

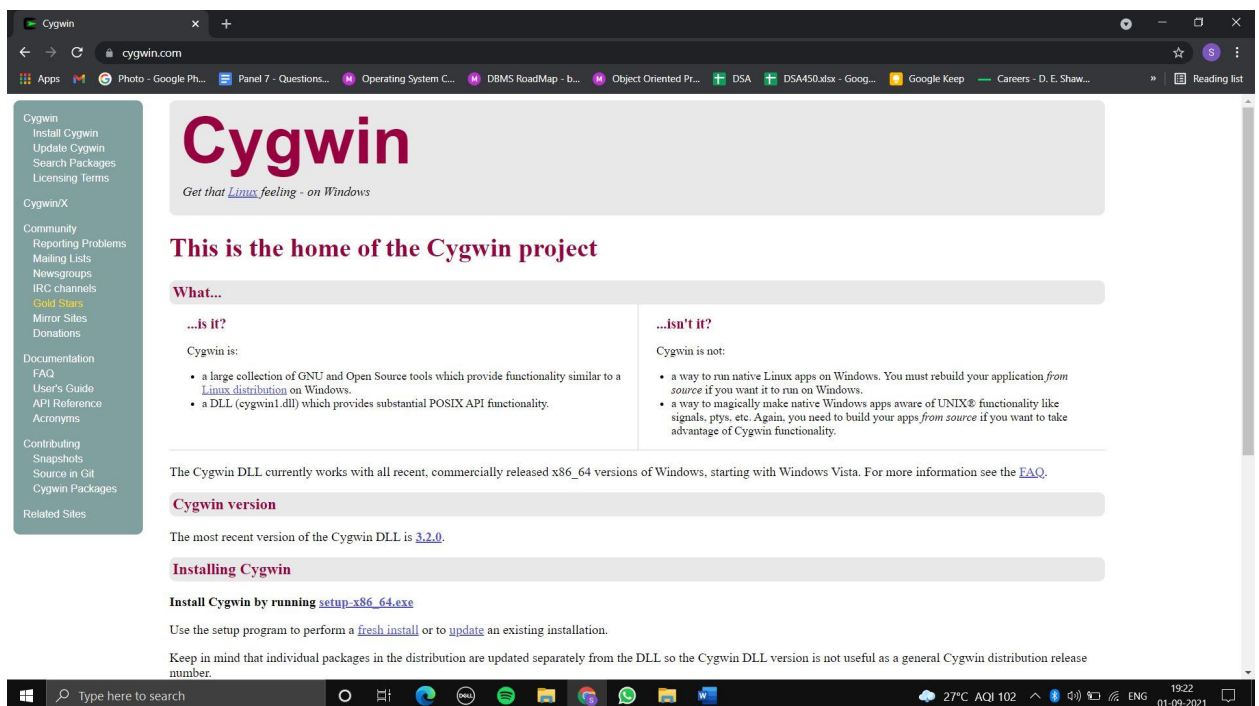
Practical No. 1

Exam Seat No: 2018BTECS00086 - Shruti Rajendra Mohite

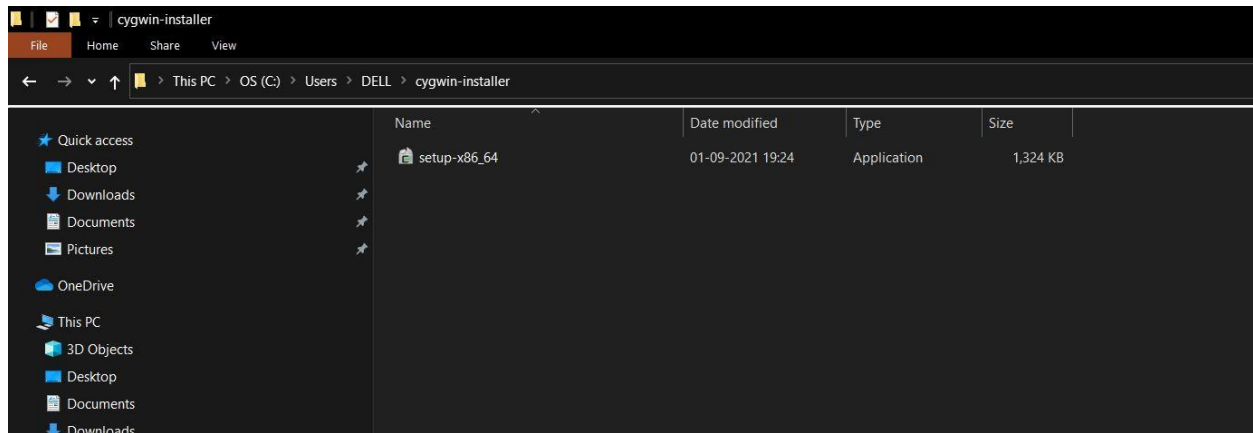
Problem Statement 1: Installation of Cygwin

Screenshots and Information:

1. Download cygwin from <https://cygwin.com/install.html>



2. Open 'File Explorer' and create a folder in your home directory (c:\Users\

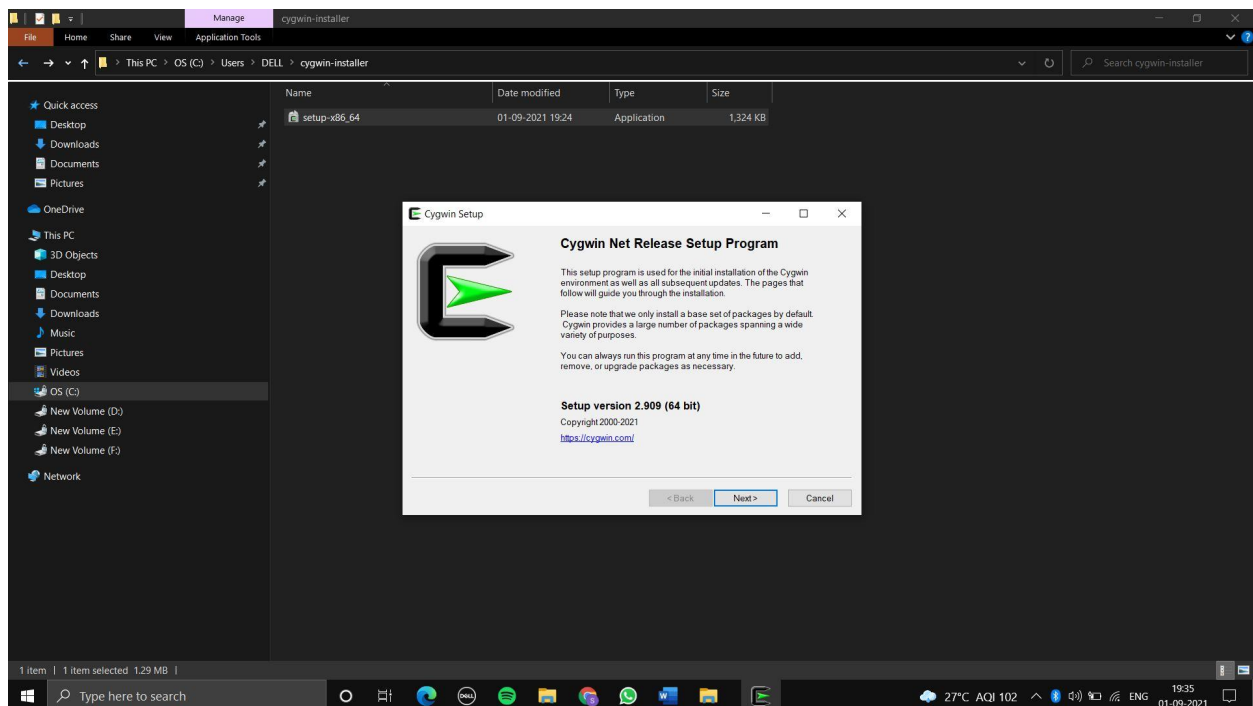


3. Run the installer executable:

- Using 'File Explorer', double click setup-x86 or setup-x86_64 as the case may be. For each section of the installer, do the following:

