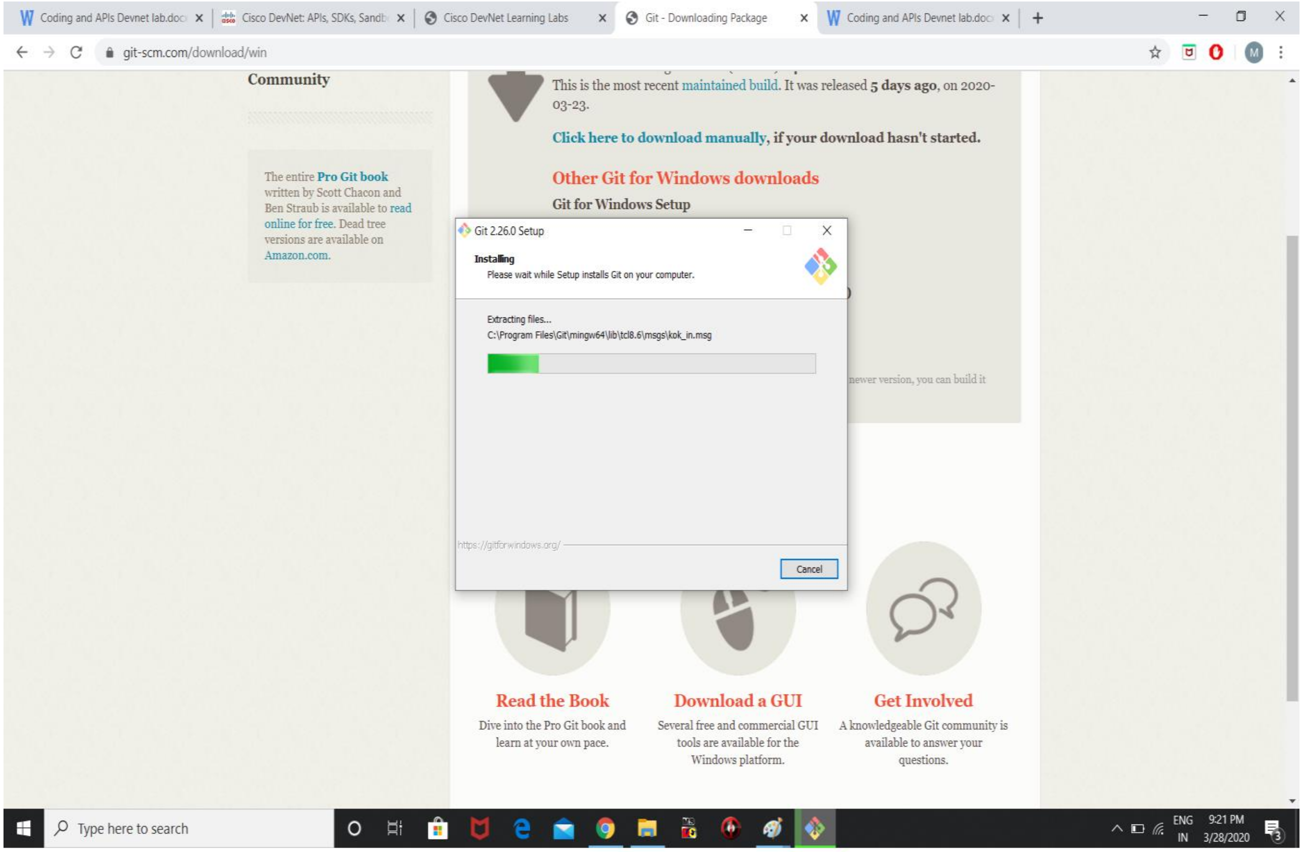
Setting up your Windows workstation as a development environment

Installing Basic Development toolset on your local workstation

- Source Control Systems:
  1. Install git on your windows


Coding and APIs Devnet lab.doc
Cisco DevNet: APIs, SDKs, Sandb
Cisco DevNet Learning Labs
Git - Downloading Package
Coding and APIs Devnet lab.doc
git-scm.com/download/win
Community
Read the Book
Download a GUI
Get Involved
Type here to search
ENG
IN
9:21 PM
3/28/2020

This is the most recent maintained build. It was released 5 days ago, on 2020-03-23.

Click here to download manually, if your download hasn't started.

Other Git for Windows downloads

Git for Windows Setup

The entire Pro Git book written by Scott Chacon and Ben Straub is available to read online for free. Dead tree versions are available on Amazon.com.

newer version, you can build it

Git 2.26.0 Setup

Installing

Please wait while Setup installs Git on your computer.

Extracting files...

C:\Program Files\Git\mingw64\lib\tcl8.6\msgs\kok_in.msg

https://gitforwindows.org/

Cancel

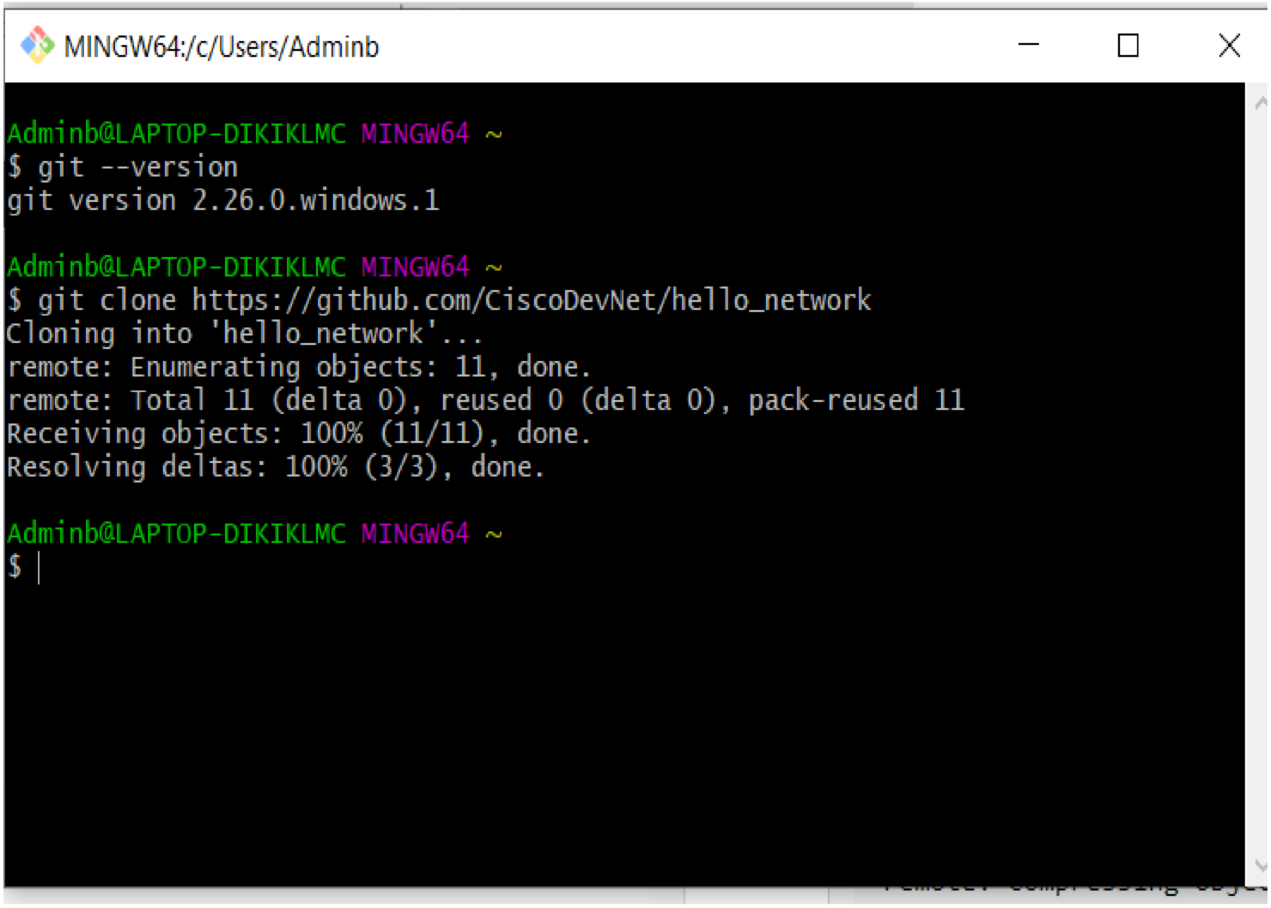
Dive into the Pro Git book and learn at your own pace.

Several free and commercial GUI tools are available for the Windows platform.

A knowledgeable Git community is available to answer your questions.

Verification:

1. Open git-bash
2. From terminal, run git –version
3. Attempt to clone a repository from GitHub.

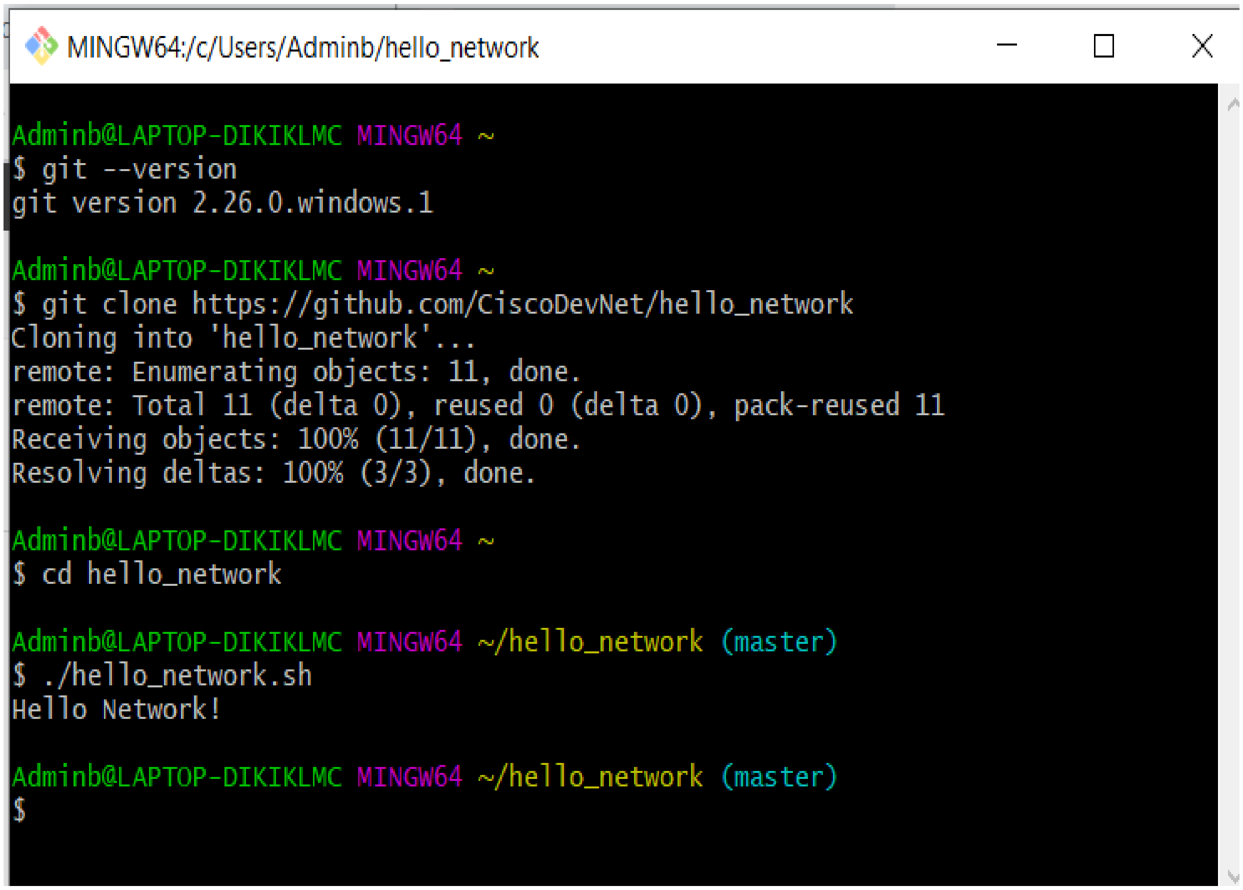


```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ git --version
git version 2.26.0.windows.1

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ git clone https://github.com/CiscoDevNet/hello_network
Cloning into 'hello_network'...
remote: Enumerating objects: 11, done.
remote: Total 11 (delta 0), reused 0 (delta 0), pack-reused 11
Receiving objects: 100% (11/11), done.
Resolving deltas: 100% (3/3), done.

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ |
```

- Shells And Terminals

1. Install git-bash. For windows it was installed in the last step itself.

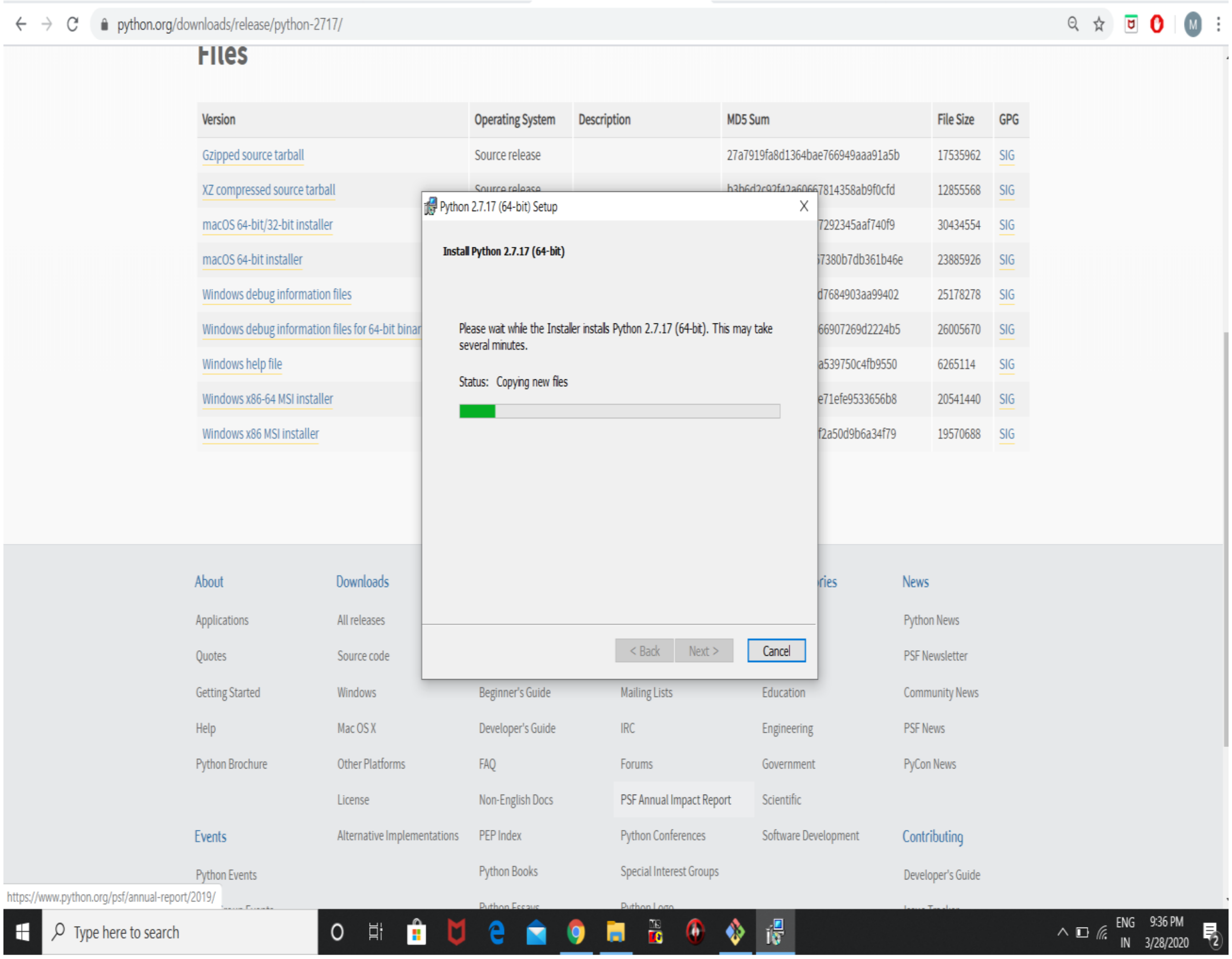
Verification :



```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ git --version
git version 2.26.0.windows.1

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ git clone https://github.com/CiscoDevNet/hello_network
Cloning into 'hello_network'...
remote: Enumerating objects: 11, done.
remote: Total 11 (delta 0), reused 0 (delta 0), pack-reused 11
Receiving objects: 100% (11/11), done.
Resolving deltas: 100% (3/3), done.

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ cd hello_network

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/hello_network (master)
$ ./hello_network.sh
Hello Network!

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/hello_network (master)
$
```

