

Name - Shashwat Ravi

Csce -

Roll no - 24

University Roll no - 2013621

Subject - Devops on cloud Tcs 651



## Answers

### Agile

- Iterative Approach which focuses on collaboration, customer feedback, and small rapid releases.
- Helps to manage complex projects
- focuses on constant changes
- Implemented within range of technical frameworks
- Emphasize training all team members to have a wide variety of similar tasks, the fewer faster they can make.
- Feedback given by customer
- Leverage shift-left
- Tool used are JIRA, Bugzilla, Kanboard are used

### DevOps

- Practice of bringing development and operations team together.
- Manage end to end engineering process.
- focuses on constant testing and delivery.
- goal is to focus on collaboration.
- Spread the skill set b/w development and operations teams involves all stakeholders.
- feedback given by Internal team
- Leverage both left and right.
- Puppet, Chef, Team city, Ansible, AWS and some tools...



→ Challenges are teams need to be productive.

→ Agile offers shorter development cycle and improved defect detection.

→ need to development, testing and production environments to streamline work.

→ DevOps supports Agile's release cycle.



## Answer 2

Continuous and automated testing is at the heart of DevOps methodology. Selenium which is a portable framework for testing web applications. It enables playback functionalities towards creating functional tests. Selenium users can write tests without using a test scripting language.

---

Selenium is an open-source software testing framework for web apps. It has capability to operate on any OS.

### Advantages of Selenium:

- ① It is an open source software.
  - ② Selenium supports various programming languages to write programs.
  - ③ Selenium supports various operating systems.
  - ④ Selenium supports various Browsers.
  - ⑤ Selenium supports Parallel Test Execution.
-



## Disadvantages of Selenium :

- ① No reliable support.
- ② It supports webapps only.
- ③ Difficult to use, takes more time to create Test cases.
- ④ limited support for Image testing.
- ⑤ No test tool integration for test Management.



## Answers Benefits of <sup>Version</sup> ~~Control~~ Control system:-

- ① Version systems allow you to compare files, identify differences and merge the changes.
- ② Great way to keep track of applications easily accessible to their local environment using the version control system and able to track versions.
- ③ Troubleshooting an issue, you are able to easily compare different versions of files to track differences.
- ④ If user decides to roll back the changes, you can implement the last working file by using the correct version.

~~Differences~~ Differences between centralised and distributed version control

- ① Centralised is easier than distributed you have to remember all the commands for all the operations in DVCS.
- ② Distributed ~~centralised~~ version system allows you to work offline and gives flexibility.



- ↳ In DVCS, sometimes developer takes advantages of having the entire history code and they may work for too long in isolation which is a good thing.
  - ↳ Merge conflicts are more in CVCS than in DVCS.
  - ↳ If main server goes down in DVCS then, you still get entire history and backup where revision of code is already saved that's not the case with CVCS.
-



Answer Ten commands of Git:

① Git clone: download existing source code from remote repository (like Github, ).

→ `git clone <https:// name of the repository link>`

② Git branch:

`git branch < branch-name >`

Command is used to create branch locally.

③ Git checkout:

`git checkout < name-of-your-branch >`

used to switch from one branch to another and check it.

④ Git status:

`git status`

↳ gather info like,

↳ whether the current branch is up to date.

↳ whether there is anything to commit. etc.



⑤ Git add.

git add <file>.

to add a file.

to add everything at once → git add -A.

⑥ Git commit.

git commit -m "commit message"

set up a checkpoint if you want to go back if needed

⑦ Git push.

~~git push~~ git push <remote> <branch-name>

Send changes to remote server.

⑧ Git pull:

git pull <remote>

used to get updates from the remote repo.  
combination of git fetch and git merge.

