DEVOPS PIPELINE

BY
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PRANAV FIRAKE

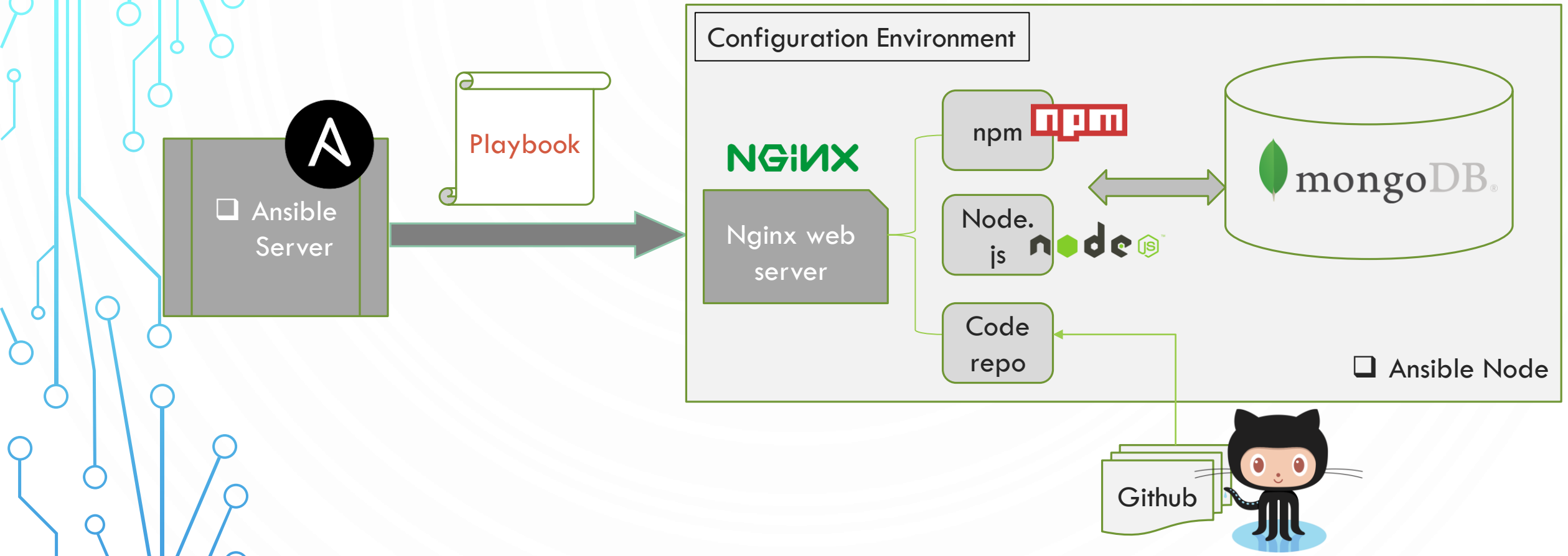
UNDER THE GUIDANCE OF :
DR. PARNIN

DEVOPS PIPELINE

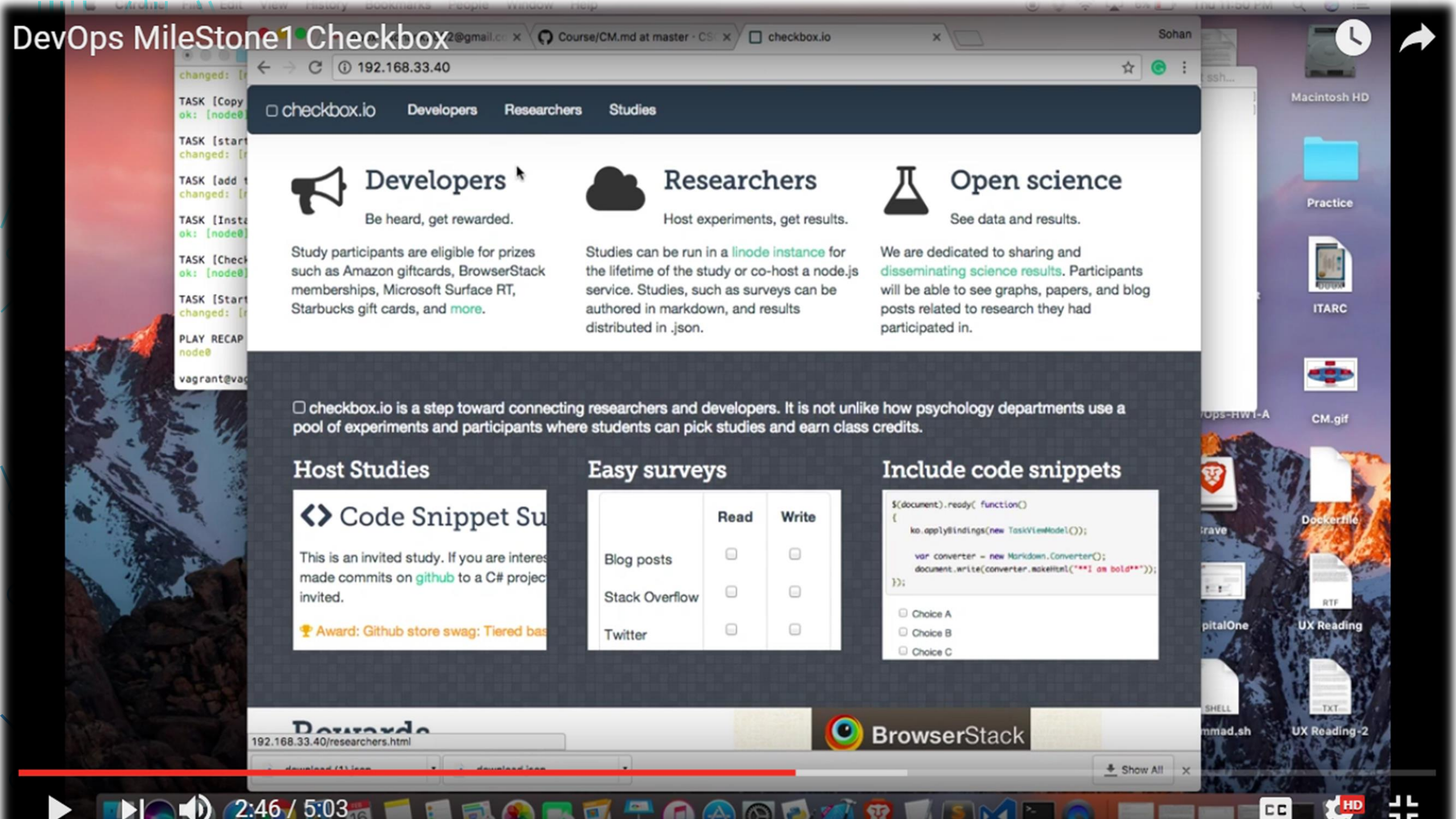
Sr	Milestones	Checkbox.io	iTrust
Mile 1	Configuration management	• Configuring the environments	• Configuring the environments
Mile 2	Build, Test & Analysis	• Jenkins build server • Code analysis	• Jenkins build server • Test coverage • Test fuzzer • Useless test detector
Mile 3	Deploy	• Deployment on AWS EC2 instance • Load balancer • Canary Release • Feature Flag	• Deployment on EC2 instance • Rolling updates

Sr	Milestones	Checkbox.io	iTrust
Mile 1	Configuration management	• Configuring the environments	• Configuring the environments

CHECKBOX.IO


Ansible Server
Playbook
Configuration Environment
NGINX
Nginx web server
npm
Node. js
Code repo
mongoDB.
Ansible Node
Github