- Programming Languages

  1. Installing Python 2.7.17.



python.org/downloads/release/python-2717/

Files

Version	Operating System	Description	MD5 Sum	File Size	GPG
Gzipped source tarball	Source release		27a7919fa8d1364bae766949aaa91a5b	17535962	SIG
XZ compressed source tarball	Source release		b3b6d2c92f42a60667814358ab9f0cfd	12855568	SIG
macOS 64-bit/32-bit installer			7292345aaf740f9	30434554	SIG
macOS 64-bit installer			7380b7db361b46e	23885926	SIG
Windows debug information files			d7684903aa99402	25178278	SIG
Windows debug information files for 64-bit binar			66907269d2224b5	26005670	SIG
Windows help file			a539750c4fb9550	6265114	SIG
Windows x86-64 MSI installer			e71efe9533656b8	20541440	SIG
Windows x86 MSI installer			f2a50d9b6a34f79	19570688	SIG

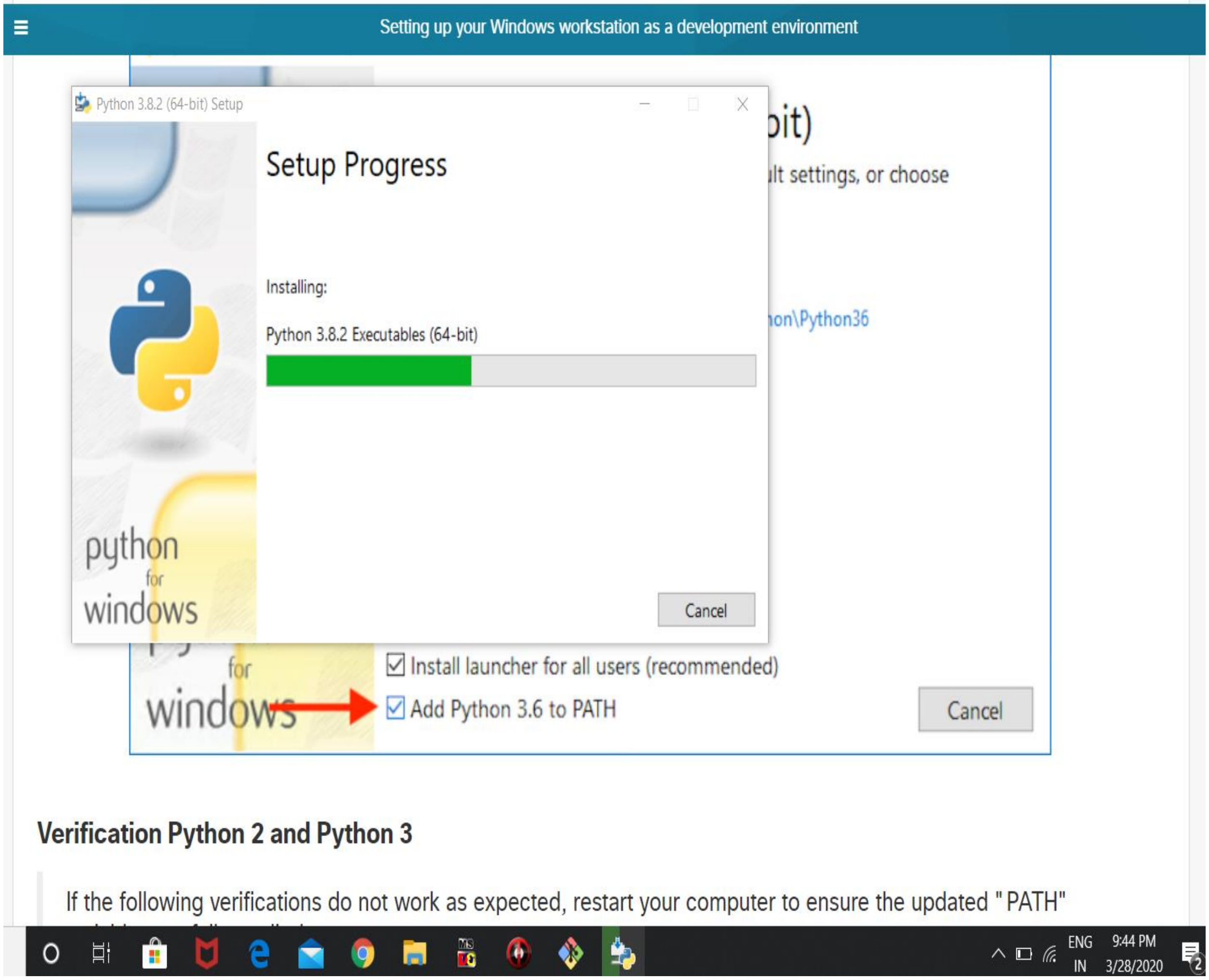
Python 2.7.17 (64-bit) Setup

Install Python 2.7.17 (64-bit)

Please wait while the Installer installs Python 2.7.17 (64-bit). This may take several minutes.

Status: Copying new files

2. Installing Python 2.8.2


Setting up your Windows workstation as a development environment
Python 3.8.2 (64-bit) Setup
python for windows
Cancel
bit)
ENG IN
9:44 PM
3/28/2020

Setup Progress

Installing:

Python 3.8.2 Executables (64-bit)

ult settings, or choose

hon\Python36

☑ Install launcher for all users (recommended)

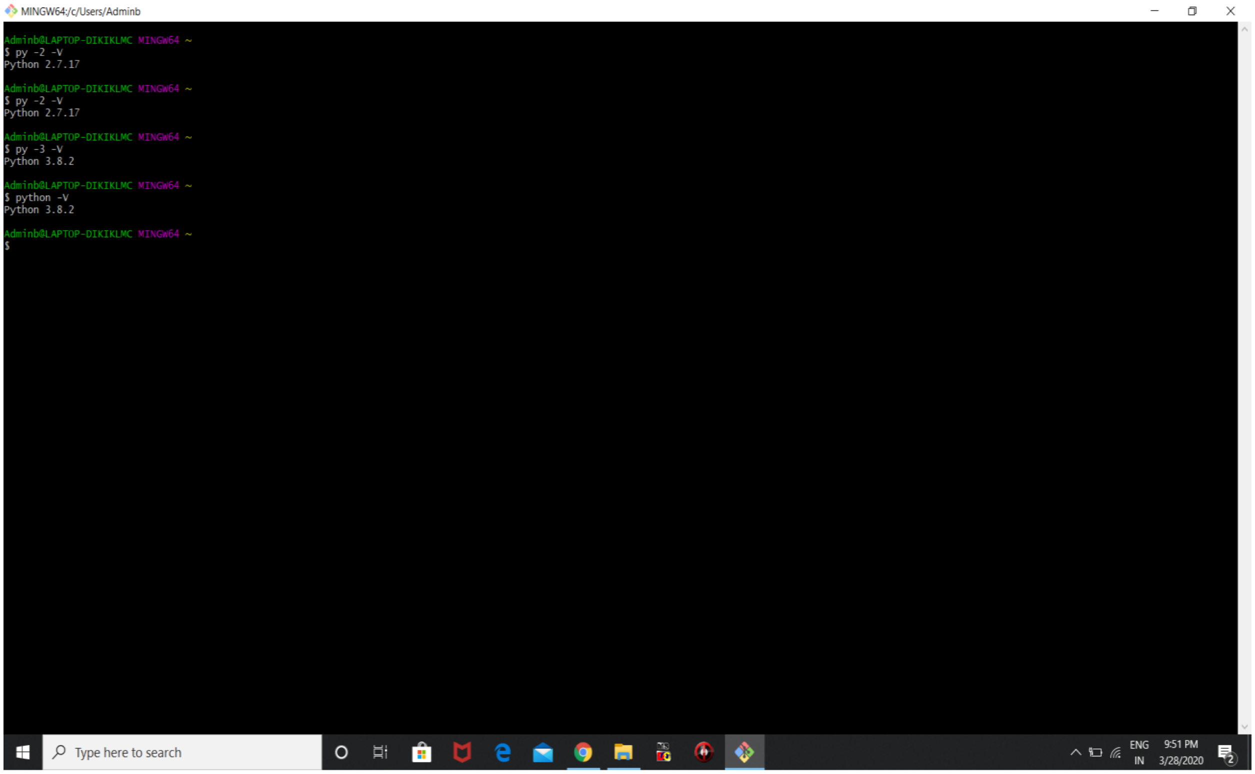
☑ Add Python 3.6 to PATH

Verification Python 2 and Python 3

> If the following verifications do not work as expected, restart your computer to ensure the updated " PATH"

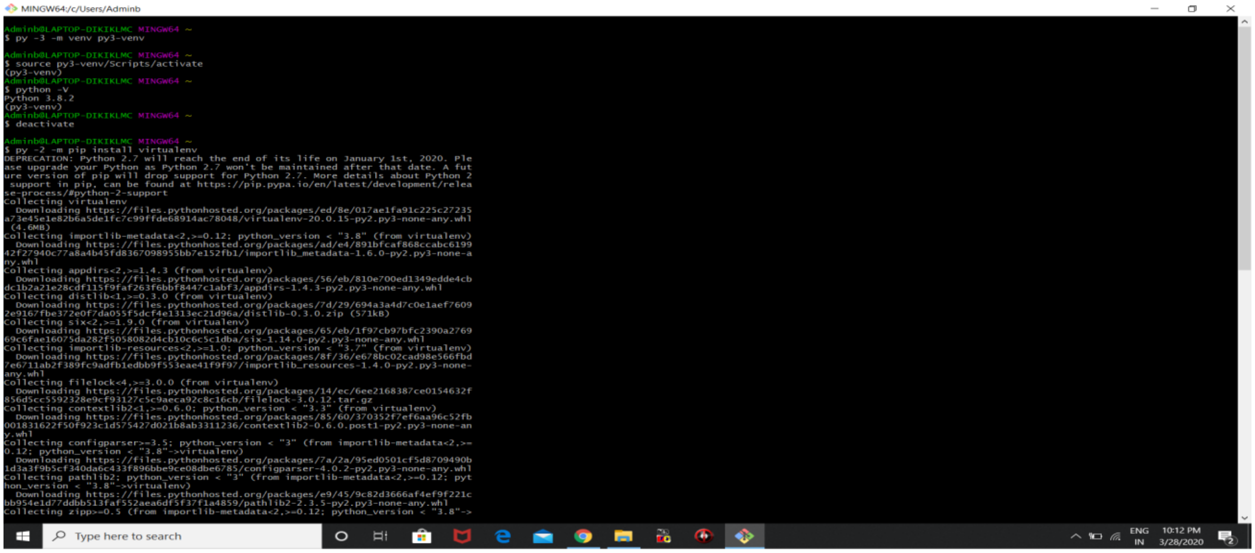
Verification of python 2 and python 3

Open git-bash and verify the installation of python 3 and python 2:

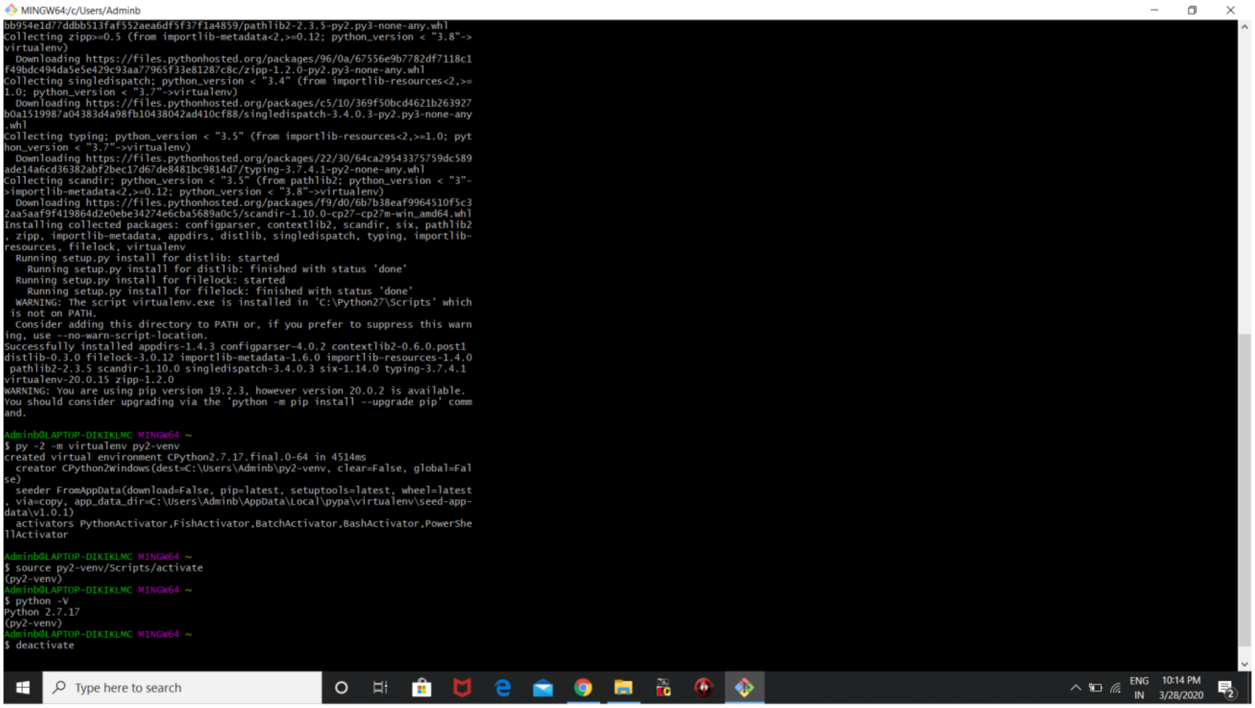


```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ py -2 -V
Python 2.7.17

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ py -2 -V
Python 2.7.17

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ py -3 -V
Python 3.8.2

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ python -V
Python 3.8.2

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$
```

Final python setup for python 2 and python 3:

