

## Assignment No 1

### Code and Output:-

#### Index.js File

```
var express = require('express');
var app = express();

app.get('/getdayinfo/:id', function (req, res)
{
    let dayid = (req.params.id);

    let dayinfo={
        "d1":{
            thought:"A goal is a dream with a deadline."
        },
        "d2":{
            thought:"An entrepreneur is someone who jumps off a cliff and
builds a plane on the way down."
        },
        "d3":{
            thought:"I don't look to jump over seven-foot bars. I look for
one-foot bars that I can step over."
        },
        "d4":{
            thought:"You can't have a million dollar dream with a minimum
wage work ethic."
        },
        "d5":{
            thought:"The most dangerous poison is the feeling of
achievement. The antidote is to, every evening, think what can be done better
tomorrow."
        },
        "d6":{
            thought:"The true sign of intelligence is not knowledge but
imagination."
        },
        "d7":{
            thought:"The most courageous act is still to think for yourself.
Aloud."
        }
    }

    res.send({result:dayinfo[dayid]});
})

var server = app.listen(8081, function () {
    var host = server.address().address
    var port = server.address().port

    console.log("Example app listening at http://%s:%s", host, port)
})
```

localhost:8081/getdayinfo/d1 Save

GET localhost:8081/getdayinfo/d1

Params Authorization Headers (6) Body Pre-request Script Tests Settings

Query Params

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body Cookies Headers (7) Test Results Status: 200 OK Time: 25 ms Size: 294 B

Pretty Raw Preview Visualize JSON

```
1
2  "result": {
3    "thought": "A goal is a dream with a deadline."
4  }
5
```

## a.php file

```
<form action="a.php" method="get">
  Userid:<input name="dayid">
  <input type="submit" value="Ok">
</form>
<?php
if($_GET["userid"])
{
  $u=$_GET["userid"];
  $url = "http://10.12.0.231:8081/getdayinfo/".$u;
  $json = file_get_contents($url);
  $json_data = json_decode($json, true);
?>
User Information<br>
<table border=1>
  <tr><td>Thought</td><td><?=$json_data["result"]["thought"]?></td> </tr>
</table>
<?php
```

Userid:

## Assignment 4

### Source Code:

```
//Firebase App is always required and must be first
var firebase = require('firebase/app');
require('firebase/auth');
require('firebase/database');
require('firebase/firestore');
require('firebase/messaging');
require('firebase/functions');

var config = {
  apiKey: 'AlzaSyCF-ZPZpGQwJAhDxYjkcJUQoQbahZ3-h6c',
  authDomain: 'umbreall-skf.firebaseio.com',
  databaseURL: 'https://umbreall-skf.firebaseio.com',
  projectId: 'umbreall-skf',
  storageBucket: 'umbreall-skf.appspot.com',
  messagingSenderId: '728877036905'
};

firebase.initializeApp(config);

var dbRef=null;

function getDBRef()
{
  dbRef = firebase.database();
}

function addRecords(key)
{
  var userRef=dbRef.ref('users');
  userRef.push ({
    [key]: {
      fname: 'Akash',
      lname:'Marathe',
      dob: '03/02/1997',
      address:'Pune'
    }
  })
}
```

```

    }
    });
}

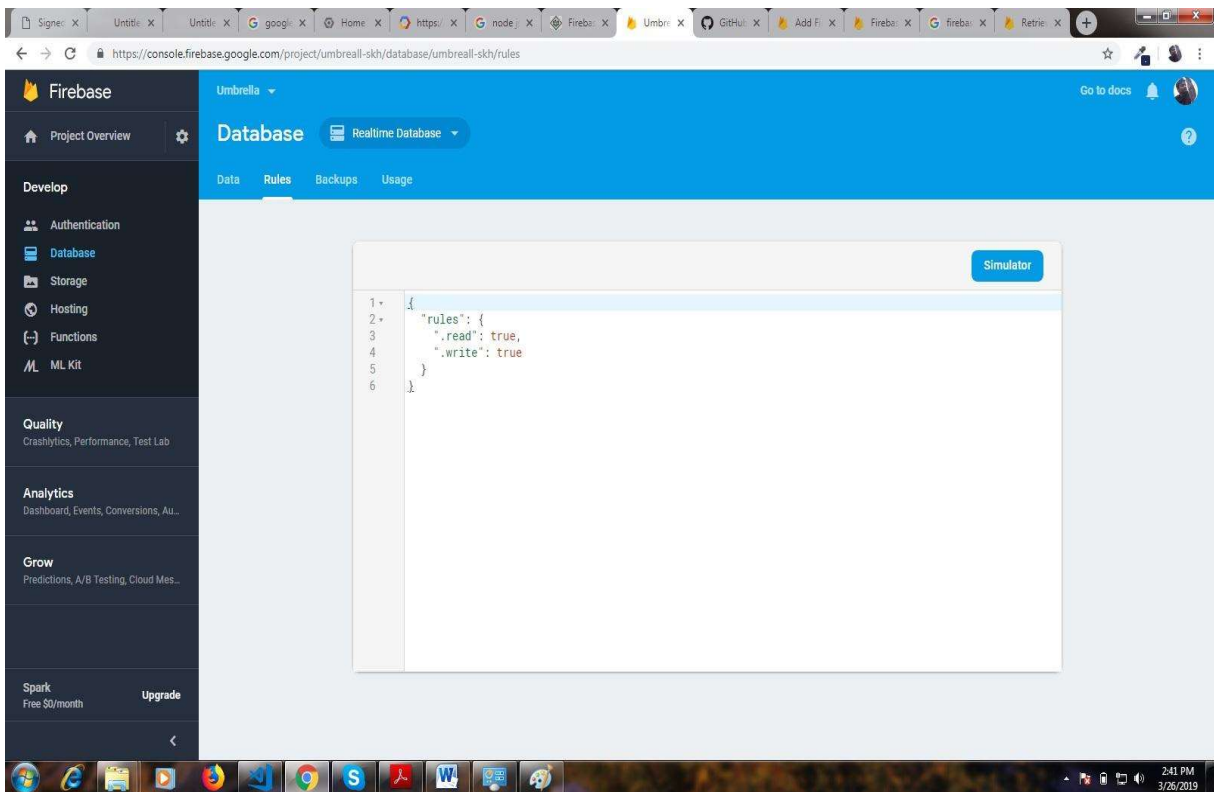
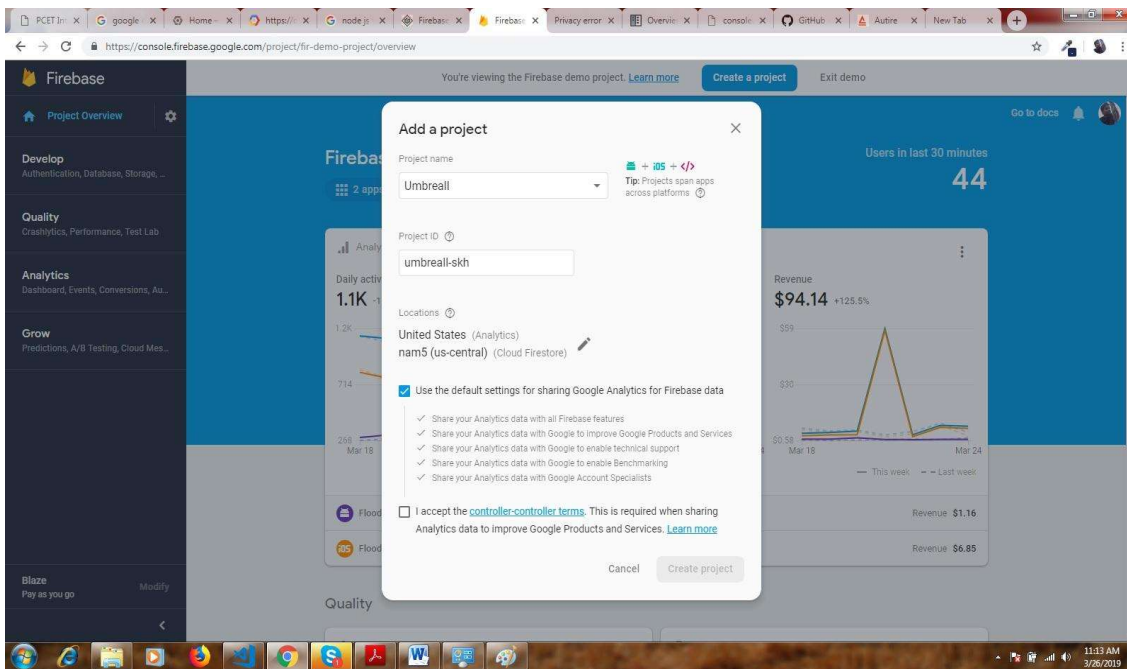
function getRecords()
{
    var userRef = dbRef.ref(&#39;users&#39;);
    userRef.on(&quot;value&quot;, (snapshot)=&gt; {
        console.log(snapshot.val());
    }, (errorObject)=&gt; {
        console.log(&quot;The read failed: &quot; + errorObject.code);
    });
}

function process()
{
    getDBRef();
    var c=1;
    switch (c) {
        case 1:
            addRecords(3);
            break;
        case 2:
            getRecords();
            break;
        default:
            break;
    }
}

process();