⑨ Git revert → Git revert —

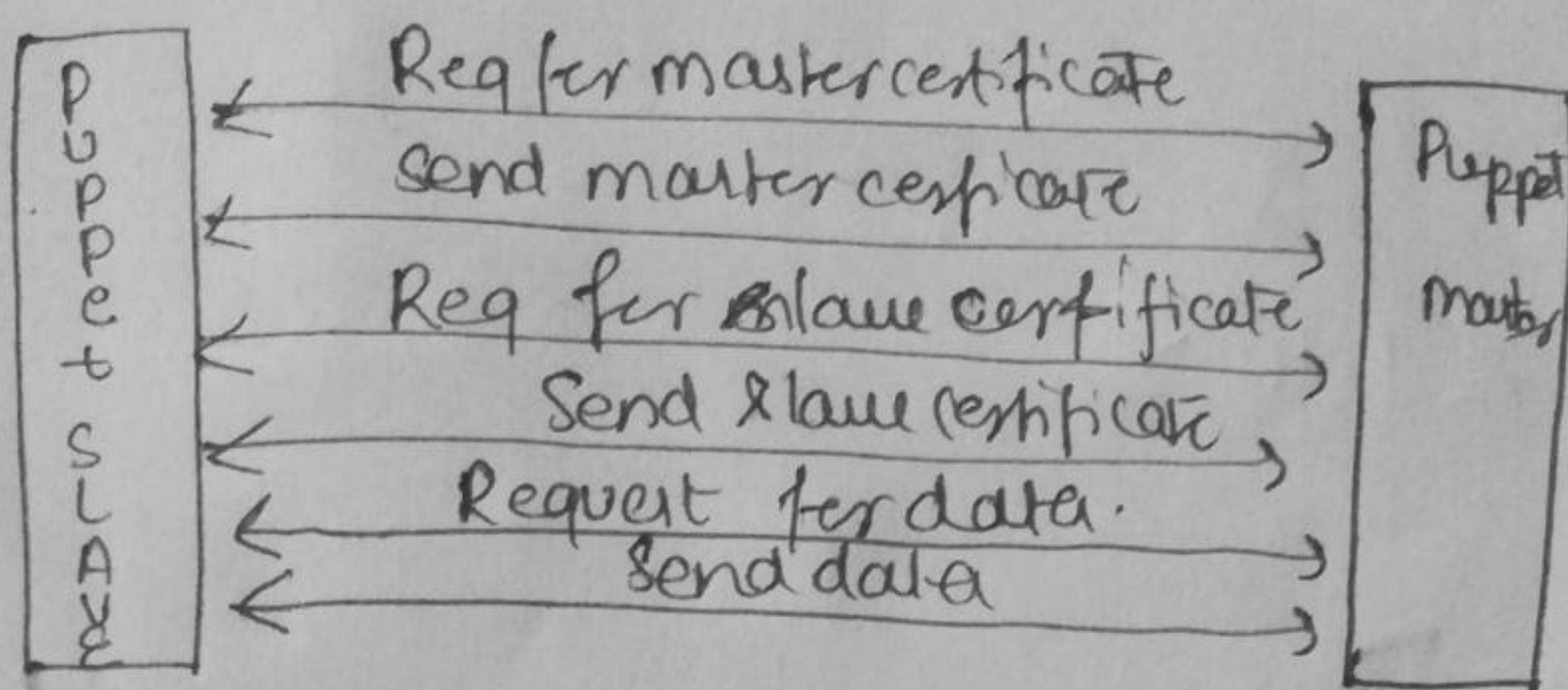
undo the changes with this command.

⑩ Git merge →

git merge → used to integrate your feature branch with all of its commits back, to the dev.