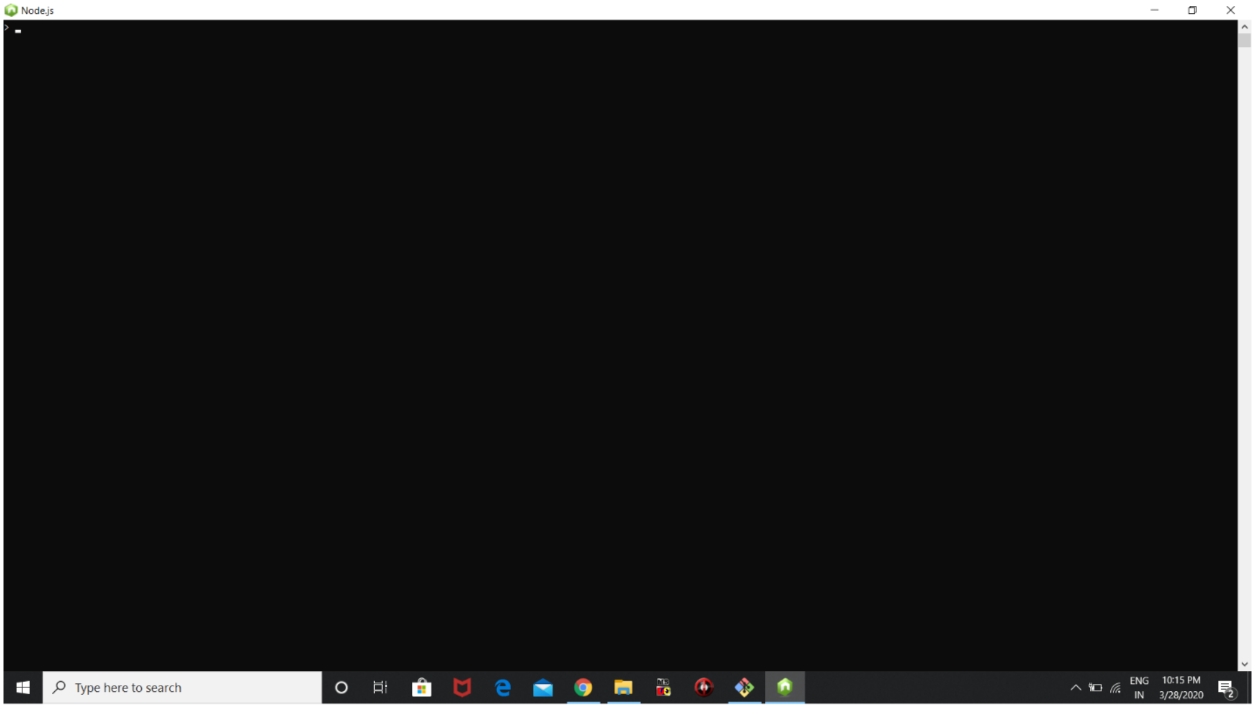


```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ py -3 -m venv py3-venv

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ source py3-venv/Scripts/activate
(py3-venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ python -V
Python 3.8.2
(py3-venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ deactivate

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ py -2 -m pip install virtualenv
DEPRECATION: Python 2.7 will reach the end of its life on January 1st, 2020. Ple
ase upgrade your Python as Python 2.7 won't be maintained after that date. A fut
ure version of pip will drop support for Python 2.7. More details about Python 2
 support in pip, can be found at https://pip.pypa.io/en/latest/development/relea
se-process/#python-2-support
Collecting virtualenv
  Downloading https://files.pythonhosted.org/packages/ed/8e/017ae1fa91c225c27235
a73e45e1e82b6a5de1fc7c99ffde68914ac78048/virtualenv-20.0.15-py2.py3-none-any.whl
 (4.6MB)
Collecting importlib-metadata<2,>=0.12; python_version < "3.8" (from virtualenv)
  Downloading https://files.pythonhosted.org/packages/ad/e4/891bfcaf868ccabc6199
42f27940c77a8a4b45fd8367098955bb7e152fb1/importlib_metadata-1.6.0-py2.py3-none-a
ny.whl
Collecting appdirs<2,>=1.4.3 (from virtualenv)
  Downloading https://files.pythonhosted.org/packages/56/eb/810e700ed1349edde4cb
dc1b2a21e28cdf115f9faf263f6bbf8447c1abf3/appdirs-1.4.3-py2.py3-none-any.whl
Collecting distlib<1,>=0.3.0 (from virtualenv)
  Downloading https://files.pythonhosted.org/packages/7d/29/694a3a4d7c0e1aef7609
2e9167fbe372e0f7da055f5dcf4e1313ec21d96a/distlib-0.3.0.zip (571kB)
Collecting six<2,>=1.9.0 (from virtualenv)
  Downloading https://files.pythonhosted.org/packages/65/eb/1f97cb97bfc2390a2769
69c6fae16075da282f5058082d4cb10c6c5c1dba/six-1.14.0-py2.py3-none-any.whl
Collecting importlib-resources<2,>=1.0; python_version < "3.7" (from virtualenv)
  Downloading https://files.pythonhosted.org/packages/8f/36/e678bc02cad98e566fbd
7e6711ab2f389fc9adfb1edbb9f553eae41f9f97/importlib_resources-1.4.0-py2.py3-none-
any.whl
Collecting filelock<4,>=3.0.0 (from virtualenv)
  Downloading https://files.pythonhosted.org/packages/14/ec/6ee2168387ce0154632f
856d5cc5592328e9cf93127c5c9aeca92c8c16cb/filelock-3.0.12.tar.gz
Collecting contextlib2<1,>=0.6.0; python_version < "3.3" (from virtualenv)
  Downloading https://files.pythonhosted.org/packages/85/60/370352f7ef6aa96c52fb
001831622f50f923c1d575427d021b8ab3311236/contextlib2-0.6.0.post1-py2.py3-none-an
y.whl
Collecting configparser>=3.5; python_version < "3" (from importlib-metadata<2,>=
0.12; python_version < "3.8"->virtualenv)
  Downloading https://files.pythonhosted.org/packages/7a/2a/95ed0501cf5d8709490b
1d3a3f9b5cf340da6c433f896bbe9ce08dbe6785/configparser-4.0.2-py2.py3-none-any.whl
Collecting pathlib2; python_version < "3" (from importlib-metadata<2,>=0.12; pyt
hon_version < "3.8"->virtualenv)
  Downloading https://files.pythonhosted.org/packages/e9/45/9c82d3666af4ef9f221c
bb954e1d77ddbb513faf552aea6df5f37f1a4859/pathlib2-2.3.5-py2.py3-none-any.whl
Collecting zipp>=0.5 (from importlib-metadata<2,>=0.12; python_version < "3.8"->
```



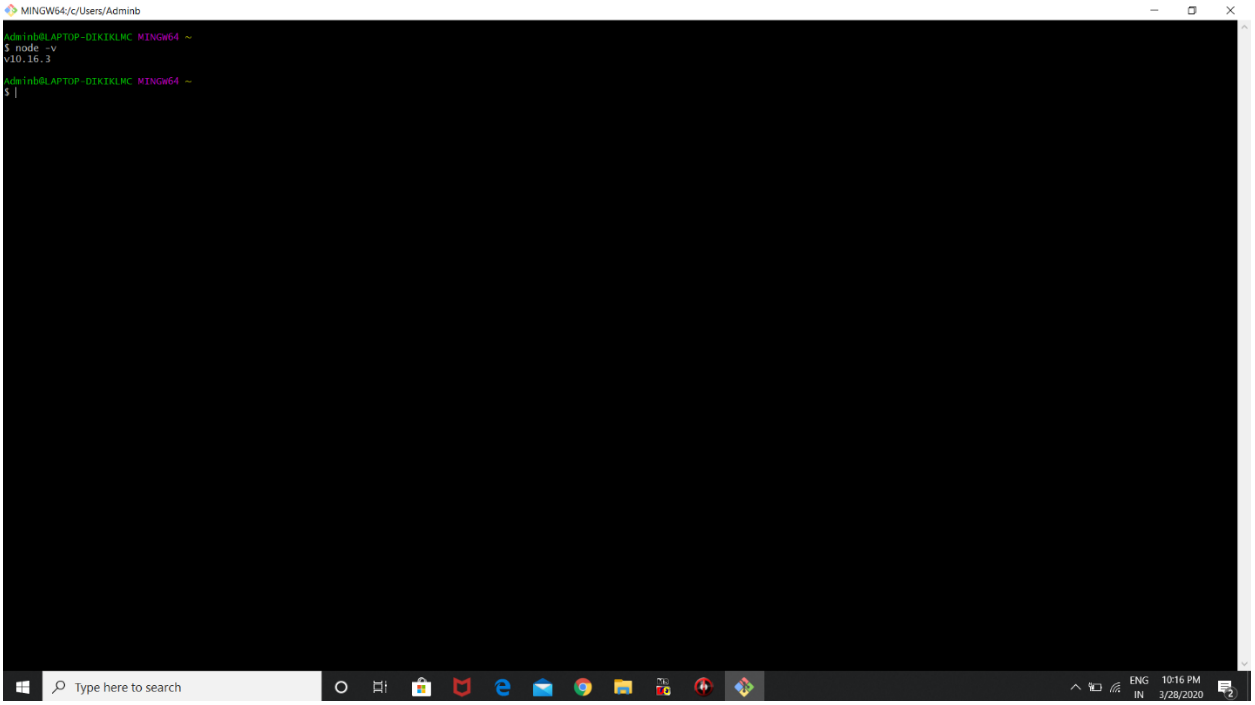
```
bb954e1d77ddbb513faf552aea6df5f37f1a4859/pathlib2-2.3.5-py2.py3-none-any.whl
Collecting zipp>=0.5 (from importlib-metadata<2,>=0.12; python_version < "3.8"->
virtualenv)
  Downloading https://files.pythonhosted.org/packages/96/0a/67556e9b7782df7118c1
f49bdc494da5e5e429c93aa77965f33e81287c8c/zipp-1.2.0-py2.py3-none-any.whl
Collecting singledispatch; python_version < "3.4" (from importlib-resources<2,>=
1.0; python_version < "3.7"->virtualenv)
  Downloading https://files.pythonhosted.org/packages/c5/10/369f50bcd4621b263927
b0a1519987a04383d4a98fb10438042ad410cf88/singledispatch-3.4.0.3-py2.py3-none-any
.whl
Collecting typing; python_version < "3.5" (from importlib-resources<2,>=1.0; pyt
hon_version < "3.7"->virtualenv)
  Downloading https://files.pythonhosted.org/packages/22/30/64ca29543375759dc589
ade14a6cd36382abf2bec17d67de8481bc9814d7/typing-3.7.4.1-py2-none-any.whl
Collecting scandir; python_version < "3.5" (from pathlib2; python_version < "3"-
>importlib-metadata<2,>=0.12; python_version < "3.8"->virtualenv)
  Downloading https://files.pythonhosted.org/packages/f9/d0/6b7b38eaf9964510f5c3
2aa5aaf9f419864d2e0ebe34274e6cba5689a0c5/scandir-1.10.0-cp27-cp27m-win_amd64.whl
Installing collected packages: configparser, contextlib2, scandir, six, pathlib2
, zipp, importlib-metadata, appdirs, distlib, singledispatch, typing, importlib-
resources, filelock, virtualenv
  Running setup.py install for distlib: started
    Running setup.py install for distlib: finished with status 'done'
  Running setup.py install for filelock: started
    Running setup.py install for filelock: finished with status 'done'
  WARNING: The script virtualenv.exe is installed in 'C:\Python27\Scripts' which
 is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warn
ing, use --no-warn-script-location.
Successfully installed appdirs-1.4.3 configparser-4.0.2 contextlib2-0.6.0.post1
distlib-0.3.0 filelock-3.0.12 importlib-metadata-1.6.0 importlib-resources-1.4.0
 pathlib2-2.3.5 scandir-1.10.0 singledispatch-3.4.0.3 six-1.14.0 typing-3.7.4.1
virtualenv-20.0.15 zipp-1.2.0
WARNING: You are using pip version 19.2.3, however version 20.0.2 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' comm
and.

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ py -2 -m virtualenv py2-venv
created virtual environment CPython2.7.17.final.0-64 in 4514ms
  creator CPython2Windows(dest=C:\Users\Adminb\py2-venv, clear=False, global=Fal
se)
  seeder FromAppData(download=False, pip=latest, setuptools=latest, wheel=latest
, via=copy, app_data_dir=C:\Users\Adminb\AppData\Local\pypa\virtualenv\seed-app-
data\v1.0.1)
  activators PythonActivator,FishActivator,BatchActivator,BashActivator,PowerShe
llActivator

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ source py2-venv/Scripts/activate
(py2-venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ python -V
Python 2.7.17
(py2-venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ deactivate
```

3. Installing node



```
>
```

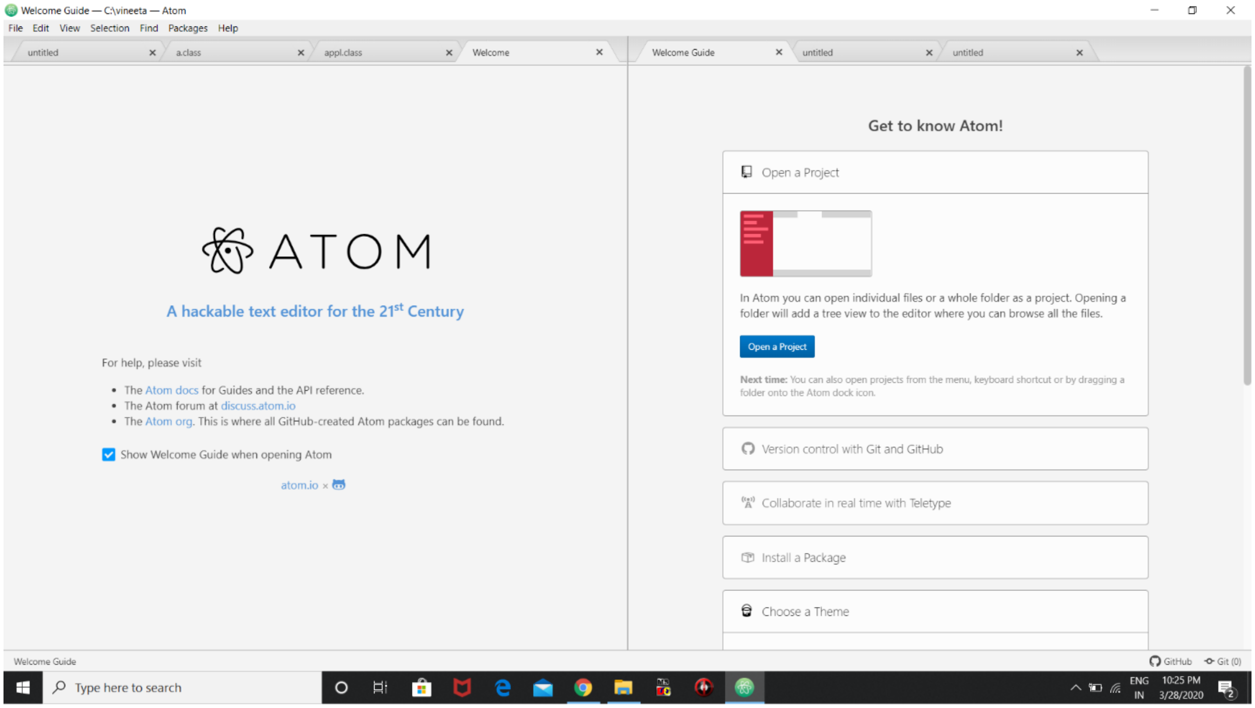
Verification of node



```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ node -v
v10.16.3

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ |
```

- Text Editors and IDE

  Install Atom


Welcome Guide — C:\vineeta — Atom
File Edit View Selection Find Packages Help
untitled
a.class
appl.class
Welcome
Welcome Guide
untitled
untitled
ATOM

A hackable text editor for the 21^{st} Century

For help, please visit

- The Atom docs for Guides and the API reference.
- The Atom forum at discuss.atom.io
- The Atom org. This is where all GitHub-created Atom packages can be found.

☑ Show Welcome Guide when opening Atom

atom.io ×

Get to know Atom!