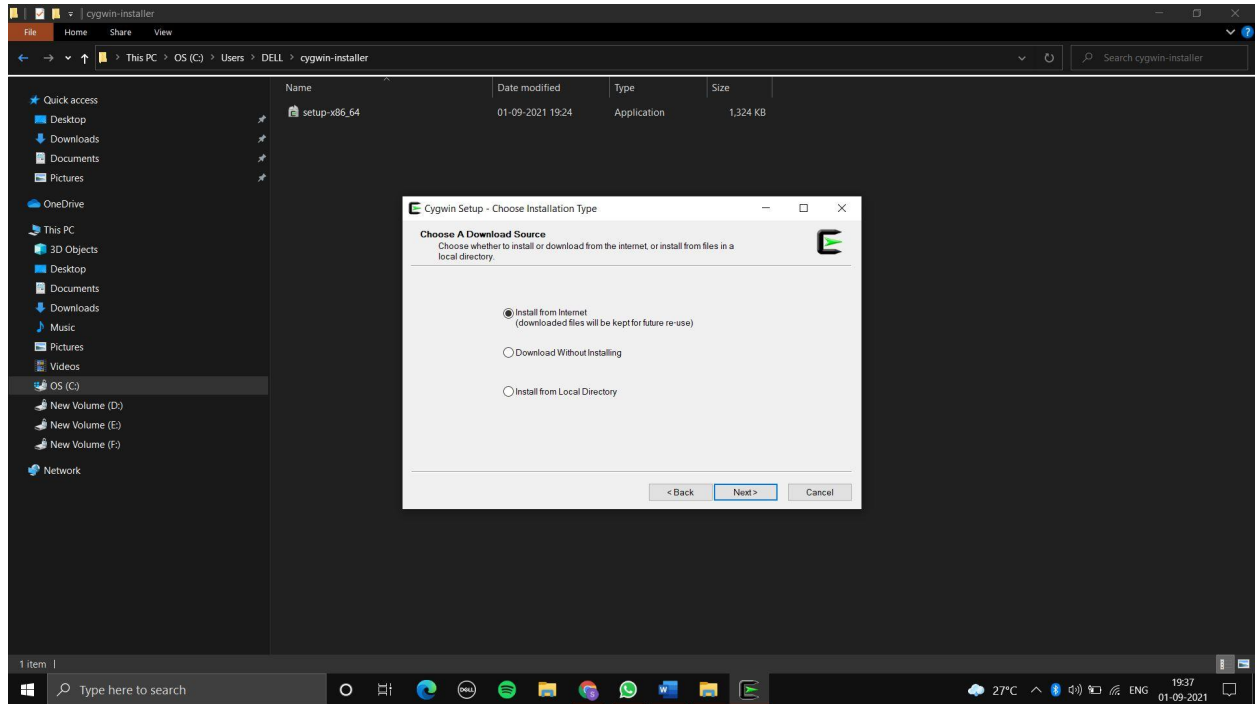
Cygwin Net Release Setup Program

➤ click 'Next'



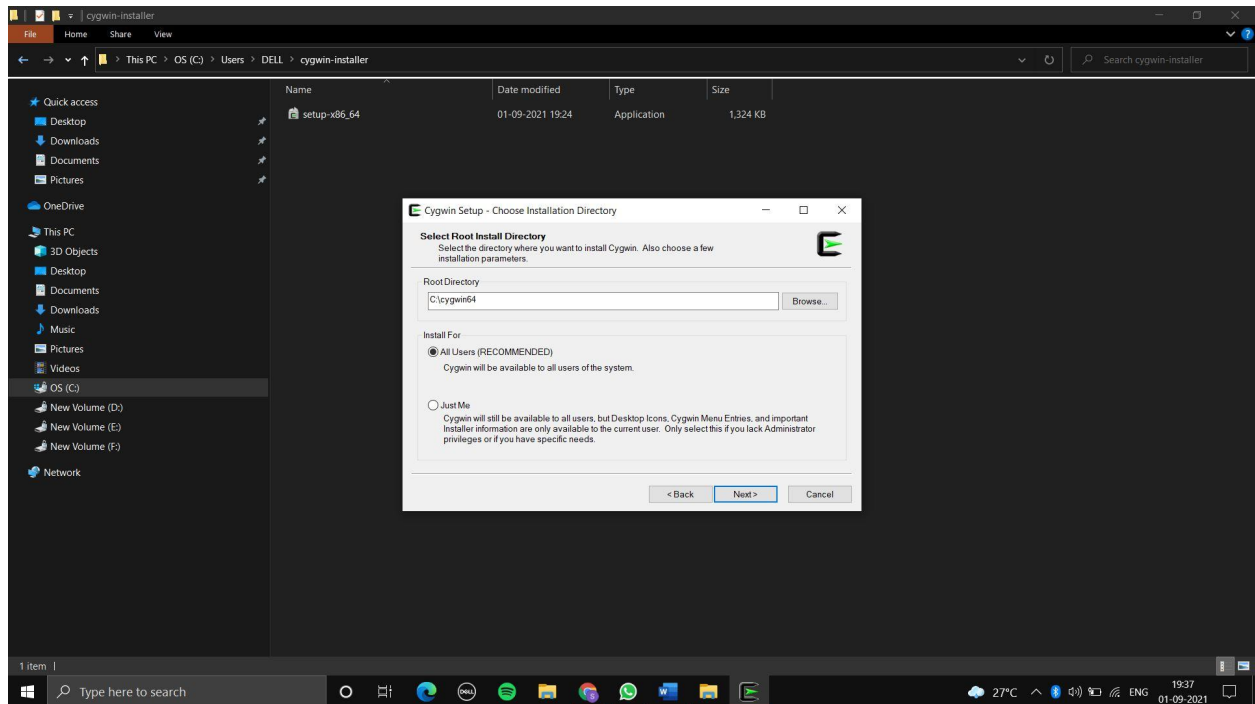
Choose A Download Source

➤ Select 'Install from Internet', click 'Next'



