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CS-561 Software Engineering Methods

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## ASSIGNMENT 4

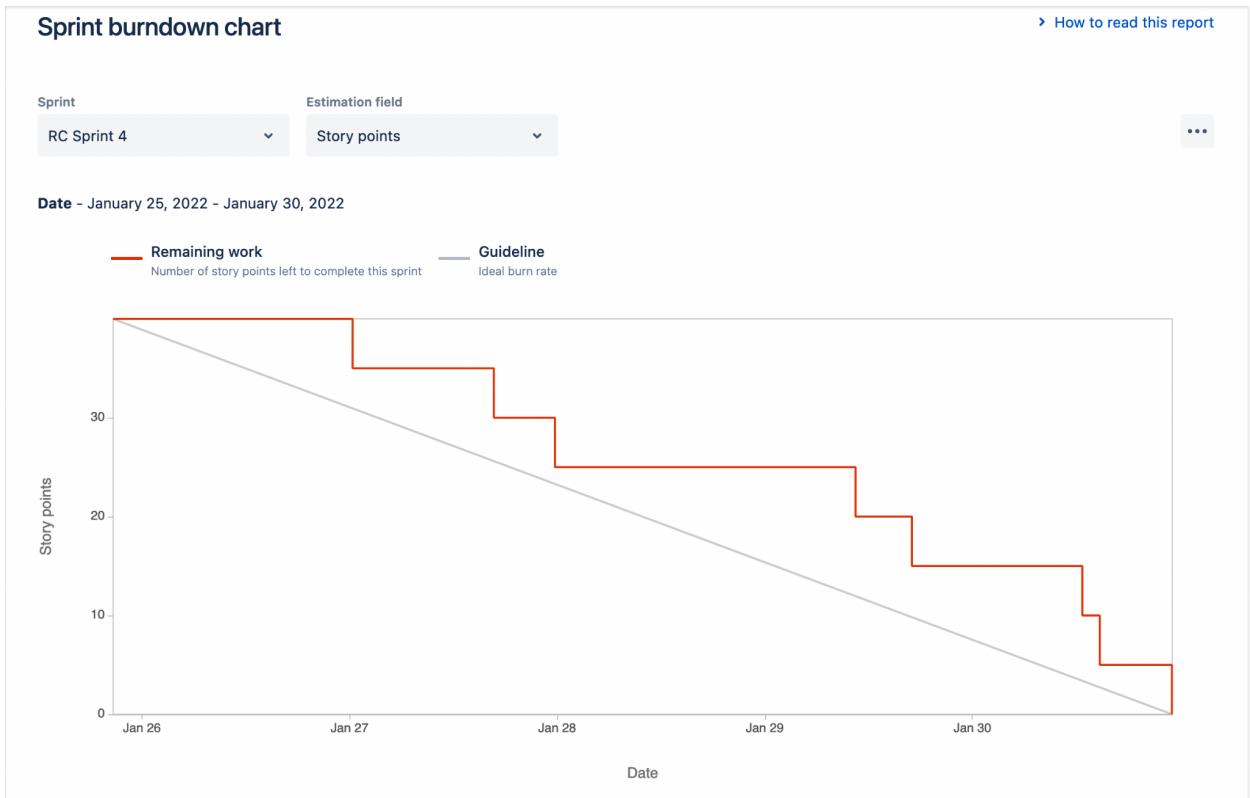
### 1. Scrum Board

The screenshot shows the Jira Software interface for a project titled "Rajalingamgari - CS... Software project". The current sprint is "RC Sprint 4". The board is divided into three columns: "TO DO", "IN PROGRESS", and "DONE".

- TO DO:** An empty column.
- IN PROGRESS:** An empty column.
- DONE:** Contains 8 issues, grouped by epic:
  - ASSIGNMENT-4:**
    - Review this week's lectures. (Progress: 100%)
    - Write a swagger doc for these three endpoints. (Progress: 100%)
    - Read the following five blog posts and do the "hack along" in the first post. (Progress: 100%)

On the right side of the board, there is a "Quickstart" button.