Open a Project

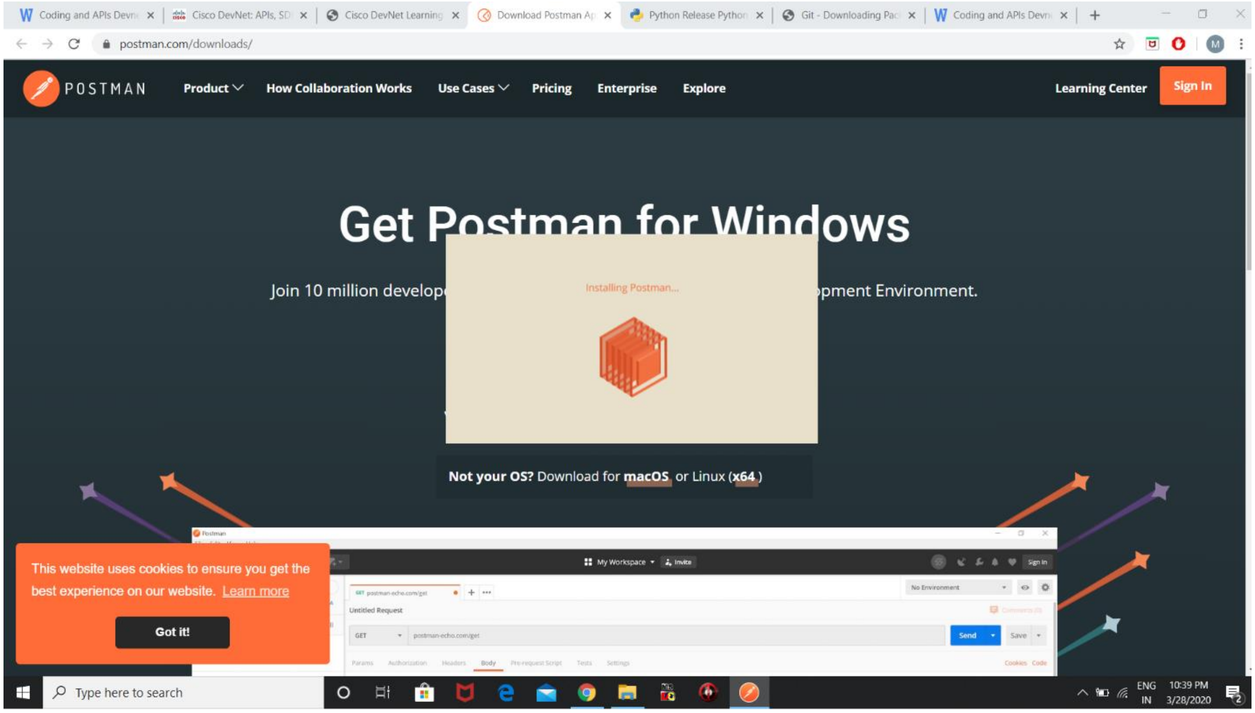
In Atom you can open individual files or a whole folder as a project. Opening a folder will add a tree view to the editor where you can browse all the files.

Open a Project

Next time: You can also open projects from the menu, keyboard shortcut or by dragging a folder onto the Atom dock icon.

- Development Tools and Clients:

  1. Install Postman



Get Postman for Windows

Join 10 million develop pment Environment.

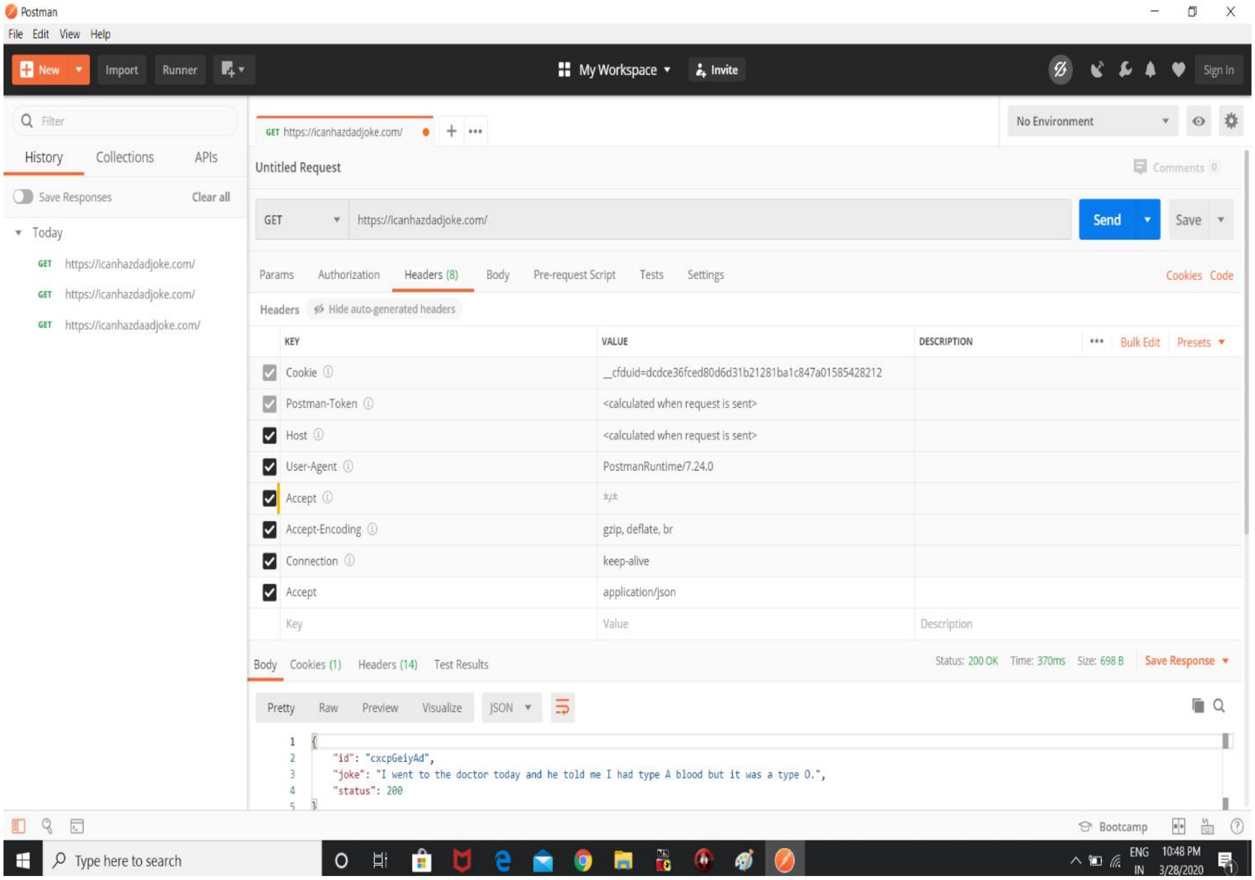
Installing Postman...

Not your OS? Download for macOS or Linux (x64)

This website uses cookies to ensure you get the best experience on our website. Learn more

Verification

1. Once the installation is complete, Postman will show sign-up options. Click on “Take me Straight to the app. I’ll create an account another time”.
2. You can make REST API calls with postman.
3. Enter the link into address bar.
4. Click headers tab and add entry for accept with value application/json.
5. Click send.



GET https://icanhazdadjoke.com/

Headers

	KEY	VALUE	DESCRIPTION
☑	Cookie	__cfduid=dcdce36fced80d6d31b21281ba1c847a01585428212	
☑	Postman-Token	<calculated when request is sent>	
☑	Host	<calculated when request is sent>	
☑	User-Agent	PostmanRuntime/7.24.0	
☑	Accept	*/*	
☑	Accept-Encoding	gzip, deflate, br	
☑	Connection	keep-alive	
☑	Accept	application/json	
	Key	Value	Description

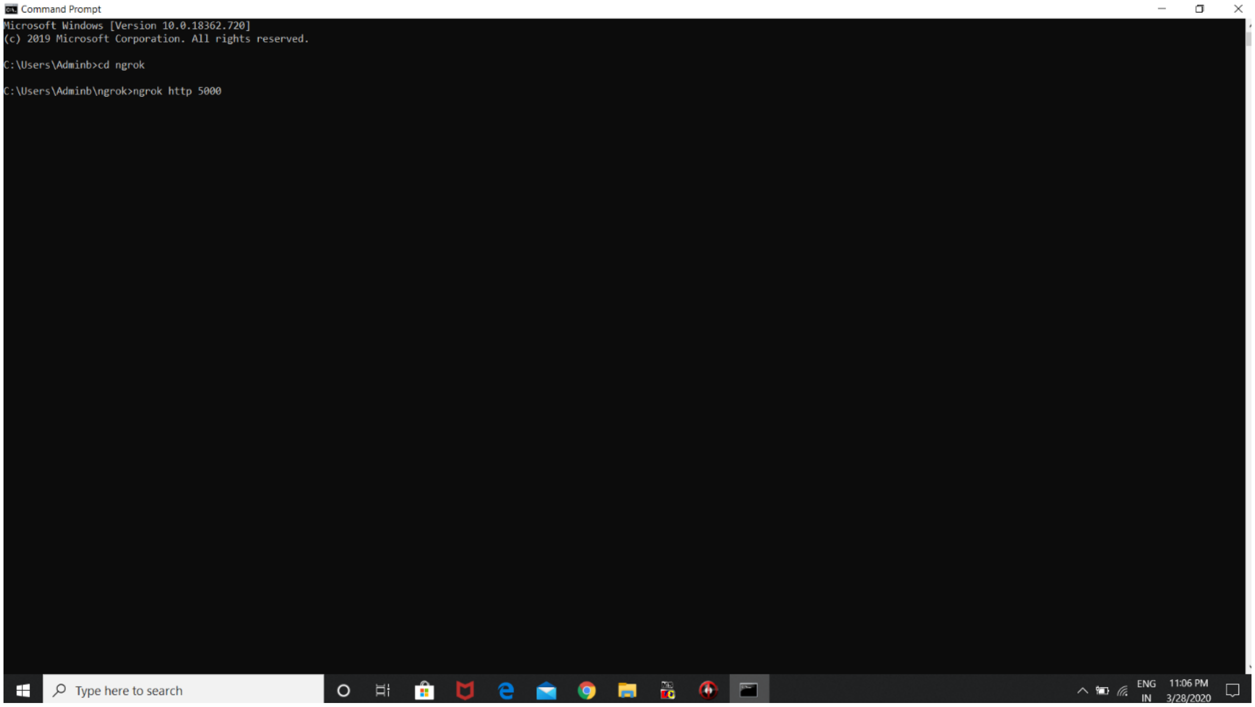
Status: 200 OK Time: 370ms Size: 698 B

```
{
    "id": "cxcpGeiyAd",
    "joke": "I went to the doctor today and he told me I had type A blood but it was a type O.",
    "status": 200
}
```

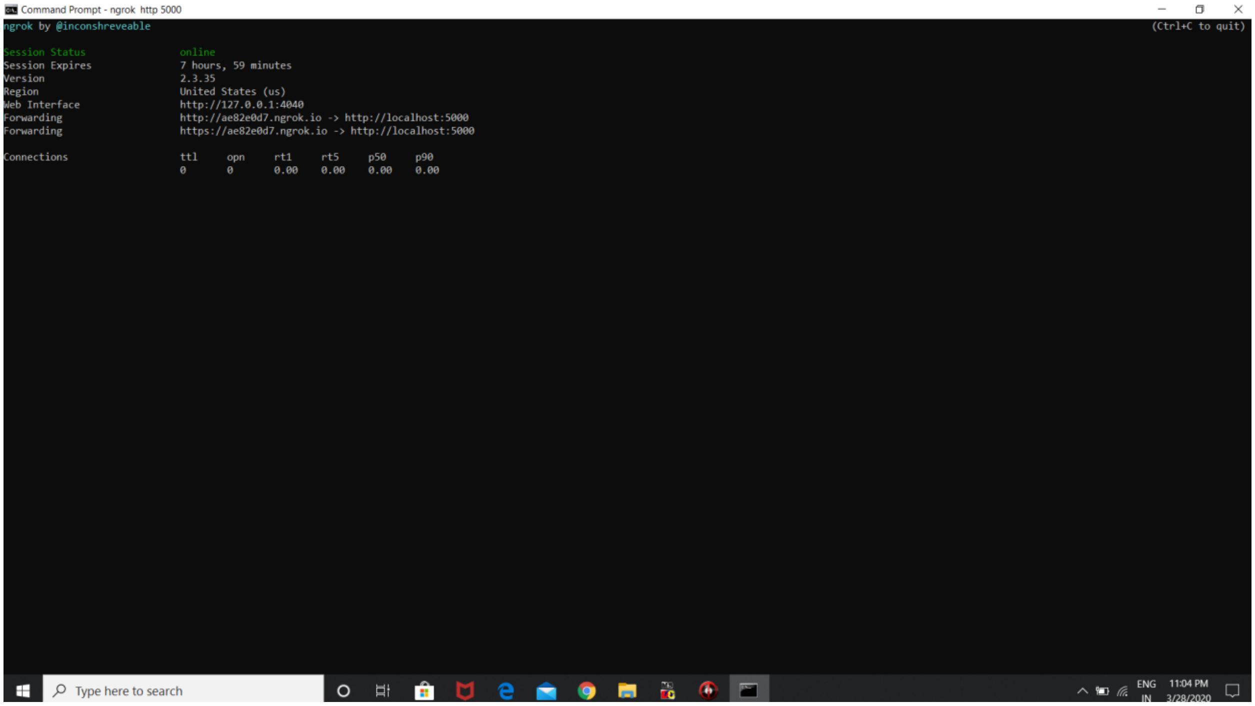
2. Install ngrok

Verification

1. Open cmd shell.
2. Change directory to ngrok
3. Start sample ngrok tunnel.



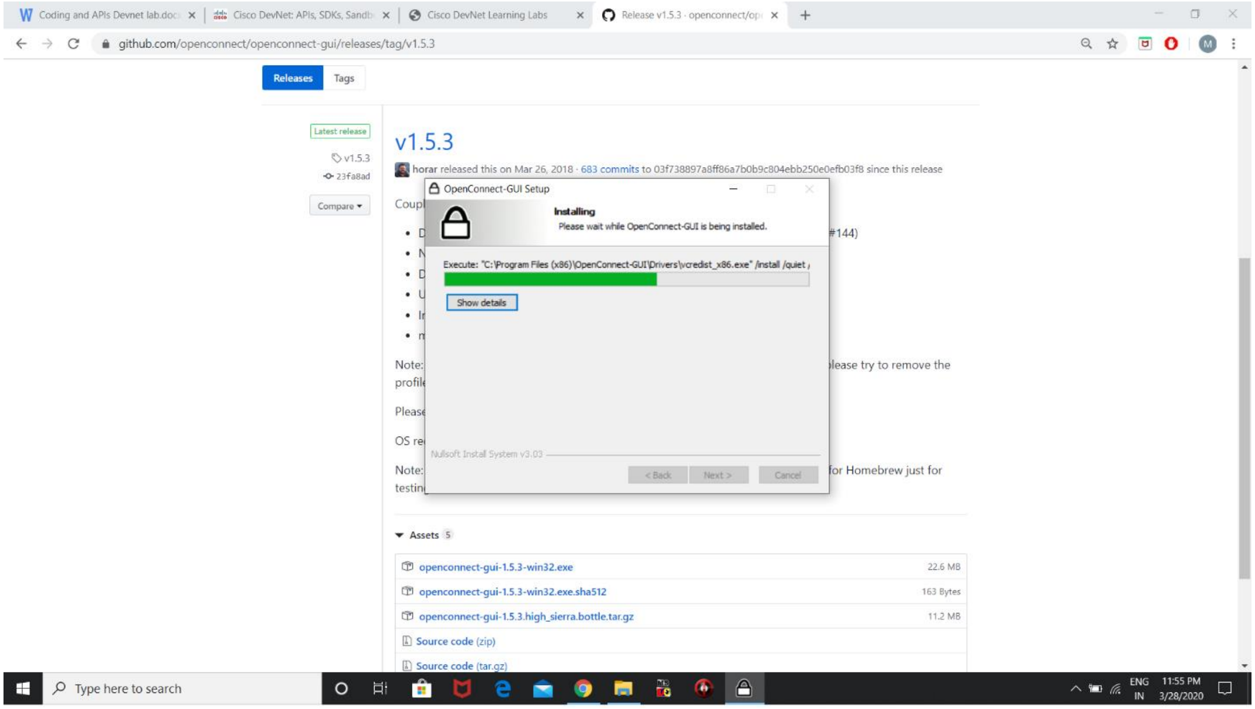
```
Microsoft Windows [Version 10.0.18362.720]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Adminb>cd ngrok

C:\Users\Adminb\ngrok>ngrok http 5000
```



```
ngrok by @inconshreveable                                                                                  (Ctrl+C to quit)

Session Status                online
Session Expires               7 hours, 59 minutes
Version                       2.3.35
Region                        United States (us)
Web Interface                 http://127.0.0.1:4040
Forwarding                    http://ae82e0d7.ngrok.io -> http://localhost:5000
Forwarding                    https://ae82e0d7.ngrok.io -> http://localhost:5000

Connections                   ttl     opn     rt1     rt5     p50     p90
                              0       0       0.00    0.00    0.00    0.00
```

3.Install google chrome

4. Install OpenConnect



github.com/openconnect/openconnect-gui/releases/tag/v1.5.3

v1.5.3

horar released this on Mar 26, 2018 · 683 commits to 03f738897a8ff86a7b0b9c804ebb250e0efb03f8 since this release

Installing

Please wait while OpenConnect-GUI is being installed.