DevOps MileStone1 Checkbox



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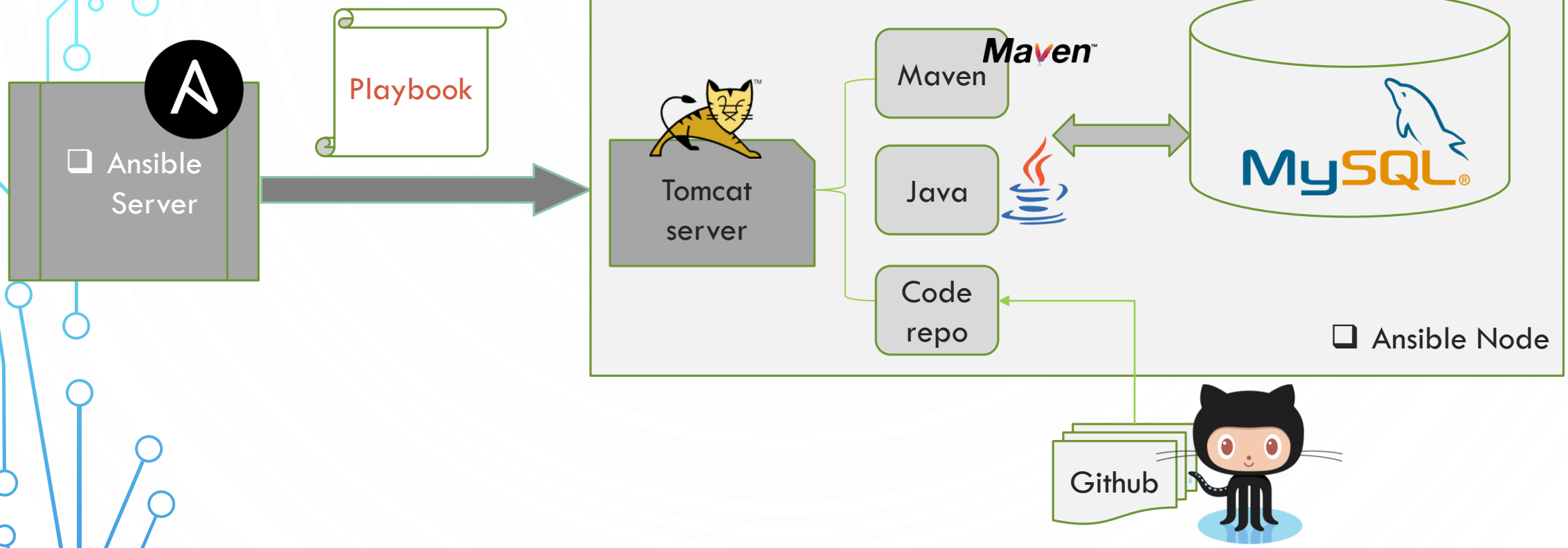
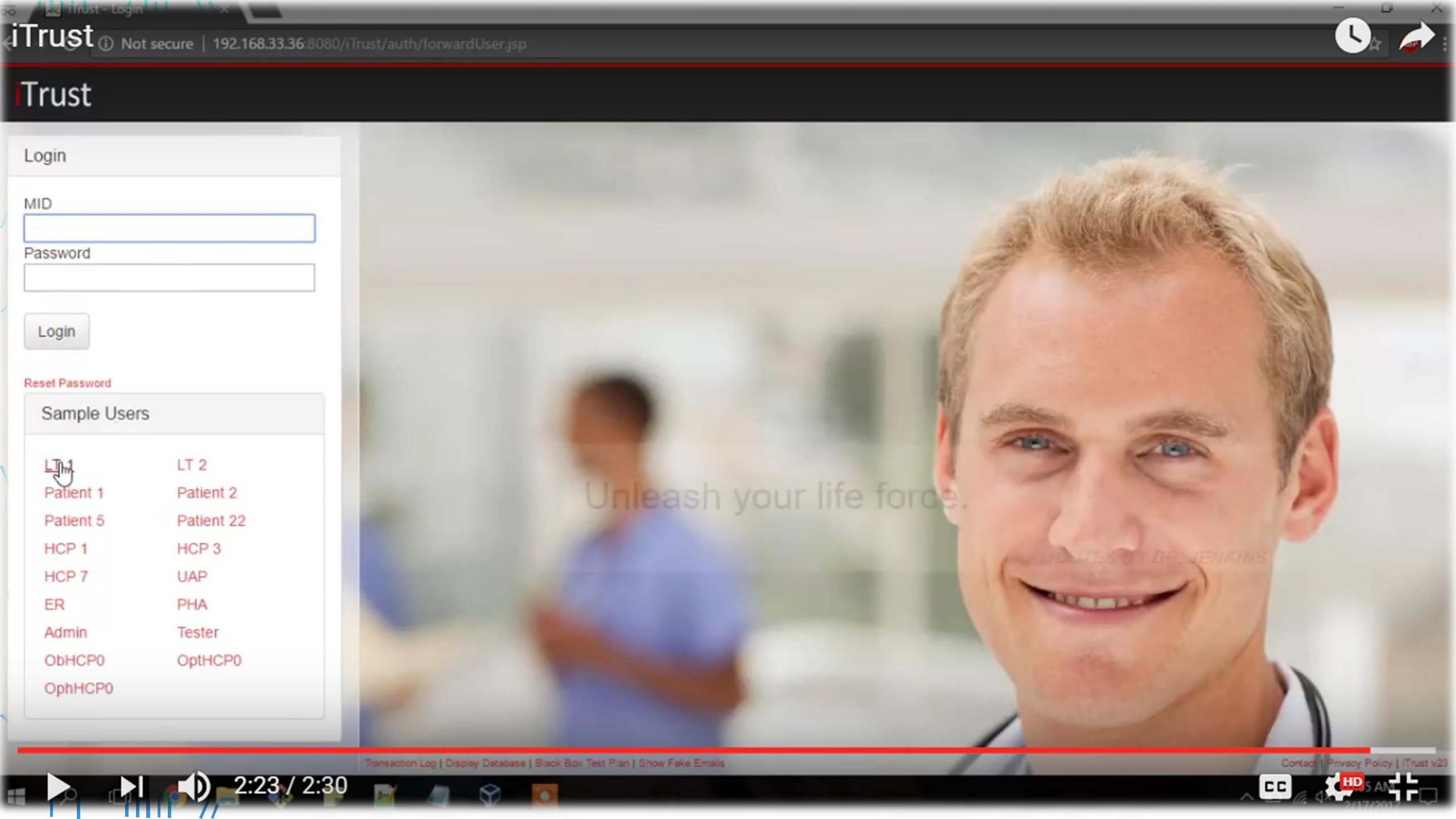
Sr	Milestones	Checkbox.io	iTrust
Mile 1	Configuration management	• Configuring the environments	• Configuring the environments

