

DevOps Pipeline

CSC519 - Project

Team: DevOps Knights



The team

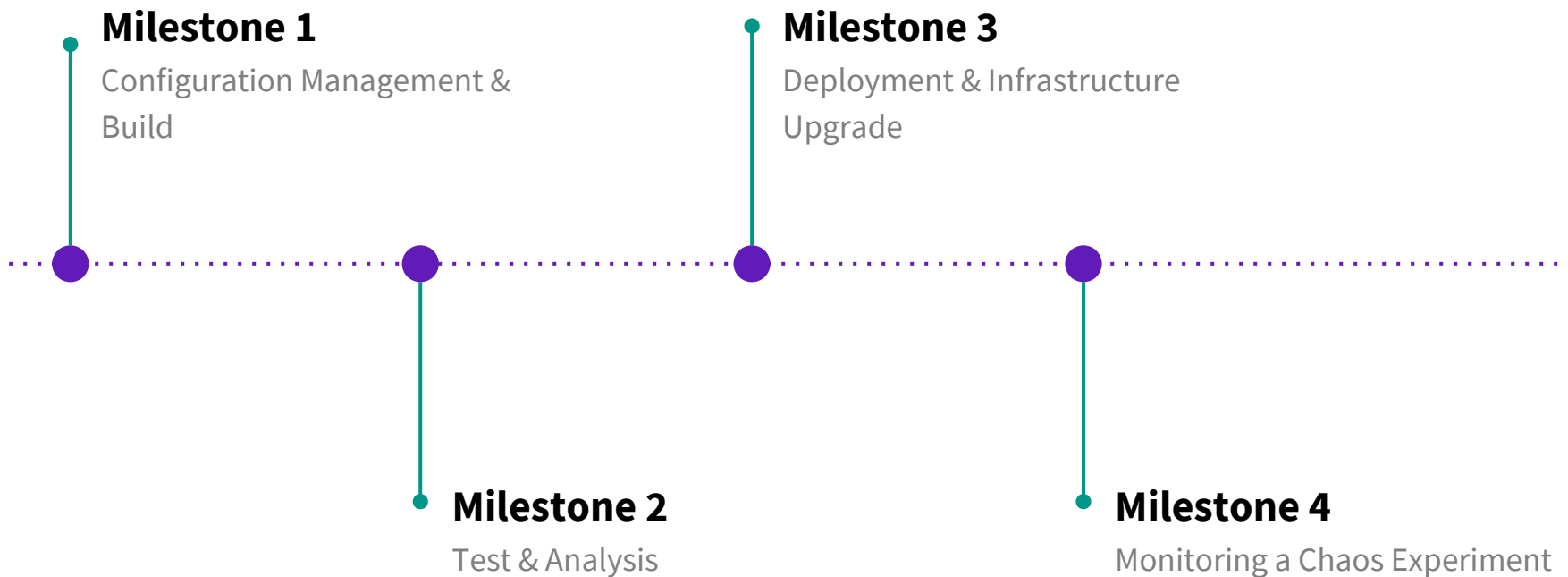
Pushpendra Singh Patel

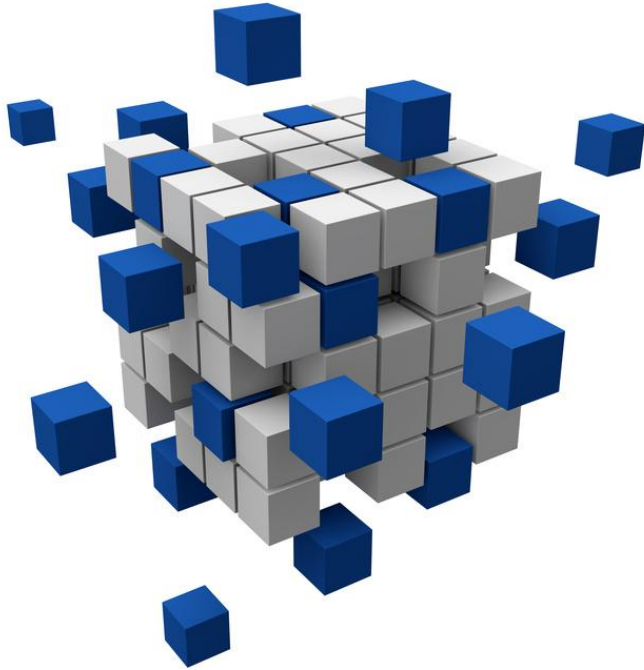
Sayali Godbole

Tanay Kothari

Uddhav Bhosle

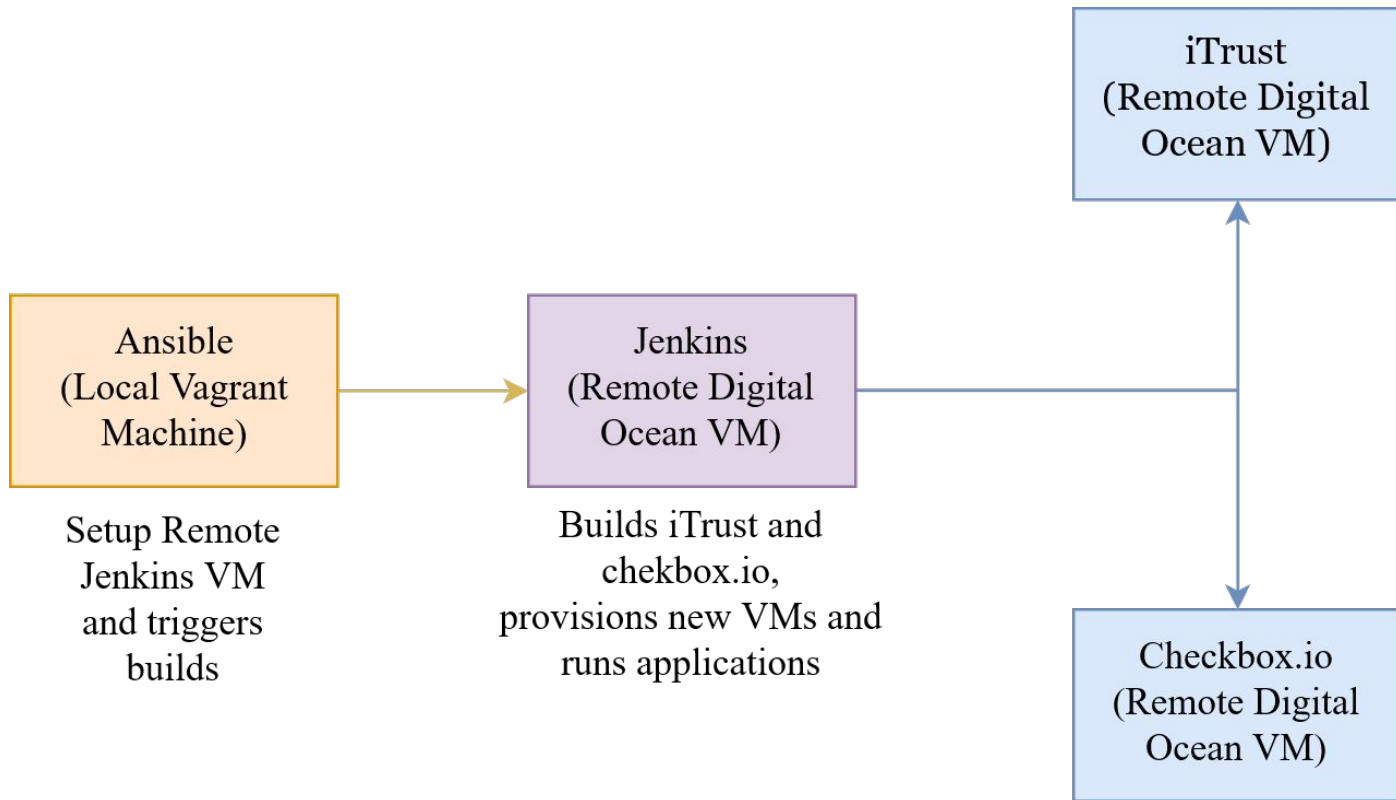
The Pipeline



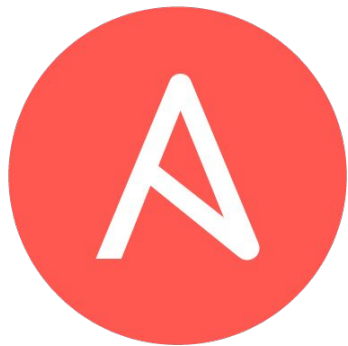


Milestone 1

CM & Build




Setting Up Jenkins



DigitalOcean



Jenkins Job Builder

 **Jenkins**


4


search


devopsknights | log out


Jenkins


ENABLE AUTO REFRESH


 New Item

 People

 Build History

 Manage Jenkins

 My Views

 New View


Build Queue

No builds in the queue.









Build Executor Status

1 Idle




2 Idle

 [add description](#)

All +

S	W	Name ↓	Last Success	Last Failure	Last Duration
		ansible-checkbox	N/A	N/A	N/A
		ansible-itrust	N/A	N/A	N/A
		checkbox	N/A	N/A	N/A
		itrust2	N/A	N/A	N/A

Icon: [S](#) [M](#) [L](#)

[Legend](#)  [RSS for all](#)  [RSS for failures](#)  [RSS for just latest builds](#)