Execute: "C:\Program Files (x86)\OpenConnect-GUI\Drivers\vcredist_x86.exe" /install /quiet ,

Nullsoft Install System v3.03

Assets 5

openconnect-gui-1.5.3-win32.exe	22.6 MB
openconnect-gui-1.5.3-win32.exe.sha512	163 Bytes
openconnect-gui-1.5.3.high_sierra.bottle.tar.gz	11.2 MB
Source code (zip)	
Source code (tar.gz)	

Starting with REST APIs

REST stands for Representational State Transfer. An API is an Application Programming Interface. Together, these two terms signify a way for applications to talk to each other.

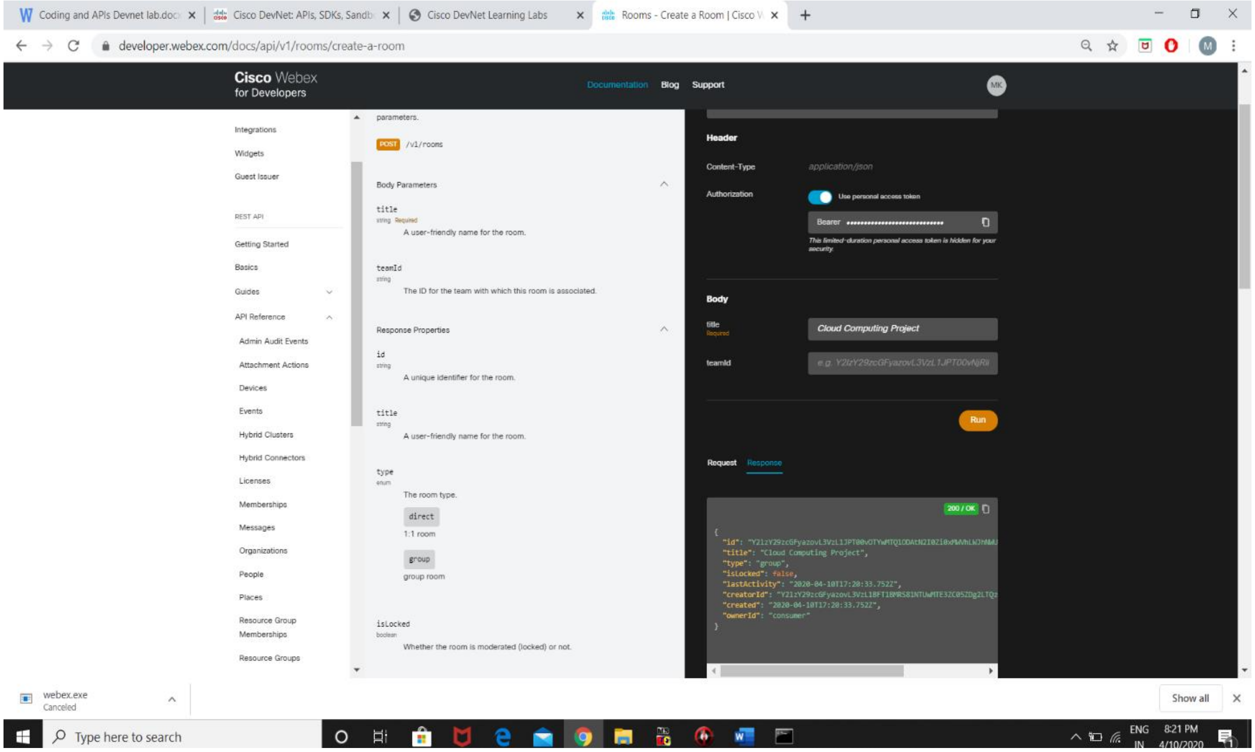
Setting up the Computer

Install git or curl which we have already installed.

Find the API documentation pages for conceptual and reference information for REST API.

Sign up for CISCO Webex teams authentication and understanding the REST API verbs.

`



parameters.

POST /v1/rooms

Body Parameters

title
string Required
A user-friendly name for the room.

teamId
string
The ID for the team with which this room is associated.

Response Properties

id
string
A unique identifier for the room.

title
string
A user-friendly name for the room.

type
enum
The room type.
direct
1:1 room
group
group room

isLocked
boolean
Whether the room is moderated (locked) or not.

Header

Content-Type: application/json

Authorization: Use personal access token

Bearer ••••••••••••••••••••••••••••

This limited-duration personal access token is hidden for your security.

Body

title (Required): Cloud Computing Project

teamId: e.g. Y2lzY29zcGFyazovL3VzL1JPT00vNjRi

Run

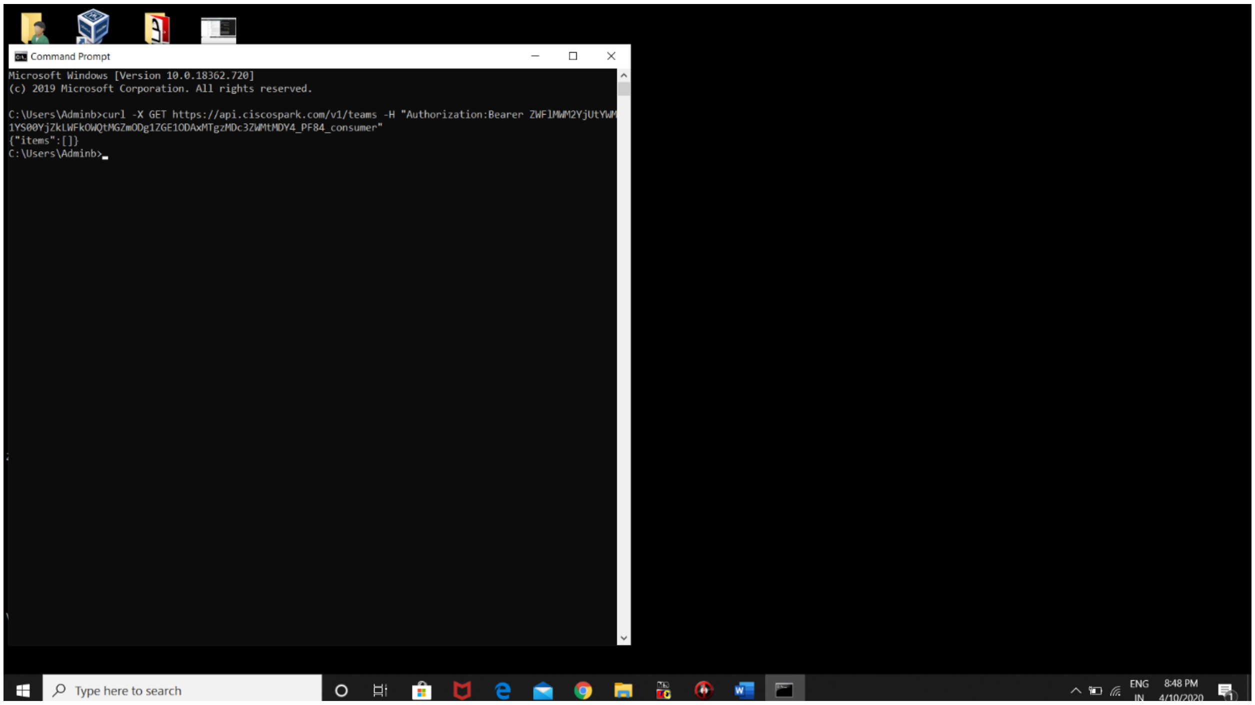
Request Response

200 / OK

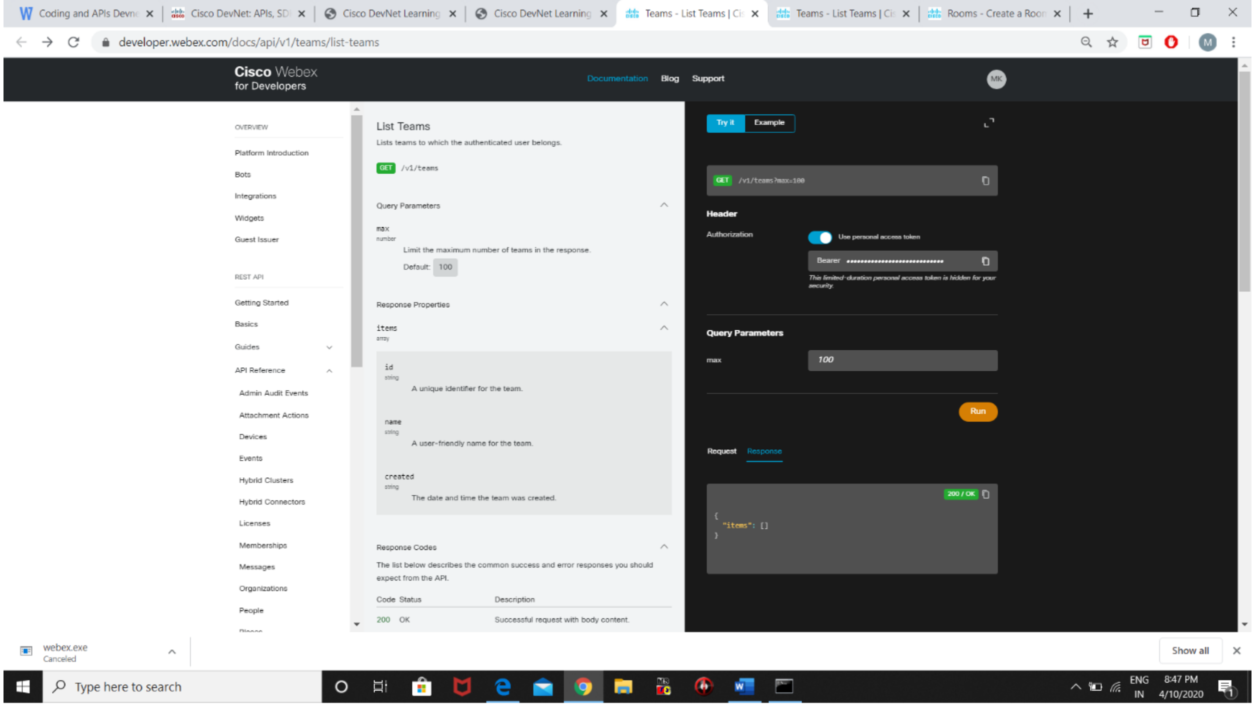
```
{
  "id": "Y2lzY29zcGFyazovL3VzL1JPT00vOTYwMTQ1ODAtN2I0Zi0xMWVhLWJhNWU
  "title": "Cloud Computing Project",
  "type": "group",
  "isLocked": false,
  "lastActivity": "2020-04-10T17:20:33.752Z",
  "creatorId": "Y2lzY29zcGFyazovL3VzL1BFT1BMRS81NTUwMTE3ZC05ZDg2LTQz
  "created": "2020-04-10T17:20:33.752Z",
  "ownerId": "consumer"
}
```

REST API has several tools. Lets consider cURL that is Linux command line application.

Choosing a verb and URI and configuring the headers and authentication for which we need a bearer token that can be obtained by signing in and logging into the webex teams. The bearer token is available for 12 hours due to privacy policy. Provide the parameters and verify the status.



```
Microsoft Windows [Version 10.0.18362.720]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Adminb>curl -X GET https://api.ciscospark.com/v1/teams -H "Authorization:Bearer ZWFlMWM2YjUtYWM
1YS00YjZkLWFkOWQtMGZmODg1ZGE1ODAxMTgzMDc3ZWMtMDY4_PF84_consumer"
{"items":[]}
C:\Users\Adminb>_
```



developer.webex.com/docs/api/v1/teams/list-teams

List Teams

Lists teams to which the authenticated user belongs.

GET /v1/teams

Query Parameters

max
number
Limit the maximum number of teams in the response.
Default: 100

Response Properties

items
array

id
string
A unique identifier for the team.

name
string
A user-friendly name for the team.

created
string
The date and time the team was created.

Response Codes

The list below describes the common success and error responses you should expect from the API.

Code	Status	Description
200	OK	Successful request with body content.

GET /v1/teams?max=100

Header

Authorization: Use personal access token

Bearer ••••••••••••••••••••••••••••••

This limited-duration personal access token is hidden for your security.

