previous version of the application with the new one by replacing the underlying infrastructure



For example, in K8S containers running the service are replaced one by one, or EC2 machines running the service are replaced one by one

* The infra replacement happens while the incoming requests are served

Incremental, and not instant



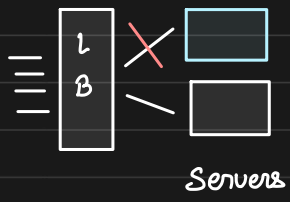
The Rolling Deployment is incremental, hence during the time of deployment there would be some servers serving the new version while others serving old.

Hence, depending on which server the request goes to the response of the corresponding version would be generated

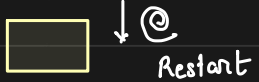
How to implement Rolling Deployment

Rolling deployment is always done gracefully

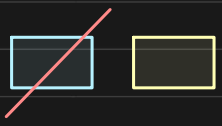
1. Pick a server for deployment
2. Stop the incoming traffic to it
   - remove it from the load balancer



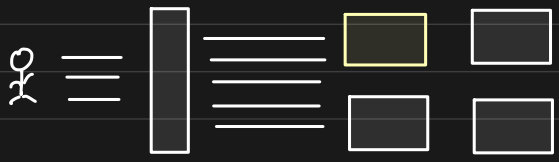
3. Wait for existing requests to be completed
4. if no infra replacement
   - pull the latest code / artifact
   - restart the processes



5. if infra replacement
   - terminate the server
   - create the new server with the new code



6. attach the server to the load balancer

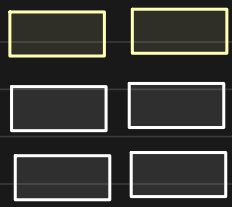


Tuning rolling deployment

1. Concurrent Servers

   Instead of picking 1 server for update at a time, we can pick `n` concurrently

   - faster deployments



`n` should not be too small or too large

2. Double - Half Deployment

   A common way to implement rolling deployment is to double the infra with new code and bring it back to original capacity

* Ensure that your DB, cache are able to handle large number of connections

3. Terminate one and spin one with new code

Pros of adopting Rolling Deployment

- Much faster than Blue Green deployment
- Deployment incurs zero downtime
- Rollouts are gradual
- Any defects affect only a fraction of requests
- cost efficient deployment strategy
- Rollbacks are simple

Cons of adopting Rolling Deployment

- No environment isolation b|w the old and the new
- Changes we rollout has to be backward compatible
- Changes we rollout has to be forward compatible
- Deployment takes a long time to complete
- Stateful applications will be affected during deployment