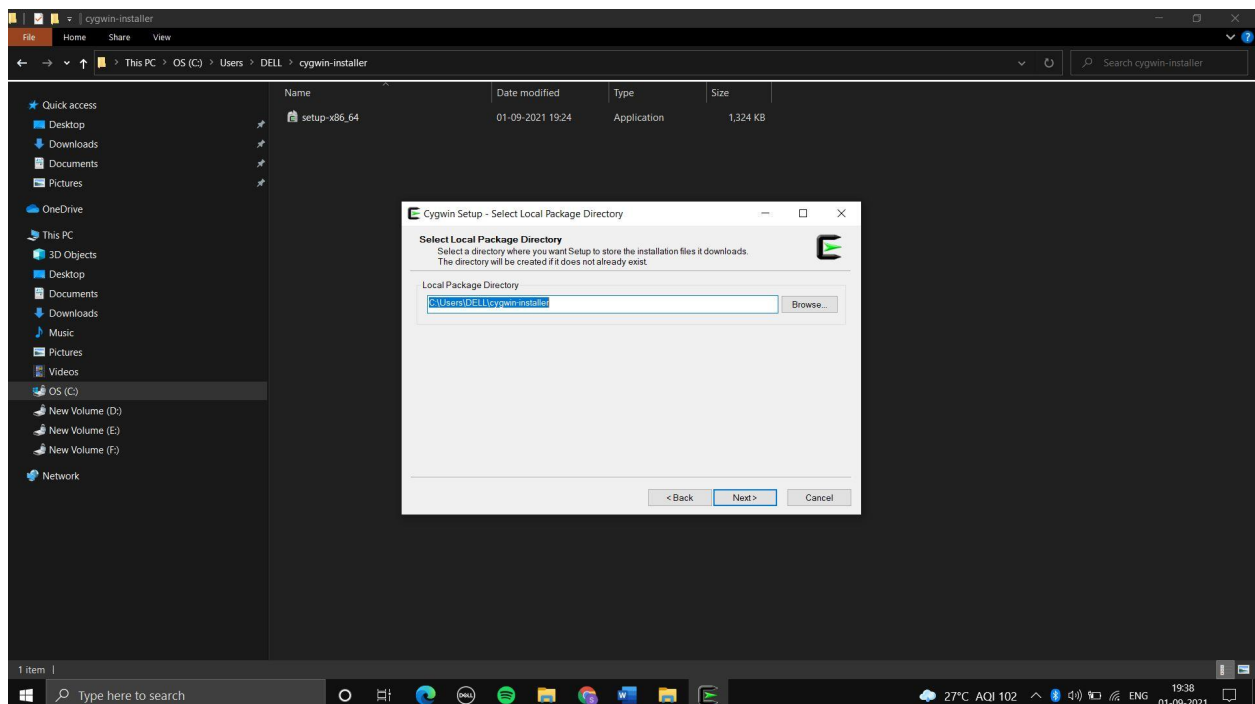
Select Root Install Directory

- Choose the 'Root Directory' you want to install cygwin to, for example: c:\cygwin
- 'Install for', leave 'All Users' selected (unless you specifically want to do otherwise)
- Click 'Next'



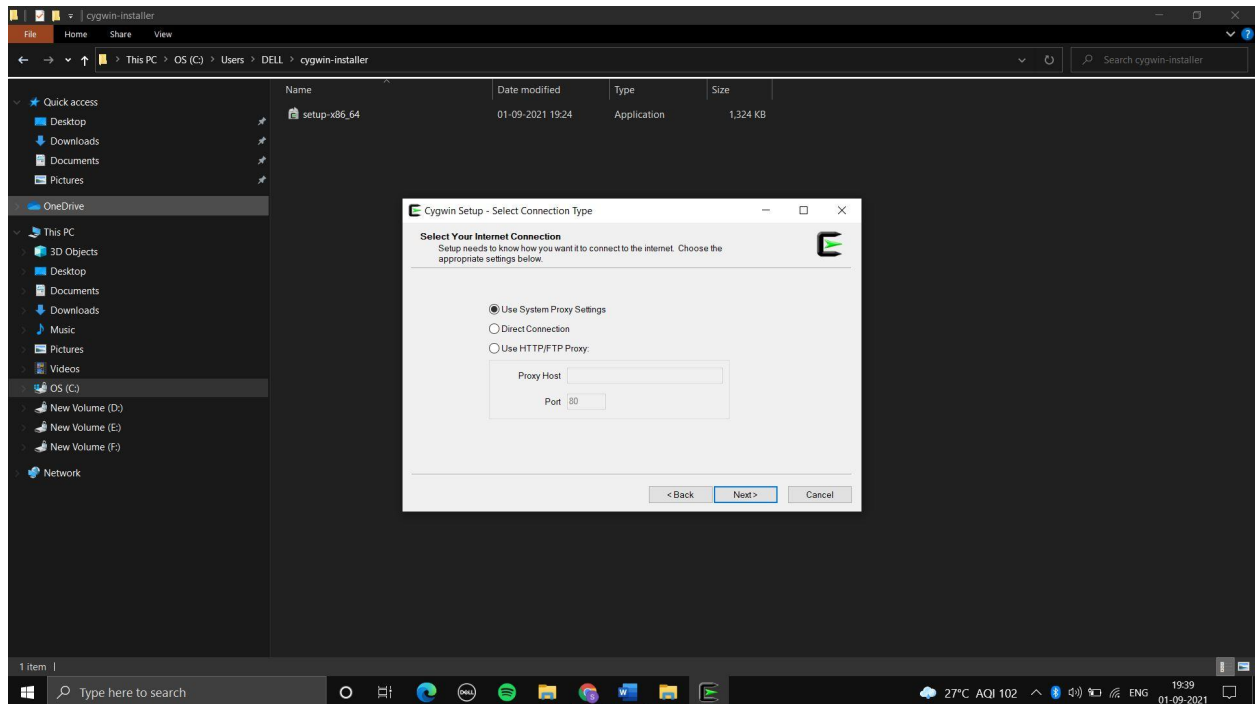
Select Local Package Directory

- The 'cygwin-installer' folder should be selected
- Click 'Next'



Select Your Internet Connection

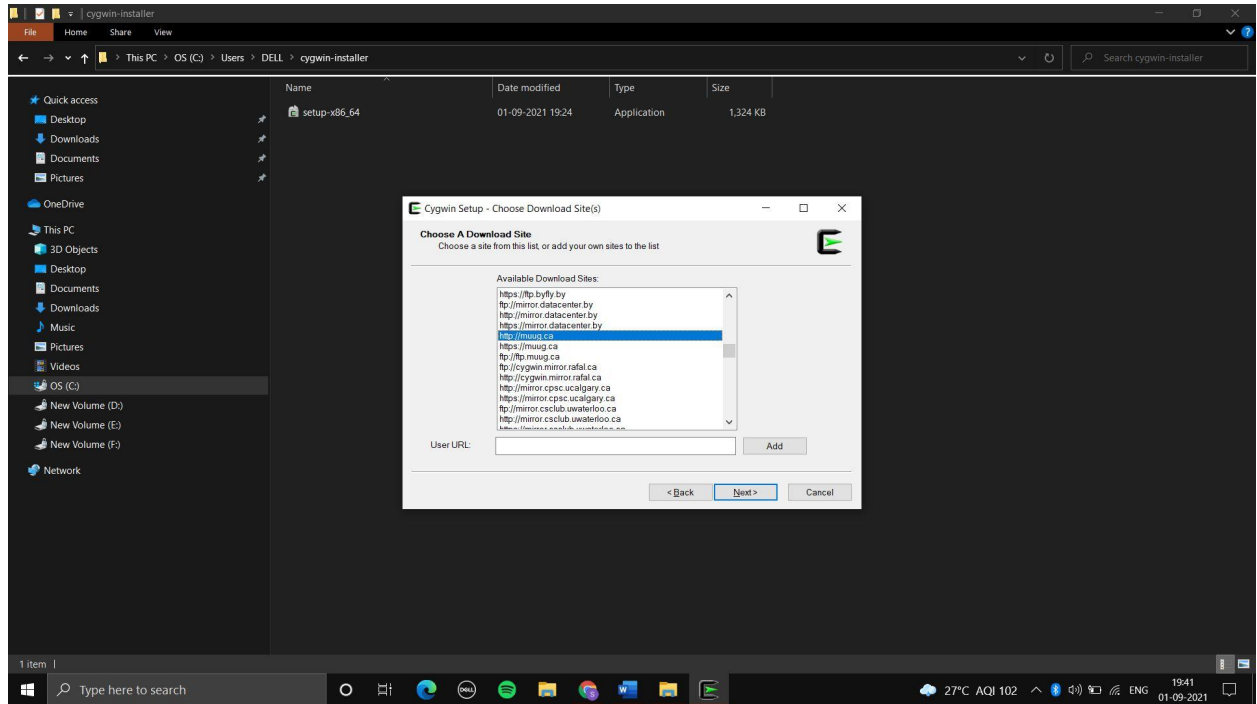
- If you're unsure, 'Use System Proxy Settings' is likely the correct choice here
- Click 'Next'