Query Parameters

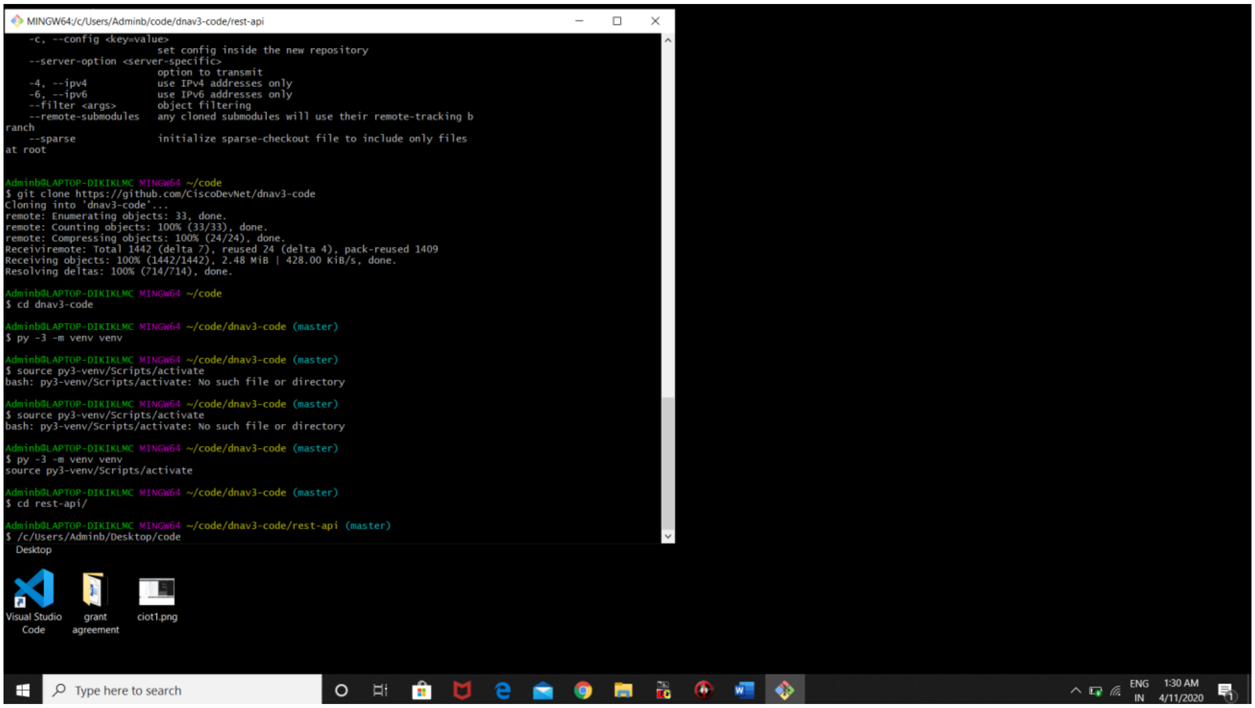
max: 100

200 / OK

```
{
  "items": []
}
```

Using Postman to interact with REST APIs

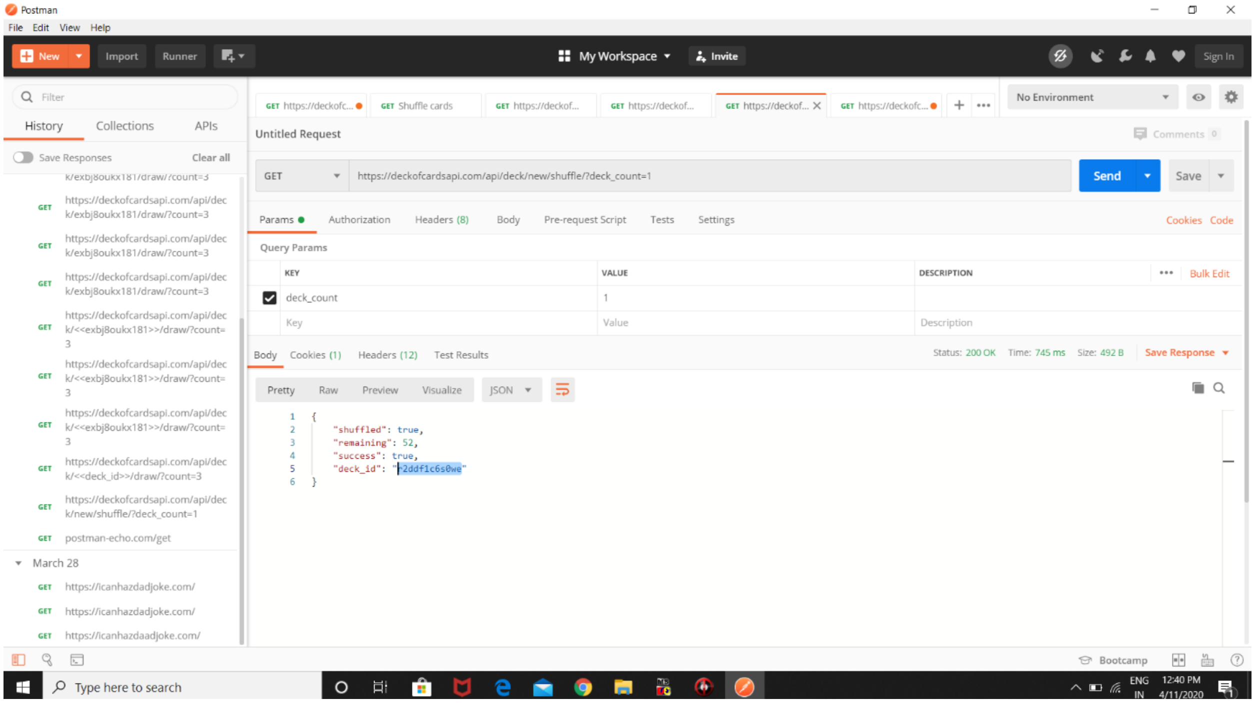
Setting up the computer



MINGW64:/c/Users/Adminb/code/dnav3-code/rest-api

```
    -c, --config <key=value>
                          set config inside the new repository
    --server-option <server-specific>
                          option to transmit
    -4, --ipv4            use IPv4 addresses only
    -6, --ipv6            use IPv6 addresses only
    --filter <args>       object filtering
    --remote-submodules   any cloned submodules will use their remote-tracking b
ranch
    --sparse              initialize sparse-checkout file to include only files
at root


Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ git clone https://github.com/CiscoDevNet/dnav3-code
Cloning into 'dnav3-code'...
remote: Enumerating objects: 33, done.
remote: Counting objects: 100% (33/33), done.
remote: Compressing objects: 100% (24/24), done.
Receiviremote: Total 1442 (delta 7), reused 24 (delta 4), pack-reused 1409
Receiving objects: 100% (1442/1442), 2.48 MiB | 428.00 KiB/s, done.
Resolving deltas: 100% (714/714), done.

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ cd dnav3-code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ py -3 -m venv venv

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ source py3-venv/Scripts/activate
bash: py3-venv/Scripts/activate: No such file or directory

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ source py3-venv/Scripts/activate
bash: py3-venv/Scripts/activate: No such file or directory

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ py -3 -m venv venv
source py3-venv/Scripts/activate

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ cd rest-api/

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code/rest-api (master)
$ /c/Users/Adminb/Desktop/code
```

Here we are to send API Requests with Postman. Shuffling a new deck with postman and the Deck of cards API and drawing the three cards from the deck of cards API.



History:

- k/exbj8oukx181/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/<<exbj8oukx181>>/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/<<exbj8oukx181>>/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/<<exbj8oukx181>>/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/<<deck_id>>/draw/?count=3
- GET https://deckofcardsapi.com/api/deck/new/shuffle/?deck_count=1
- GET postman-echo.com/get

March 28

- GET https://icanhazdadjoke.com/
- GET https://icanhazdadjoke.com/
- GET https://icanhazdaadjoke.com/

Untitled Request

GET https://deckofcardsapi.com/api/deck/new/shuffle/?deck_count=1

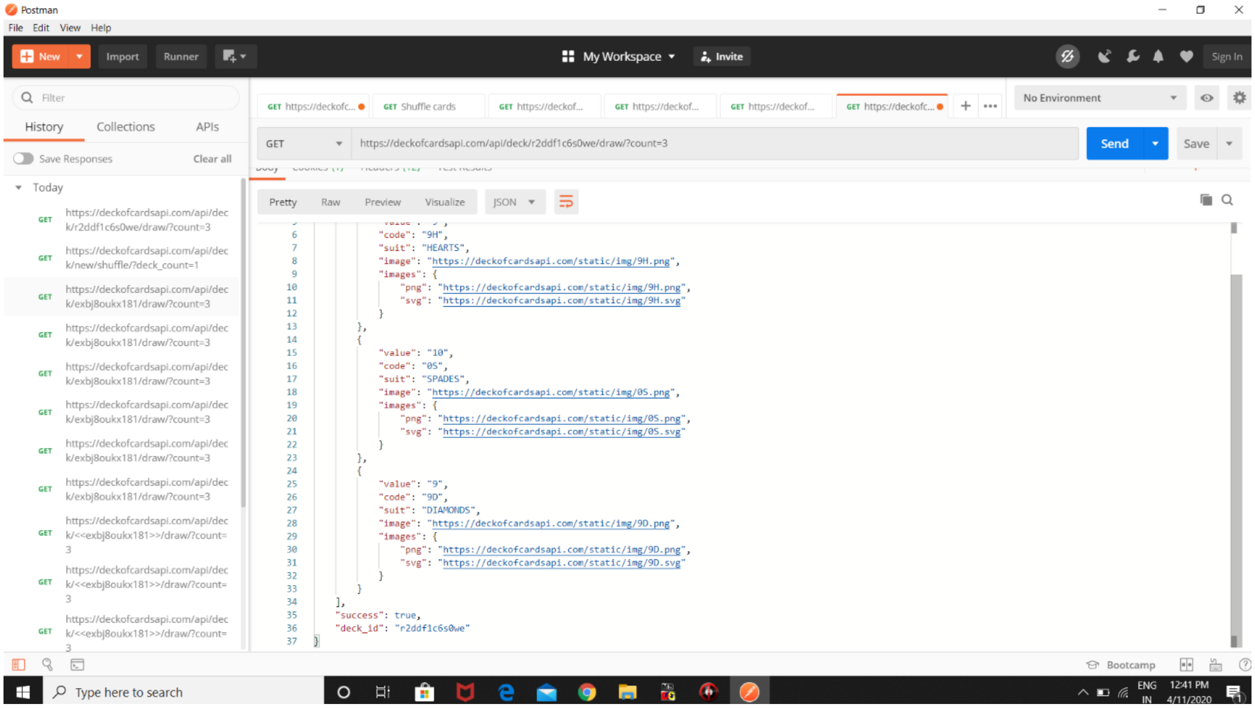
Query Params

	KEY	VALUE	DESCRIPTION
☑	deck_count	1	
	Key	Value	Description

Body Cookies (1) Headers (12) Test Results

Status: 200 OK Time: 745 ms Size: 492 B

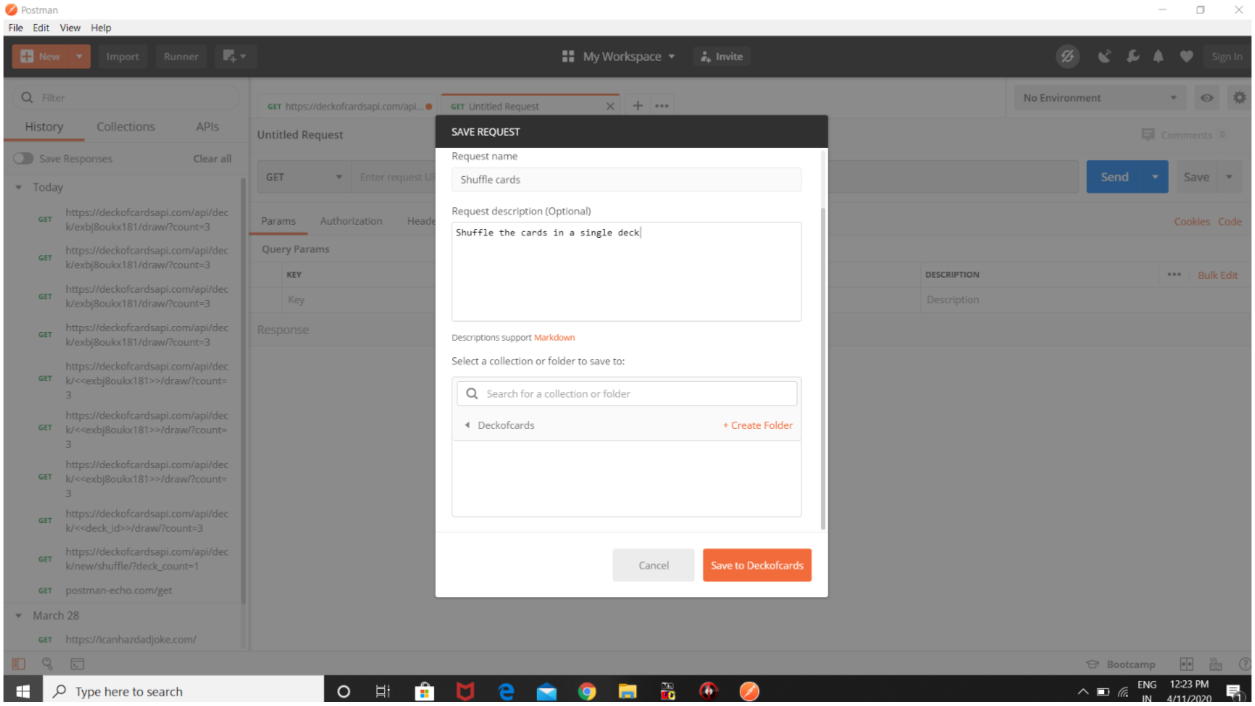
```
{
    "shuffled": true,
    "remaining": 52,
    "success": true,
    "deck_id": "2ddf1c6s0we"
}
```



GET https://deckofcardsapi.com/api/deck/r2ddf1c6s0we/draw/?count=3

```
            "code": "9H",
            "suit": "HEARTS",
            "image": "https://deckofcardsapi.com/static/img/9H.png",
            "images": {
                "png": "https://deckofcardsapi.com/static/img/9H.png",
                "svg": "https://deckofcardsapi.com/static/img/9H.svg"
            }
        },
        {
            "value": "10",
            "code": "0S",
            "suit": "SPADES",
            "image": "https://deckofcardsapi.com/static/img/0S.png",
            "images": {
                "png": "https://deckofcardsapi.com/static/img/0S.png",
                "svg": "https://deckofcardsapi.com/static/img/0S.svg"
            }
        },
        {
            "value": "9",
            "code": "9D",
            "suit": "DIAMONDS",
            "image": "https://deckofcardsapi.com/static/img/9D.png",
            "images": {
                "png": "https://deckofcardsapi.com/static/img/9D.png",
                "svg": "https://deckofcardsapi.com/static/img/9D.svg"
            }
        }
    ],
    "success": true,
    "deck_id": "r2ddf1c6s0we"
}
```

When working with tonnes of APIs then we should better organize our requests. Therefore, Making collection for Deck of cards API requests and saving them.



SAVE REQUEST

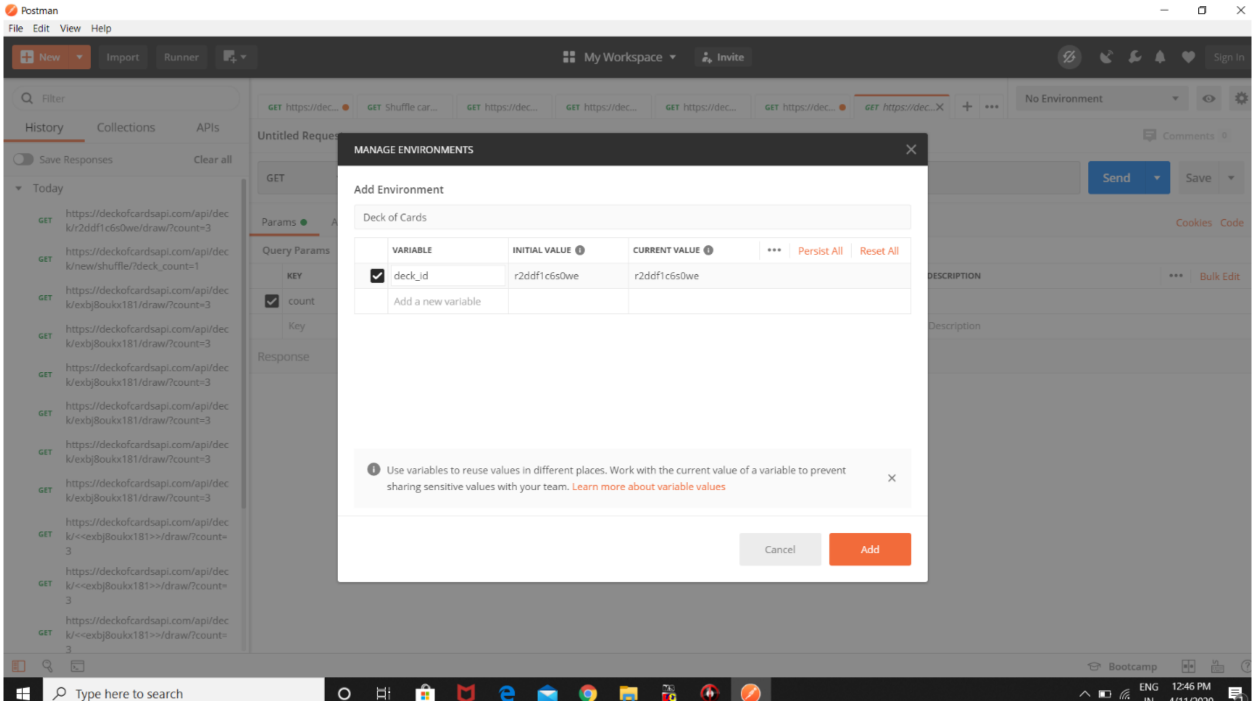
Request name: Shuffle cards

Request description (Optional): Shuffle the cards in a single deck

Descriptions support Markdown

Select a collection or folder to save to: Deckofcards

Creating a Postman environment by giving variables which makes it easy to substitute references and reuse calls.