ITRUST


Ansible Server
Playbook
Configuration Environment
Tomcat server
Maven
Java
Code repo
MySQL
Ansible Node
Github


iTrust - Login
iTrust
Not secure | 192.168.33.36:8080/iTrust/auth/forwardUser.jsp
iTrust
Login
MID
Password
Login
Reset Password
Sample Users
LT 1
LT 2
Patient 1
Patient 2
Patient 5
Patient 22
HCP 1
HCP 3
HCP 7
UAP
ER
PHA
Admin
Tester
ObHCP0
OptHCP0
OphHCP0
Unleash your life force.
Transaction Log | Display Database | Black Box Test Plan | Show Fake Emails
Contact | Privacy Policy | iTrust v23
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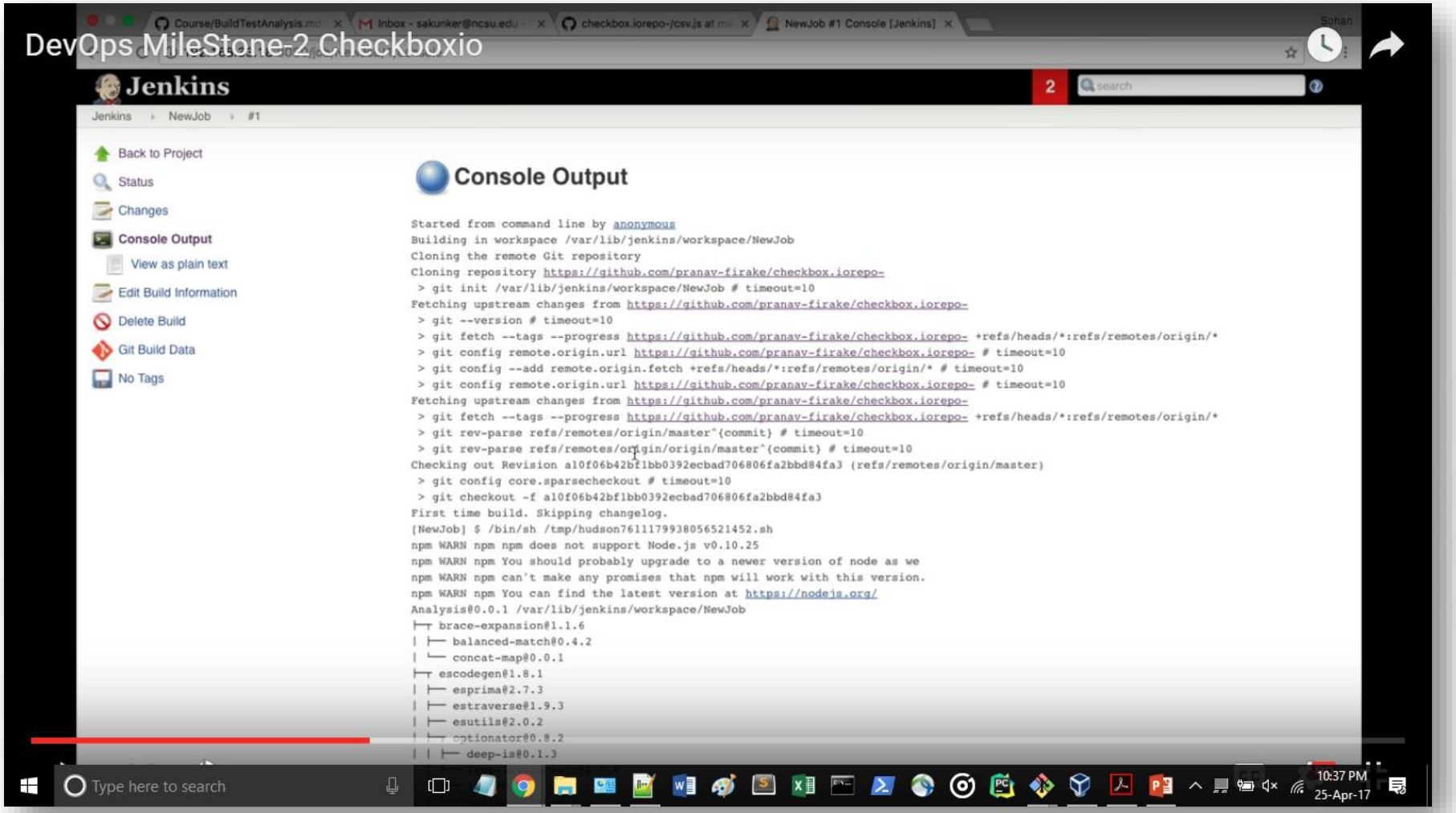
HD

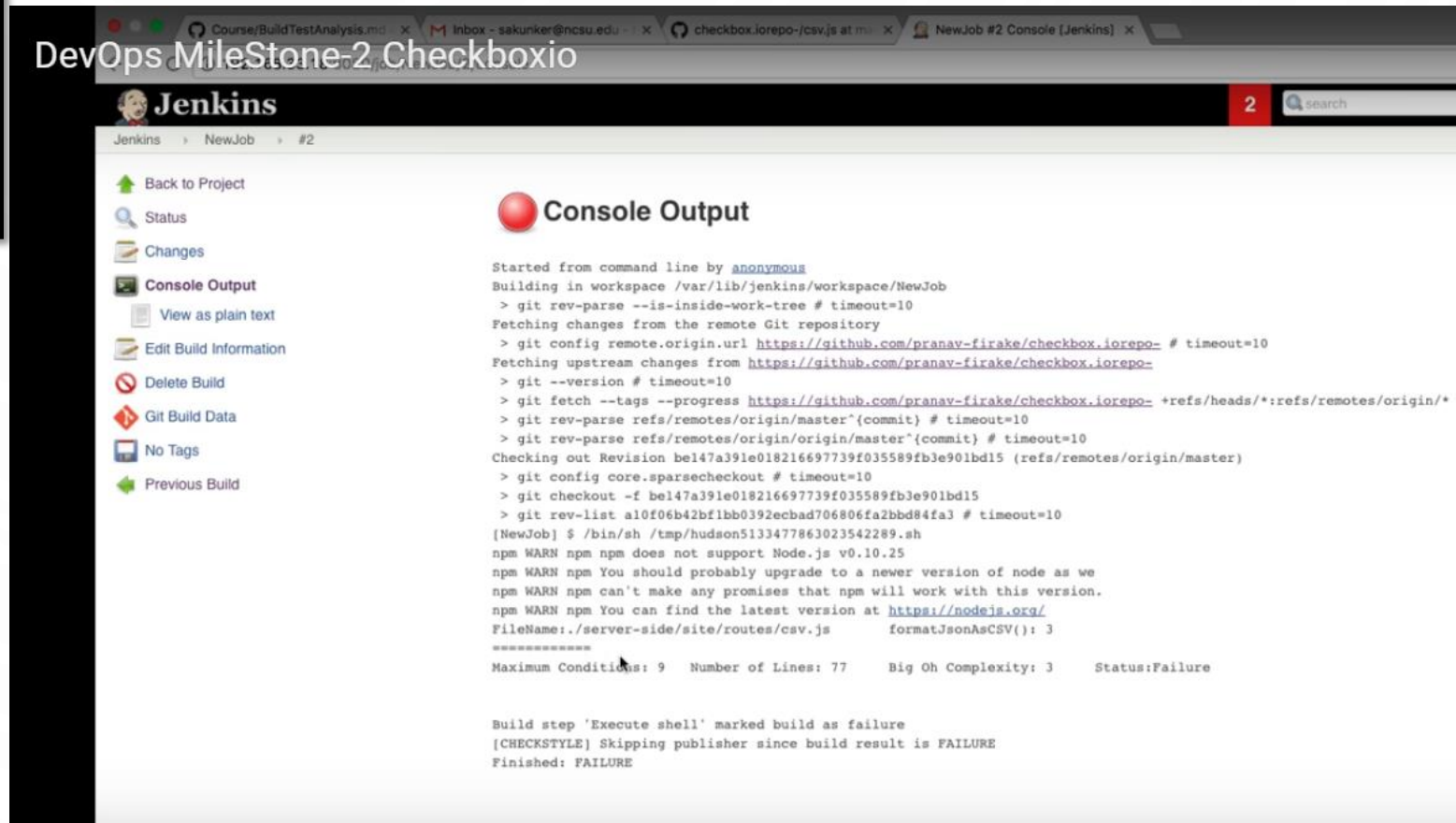
Sr	Milestones	Checkbox.io	iTrust
Mile 2	Build, Test & Analysis	• Jenkins build server • Code analysis	• Jenkins build server • Test coverage • Test fuzzer • Useless test detector