## 2. Burndown Chart:



## 3. AWS Hands-on Training:

### Section 10 :

The screenshot shows a digital training platform interface. At the top, there's a navigation bar with links for Training, Pricing, Free Resources, Knowledge Hub, About, and a user profile for Venkata Satyanarayana V... On the left, it says "SECTION 10 OF 16". The main content area is titled "Section 10: Docker Containers and ECS [55m]". Below the title is a "Take Notes" button. The "Section Content" section lists five steps: "Section-10-Introduction", "Docker-Containers-and-Microservices", "Amazon-Elastic-Container-Service-(ECS)", "Amazon-ECS-Launch-Types", and "AWS-Fargate-Task-Execution-Environment". All these steps are marked as "100% Complete" and "15/15 Steps". To the right, a sidebar shows a list of lessons under "Section 10: Docker Containers and ECS [55m]". Each lesson has a green checkmark next to it, indicating completion. The lessons listed are: "Section-10-Introduction", "Docker-Containers-and-Microservices", "Amazon-Elastic-Container-Service-(ECS)", "Amazon-ECS-Launch-Types", "[HOL] Launch Task on AWS-Fargate", "Amazon-ECS-and-IAM-Roles", "Scaling-AWS-Fargate", "Amazon-ECS-with-ALB", "[HOL] Deploy ECS-Cluster-(EC2-Lambda)", "[HOL] Use ALB-with-Fargate-Cluster", and "Amazon-Elastic-Kubernetes-Servic...".

## 4.

```
prasadrajalingamgari@Prasads-MacBook-Pro SE % docker inspect 7fa1bf1713a3
[{"Id": "7fa1bf1713a3b9d7b5d2aba173f48e4965c012812e10dc8052e2e0b776420166", "Created": "2022-01-23T23:58:38.503411627Z", "Path": "bash", "Args": [], "State": {"Status": "running", "Running": true, "Paused": false, "Restarting": false}, "Status": "running", "Running": true, "Paused": false, "Restarting": false}], at Module._compile (internal/modules/cjs/loader.js:963:27) at Object.Module._extensions..js (internal/modules/cjs/loader.js:1027:10) at Module.load (internal/modules/cjs/loader.js:863:32) at Function.Module._load (internal/modules/cjs/loader.js:708:14) at Function.executeUserEntryPoint [as runMain] (internal/modules/run_main.js:60:12) at internal/main/run_main_module.js:17:47 root@7fa1bf1713a3:/code# vim app.js bash: vim: command not found root@7fa1bf1713a3:/code# node app.js Example app listening at http://localhost:${port}

Weather from openweathermap.org:
Weather { main: Main { temp: 281.59 } }
root@6ccaea3ecef0:/code/cs561-rust# cargo run
    Finished dev [unoptimized + debuginfo] target(s) in 0.36s
        Running `target/debug/weather`

Weather from a JSON we hard-coded locally:
Weather { main: Main { temp: 30.94 } }

Weather from openweathermap.org:
Weather { main: Main { temp: 281.59 } }
root@6ccaea3ecef0:/code/cs561-rust#
```

```
SyntaxError: Invalid or unexpected token
    at wrapSafe (internal/modules/cjs/loader.js:915:16)
    at Module._compile (internal/modules/cjs/loader.js:963:27)
    at Object.Module._extensions..js (internal/modules/cjs/loader.js:1027:10)
    at Module.load (internal/modules/cjs/loader.js:863:32)
    at Function.Module._load (internal/modules/cjs/loader.js:708:14)
    at Function.executeUserEntryPoint [as runMain] (internal/modules/run_main.js:60:12)
    at internal/main/run_main_module.js:17:47
root@7fa1bf1713a3:/code# vim app.js
bash: vim: command not found
root@7fa1bf1713a3:/code# node app.js
Example app listening at http://localhost:${port}

Compiling weather v0.1.0 (/code/cs561-rust)
    Finished dev [unoptimized + debuginfo] target(s) in 1m 57s
root@7fa1bf1713a3:/code/cs561-rust# cargo run
    Finished dev [unoptimized + debuginfo] target(s) in 0.35s
        Running `target/debug/weather`

Weather from a JSON we hard-coded locally:
Weather { main: Main { temp: 30.94 } }

Weather from openweathermap.org:
Weather { main: Main { temp: 281.59 } }
root@7fa1bf1713a3:/code/cs561-rust#
```

```

yami - root@d2bf359f18f8:/code - com.docker.cli - docker-compose run --rm --service=ports server - 202x55
Get:16 http://ports.ubuntu.com/ubuntu-ports focal-security/main arm64 Packages [761 kB]
Get:17 http://ports.ubuntu.com/ubuntu-ports focal-security/multiverse arm64 Packages [3232 B]
prasadrajalingamgari - zsh - 80x24
Last login: Sun Jan 30 17:46:19 on ttys003
prasadrajalingamgari@Prasads-MacBook-Pro ~ % curl localhost:3000/v1/weather
{"coord":{"lon":-123.262,"lat":44.5646}, "weather":[{"id":801,"main":"Clouds","description":"few clouds","icon":"02d"}], "base":"stations", "main":{"temp":281.59,"feels_like":281.59,"temp_min":279.1,"temp_max":286.38,"pressure":1024,"humidity":75,"sea_level":1024,"grnd_level":1010,"visibility":10000,"wind":{"speed":1.07,"deg":17,"gust":1.14}, "clouds":{"all":22}, "dt":1642982860, "sys":{"type":2,"id":20080,"country":"US","sunrise":1642952435,"sunset":1642986538}, "timezone":-28800, "id":5720727, "name":"Corvallis", "cod":200}%
prasadrajalingamgari@Prasads-MacBook-Pro ~ %
34.2-1ubuntu1.3 [75.1 kB]
4 1.15.0-1ubuntu0.1 [36.6 kB]
19.0-dfsg-3ubuntu1 [5440 kB]
9.0-dfsg-3ubuntu1 [942 kB]
0-dfsg-3ubuntu1 [61.2 kB]

Preparing to unpack .../libuv1_1.34.2-1ubuntu1.3_arm64.deb ...
Unpacking libuv1:arm64 (1.34.2-1ubuntu1.3) ...
Selecting previously unselected package libc-ares2:arm64.
Preparing to unpack .../libc-ares2_2.15.0-0ubuntu0.1_arm64.deb ...
Unpacking libc-ares2:arm64 (2.15.0-0ubuntu0.1) ...
Selecting previously unselected package libnode64:arm64.
Preparing to unpack .../libnode64_10.19.0-dfsg-3ubuntu1_arm64.deb ...
Unpacking libnode64:arm64 (10.19.0-dfsg-3ubuntu1) ...
Selecting previously unselected package nodejs-doc.
Preparing to unpack .../nodejs-doc_10.19.0-dfsg-3ubuntu1_all.deb ...
Unpacking nodejs-doc (10.19.0-dfsg-3ubuntu1) ...
Selecting previously unselected package nodejs.
Preparing to unpack .../nodejs_10.19.0-dfsg-3ubuntu1_arm64.deb ...
Unpacking nodejs (10.19.0-dfsg-3ubuntu1) ...
Setting up libc-ares2:arm64 (1.15.0-1ubuntu0.1) ...
Setting up libuv1:arm64 (1.34.2-1ubuntu1.3) ...
Setting up libnode64:arm64 (10.19.0-dfsg-3ubuntu1) ...
Setting up nodejs-doc (10.19.0-dfsg-3ubuntu1) ...
Setting up nodejs (10.19.0-dfsg-3ubuntu1) ...
update-alternatives: using /usr/bin/nodejs to provide /usr/bin/js (js) in auto mode
update-alternatives: using /usr/bin/nodejs to provide /usr/share/man/man1/js.1.gz because associated file /usr/share/man/man1/nodejs.1.gz (of link group js) doesn't exist
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
root@d2bf359f18f8:/code# ls
Assinsions app.js cs561-swift config.yaml node_modules package-lock.json package.json sample1.yaml unix_commands.log weather.json yaml
root@d2bf359f18f8:/code# node app.js
Server Started