Choose A Download Site

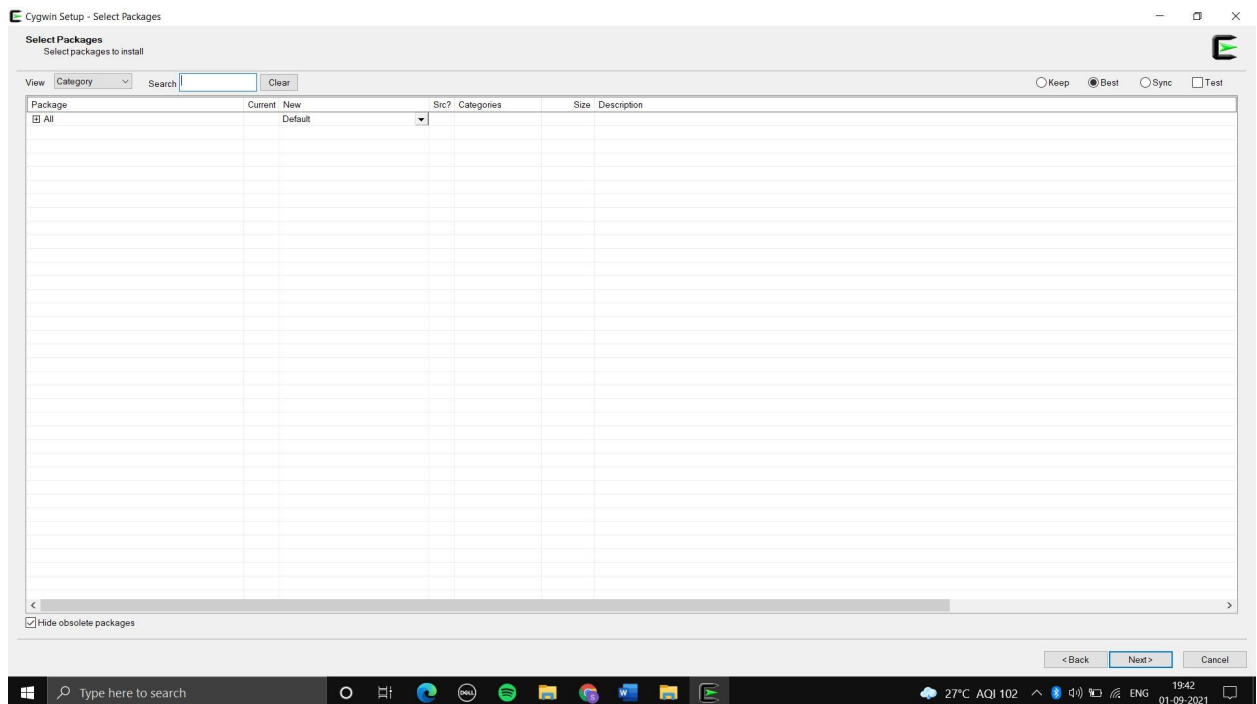
- This is the location from which you'll download the Cygwin packages. Ideally, select a mirror that is geographically close to you. If unsure, choose any mirror.
- If no mirrors show, checkout this troubleshooting video:
<https://youtu.be/2rhHzNYh0o8>
- Click 'Next'

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Select Packages

➤ Click 'Next'

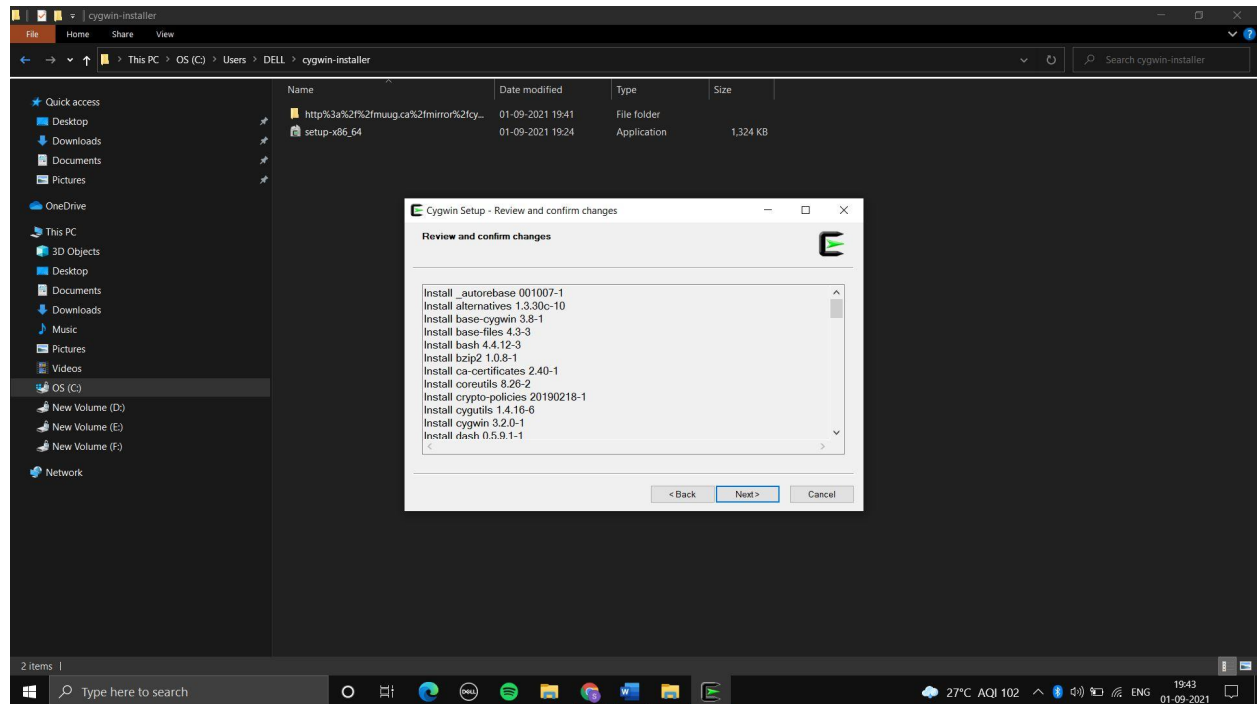


Review and confirm changes

➤ Click 'Next'

