CLOUD COMPUTING

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18MCMT17 MTECH-CS

This project mainly focuses to demonstrate the deployment of a service on the cloud based environment.

The cloud environment used for deployment of my services is GOOGLE CLOUD.

Google cloud is PAAS to deploy our services into the cloud area.

Google App Engine, provided with a dashboard, we need to create a new project in Google Cloud Platform Console by creating a new account (if you have no google cloud account).

[NOTE: Check that you have enabled billing with in your account]

Creating a new project in gcloud:

Console->create new project->project name/id->save.

Writing the service code:

The service is implemented using a nodejs for the server side code and html for the front end.

The package.json is a file to specify the node modules we are using. Expressjs is used for the server code for our project.

The server.js is written using the express it uses the get post calls of the rest services to post and get the values parses them and calculates the BMI for the input provided and displays the results.

App.yaml:

Create an app.yaml file to deploy the service in google cloud with the source folder, file provides the information about the environment and the runtime used.

```
runtime: nodejs
env: flex
```

BMI-LOGIC:

BMI is the body mass index, is a measure of body size. It combines a person's weight with their height and give a value to state if a person is having a proper weight according to his/her height.

BMI formula: ((weight/height)/height) * 10000

The units of height and weight used here are cms and kgs respectively

BMI of less than 18.5

A BMI of less than 18.5 indicates that you are underweight, so you may need to put on some weight. You are recommended to ask your doctor or a dietitian for advice.

BMI of 18.5–24.9

A BMI of 18.5-24.9 indicates that you are at a healthy weight for your height. By maintaining a healthy weight, you lower your risk of developing serious health problems.

BMI of 25–29.9

A BMI of 25-29.9 indicates that you are slightly overweight. You may be advised to lose some weight for health reasons. You are recommended to talk to your doctor or a dietitian for advice.

BMI of over 30

A BMI of over 30 indicates that you are heavily overweight. Your health may be at risk if you do not lose weight. You are recommended to talk to your doctor or a dietitian for advice.

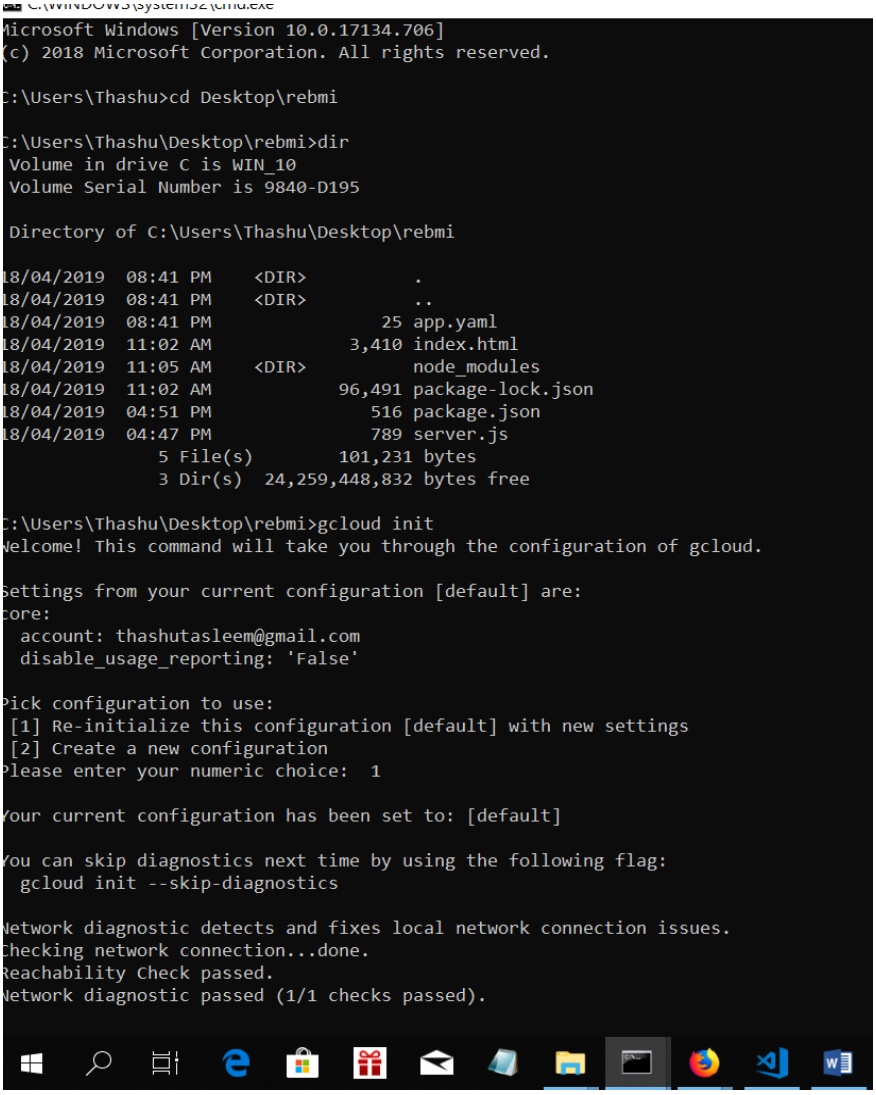
Deployment:

Steps to deploy the service

1. Install the google cloud SDK in your system.
2. Open terminal and go to source folder.
3. Run command “gcloud init”.
4. Select the area where you want to deploy your service (selected south Asia here) and select the new project you created.
5. Then run the command ”google app deploy “.
6. Use the link to see the deployed service

SCREENSHOTS:

1.

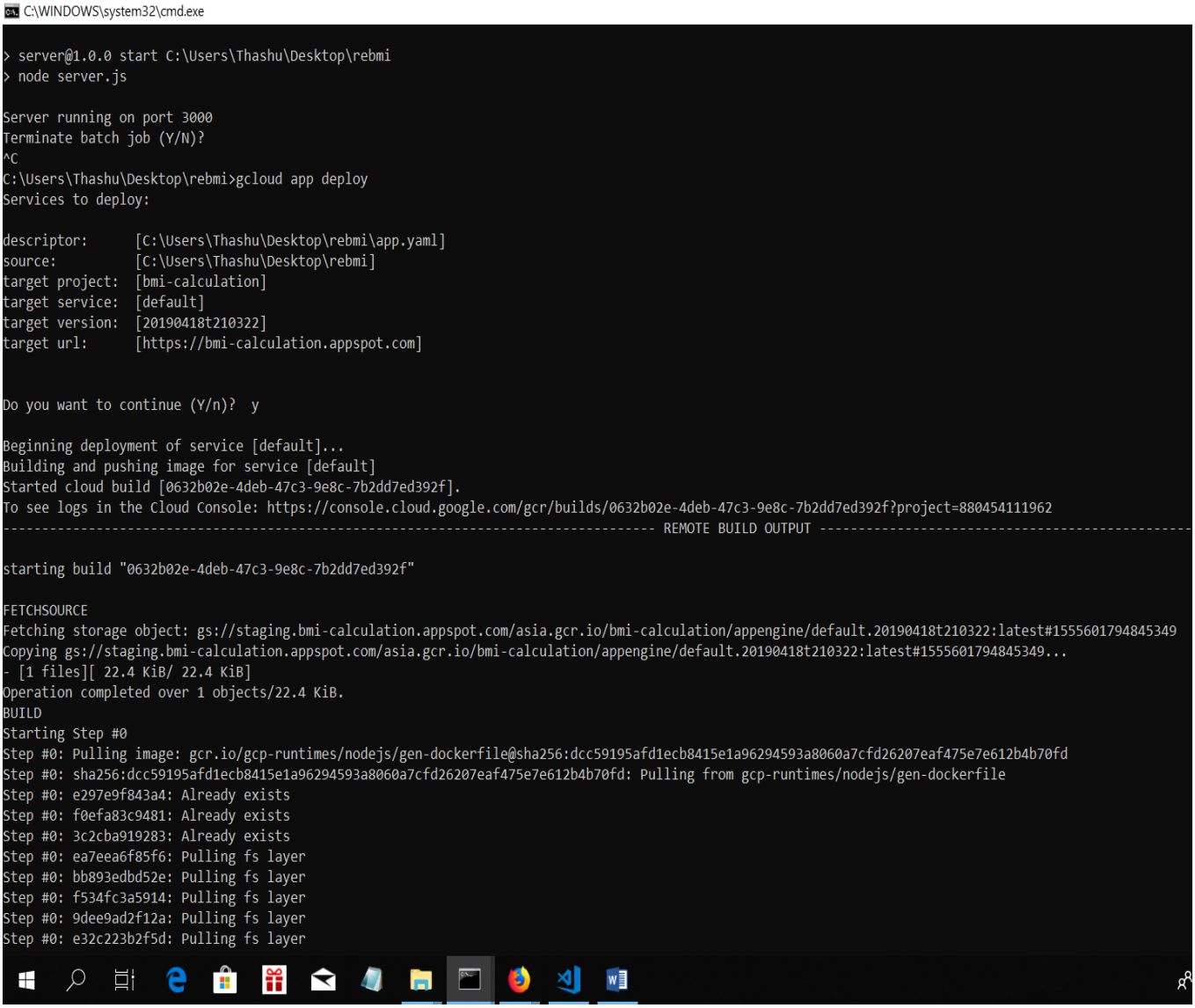


2

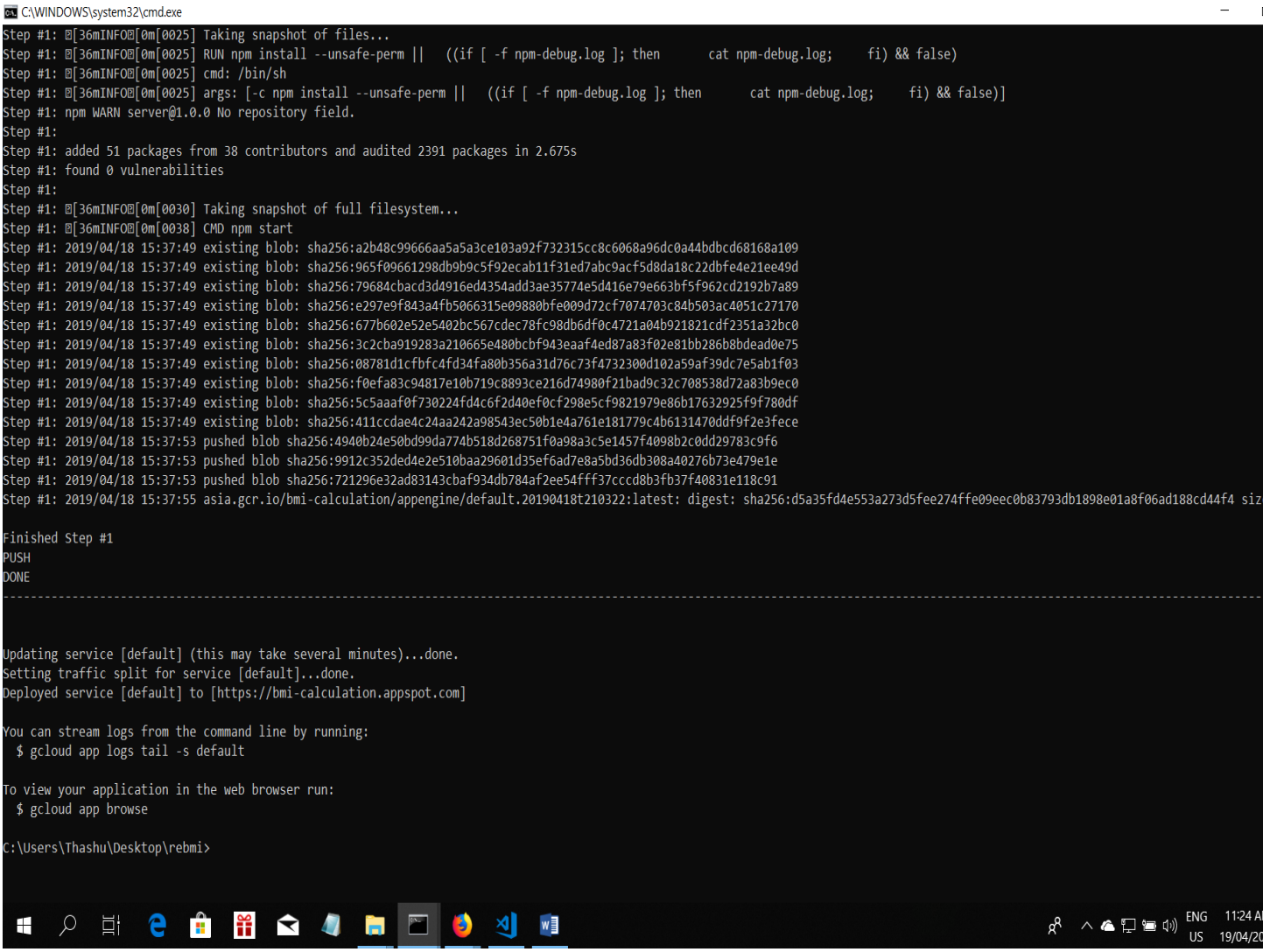
C:\WINDOWS\system32\cmd.exe

```
Network diagnostic detects and fixes local network connection issues.
Checking network connection...done.
Reachability Check passed.
Network diagnostic passed (1/1 checks passed).

Choose the account you would like to use to perform operations for
this configuration:
 [1] thashutasleem@gmail.com
 [2] Log in with a new account
Please enter your numeric choice:  1

You are logged in as: [thashutasleem@gmail.com].

Pick cloud project to use:
 [1] active-valve-238011
 [2] arcane-ion-238014
 [3] bmi-calculation
 [4] calculatebmi
 [5] scenic-dynamo-238014
 [6] silent-grid-238010
 [7] Create a new project
Please enter numeric choice or text value (must exactly match list
item):  3

Your current project has been set to: [bmi-calculation].

Not setting default zone/region (this feature makes it easier to use
[gcloud compute] by setting an appropriate default value for the
--zone and --region flag).
See https://cloud.google.com/compute/docs/gcloud-compute section on how to set
default compute region and zone manually. If you would like [gcloud init] to be
able to do this for you the next time you run it, make sure the
Compute Engine API is enabled for your project on the
https://console.developers.google.com/apis page.

Created a default .boto configuration file at [C:\Users\Thashu\.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 thashutasleem@gmail.com by default
* Commands will reference project `bmi-calculation` by default
Run `gcloud help config` to learn how to change individual settings
```