```

```

yami - root@55358c5fd99f: / - com.docker.cli - docker-compose run --rm swift-client - 202x55
# Swift Nightly Docker Image
# Tao: swift-DEVELOPMENT-SNAPSHOT-2022-01-09-a
prasadrajalingamgari@Prasads-MacBook-Pro ~ % curl localhost:3000/v1/weather
["coord":{"lon":-123.262,"lat":44.5646}, "weather":[{"id":801,"main":"Clouds","description":"few clouds","icon":"02d"}], "base":"stations", "main":{"temp":281.59,"feels_like":281.59,"temp_min":279.1,"temp_max":286.38,"pressure":1024,"humidity":75,"sea_level":1024,"grnd_level":1010,"visibility":10000,"wind":{"speed":1.07,"deg":17,"gust":1.14}, "clouds":{"all":22}, "dt":1642982860, "sys":{"type":2,"id":20080,"country":"US","sunrise":1642952435,"sunset":1642986538}, "timezone":-28800, "id":5720727, "name":"Corvallis", "cod":200}%
prasadrajalingamgari@Prasads-MacBook-Pro SE % node app.js
Server Started

[8054 B]
[3538 B]
[800 B]
[8 KB]
[23.8 kB]

Get:15 http://ports.ubuntu.com/ubuntu-ports focal-security/universe arm64 Packages [777 kB]
Get:16 http://ports.ubuntu.com/ubuntu-ports focal-security/multiverse arm64 Packages [3232 B]
Get:17 http://ports.ubuntu.com/ubuntu-ports focal-security/main arm64 Packages [761 kB]
Get:18 http://ports.ubuntu.com/ubuntu-ports focal-security/restricted arm64 Packages [3300 B]
Fetched 17.3 MB in 8s (2279 kB/s)
Reading package lists...
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  curl
0 upgraded, 1 newly installed, 0 to remove and 2 not upgraded.
Need to get 157 kB of archives.
After this operation, 403 kB of additional disk space will be used.
Get:1 http://ports.ubuntu.com/ubuntu-ports focal-updates/main arm64 curl arm64 7.68.0-1ubuntu2.7 [157 kB]
Fetched 157 kB in 1s (176 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package curl.
(Reading database... 16668 files and directories currently installed.)
Preparing to unpack .../curl_7.68.0-1ubuntu2.7_arm64.deb ...
Unpacking curl (7.68.0-1ubuntu2.7) ...
Setting up curl (7.68.0-1ubuntu2.7) ...
root@55358c5fd99f:/# curl host.docker.internal:3000/v1/weather
{"coord":{"lon":-123.262,"lat":44.5646}, "weather":[{"id":801,"main":"Clouds","description":"few clouds","icon":"02d"}], "base":"stations", "main":{"temp":281.59,"feels_like":281.59,"temp_min":279.1,"temp_max":286.38,"pressure":1024,"humidity":75,"sea_level":1024,"grnd_level":1010,"visibility":10000,"wind":{"speed":1.07,"deg":17,"gust":1.14}, "clouds":{"all":22}, "dt":1642982860, "sys":{"type":2,"id":20080,"country":"US","sunrise":1642952435,"sunset":1642986538}, "timezone":-28800, "id":5720727, "name":"Corvallis", "cod":200}root@55358c5fd99f:/#