iTrust



maven

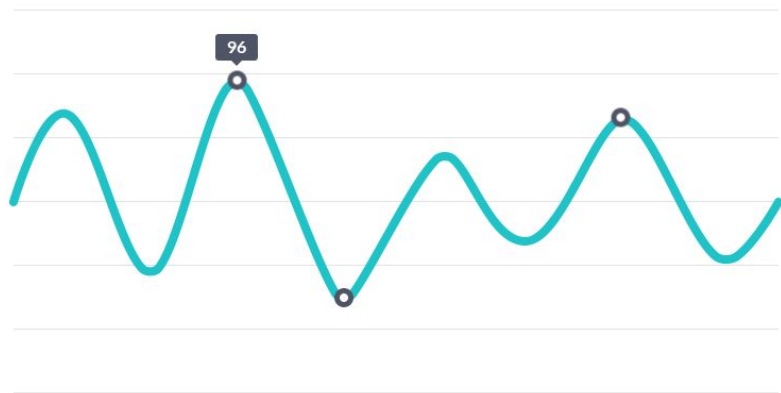


Checkbox.io



NGINX

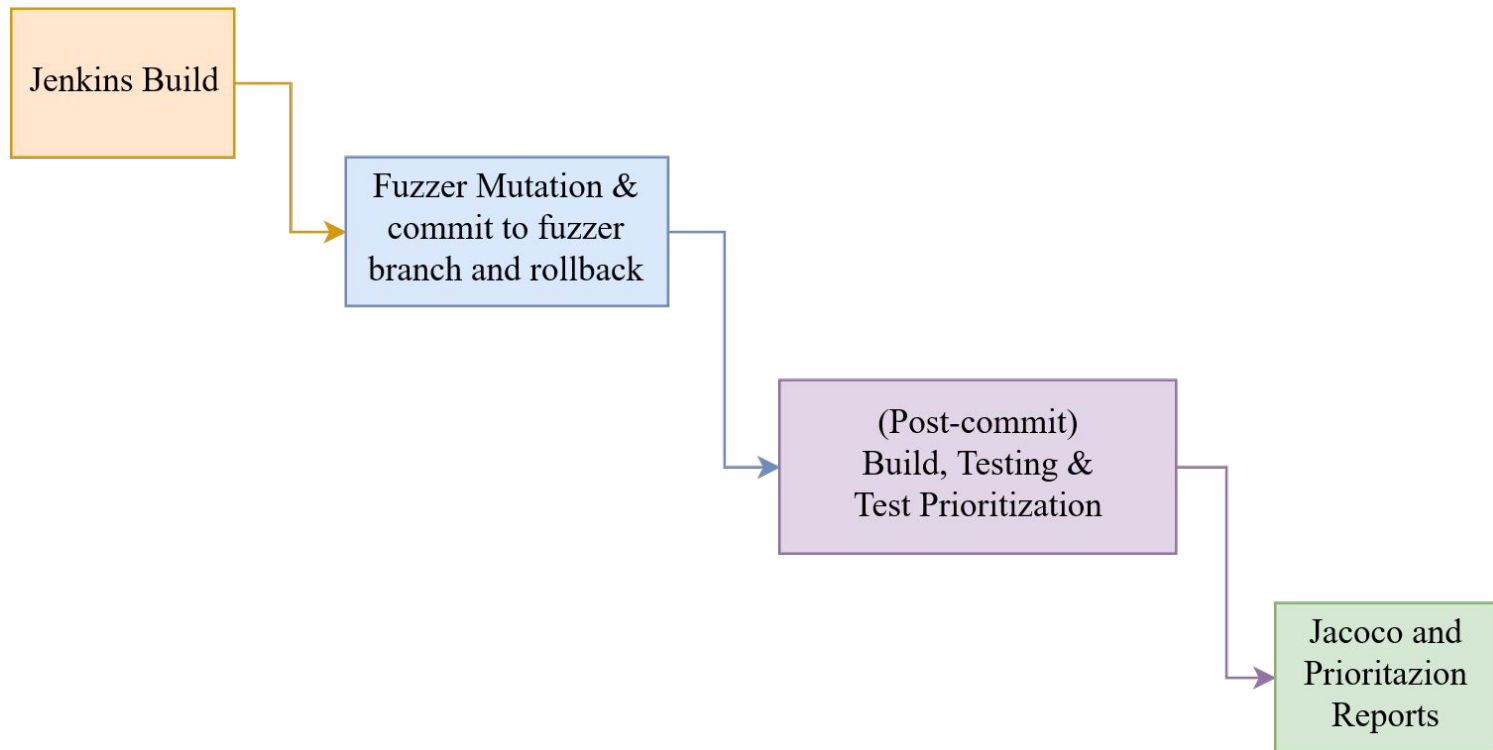




Milestone 2

Test & Analysis

iTrust



[Back to Dashboard](#)[Status](#)[Changes](#)[Workspace](#)[Build Now](#)[Delete Project](#)[Configure](#)[Coverage Trend](#)[Build History](#)[trend](#)

find X

#100	Mar 23, 2018 12:18 AM
#99	Mar 23, 2018 12:15 AM
#98	Mar 23, 2018 12:12 AM
#97	Mar 23, 2018 12:09 AM
#96	Mar 23, 2018 12:06 AM
#95	Mar 23, 2018 12:03 AM
#94	Mar 23, 2018 12:00 AM
#93	Mar 22, 2018 11:57 PM
#92	Mar 22, 2018 11:54 PM
#91	Mar 22, 2018 11:51 PM
#90	Mar 22, 2018 11:48 PM
#89	Mar 22, 2018 11:45 PM
#88	Mar 22, 2018 11:42 PM