CHECKBOX.IO
- JENKINS BUILD SERVER



CHECKBOX.IO - CODE ANALYSIS

```
10        //console.log( questionLength );
11
12        for( var i=0; i < items.votes.length; i++ )
13        {
14                var vote = items.votes[i];
15                //for maxconditions > 8
16
17              if(i==1||i==2||i==2||i==2||i==2||i==2||i==2||i==2||i==2) {}
18
19
20                var row = [];
21                var questionPos = {};
22                var len = 0;
23                for( var q in questionLength )
24                {
```



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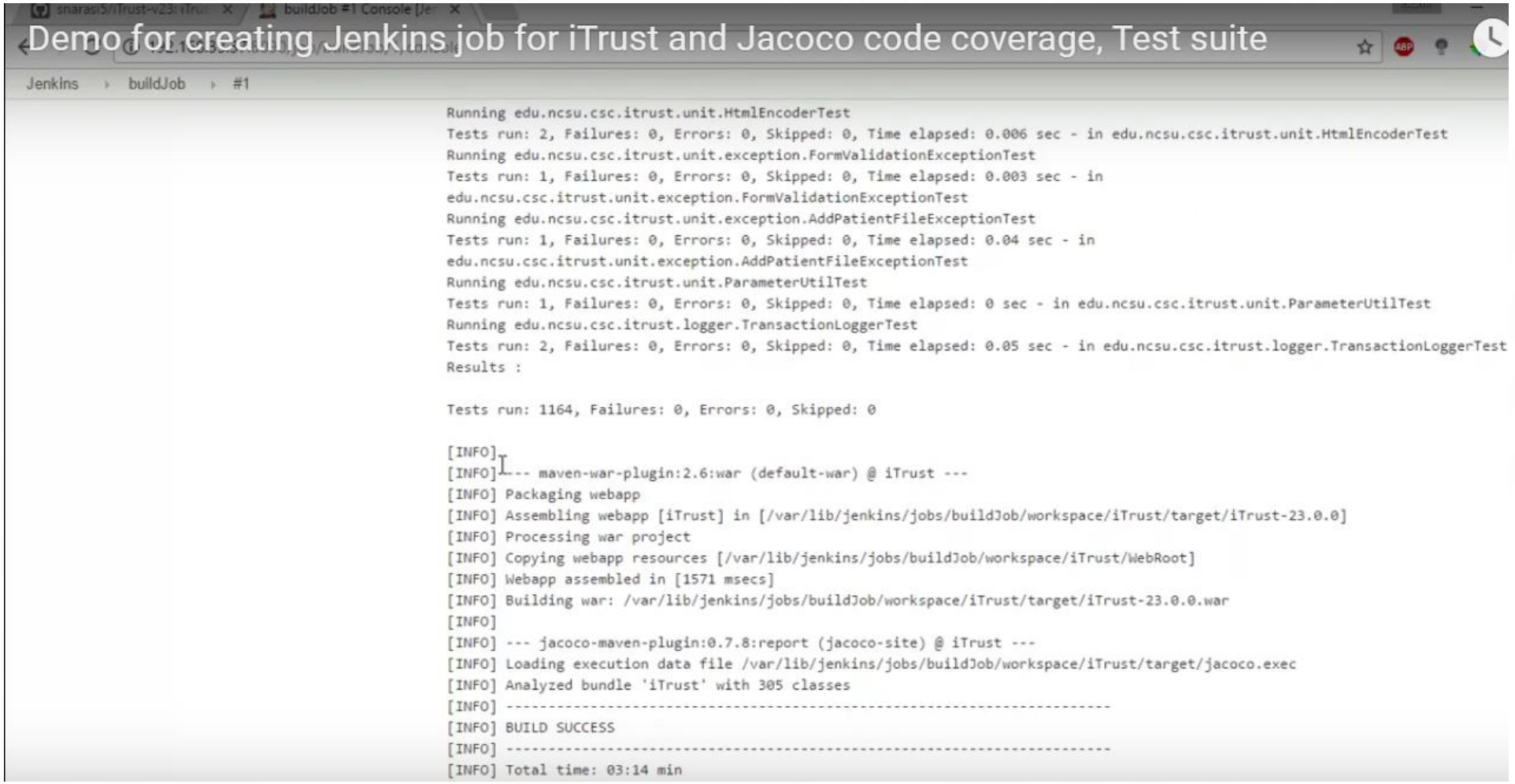
ITRUST
- JENKINS BUILD SERVER



ITRUST
- TEST COVERAGE

Coverage Report

JACOCO
Java Code Coverage

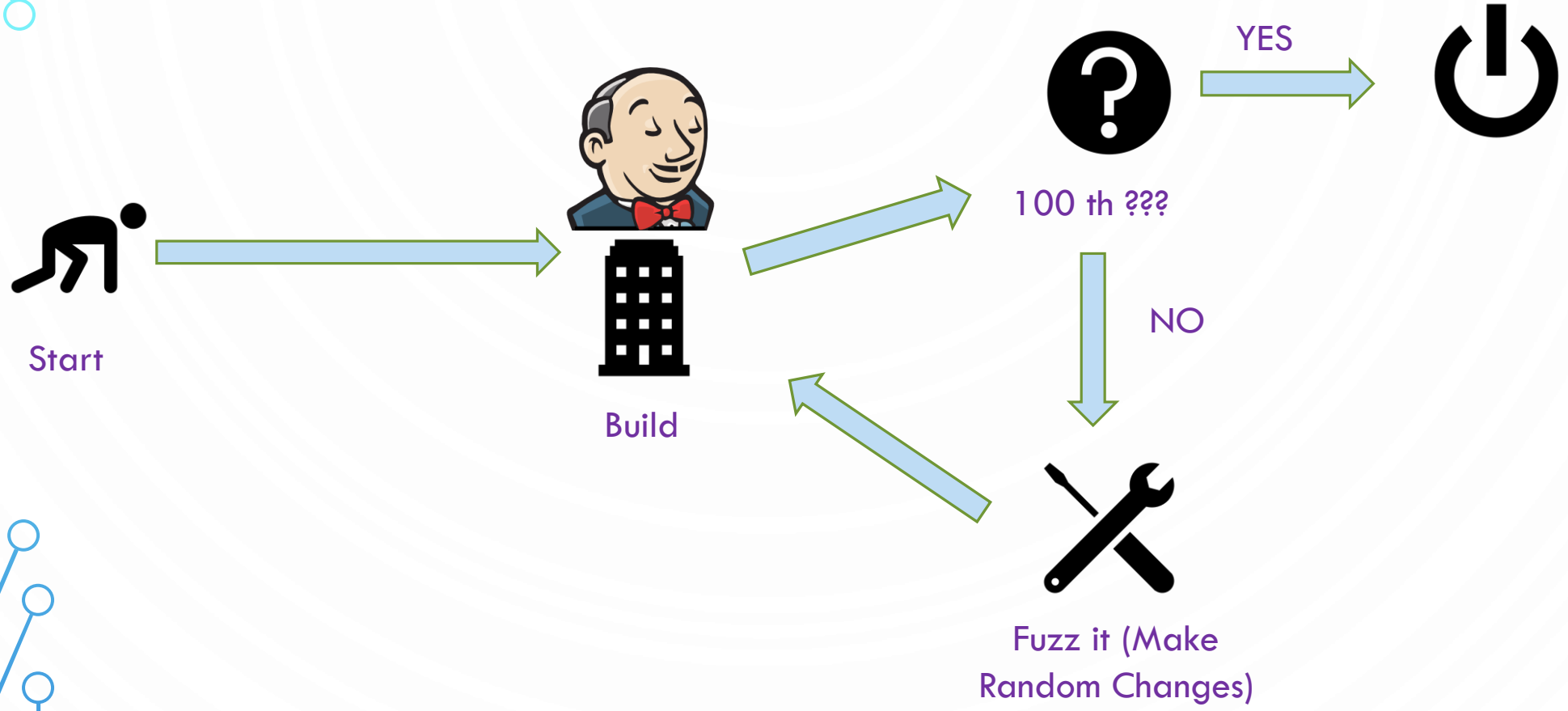
Overall Coverage Summary

name	instruction	branch	complexity	line	method	class
all classes	66% M: 24981 C: 48609	42% M: 4156 C: 3042	47% M: 3192 C: 2879	84% M: 1842 C: 9766	87% M: 307 C: 2132	93% M: 21 C: 284