Answer



### Puppet Master-Slave Communication.

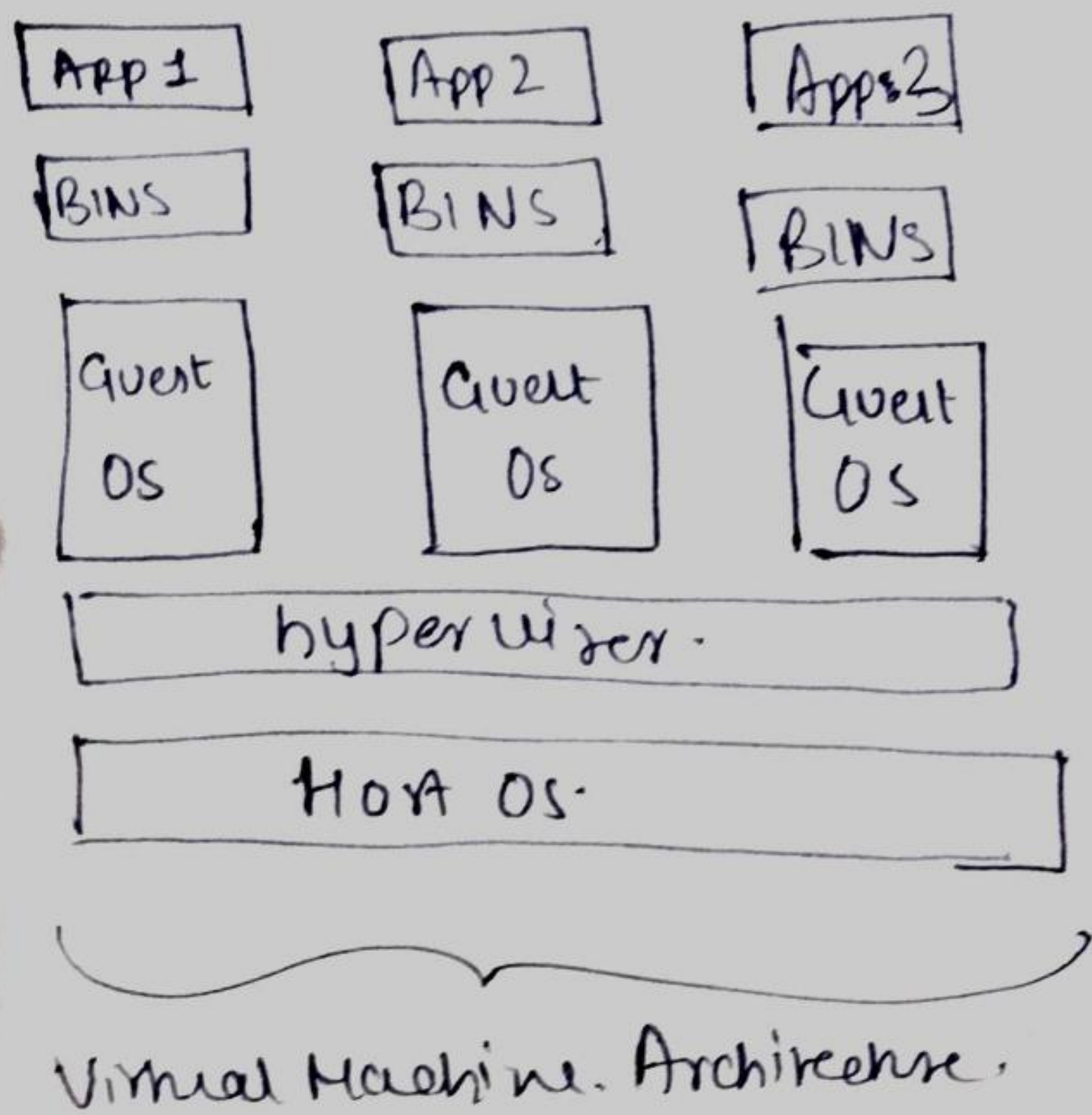
- ① Puppet master - slave communicates via a secure encrypted channel through the ssl.
- ②
  - puppet slave requests for puppet Master Certificate.
  - Puppet master sends the Master certificate to the puppet slave in response to the client request.
  - Puppet master request to the puppet slave for the slave certificate.
  - Puppet slave sends the requested slave certificate to puppet master.
  - puppet slave sends a request for data to the puppet master.
  - finally, the master send the data to the puppet slave as per the requests.