```

5.

The screenshot shows the SwaggerHub interface for the assignment4 API version 1.0.0. The left panel displays the API code in JSON format, which includes definitions for Clouds, Sys, and Greeting models. The right panel shows the default schema with three operations: GET /v1/weather, GET /v1/hello, and POST /v1/auth. The POST operation is highlighted with a green border. Below the schema, there's a 'Models' section listing authname and Greeting. At the bottom, a message indicates the API was last saved at 9:49:40 pm on Jan 30, 2022, and is currently valid.

This screenshot shows the same assignment4 API definition as the previous one, but it includes a detailed request response view. On the right, under the 'Request URL' section, is the URL <https://virtserver.swaggerhub.com/OregonStateUniversit/assignment4/1.0.0/v1/weather>. Below it, the 'Server response' section shows a 200 status code with a response body containing weather data. The response body is a JSON object with fields like coord, weather, base, and main, with specific values such as lon: -123.262, lat: 44.5646, id: 803, main: "Clouds", description: "broken clouds", icon: "04n", temp: 276.23, feels\_like: 276.23, temp\_min: 273.1, temp\_max: 281.27, pressure: 1021, and humidity: 90. There are also 'Code' and 'Details' tabs and download buttons for the response body.

<https://virtserver.swaggerhub.com/OregonStateUniversit/assignment4/1.0.0/v1/weather>

Last Saved: 9:49:40 pm - Jan 30, 2022

**Responses**

Code	Description
200	Definition generated from Swagger Inspector Example Value   Model <b>Confirming the Swagger Greeting</b>

**POST /v1/auth**

**Models**

- authname >
- Greeting >

<https://virtserver.swaggerhub.com/OregonStateUniversit/assignment4/1.0.0/v1/hello>

Last Saved: 9:49:40 pm - Jan 30, 2022

**Request URL**

https://virtserver.swaggerhub.com/OregonStateUniversit/assignment4/1.0.0/v1/auth?password=password&username=user

**Server response**

Code	Details
200	Response body "Authorisation Successful" Download Response headers access-control-allow-credentials: true access-control-allow-headers: X-Requested-With,Content-Type,Accept,Origin access-control-allow-methods: * access-control-allow-origin: * cache-control: no-cache content-encoding: gzip content-length: 46 content-type: text/html; charset=utf-8 date: Mon,31 Jan 2022 05:56:44 GMT etag: W"/2e-oQ10y5LFrcGJoPBtE1qilXHGBk" expires: -1 status: 200 OK x-firefox-spdy: h2

**Request duration**

6..