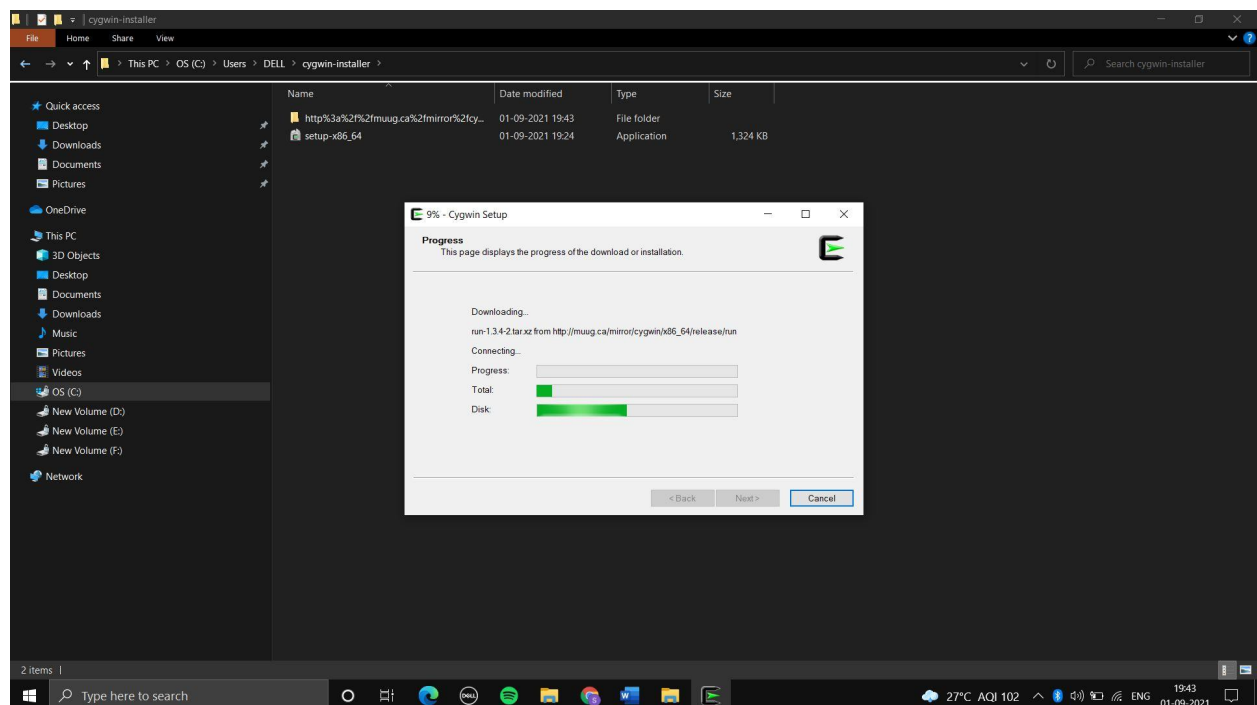
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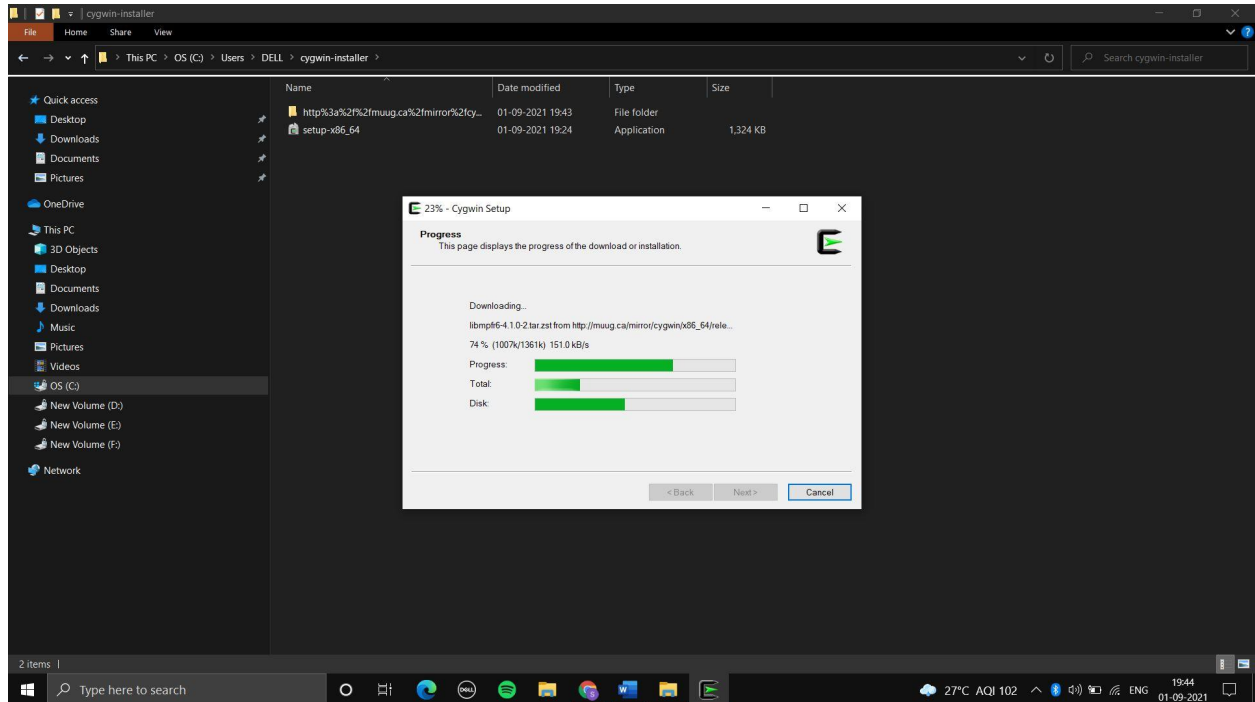
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Progress