```

## Screenshots for creation and usage of firebase:



Browser tabs: Signed X, Untitled X, Untitled X, google X, Home X, https X, node X, Fireb X, Umbre X, GitHub X, Add F X, Fireb X, fireba X, Retrie X

Address bar: <https://console.firebase.google.com/project/umbrell-skh/database/umbrell-skh/data/users>

**Firestore**

[Project Overview](#)

**Develop**

[Authentication](#)

[Database](#)

[Storage](#)

[Hosting](#)

[Functions](#)

[ML Kit](#)

**Quality**

Crashlytics, Performance, Test Lab

**Analytics**

Dashboard, Events, Conversions, Au...

**Grow**

Predictions, A/B Testing, Cloud Mes...

**Spark**

Free \$0/month

[Upgrade](#)

Umbrella

**Database**

[Realtime Database](#)

[Data](#)

[Rules](#)

[Backups](#)

[Usage](#)

[Go to docs](#)

GD <https://umbrell-skh.firebaseio.com/users>

[umbrell-skh](#) > [users](#)

users

0

address: "chinchwad"

dob: "02/09/1998"

fname: "Akash"

lname: "Marathe"

2:38 PM

3/26/2019

## Assignment No. 2

### Output:-

Launch instance wizard | EC2 M... X

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard

aws Services Search for services, features, blogs, docs, and more [Alt+S]

N. Virginia voclabs/user1897861=rushikesh.markad19@pccoe.edu @ 3924-0...

You've been invited to try an early, beta iteration of the new launch instance wizard. We will continue to improve the experience over the next few months. We're asking customers for their feedback on this early release. To exit the new launch instance wizard at any time, choose the **Cancel** button. [Try it now!](#)

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

**Step 1: Choose an Amazon Machine Image (AMI)** [Cancel and Exit](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Search for an AMI by entering a search term e.g. "Windows" [Search by Systems Manager parameter](#)

Quick Start 1 to 45 of 45 AMIs

My AMIs

AWS Marketplace

Community AMIs

☐ Free tier only ⓘ

**Amazon Linux** **Free tier eligible**

**Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type** - ami-0c02fb55956c7d316 (64-bit x86) / ami-03190fe20ef6b1419 (64-bit Arm) [Select](#)

Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.28, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

**Amazon Linux**

**Amazon Linux 2 AMI (HVM) - Kernel 4.14, SSD Volume Type** - ami-03e0b06f01d45a4eb (64-bit x86) / ami-018d50b368e796499 (64-bit Arm) [Select](#)