GET https://deckofcardsapi.com/api/deck/r2ddf1c6s0we/draw/?count=3
GET https://deckofcardsapi.com/api/deck/new/shuffle/?deck_count=1
GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
GET https://deckofcardsapi.com/api/deck/exbj8oukx181/draw/?count=3
GET https://deckofcardsapi.com/api/deck/<<exbj8oukx181>>/draw/?count=3
GET https://deckofcardsapi.com/api/deck/<<exbj8oukx181>>/draw/?count=3
GET https://deckofcardsapi.com/api/deck/<<exbj8oukx181>>/draw/?count=3

MANAGE ENVIRONMENTS

Add Environment

Deck of Cards

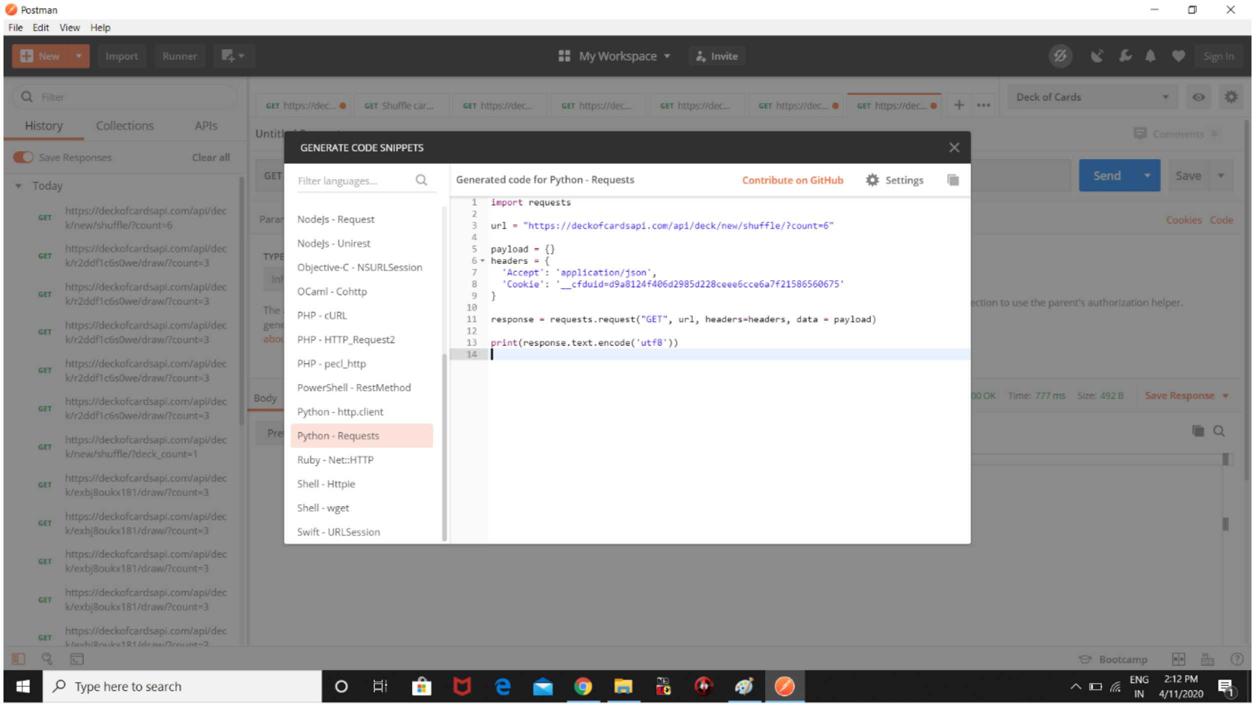
	VARIABLE	INITIAL VALUE	CURRENT VALUE	••• Persist All Reset All
☑	deck_id	r2ddf1c6s0we	r2ddf1c6s0we	
	Add a new variable			

Use variables to reuse values in different places. Work with the current value of a variable to prevent sharing sensitive values with your team. Learn more about variable values

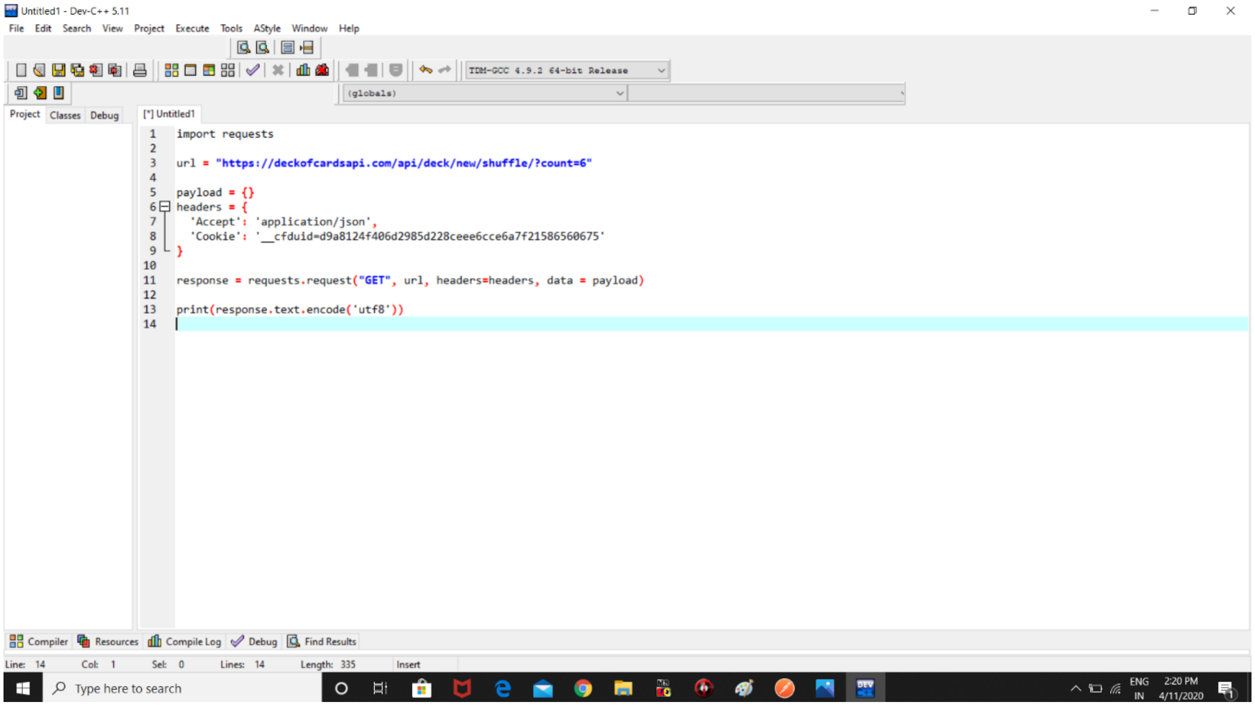
Cancel Add

Further using theses variable in a request. Since we made one requests therefore response will be same as that of drawing the three cards.

Now generating python codes with postman and running them into text editors.



```
import requests

url = "https://deckofcardsapi.com/api/deck/new/shuffle/?count=6"

payload = {}
headers = {
  'Accept': 'application/json',
  'Cookie': '__cfduid=d9a8124f406d2985d228ceee6cce6a7f21586560675'
}

response = requests.request("GET", url, headers=headers, data = payload)

print(response.text.encode('utf8'))
```



Untitled1 - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
[*] Untitled1
Compiler Resources Compile Log Debug Find Results
Line: 14 Col: 1 Sel: 0 Lines: 14 Length: 335 Insert
Type here to search

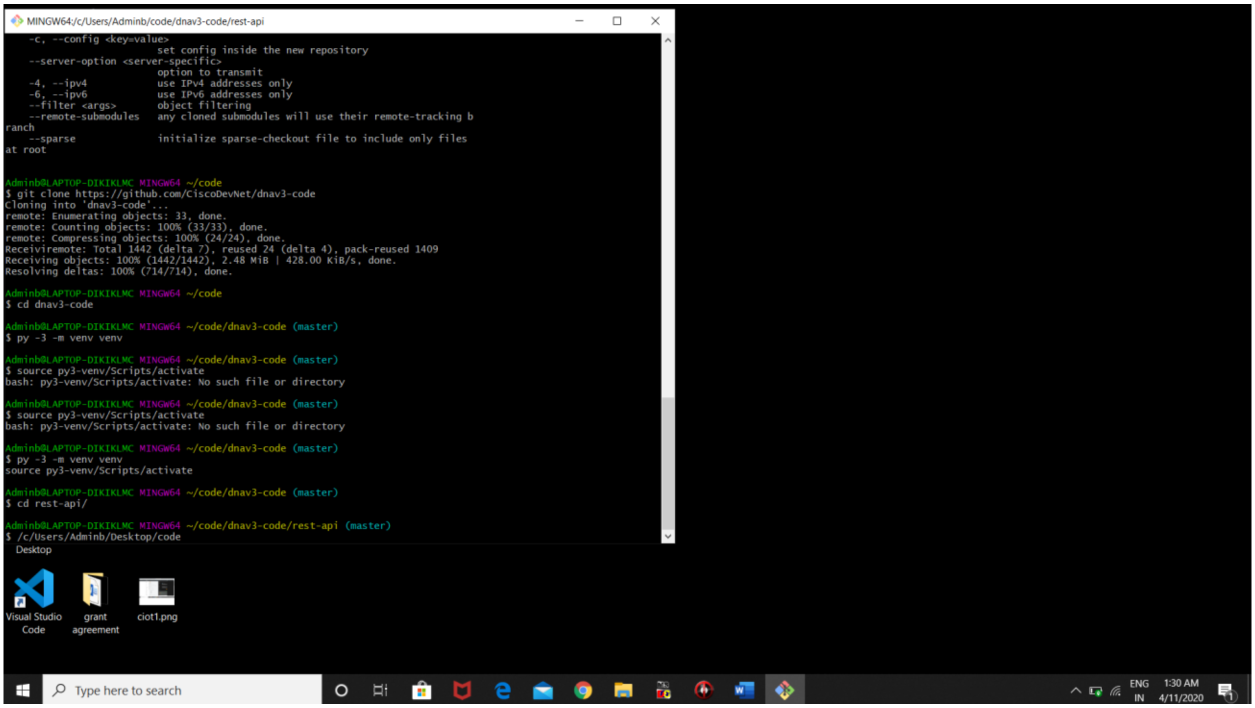
```
import requests

url = "https://deckofcardsapi.com/api/deck/new/shuffle/?count=6"

payload = {}
headers = {
  'Accept': 'application/json',
  'Cookie': '__cfduid=d9a8124f406d2985d228ceee6cce6a7f21586560675'
}

response = requests.request("GET", url, headers=headers, data = payload)

print(response.text.encode('utf8'))
```

In this way, we have done creating and reusing API calls for quick lookups of requests to send. Also, We have generated a tool in API tool kit in postman.

Introduction to Git

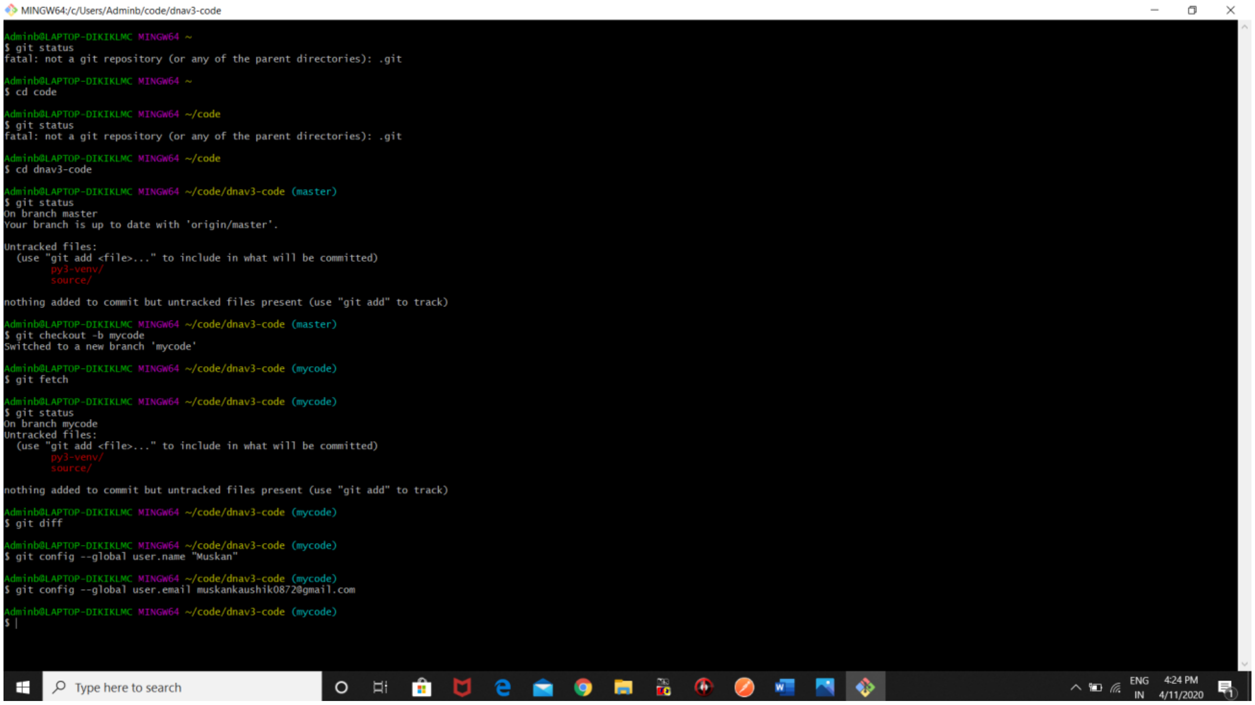
Git has basic workflows with the help of which by using basic git command we can accomplish the things.

Basic commands for cloning the repository, prepare repo for changes, keeping repository up-to-date, making changes, committing your changes and many more…



MINGW64:/c/Users/Adminb/code/dnav3-code/rest-api

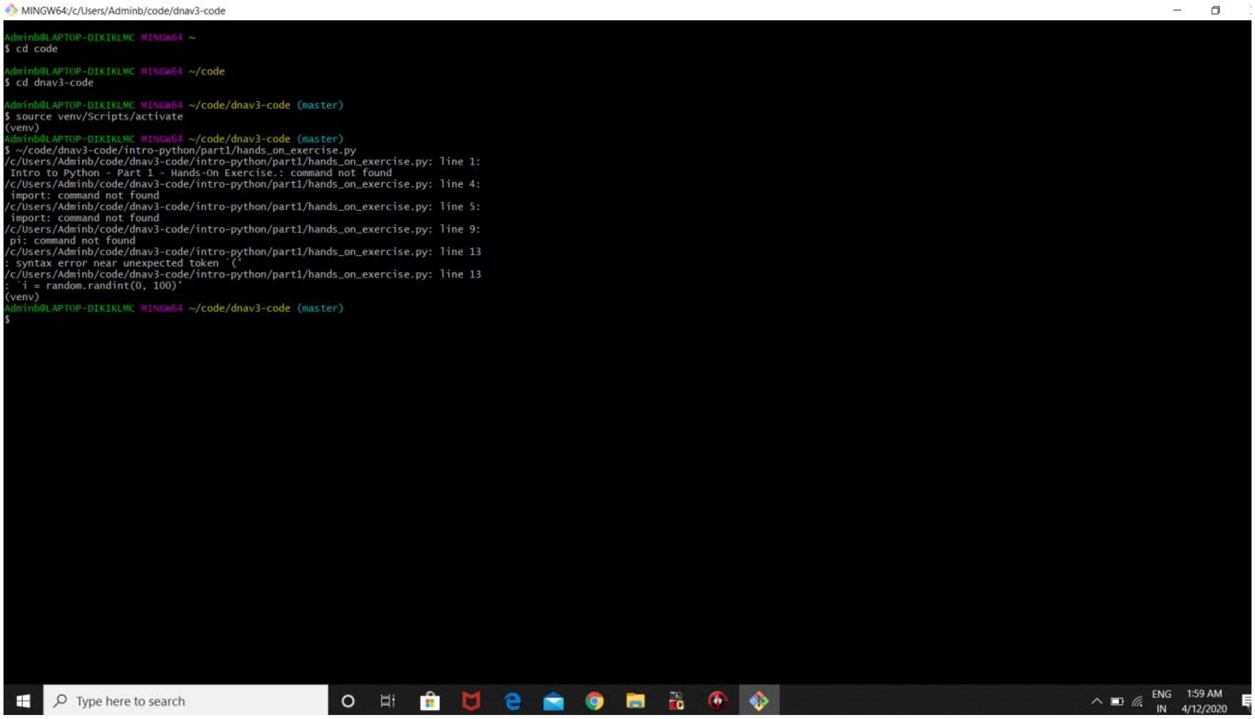
```
    -c, --config <key=value>
                          set config inside the new repository
    --server-option <server-specific>
                          option to transmit
    -4, --ipv4            use IPv4 addresses only
    -6, --ipv6            use IPv6 addresses only
    --filter <args>       object filtering
    --remote-submodules   any cloned submodules will use their remote-tracking b
ranch
    --sparse              initialize sparse-checkout file to include only files
at root


Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ git clone https://github.com/CiscoDevNet/dnav3-code
Cloning into 'dnav3-code'...
remote: Enumerating objects: 33, done.
remote: Counting objects: 100% (33/33), done.
remote: Compressing objects: 100% (24/24), done.
Receiviremote: Total 1442 (delta 7), reused 24 (delta 4), pack-reused 1409
Receiving objects: 100% (1442/1442), 2.48 MiB | 428.00 KiB/s, done.
Resolving deltas: 100% (714/714), done.

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ cd dnav3-code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ py -3 -m venv venv

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ source py3-venv/Scripts/activate
bash: py3-venv/Scripts/activate: No such file or directory

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ source py3-venv/Scripts/activate
bash: py3-venv/Scripts/activate: No such file or directory

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ py -3 -m venv venv
source py3-venv/Scripts/activate

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ cd rest-api/

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code/rest-api (master)
$ /c/Users/Adminb/Desktop/code
```