The screenshot shows the Hoppscotch interface with a successful API call. The request method is GET, target is `http://localhost:3000/v1/weather`, and the response status is 200 OK. The response body is a JSON object representing weather data:

```

1  {
2    "coord": {
3      "lon": -123.262,
4      "lat": 44.5646
5    },
6    "weather": [
7      {
8        "id": 801,
9        "main": "Clouds",
10       "description": "few clouds",
11       "icon": "02d"
12     }
13   ],
14   "base": "stations",
15   "main": {

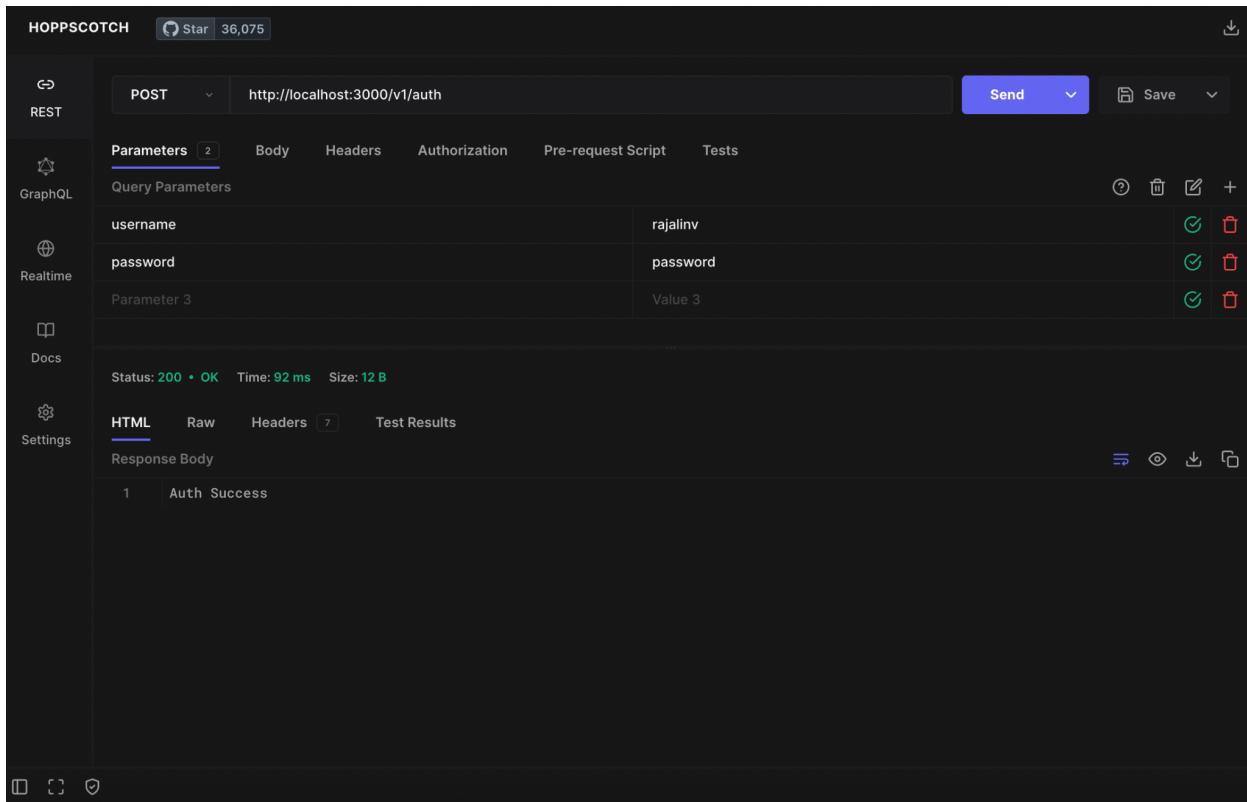
```

The screenshot shows the Hoppscotch interface with a successful API call. The request method is GET, target is `http://localhost:3000/v1/hello`, and the response status is 200 OK. The response body is simple HTML text:

```

1 Hello World!