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Launch instance wizard | EC2 M... X

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard

aws Services Search for services, features, blogs, docs, and more [Alt+S]

N. Virginia voclabs/user1897861=rushikesh.markad19@pccoe.edu @ 3924-0...

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

**Step 3: Configure Instance Details** [because it does not have an IPv6 CIDR.](#)

[Add Device](#)

Advanced Details

Enclave ⓘ ☐ Enable

Metadata accessible ⓘ Enabled

Metadata version ⓘ V1 and V2 (token optional)

Metadata token response hop limit ⓘ 1

Allow tags in metadata ⓘ Disabled

User data ⓘ ☒ As text ☐ As file ☐ Input is already base64 encoded

```
#!/bin/bash
yum -y install httpd
systemctl enable httpd
systemctl start httpd
echo "<html><h1>Hello From Your Web Server!</h1></html>" >
/var/www/html/index.html
```

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

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Launch instance wizard | EC2 M... x +

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 7: Review Instance Launch

Please review your instance launch details.

AMI Details

Amazon Linux 2 AMI (H...  
Free tier eligible  
Amazon Linux 2 comes with f...  
2.29.1, and the latest softwa...  
Root Device Type: ebs Virtualiz...

Instance Type

Instance Type	ECUs
t2.micro	-

Security Groups

Security group name	Description
Web S...	Security group for my web server

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI.

Proceed without a key pair

☒ I acknowledge that without a key pair, I can connect to this instance only by using EC2 Instance Connect or if I know the password built into the AMI. Note that EC2 Instance Connect is only supported on Amazon Linux 2 and Ubuntu. Learn more.

Cancel Launch Instances

Cancel Previous Launch

Launch instance wizard | EC2 M... x +

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group ☐ Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
This security group has no rules				

Add Rule

**Warning**

You will not be able to connect to this instance as the AMI requires port(s) 22 to be open in order to have access. Your current security group doesn't have port(s) 22 open.

Cancel Previous Review and Launch

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EC2 Management Console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#SecurityGroups

New EC2 Experience

EC2 Dashboard  
EC2 Global View  
Events  
Tags  
Limits

Instances  
Instances **New**  
Instance Types  
Launch Templates  
Spot Requests  
Savings Plans  
Reserved Instances **New**  
Dedicated Hosts  
Scheduled Instances  
Capacity Reservations

Images  
AMIs **New**  
AMI Catalog

Inbound security group rules successfully modified on security group (sg-08d52b2251bed9f5e | Web Server security group)

Details

Security Groups (1/5) Info

Filter security groups

Name	Security group ID	Security group name	VPC ID	Description
-	sg-064b1d58532ad43cb	default	vpc-0e7dfcd6ca4f220cf	default VPC security gr...
-	sg-0757f97d22d0cc1eb	default	vpc-0567d30501aca9bc9	default VPC security gr...
-	sg-07c7359c33e0cb412	default	vpc-0e11d4c2c9e144147	default VPC security gr...
-	sg-08d52b2251bed9f5e	Web Server security gr...	vpc-0e7dfcd6ca4f220cf	Security group for my ...
-	sg-0f8f0fbed6073fb1d	Ec2SecurityGroup	vpc-0567d30501aca9bc9	VPC Security Group

sg-08d52b2251bed9f5e - Web Server security group

Details Inbound rules Outbound rules Tags

You can now check network connectivity with Reachability Analyzer

Run Reachability Analyzer

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Get instance screenshot | EC2 M...

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#GetInstanceScreenshot?instanceId=i-0a516039e6...