Coverage Breakdown by Package

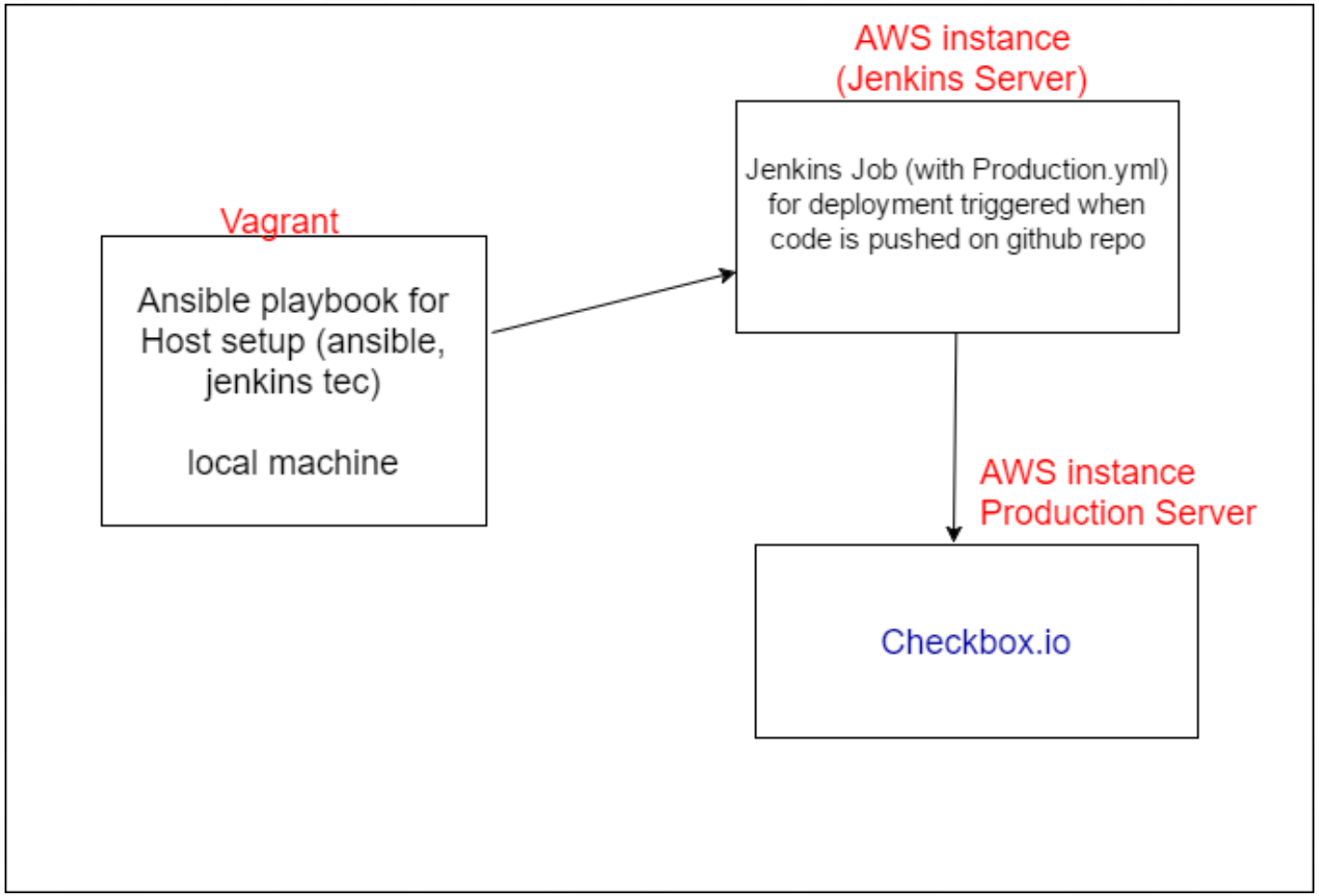
name	instruction	branch	complexity	line	meth
edu.ncsu.csc.itrust	M: 170 C: 692 80%	M: 18 C: 54 75%	M: 22 C: 57 72%	M: 33 C: 154 82%	M: 11 C: 32 74%
edu.ncsu.csc.itrust.action	M: 1410 C: 7944 85%	M: 172 C: 531 76%	M: 192 C: 467 71%	M: 369 C: 1659 82%	M: 46 C: 248 84%
edu.ncsu.csc.itrust.action.base	M: 6 C: 87 94%	M: 0 C: 4 100%	M: 2 C: 7 78%	M: 2 C: 21 91%	M: 2 C: 5 71%

ITRUST
- TEST FUZZER

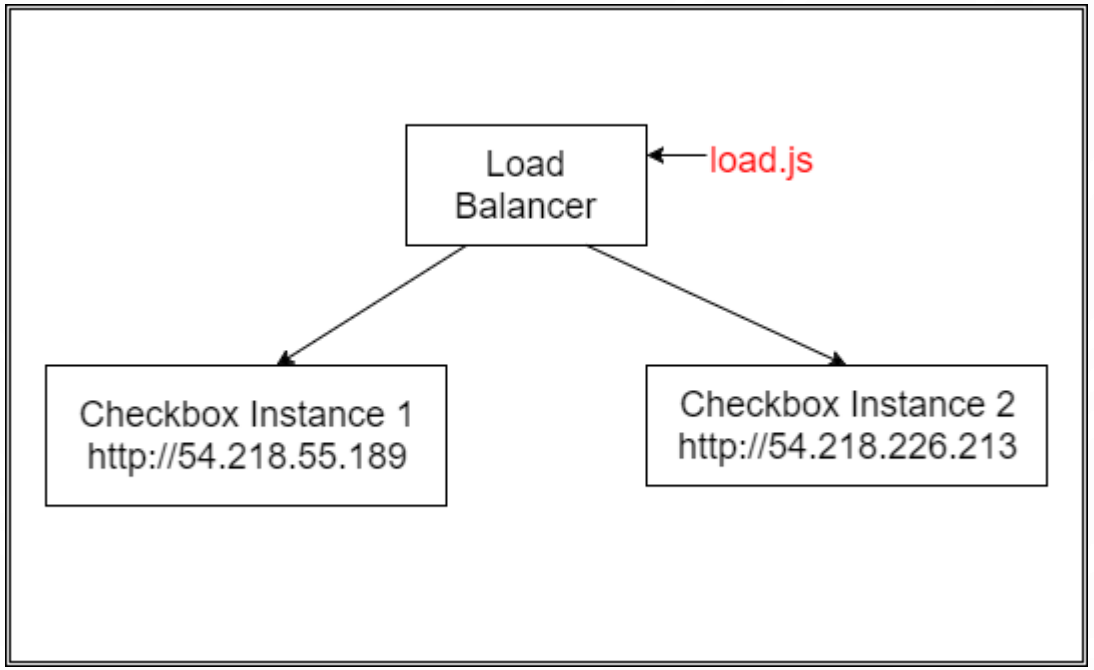


Sr	Milestones	Checkbox.io	iTrust
Mile 3	Deploy	• Deployment on Cloud • Load balancer • Canary Release • Feature Flag	• Deployment on Cloud • Rolling updates