Project fuzzer

rebuild itrust job<!-- Managed by Jenkins Job Builder -->

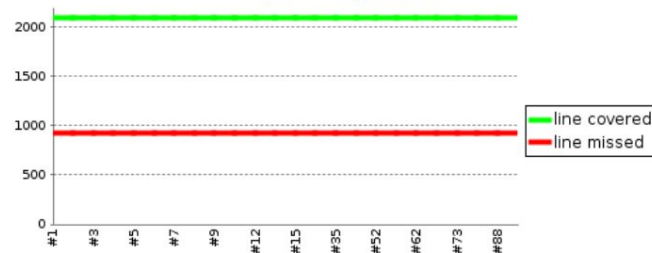
[Workspace](#)[Recent Changes](#)[Latest Test Result](#) (12 failures / +12)

Permalinks

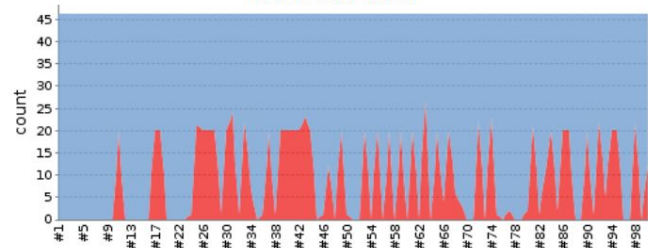
- [Last build \(#100\), 1 min 25 sec ago](#)
- [Last stable build \(#99\), 4 min 26 sec ago](#)
- [Last successful build \(#99\), 4 min 26 sec ago](#)
- [Last failed build \(#100\), 1 min 25 sec ago](#)
- [Last unsuccessful build \(#100\), 1 min 25 sec ago](#)
- [Last completed build \(#100\), 1 min 25 sec ago](#)

[edit description](#)[Disable Project](#)

Code Coverage Trend

[enlarge](#)

Test Result Trend

[\(just show failures\)](#) [enlarge](#)

DigitalOcean - DropletsDigitalOcean - Settings/C:/Users/Pushpendra/DevOps/Fu...Code coverage report for site/rou...Jenkinsfuzzer [Jenkins]

159.65.183.241:9090/job/itrust2/lastBuild/jacoco/

Jenkins4searchdevopsknightslog out

Back to Project

Status

Changes

Console Output

View as plain text

Edit Build Information

Delete Build

Coverage Report

JaCoCo Coverage Report

Download jacoco.exec binary coverage file

line covered

line missed

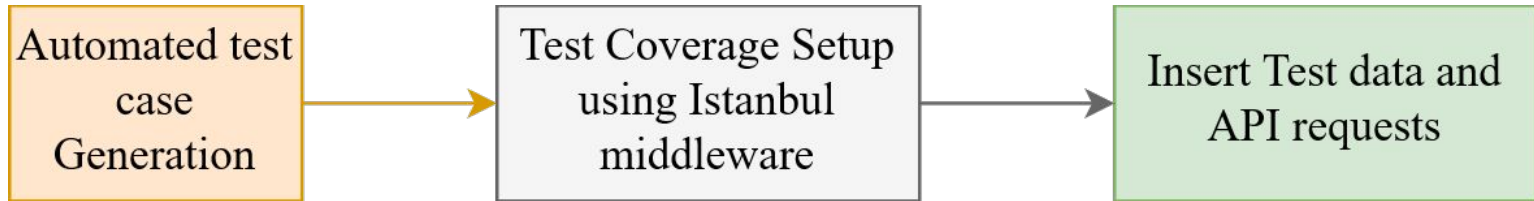
Overall Coverage Summary

name	instruction	branch	complexity	line	method	class
all classes	70% <div></div> M: 3924 C: 9036	56% <div></div> M: 355 C: 444	67% <div></div> M: 426 C: 853	69% <div></div> M: 919 C: 2086	80% <div></div> M: 174 C: 705	91% <div></div> M: 8 C: 82

Coverage Breakdown by Package

name	instruction	branch	complexity	line	method	class
edu.ncsu.csc.itrust2.config	M: 467 C: 129 22% <div></div>	M: 48 C: 2 4% <div></div>	M: 36 C: 15 29% <div></div>	M: 132 C: 28 18% <div></div>	M: 11 C: 15 58% <div></div>	M: 3 C: 6 67% <div></div>
edu.ncsu.csc.itrust2.controllers	M: 20 C: 3 13% <div></div>	M: 0 C: 0 100% <div></div>	M: 1 C: 1 50% <div></div>	M: 4 C: 1 20% <div></div>	M: 1 C: 1 50% <div></div>	M: 0 C: 1 100% <div></div>
edu.ncsu.csc.itrust2.controllers.admin	M: 244 C: 12 5% <div></div>	M: 23 C: 0 0% <div></div>	M: 24 C: 4 14% <div></div>	M: 65 C: 4 6% <div></div>	M: 12 C: 4 25% <div></div>	M: 1 C: 4 80% <div></div>
edu.ncsu.csc.itrust2.controllers.api	M: 1415 C: 1826 56% <div></div>	M: 73 C: 111 60% <div></div>	M: 67 C: 113 63% <div></div>	M: 246 C: 352 59% <div></div>	M: 16 C: 72 82% <div></div>	M: 0 C: 15 100% <div></div>
	M: 25 C: 64	M: 0 C: 0	M: 8 C: 16	M: 9 C: 30	M: 8 C: 16	M: 0 C: 2