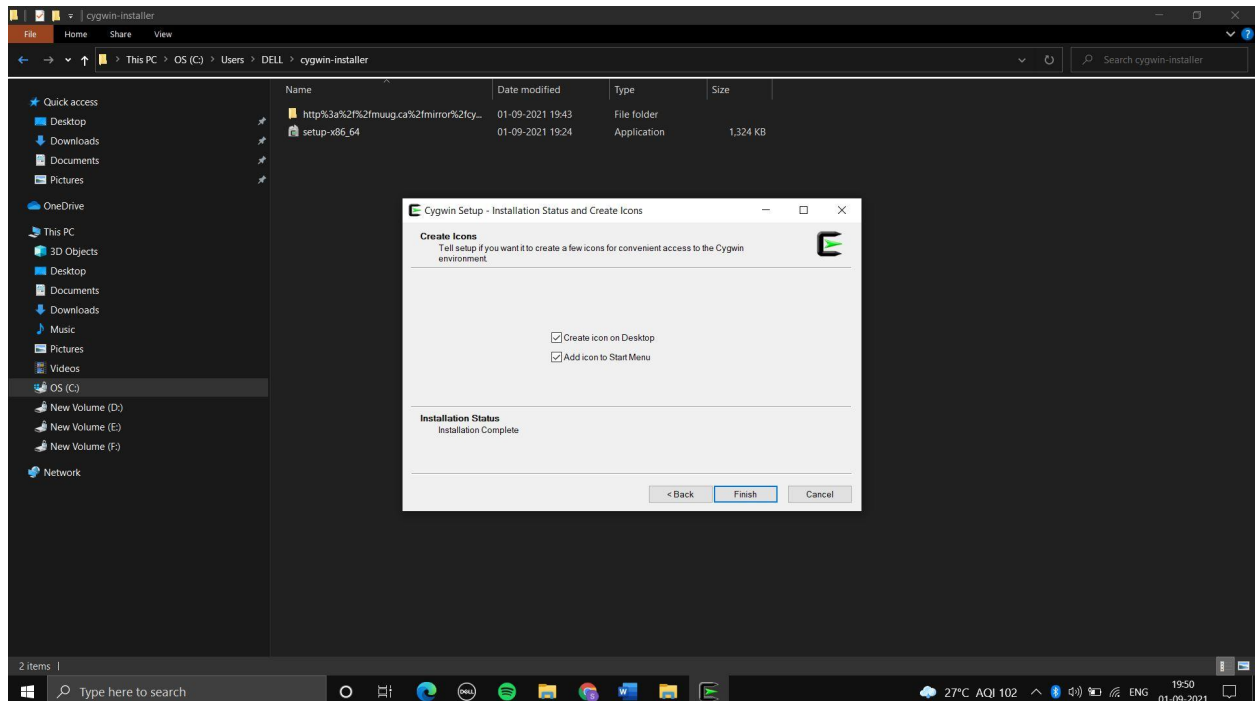
➤ Wait for install to complete





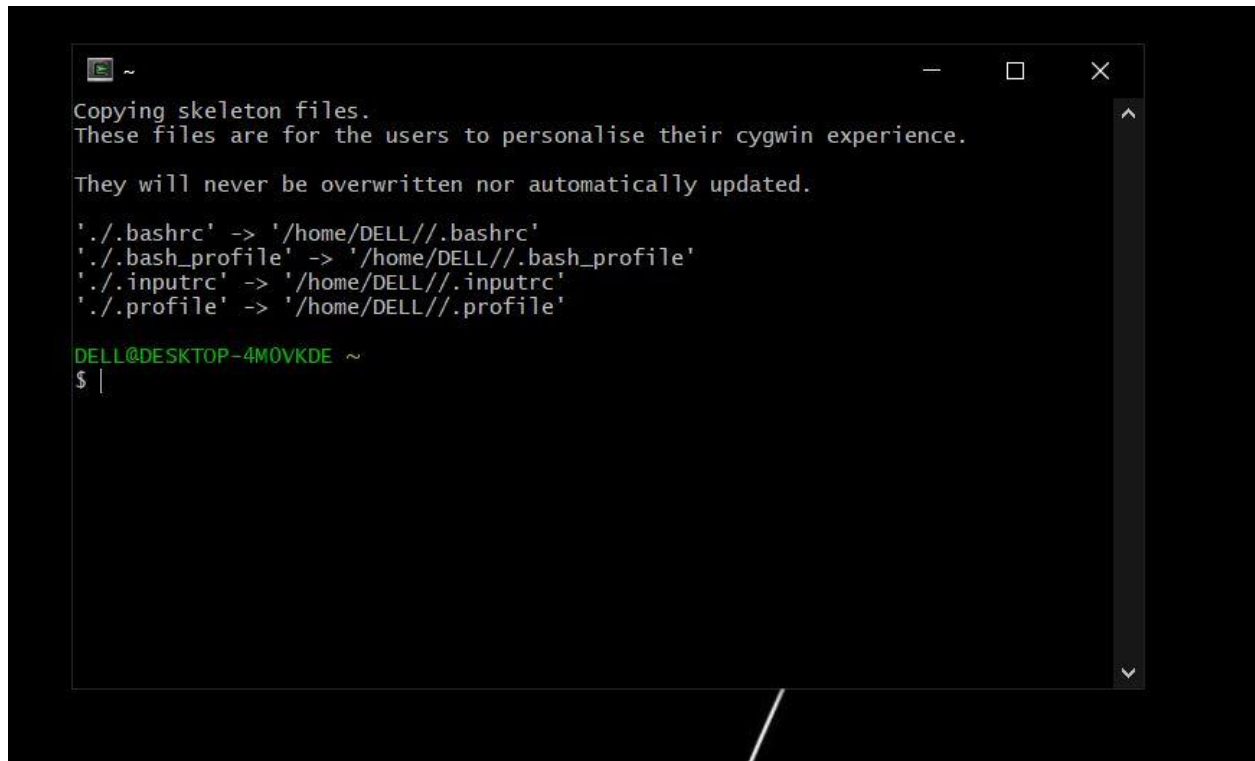
Create Icons

- Choose 'Create icon on Desktop'
- Click 'Finish'



4. Confirm that Cygwin is installed

- Double click 'Cygwin Terminal' on your desktop and confirm that the terminal launches.



```
~  
Copying skeleton files.  
These files are for the users to personalise their cygwin experience.  
  
They will never be overwritten nor automatically updated.  
  
'./bashrc' -> '/home/DELL//.bashrc'  
'./bash_profile' -> '/home/DELL//.bash_profile'  
'./inputrc' -> '/home/DELL//.inputrc'  
'./profile' -> '/home/DELL//.profile'  
  
DELL@DESKTOP-4M0VKDE ~  
$ |
```

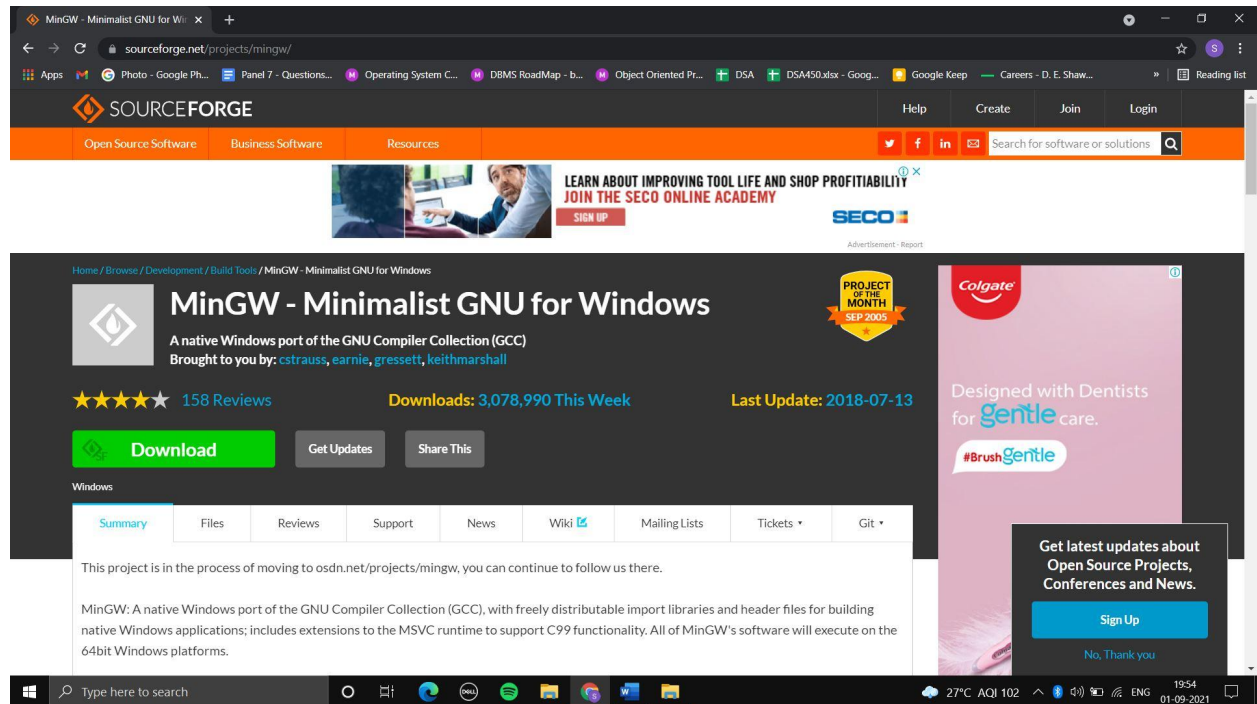
Problem Statement 2: Installation of MinGW

Screenshots and Information:

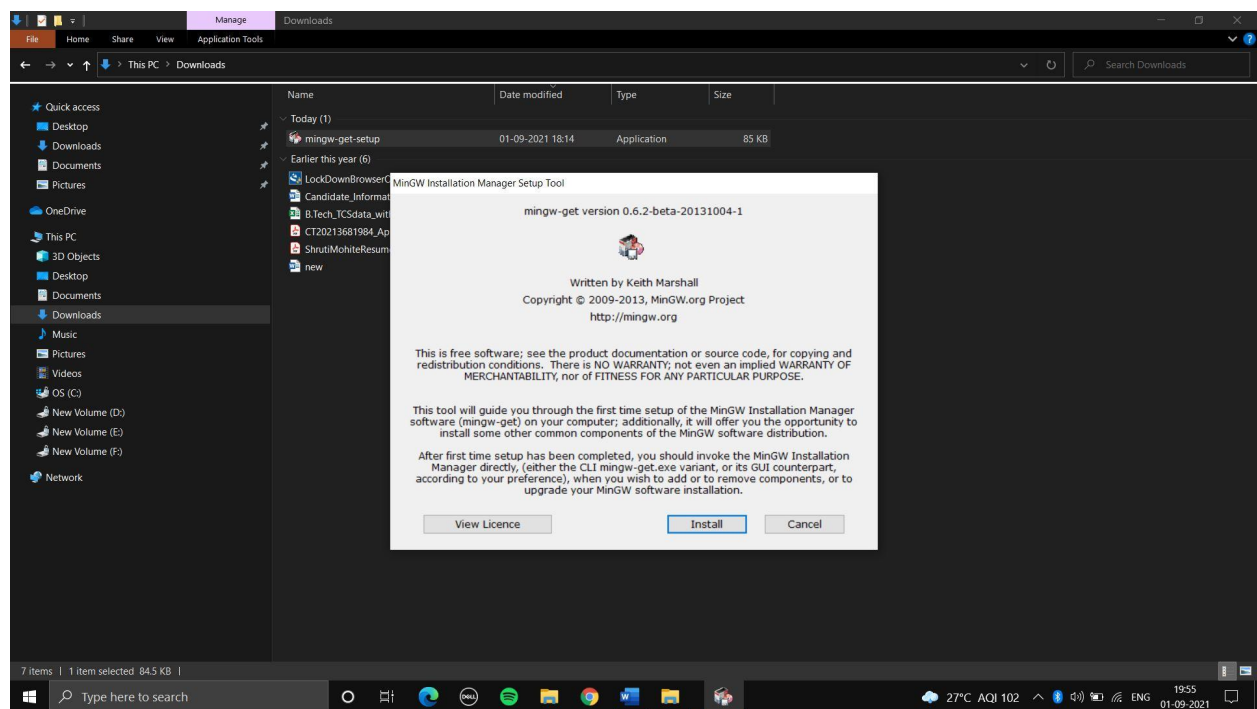
1. Download MinGW - Minimalist GNU for Windows from
<https://sourceforge.net/projects/mingw/>