```



```
prasadrajalingamgari@Prasads-MacBook-Pro ~ % curl --request GET --url http://localhost:3000/v1/weather
{"coord":{"lon":-123.262,"lat":44.5646}, "weather":[{"id":801,"main":"Clouds","description":"few clouds","icon":"02d"}], "base":"stations", "main": {"temp":281.59,"feels_like":281.59,"temp_min":279.1,"temp_max":286.38,"pressure":1024,"humidity":75,"sea_level":1024,"grnd_level":1016}, "visibility":10000, "wind": {"speed":1.07,"deg":17,"gust":1.14}, "clouds": {"all":22}, "dt":1642982860, "sys": {"type":2,"id":2010260,"country":"US","sunrise":1642952435,"sunset":1642986538}, "timezone":-28800, "id":5720727, "name":"Corvallis", "cod":200}%

```

```
prasadrajalingamgari@Prasads-MacBook-Pro ~ % curl --request GET --url http://localhost:3000/v1/hello  
Hello World!  
prasadrajalingamgari@Prasads-MacBook-Pro ~ % Generate code X
```

```
prasadraja@Prasads-MacBook-Pro ~ % curl --request POST --url 'http://localhost:3000/v1/auth?username=rajalinv&password=password'
Auth Success%
```

## 7. Unix Commands :

```
prasadrajalingamgari@Prasads-MacBook-Pro SE % history
210 docker ps
211 open.
212 chmod 777 sample1.yaml
213 source,
214 ln -s
215 whoami
prasadrajalingamgari@Prasads-MacBook-Pro SE % #curl --request POST --url "http://localhost:8000/v1/auth?user=user&password=password"
zsh: command not found: #curl
prasadrajalingamgari@Prasads-MacBook-Pro SE % curl --request POST --url "virtserver.swaggerhub.com/OregonStateUniversity/assignment/1.0.0"
{"message": "Missing matching response for specified Accept header"}%
prasadrajalingamgari@Prasads-MacBook-Pro SE % ls
Assigments cs561-rust cs561-swift_1 package-lock.json sample1.yaml
app.js cs561-swift node_modules package.json unix_commands.log
prasadrajalingamgari@Prasads-MacBook-Pro SE % node app.js
node:events:368
220 ls
throw err; // Unhandled 'error' event
221 cat unix_commands.log
Error: listen EADDRINUSE: address already in use :::3000
222 source
223 hello
224 ls
225 cat unix_commands.log
prasadrajalingamgari@Prasads-MacBook-Pro SE % history
217 su 1643470496
218 su -28800
219 history > unix_commands.log
220 ls
prasadrajalingamgari@Prasads-MacBook-Pro SE % #curl --request POST --url "http://localhost:8000/v1/auth?user=user&password=password"
zsh: command not found: #curl
prasadrajalingamgari@Prasads-MacBook-Pro SE % curl --request POST --url "virtserver.swaggerhub.com/OregonStateUniversity/assignment/1.0.0"
{"message": "Missing matching response for specified Accept header"}%
prasadrajalingamgari@Prasads-MacBook-Pro SE % ls
Assigments cs561-rust cs561-swift_1 package-lock.json sample1.yaml weather.yaml
app.js cs561-swift node_modules package.json unix_commands.log
prasadrajalingamgari@Prasads-MacBook-Pro SE % node app.js
node:events:368
221 cat unix_commands.log
225 cat unix_commands.log
226 history
227 pwd
228 cd ..
229 cd ./
230 ls
231 ls -a
232 chmod 777 SE/unix_commands.txt
Emitted 'error' event on ServerResponse instance
```

```
prasadrajalingamgari@Prasads-MacBook-Pro Winter_Term % history
217 su 1643505438
218 su -28800
219 history > unix_commands.log
220 ls
prasadrajalingamgari@Prasads-MacBook-Pro SE % #curl --request POST --url "http://localhost:8000/v1/auth?user=user&password=password"
zsh: command not found: #curl
prasadrajalingamgari@Prasads-MacBook-Pro SE % curl --request POST --url "virtserver.swaggerhub.com/OregonStateUniversity/assignment/1.0.0"
{"message": "Missing matching response for specified Accept header"}%
prasadrajalingamgari@Prasads-MacBook-Pro SE % ls
Assigments cs561-rust cs561-swift_1 package-lock.json sample1.yaml weather.yaml
app.js cs561-swift node_modules package.json unix_commands.log
prasadrajalingamgari@Prasads-MacBook-Pro SE % node app.js
node:events:368
221 cat unix_commands.log
225 cat unix_commands.log
226 history
227 pwd
228 cd ..
229 cd ./
230 ls
231 ls -a
232 chmod 777 SE/unix_commands.txt
Emitted 'error' event on ServerResponse instance
```