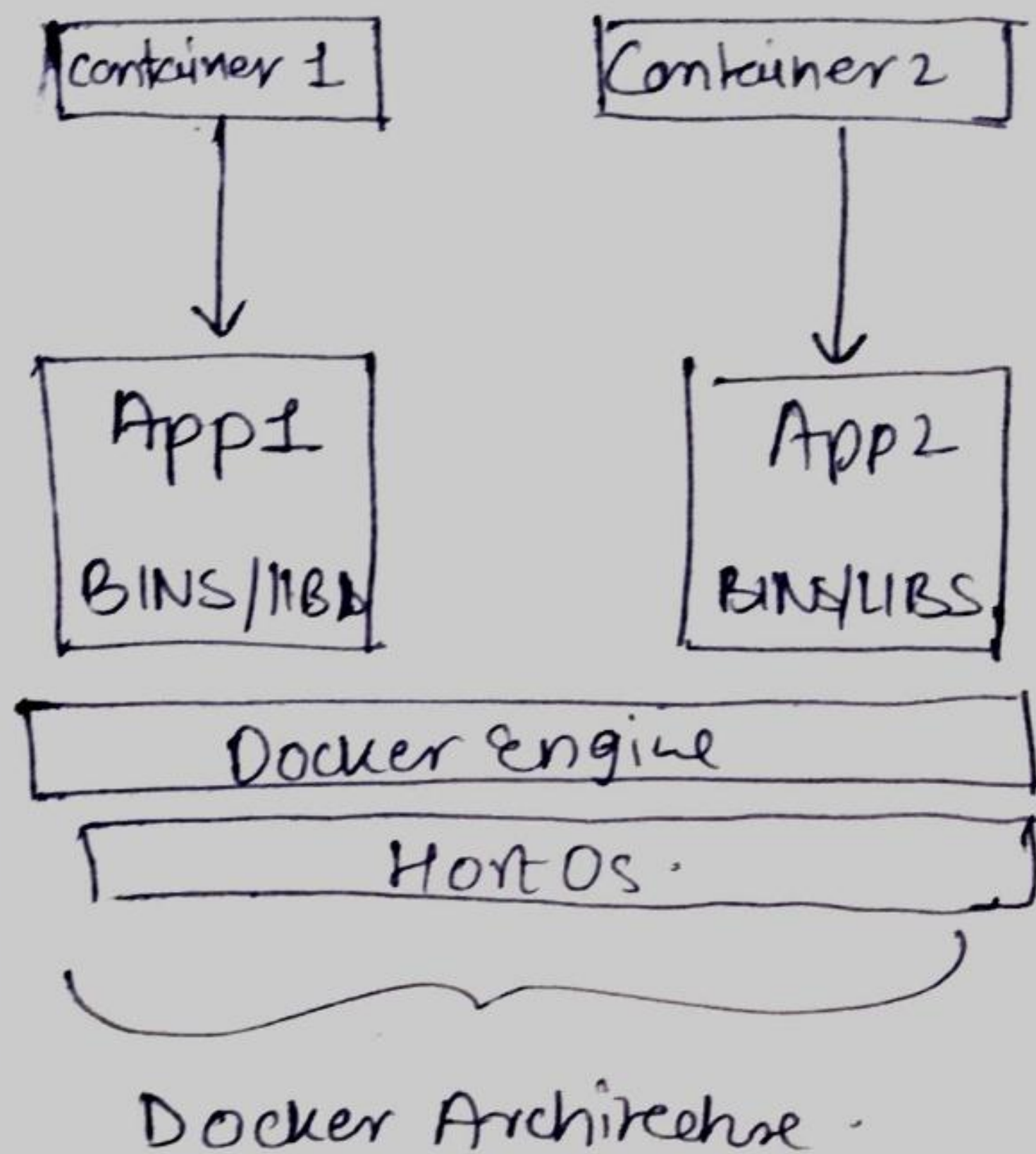


user

## Virtual machines



## Docker machines



- Stand alone machines with their kernel and security features.
- isolated with their OS. they are not ported across multiple platforms without incurring issues.
- Boot in few ~~seconds~~ minutes
- Tools are easy to use simpler to work with

- providing root access to apps is not recommended.
- Containers packages are self contained and can run applications in any environment.
- Boot in few seconds.
- Uses a complex usage of mechanism consisting of both third party and docker managed tools.