Checkbox.io



all files site/

30.77% Statements 64/206 2.25% Branches 2/89 35.29% Functions 6/17 31.07% Lines 64/206

File ▾		Statements ▾		Branches ▾		Functions ▾		Lines ▾	
markdown.js	<div><div></div></div>	20.56%	37/180	2.25%	2/89	21.43%	3/14	20.79%	37/178
server.js	<div><div></div></div>	96.43%	27/28	100%	0/0	100%	3/3	96.43%	27/28

all files site/routes/

85.8% Statements 278/324 74.12% Branches 63/85 78.49% Functions 73/93 86.34% Lines 278/322

File ▾		Statements ▾		Branches ▾		Functions ▾		Lines ▾	
admin.js	<div><div></div></div>	91.18%	93/102	75%	30/40	93.55%	29/31	92.08%	93/101
create.js	<div><div></div></div>	95.65%	44/46	87.5%	14/16	100%	11/11	95.65%	44/46
study.js	<div><div></div></div>	92.77%	77/83	69.57%	16/23	95.45%	21/22	92.77%	77/83
studyModel.js	<div><div></div></div>	100%	41/41	50%	1/2	100%	9/9	100%	41/41
upload.js	<div><div></div></div>	44.23%	23/52	50%	2/4	15%	3/20	45.1%	23/51