3.


C:\WINDOWS\system32\cmd.exe
> server@1.0.0 start C:\Users\Thashu\Desktop\rebmi
> node server.js
Server running on port 3000
Terminate batch job (Y/N)?
^C
C:\Users\Thashu\Desktop\rebmi>gcloud app deploy
Services to deploy:
descriptor: [C:\Users\Thashu\Desktop\rebmi\app.yaml]
source: [C:\Users\Thashu\Desktop\rebmi]
target project: [bmi-calculation]
target service: [default]
target version: [20190418t210322]
target url: [https://bmi-calculation.appspot.com]
Do you want to continue (Y/n)? y
Beginning deployment of service [default]...
Building and pushing image for service [default]
Started cloud build [0632b02e-4deb-47c3-9e8c-7b2dd7ed392f].
To see logs in the Cloud Console: https://console.cloud.google.com/gcr/builds/0632b02e-4deb-47c3-9e8c-7b2dd7ed392f?project=880454111962
REMOTE BUILD OUTPUT
starting build "0632b02e-4deb-47c3-9e8c-7b2dd7ed392f"
FETCHSOURCE
Fetching storage object: gs://staging.bmi-calculation.appspot.com/asia.gcr.io/bmi-calculation/appengine/default.20190418t210322:latest#1555601794845349
Copying gs://staging.bmi-calculation.appspot.com/asia.gcr.io/bmi-calculation/appengine/default.20190418t210322:latest#1555601794845349...
- [1 files][22.4 KiB/ 22.4 KiB]
Operation completed over 1 objects/22.4 KiB.
BUILD
Starting Step #0
Step #0: Pulling image: gcr.io/gcp-runtimes/nodejs/gen-dockerfile@sha256:dcc59195afd1ecb8415e1a96294593a8060a7cfd26207eaf475e7e612b4b70fd
Step #0: sha256:dcc59195afd1ecb8415e1a96294593a8060a7cfd26207eaf475e7e612b4b70fd: Pulling from gcp-runtimes/nodejs/gen-dockerfile
Step #0: e297e9f843a4: Already exists
Step #0: f0efa83c9481: Already exists
Step #0: 3c2cba919283: Already exists
Step #0: ea7eea6f85f6: Pulling fs layer
Step #0: bb893edbd52e: Pulling fs layer
Step #0: f534fc3a5914: Pulling fs layer
Step #0: 9dee9ad2f12a: Pulling fs layer
Step #0: e32c223b2f5d: Pulling fs layer

4.



THERE FORE SERVICE GOT SUCCESFULLY DEPLOYED

OPEN THE LINK TO USE THE DEPLOYED SERVICE: https://bmi-calculation.appspot.com