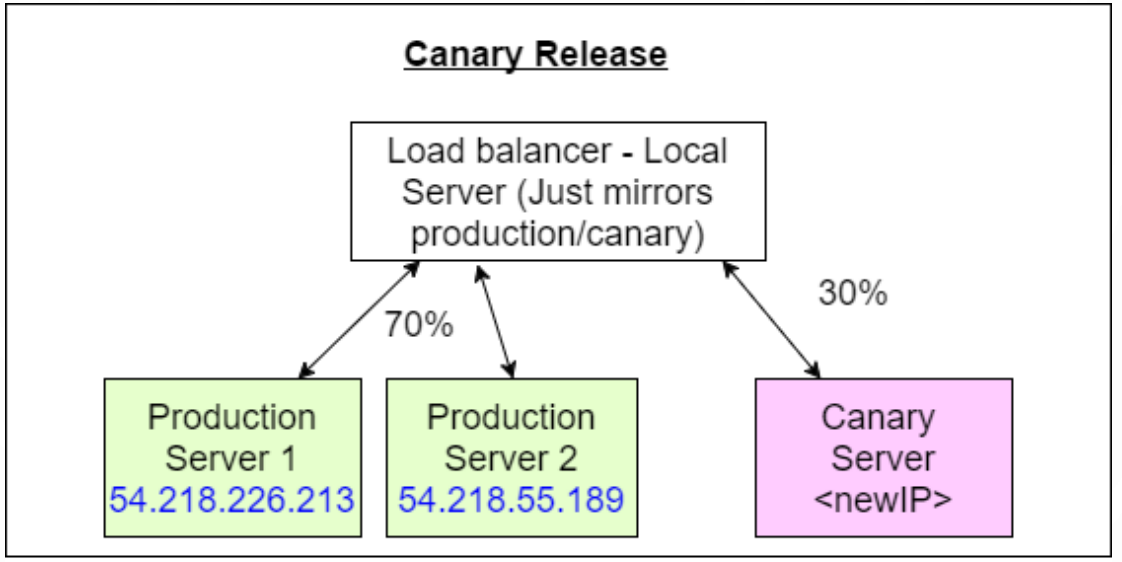
CHECKBOX.IO
- DEPLOYMENT ON AWS

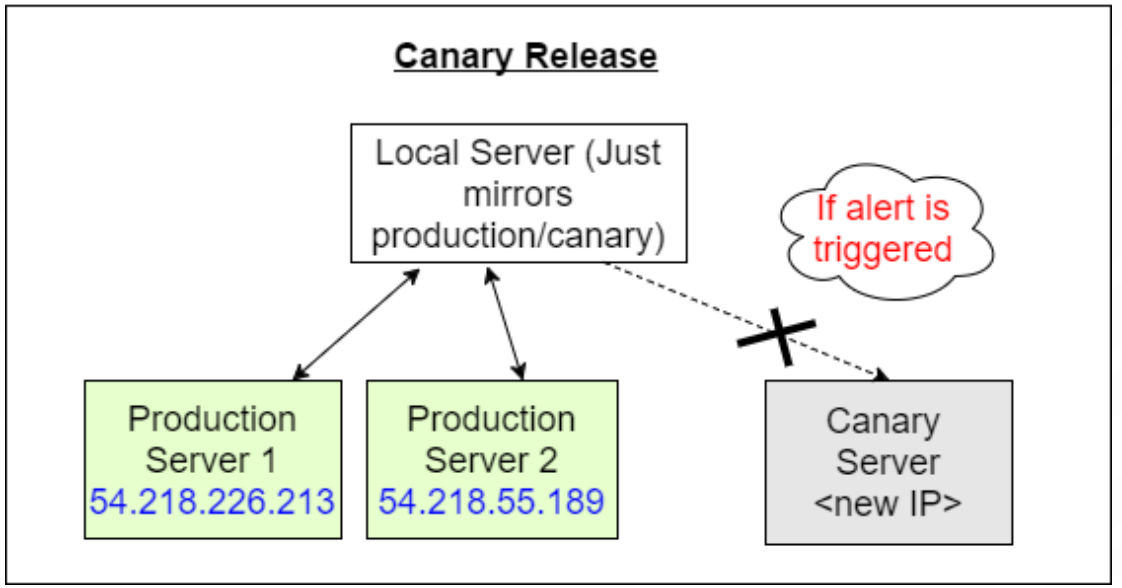


CHECKBOX.IO
- LOAD BALANCER

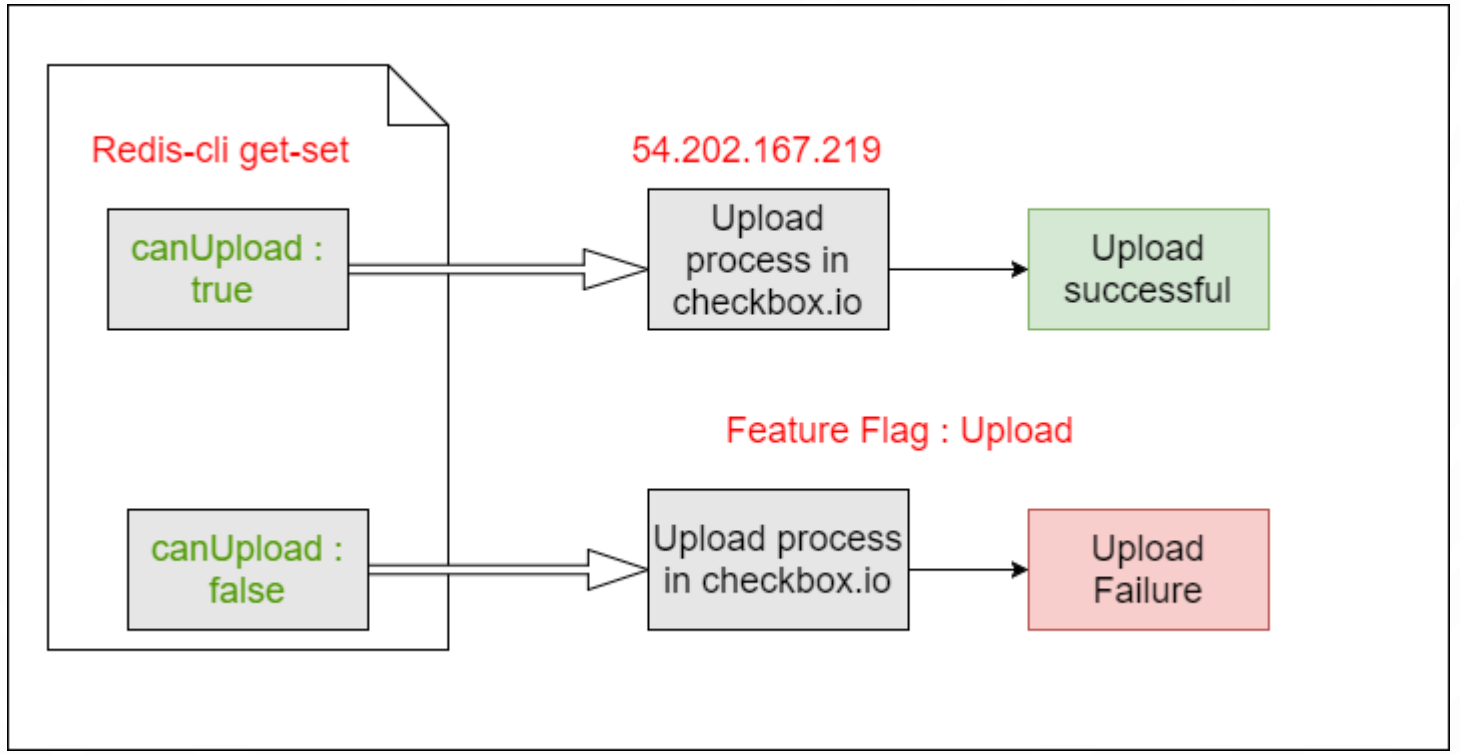