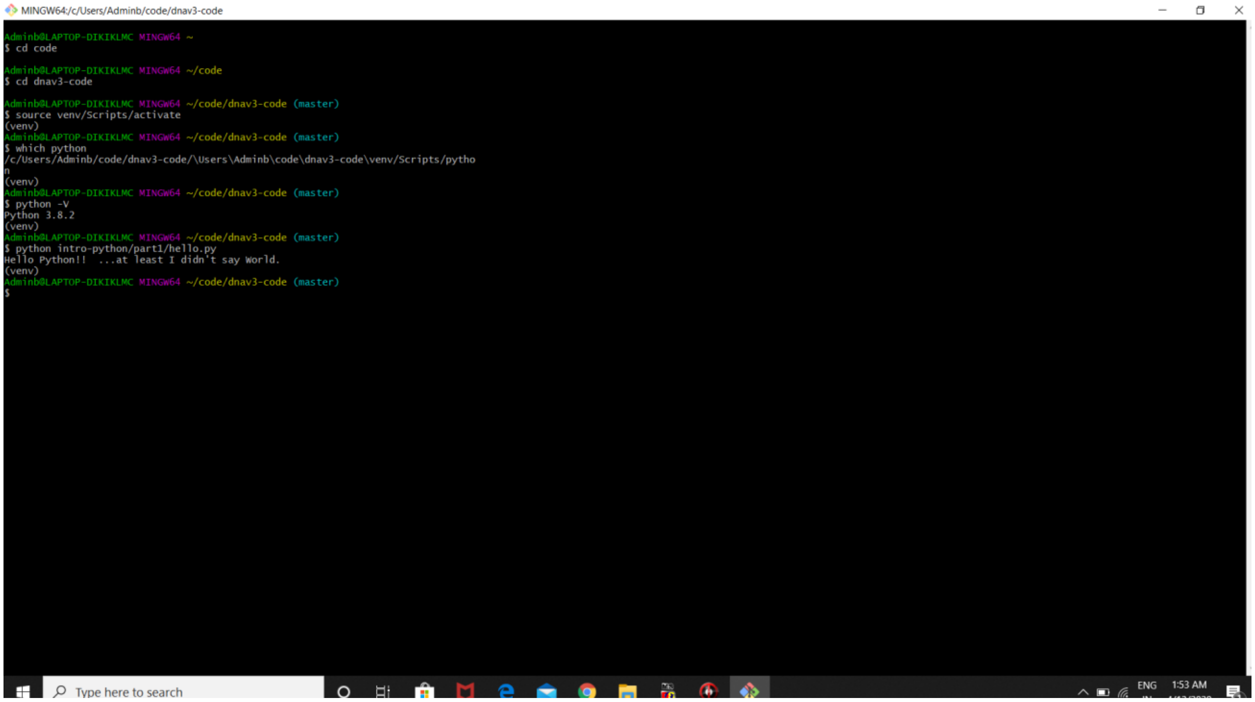
```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ git status
fatal: not a git repository (or any of the parent directories): .git

Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ cd code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ git status
fatal: not a git repository (or any of the parent directories): .git

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ cd dnav3-code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        py3-venv/
        source/

nothing added to commit but untracked files present (use "git add" to track)

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ git checkout -b mycode
Switched to a new branch 'mycode'

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (mycode)
$ git fetch

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (mycode)
$ git status
On branch mycode
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        py3-venv/
        source/

nothing added to commit but untracked files present (use "git add" to track)

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (mycode)
$ git diff

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (mycode)
$ git config --global user.name "Muskan"

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (mycode)
$ git config --global user.email muskankaushik0872@gmail.com

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (mycode)
$ |
```

Introduction to Python

1. Activating the virtual environment
2. Verifying the interpreter
3. Accessing the python interactive shell
4. Running a script
5. Also, we can code programs of python in the interactive shell.
6. Loops, structures, scripts structure, variable concepts and more can be implemented in the interactive shell.



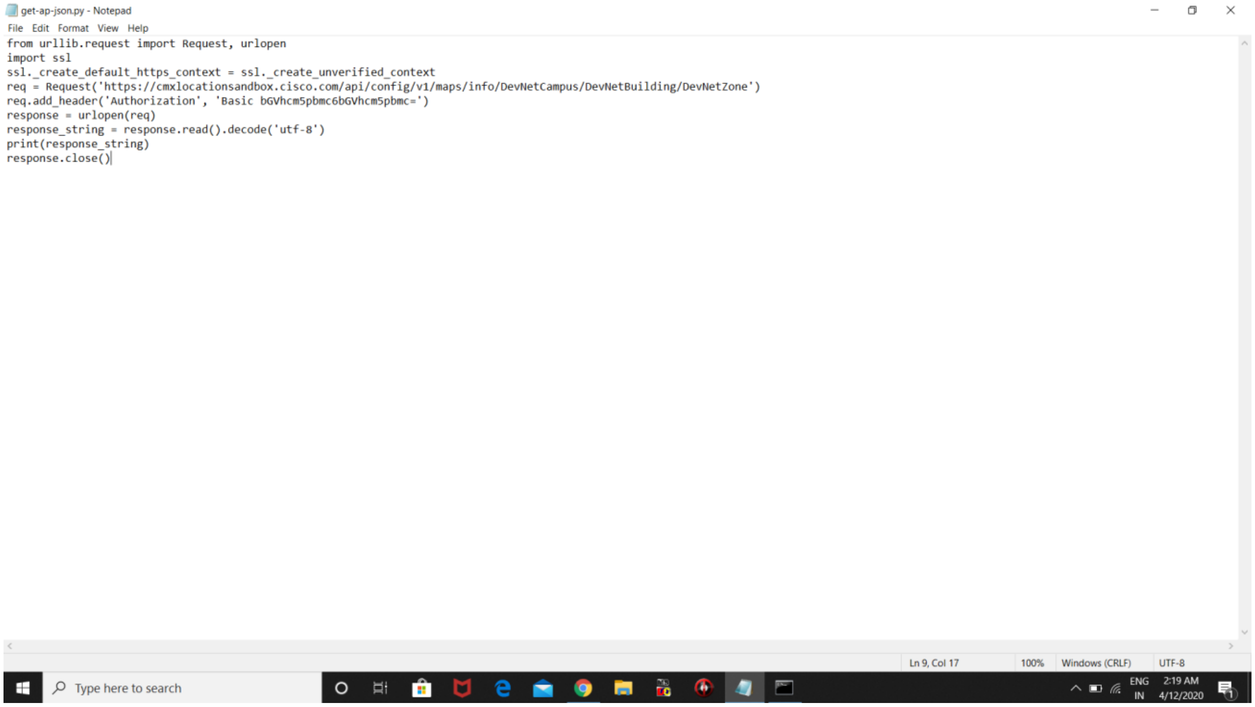
```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ cd code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ cd dnav3-code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ source venv/Scripts/activate
(venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ ~/code/dnav3-code/intro-python/part1/hands_on_exercise.py
/c/Users/Adminb/code/dnav3-code/intro-python/part1/hands_on_exercise.py: line 1:
 Intro to Python - Part 1 - Hands-On Exercise.: command not found
/c/Users/Adminb/code/dnav3-code/intro-python/part1/hands_on_exercise.py: line 4:
 import: command not found
/c/Users/Adminb/code/dnav3-code/intro-python/part1/hands_on_exercise.py: line 5:
 import: command not found
/c/Users/Adminb/code/dnav3-code/intro-python/part1/hands_on_exercise.py: line 9:
 pi: command not found
/c/Users/Adminb/code/dnav3-code/intro-python/part1/hands_on_exercise.py: line 13
: syntax error near unexpected token `('
/c/Users/Adminb/code/dnav3-code/intro-python/part1/hands_on_exercise.py: line 13
: `i = random.randint(0, 100)'
(venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$
```



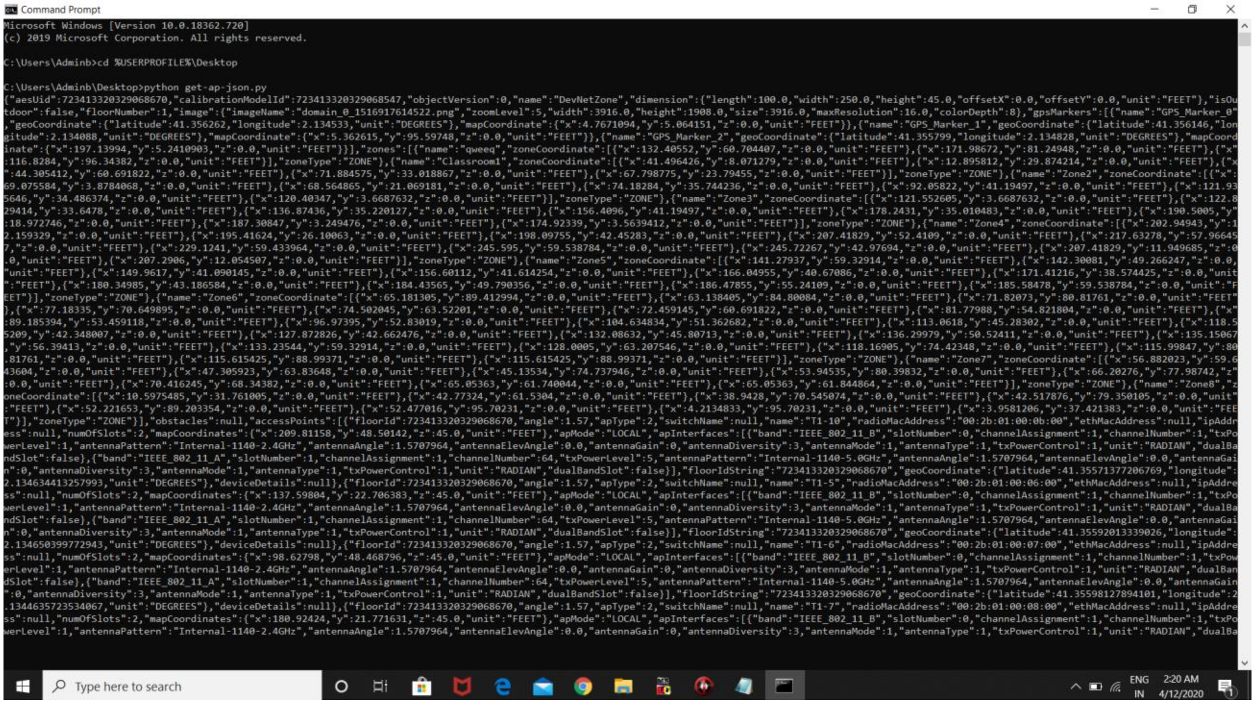
```
Adminb@LAPTOP-DIKIKLMC MINGW64 ~
$ cd code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code
$ cd dnav3-code

Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ source venv/Scripts/activate
(venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ which python
/c/Users/Adminb/code/dnav3-code/\Users\Adminb\code\dnav3-code\venv/Scripts/pytho
n
(venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ python -V
Python 3.8.2
(venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$ python intro-python/part1/hello.py
Hello Python!!  ...at least I didn't say World.
(venv)
Adminb@LAPTOP-DIKIKLMC MINGW64 ~/code/dnav3-code (master)
$
```

Coding 202: Parsing JSON

Trying to make python script that can make an HTTP request to the CMX server.



```python
from urllib.request import Request, urlopen
import ssl
ssl._create_default_https_context = ssl._create_unverified_context
req = Request('https://cmxlocationsandbox.cisco.com/api/config/v1/maps/info/DevNetCampus/DevNetBuilding/DevNetZone')
req.add_header('Authorization', 'Basic bGVhcm5pbmc6bGVhcm5pbmc=')
response = urlopen(req)
response_string = response.read().decode('utf-8')
print(response_string)
response.close()
```



```
Microsoft Windows [Version 10.0.18362.720]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Adminb>cd %USERPROFILE%\Desktop

C:\Users\Adminb\Desktop>python get-ap-json.py
{"aesUid":723413320329068670,"calibrationModelId":723413320329068547,"objectVersion":0,"name":"DevNetZone","dimension":{"length":100.0,"width":250.0,"height":45.0,"offsetX":0.0,"offsetY":0.0,"unit":"FEET"},"isOu
tdoor":false,"floorNumber":1,"image":{"imageName":"domain_0_1516917614522.png","zoomLevel":5,"width":3916.0,"height":1908.0,"size":3916.0,"maxResolution":16.0,"colorDepth":8},"gpsMarkers":[{"name":"GPS_Marker_0"
,"geoCoordinate":{"latitude":41.356262,"longitude":2.134533,"unit":"DEGREES"},"mapCoordinate":{"x":4.7671094,"y":5.064151,"z":0.0,"unit":"FEET"}},{"name":"GPS_Marker_1","geoCoordinate":{"latitude":41.356146,"lon
gitude":2.134088,"unit":"DEGREES"},"mapCoordinate":{"x":5.362615,"y":95.59748,"z":0.0,"unit":"FEET"}},{"name":"GPS_Marker_2","geoCoordinate":{"latitude":41.355799,"longitude":2.134828,"unit":"DEGREES"},"mapCoord
inate":{"x":197.13994,"y":5.2410903,"z":0.0,"unit":"FEET"}}],"zones":[{"name":"qweeq","zoneCoordinate":[{"x":132.40552,"y":60.704407,"z":0.0,"unit":"FEET"},{"x":171.98672,"y":81.24948,"z":0.0,"unit":"FEET"},{"x"
:116.8284,"y":96.34382,"z":0.0,"unit":"FEET"}],"zoneType":"ZONE"},{"name":"Classroom1","zoneCoordinate":[{"x":41.496426,"y":8.071279,"z":0.0,"unit":"FEET"},{"x":12.895812,"y":29.874214,"z":0.0,"unit":"FEET"},{"x
":44.305412,"y":60.691822,"z":0.0,"unit":"FEET"},{"x":71.884575,"y":33.018867,"z":0.0,"unit":"FEET"},{"x":67.798775,"y":23.79455,"z":0.0,"unit":"FEET"}],"zoneType":"ZONE"},{"name":"Zone2","zoneCoordinate":[{"x":
69.075584,"y":3.8784068,"z":0.0,"unit":"FEET"},{"x":68.564865,"y":21.069181,"z":0.0,"unit":"FEET"},{"x":74.18284,"y":35.744236,"z":0.0,"unit":"FEET"},{"x":92.05822,"y":41.19497,"z":0.0,"unit":"FEET"},{"x":121.93
5646,"y":34.486374,"z":0.0,"unit":"FEET"},{"x":120.40347,"y":3.6687632,"z":0.0,"unit":"FEET"}],"zoneType":"ZONE"},{"name":"Zone3","zoneCoordinate":[{"x":121.552605,"y":3.6687632,"z":0.0,"unit":"FEET"},{"x":122.8
29414,"y":33.6478,"z":0.0,"unit":"FEET"},{"x":136.87436,"y":35.220127,"z":0.0,"unit":"FEET"},{"x":156.4096,"y":41.19497,"z":0.0,"unit":"FEET"},{"x":178.2431,"y":35.010483,"z":0.0,"unit":"FEET"},{"x":190.5005,"y"
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MUSKAN KAUSHIK