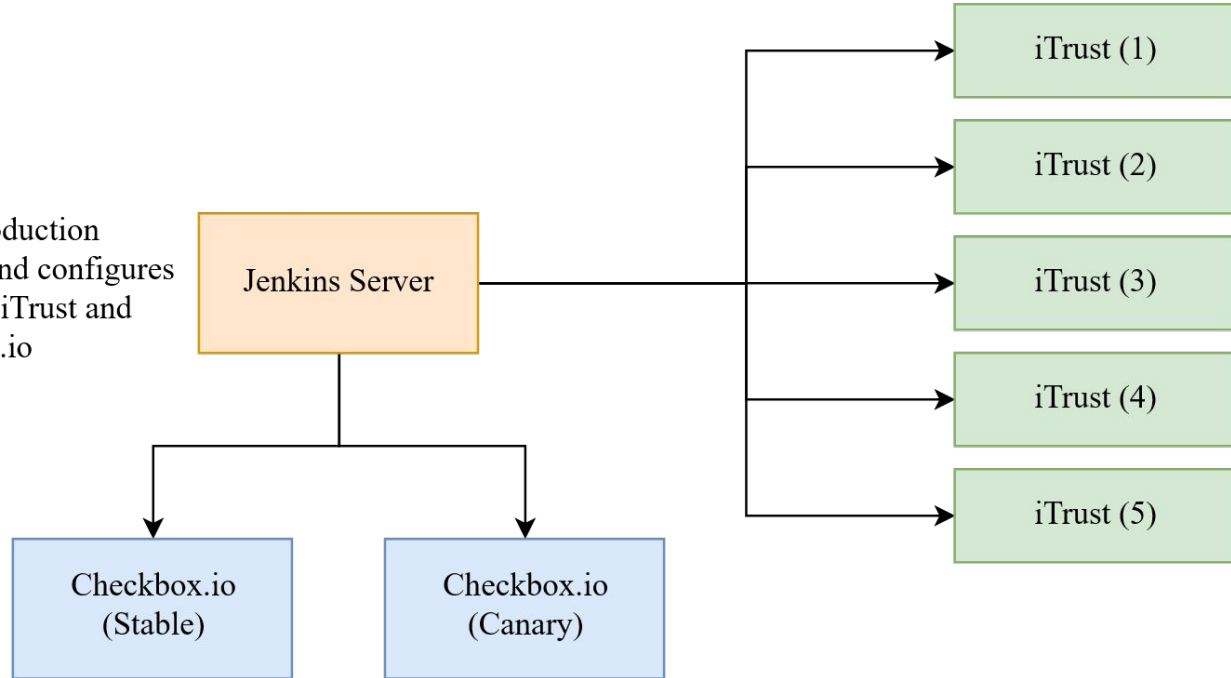


Milestone 3

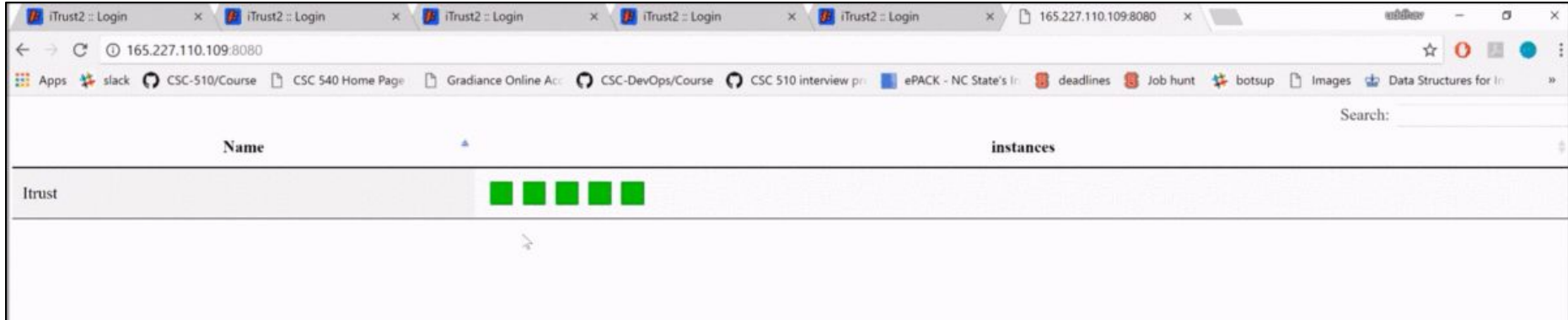
Deployment &
Infrastructure
Upgrade

Deployment


On push to production
Jenkins provisions and configures
new instances of iTrust and
checkbox.io



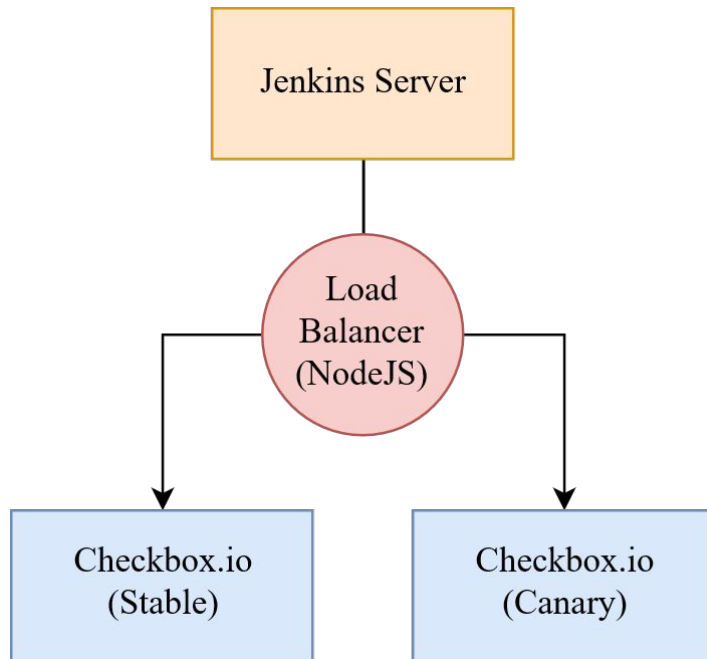
iTrust - Rolling Update



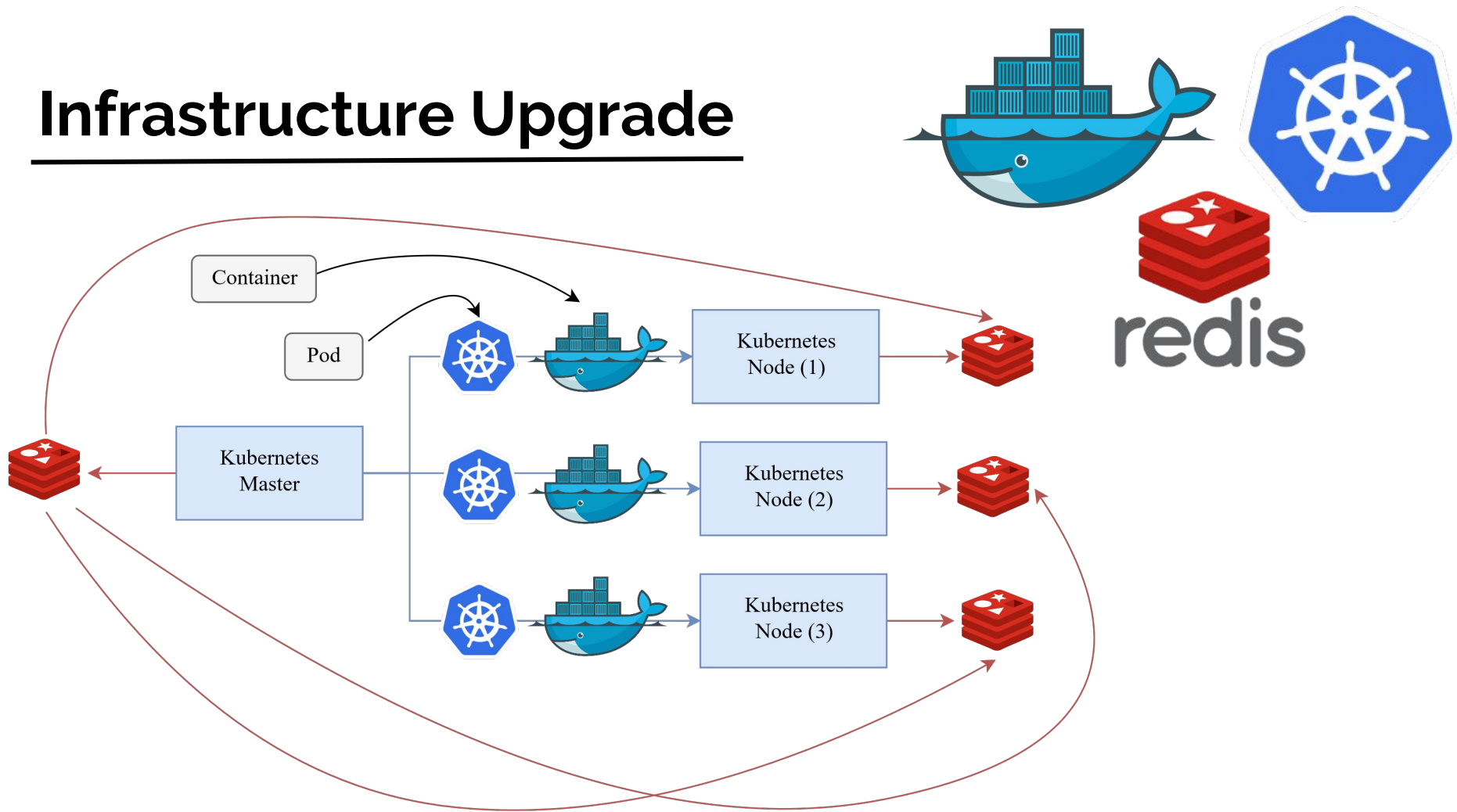
The screenshot shows a web browser window with multiple tabs labeled 'iTrust2 :: Login'. The address bar displays '165.227.110.109:8080'. The browser's bookmark bar contains various links including 'Apps', 'slack', 'CSC-510/Course', 'CSC 540 Home Page', 'Gradience Online Acc', 'CSC-DevOps/Course', 'CSC 510 interview pr', 'ePACK - NC State's In', 'deadlines', 'Job hunt', 'botsup', 'Images', and 'Data Structures for In'. A search bar is located on the right side of the page. The main content area features a table with two columns: 'Name' and 'instances'. The table has one data row with the name 'Itrust' and five green square indicators in the 'instances' column.