CHECKBOX.IO - CANARY RELEASE





CHECKBOX.IO - FEATURE FLAG



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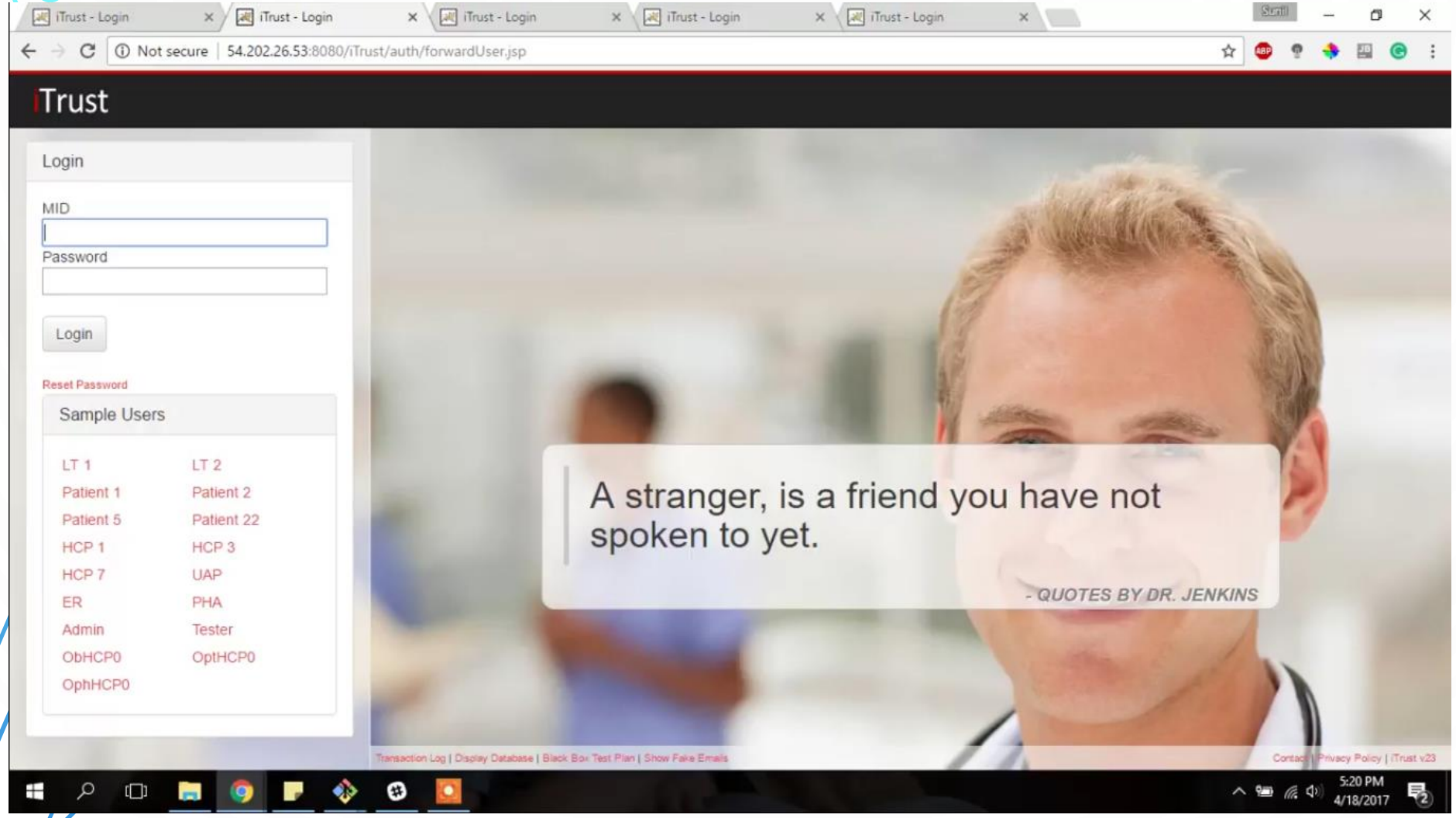
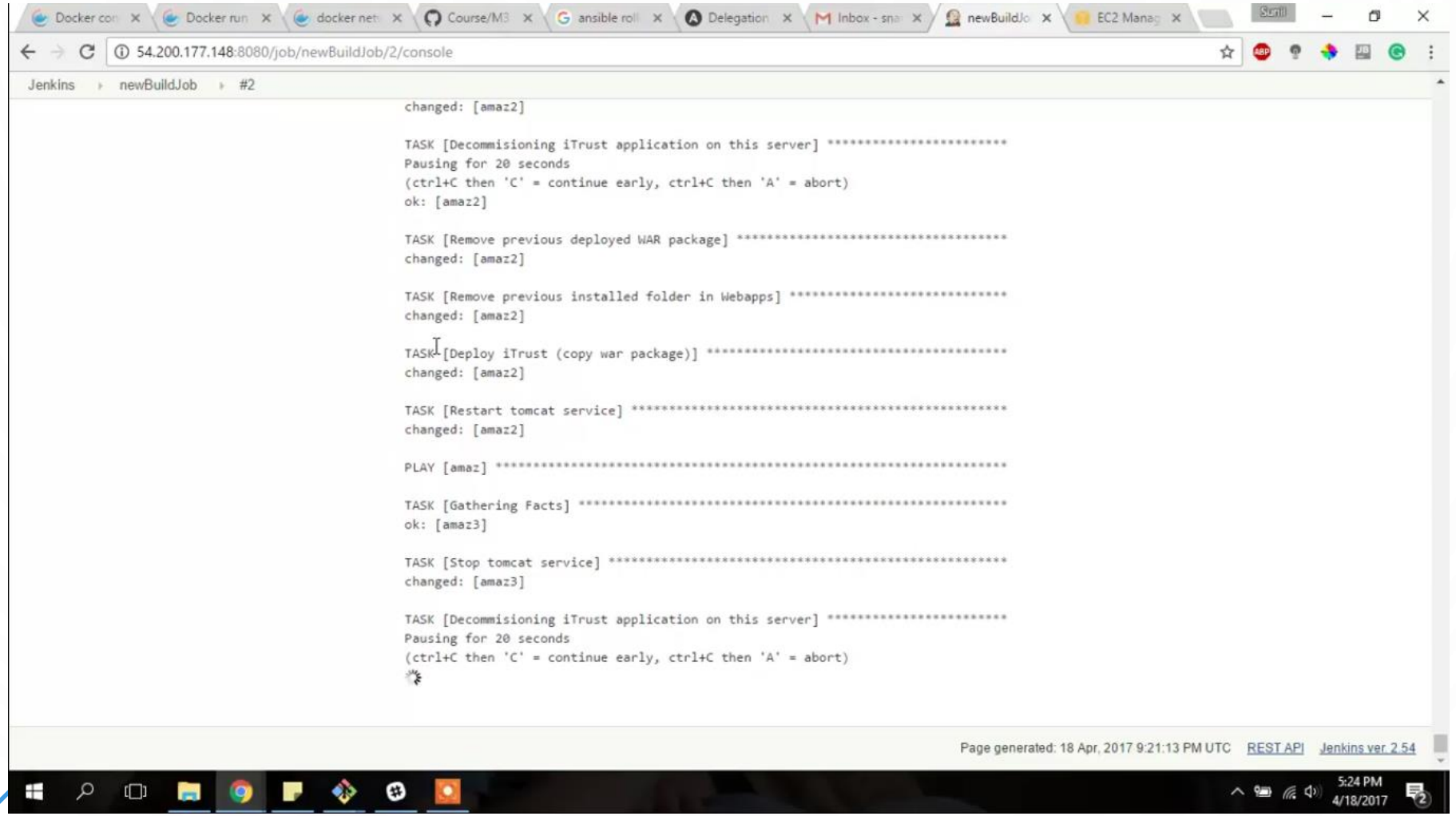
ITRUST