EC2 > Instances > i-0a516039e67ff6fdb > Get instance screenshot

Get instance screenshot Info

i-0a516039e67ff6fdb (Bastion Host) on 2022-03-31 at T22:09:05.980 +05:30

Download

```
Amazon Linux 2
Kernel 4.14.268-285.500.amzn2.x86_64 on an x86_64

ip-10-0-0-173 login: _
```

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Instances | EC2 Management Console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#Instances:sort=descinstanceState

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New EC2 Experience

EC2 Dashboard

EC2 Global View

Events

Tags

Limits

Instances

Instances New

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances New

Dedicated Hosts

Scheduled Instances

Capacity Reservations

Images

AMIs New

AMI Catalog

Disabled termination protection for i-0539f02d9ca6e4bc7

Successfully terminated i-0539f02d9ca6e4bc7

Instances (1/2) Info

Search

Connect Instance state Actions Launch Instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Web Server	i-0539f02d9ca6e4bc7	Shutting-down	t2.small	Initializing	No alarms	us-east-1a
Bastion Host	i-0a516039e67ff6fdb	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a

Instance: i-0539f02d9ca6e4bc7 (Web Server)

Select an instance above

Details Security Networking Storage Status checks Monitoring Tags

Instance summary Info

Instance ID

i-0539f02d9ca6e4bc7 (Web Server)

Public IPv4 address

3.82.109.188 | open address

Private IPv4 addresses

10.0.1.107

IPv6 address

-

Instance state

Running

Public IPv4 DNS

ec2-3-82-109-188.compute-1.amazonaws.com | open address

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Activity - AWS Lambda

myStopinator - Lambda

Instances | EC2 Management Console

us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/myStopinator?newFunction=true...

Search for services, features, blogs, docs, and more [Alt+S]

N. Virginia voclabs/user1897861=rushikesh.markad19@pccoe pune.org @ 5381-6...

AWS Lambda

Dashboard

Applications

Functions

myStopinator

Additional resources

Code signing configurations

Layers

Related AWS resources

Step Functions state machines

Successfully updated the function myStopinator.

Code Test Monitor Configuration Aliases Versions

Code source Info

Upload from

File Edit Find View Go Tools Window Test Deploy

Go to Anything (Ctrl-P)

Environment

myStopinator

lambda\_function.py

```
1 import boto3
2 region = 'us-east-1'
3 instances = ['i-09ce0e4fe615825c9']
4 ec2 = boto3.client('ec2', region_name=region)
5
6 def lambda_handler(event, context):
7     ec2.stop_instances(InstanceIds=instances)
8     print('stopped your instances: ' + str(instances))
```

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## Assignment 5

### Code and Output:-

```
nerf@nerf-System-Product-Name: ~  
For the latest full release notes, please visit:  
https://cloud.google.com/sdk/release_notes  
  
- Creating update staging area  
- Installing: BigQuery Command Line Tool  
- Installing: BigQuery Command Line Tool (Platform Spec...  
- Installing: Cloud Storage Command Line Tool  
- Installing: Cloud Storage Command Line Tool (Platform...  
- Installing: Default set of gcloud commands  
- Installing: Google Cloud CLI Core Libraries (Platform...  
- Installing: anthoscli  
- Installing: anthoscli
```

```
nerf@nerf-System-Product-Name: ~  
Created a default .boto configuration file at [/home/nerf/.boto]. See this file  
and  
[https://cloud.google.com/storage/docs/gsutil/commands/config] for more  
information about configuring Google Cloud Storage.  
Your Google Cloud SDK is configured and ready to use!  
  
* Commands that require authentication will use vighnesh.pathrikar19@pccoe.pune.o  
rg by default  
* Commands will reference project `pccoe-assignment` by default  
Run `gcloud help config` to learn how to change individual settings  
  
This gcloud configuration is called [default]. You can create additional configu  
rations if you work with multiple accounts and/or projects.  
Run `gcloud topic configurations` to learn more.  
  
Some things to try next:  
  
* Run `gcloud --help` to see the Cloud Platform services you can interact with.  
And run `gcloud help COMMAND` to get help on any gcloud command.  
* Run `gcloud topic --help` to learn about advanced features of the SDK like arg  
files and output formatting  
* Run `gcloud cheat-sheet` to see a roster of go-to `gcloud` commands.  
nerf@nerf-System-Product-Name:~$
```