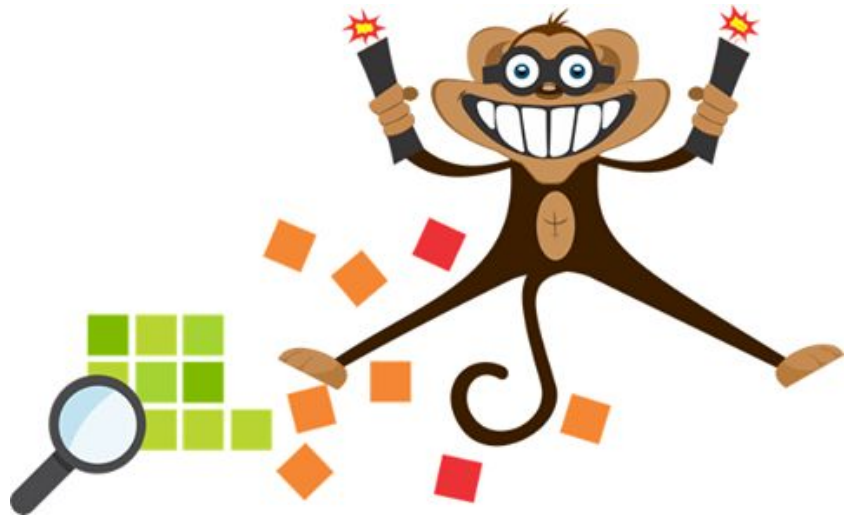
Name	instances
Itrust	

Checkbox.io - Canary Release



Infrastructure Upgrade





Milestone 4

A Chaos Experiment

Monitoring & Chaos

Monkeys for chaos:

- DDOS Monkey
- Mongo Monkey
- Random Monkey





Applications Service maps Key transactions

Your APM Trial expires in 14 days [View Pricing Options](#)APPS
CheckboxTIME PICKER
Last 30 minutes ending now ▾SERVERS
checkbox1 ▾

MONITORING

Overview

Service maps

Transactions

Databases

External services

Node VMs

EVENTS

Error analytics

Errors

Violations

Deployments

REPORTS

SLA

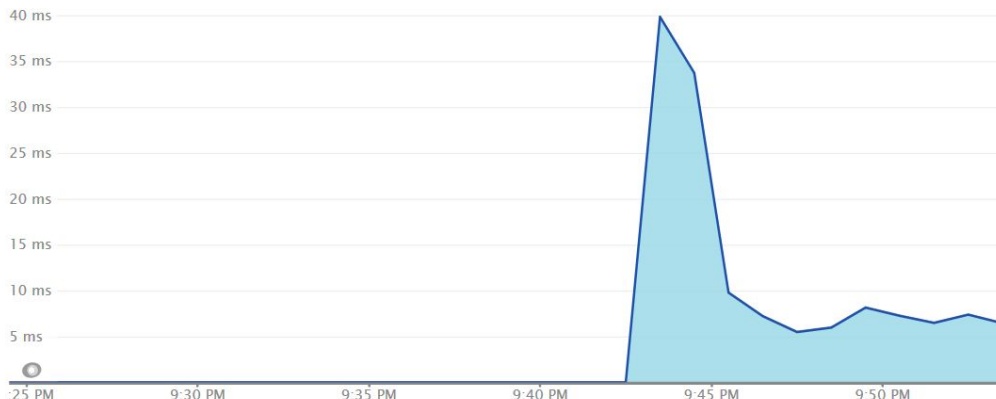
Availability

Scalability

Web transactions

Database

Web transactions time ▾

8.37 ms
APP SERVERApdex score [?]0.0 [0.1]
APP SERVER

Throughput

1.38k rpm
AVERAGE[Add to an Insights dashboard](#)[More...](#)☐ Compare with yesterday and last week