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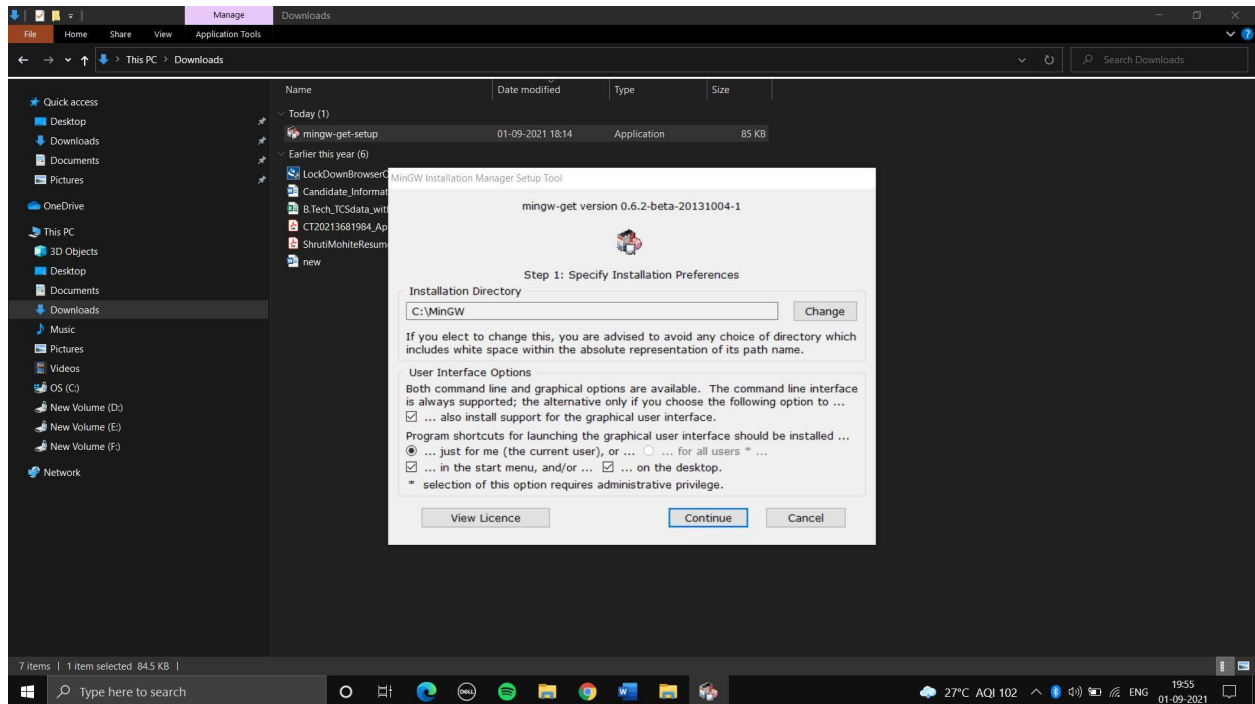
2. Install MinGW