- DEPLOYMENT ON AWS



ITRUST
- ROLLING UPDATES



Sr	Milestones	Checkbox.io
SPECIAL	Special Milestone	• Clean up monkey • Gremlin Monkey

CLEAN UP MONKEY

Problem:

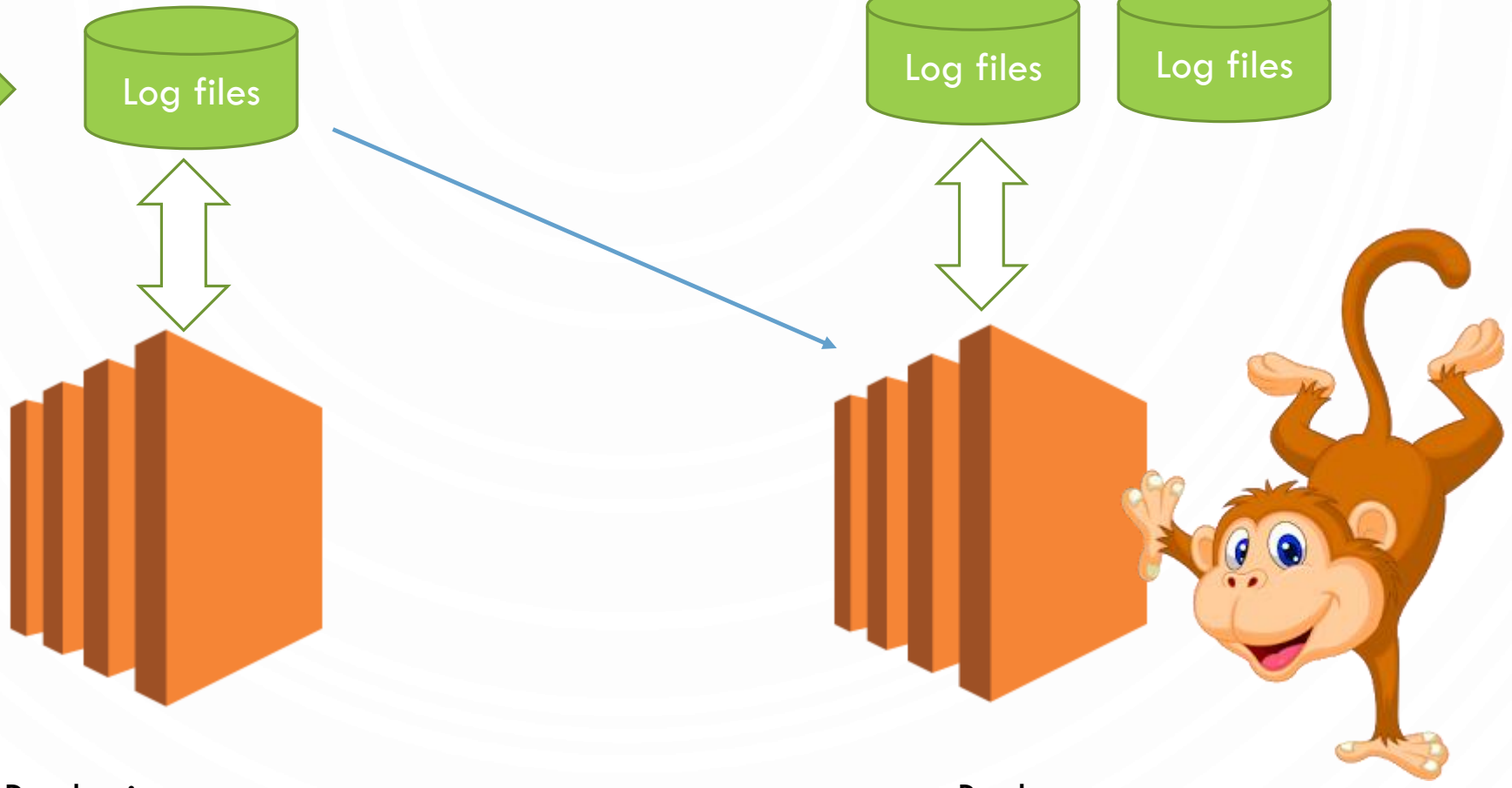
In multiserver environment, there can be the scenario when the log files or the files which are important but they do not contribute to execution of the application.

Solution:

Clean up monkey will track the log files and if their size gets greater than limit then it copies those files to backup server and deletes them from running server

CLEAN UP MONKEY

Flooding



GREMLIN MONKEY

Problem:

Web application to be robust, it must be tested for varied user inputs. This includes random clicks, unexpected user behaviour

Solution:

Gremlin monkey provides the functionality to perform random clicks and navigations on application and one can check console.log for inconsistencies

GREMLIN MONKEY

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Apps Bookmarks Wolfware Moodle MyPage CSC-DevOps/Course 519 DevOps Slack-DevOps my git Netflix 510 SE DevOps_HW1A/Creat IBM Cityscape ansi

Be heard, get rewarded.

Study participants are eligible for prizes such as Amazon giftcards, BrowserStack memberships, Microsoft Surface RT, Starbucks gift cards, and more.

Host experiments, get results.

Studies can be run in a linode instance for the lifetime of the study or co-host a node.js service. Studies, such as surveys can be authored in markdown, and results distributed in .json.

See data and results.

We are dedicated to sharing and disseminating science results. Participants will be able to see graphs, papers, and blog posts related to research they had participated in.

☐ checkbox.io is a step toward connecting researchers and developers. It is not unlike how psychology departments use a pool of experiments and participants where students can pick studies and earn class credits.

Host Studies

Code Snippet Su

Easy surveys

Read Write

Include code snippets

```
$(document).ready( function()
{
    ko.applyBindings(new TaskViewModel());
```

Elements Console Sources Network Timeline Profiles Application Security Audits

top Preserve log

```
gremlin typer      type " at 326 18                    gremlins.min.js:2
gremlin scroller   scroll to 0 525                     gremlins.min.js:2
gremlin clicker    mousedown at 514 251                gremlins.min.js:2
gremlin scroller   scroll to 0 114                     gremlins.min.js:2
gremlin typer      type □ at 1032 74                   gremlins.min.js:2
gremlin typer      type X at 212 165                   gremlins.min.js:2
mogwai  fps        60.02040693303795                   gremlins.min.js:2
```

Console

nightwatch-0.9.14.zip researchers.html archi.png FeatureFlag.png Removed canary.png Removed Show all

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THANK YOU