Transactions

App server time

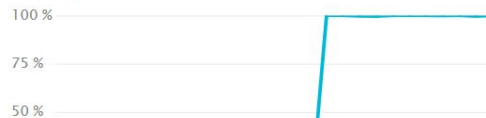
Error rate

99.80 %

get /api/study/load/:id

8.37 ms

Transaction traces: n/a



Application activity

[In progress](#)[Event log](#)[Filter](#)

Checkbox

6.75 ms 4.25k rpm 99.90 err% [?]

APPS
Checkbox

TIME PICKER
Last 30 minutes ending now

SERVICES
checkbox2

MONITORING

Overview

Service maps

Transactions

Databases

External services

Node VMs

EVENTS

Error analytics

Errors

Violations

Deployments

REPORTS

SLA

Availability

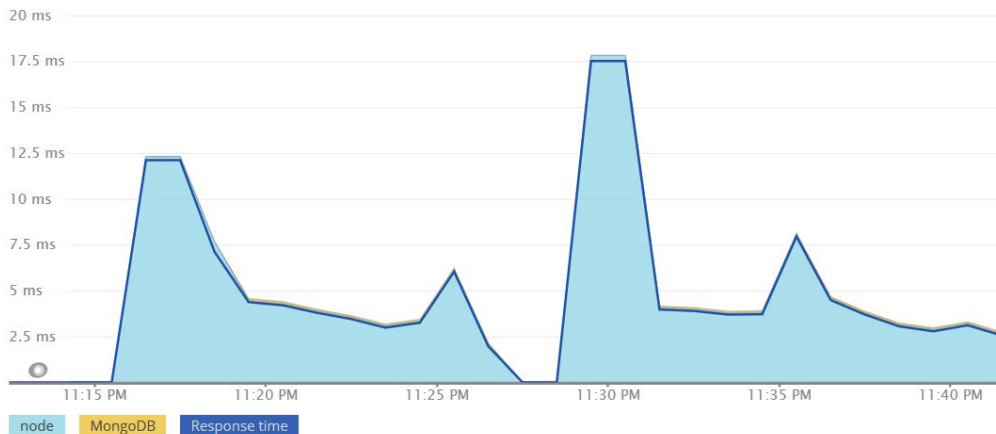
Scalability

Web transactions

Database

Web transactions time

3.75 ms
APP SERVER



☐ Compare with yesterday and last week

Transactions

App server time

post /api/design/survey 12.8 ms

Transaction traces: n/a

get /api/study/load/:id 3.74 ms

Transaction traces: n/a

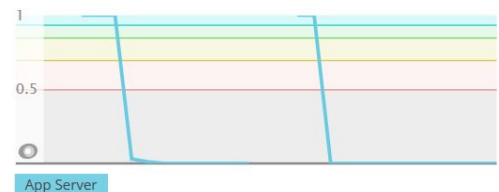
Error rate

99.60 %



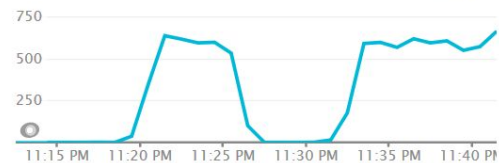
Apdex score

0.0 [0.1]
APP SERVER



Throughput

159 rpm
AVERAGE



Application activity

In progress

Event log

Filter



REPORTS

SLA

Availability

Scalability

Web transactions

Database

SETTINGS

Application

Alert thresholds

Alert conditions

Environment

☐ Compare with yesterday and last week

Transactions

App server time

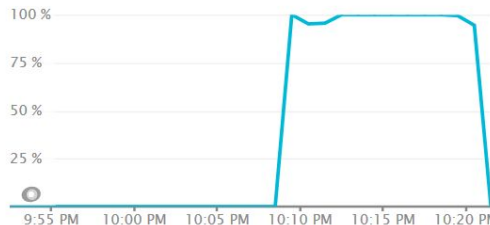
get /api/study/load:id

33.4 ms

Transaction traces: 0.5 s

Error rate

99.50 %



Application activity

In progress

Event log

Filter



There are no violations in progress right now.

1 host

Host name	Apdex	Resp. time	Throughput	Error Rate	CPU usage	Memory
checkbox3 1 app instance	0.00 _{0.1}	33.4 ms	972 rpm	99.50 %	3 %	90 MB

Kiosk mode

Permalink



Thank You!