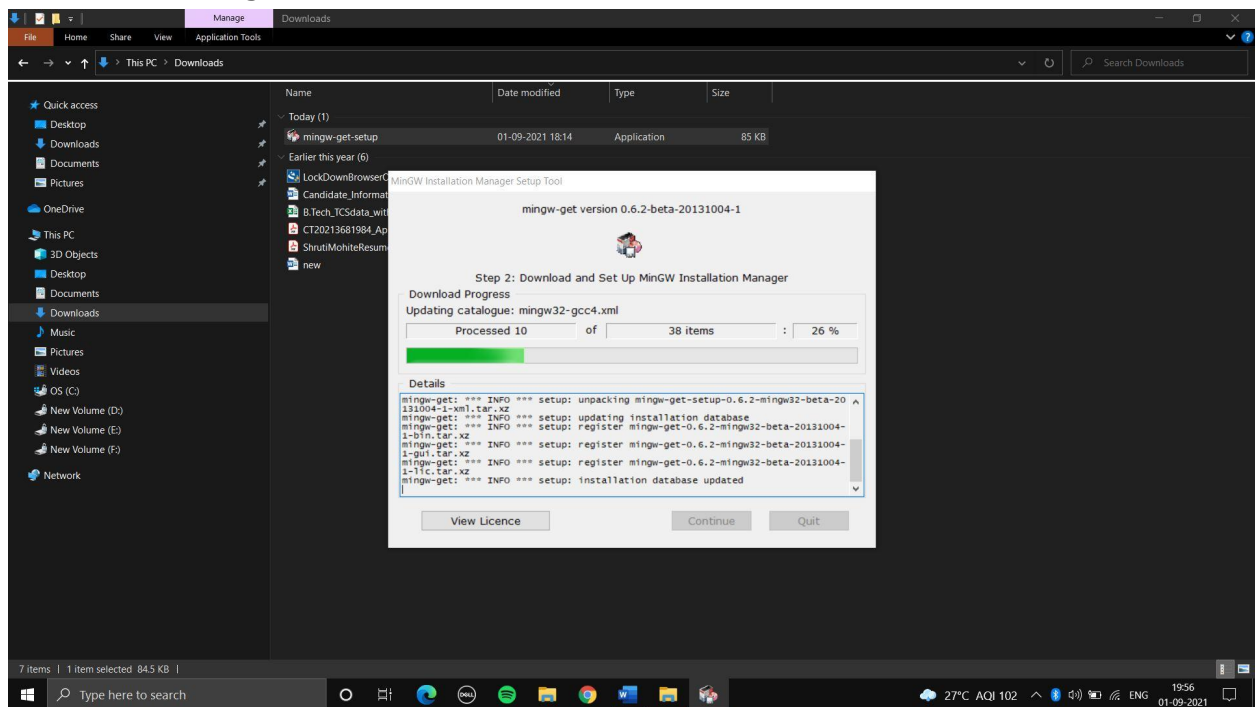
➤ Specify installation preferences

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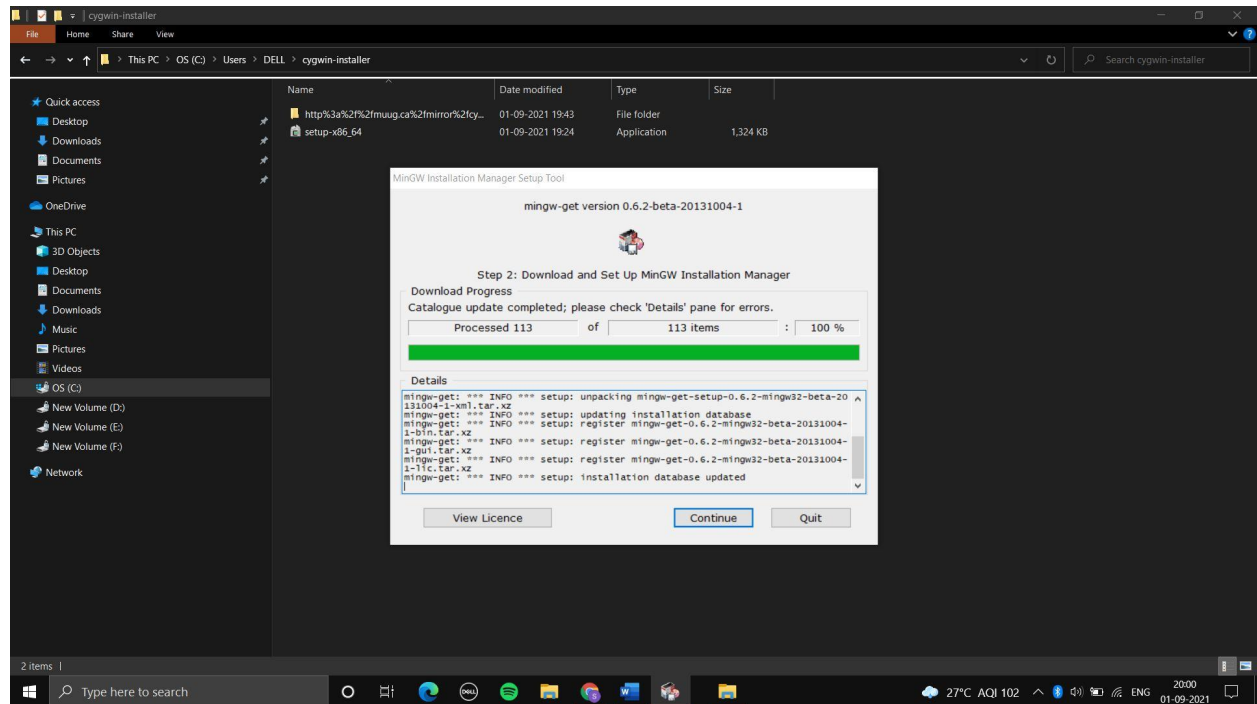


➤ Progress

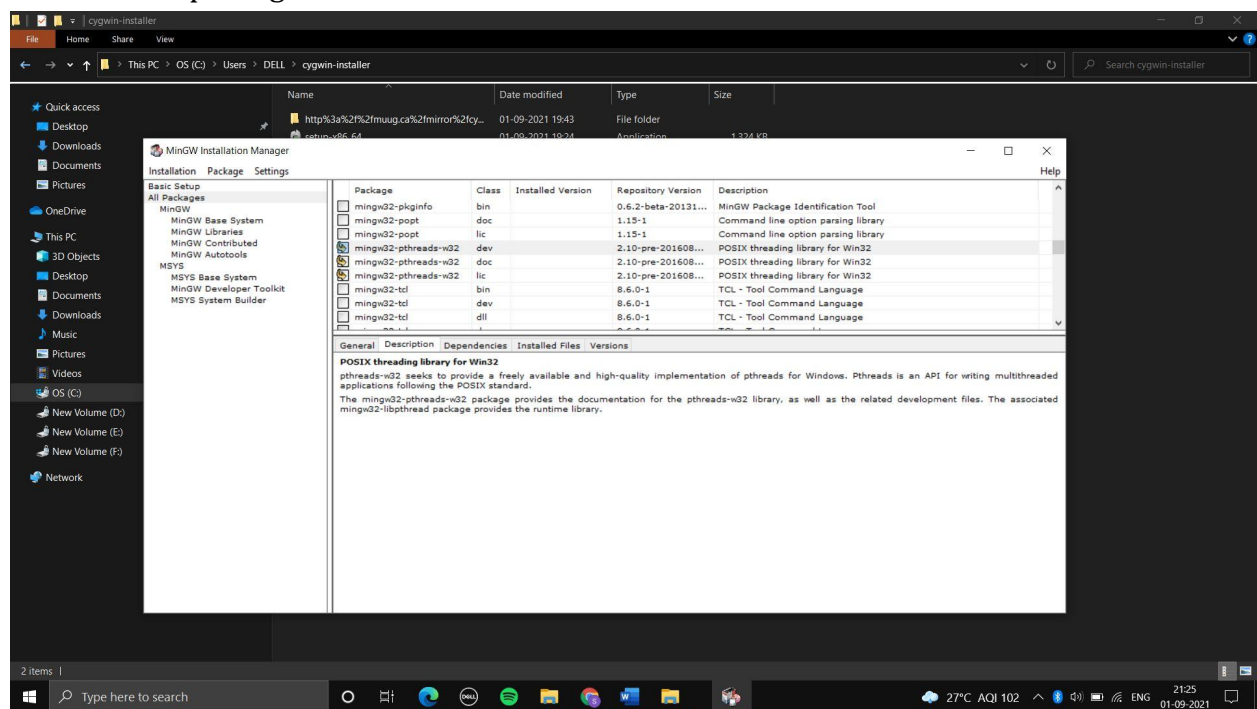


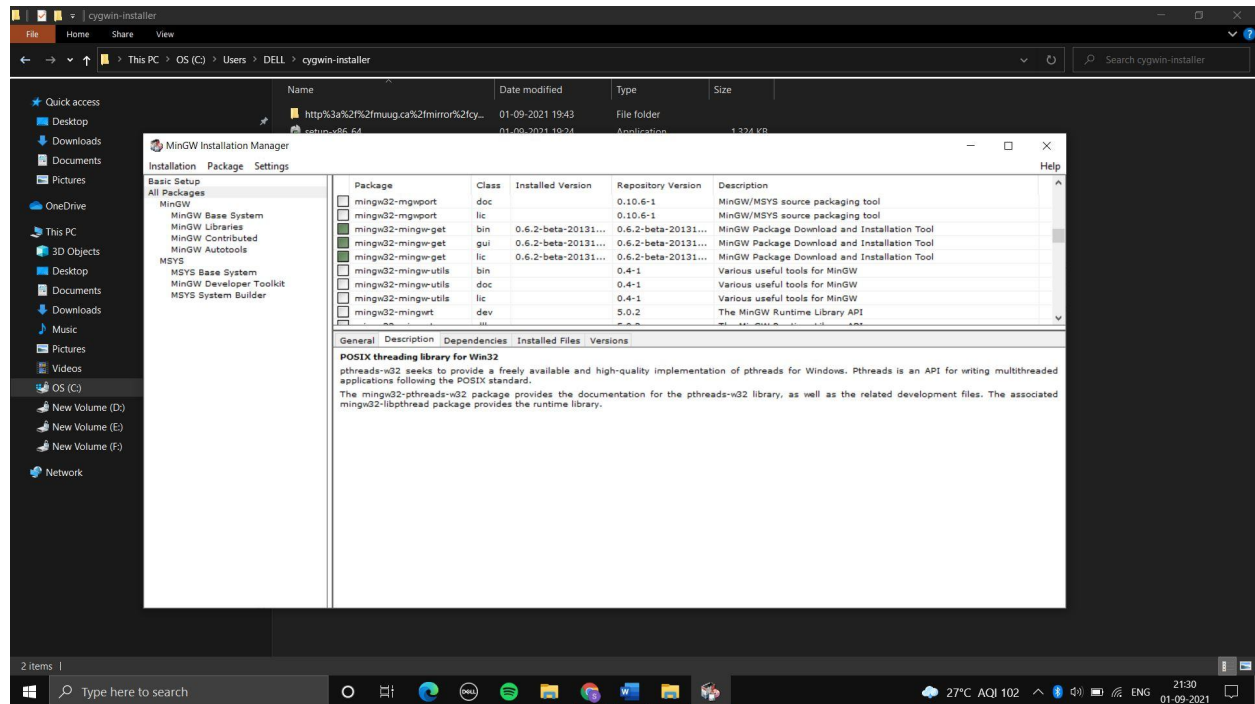
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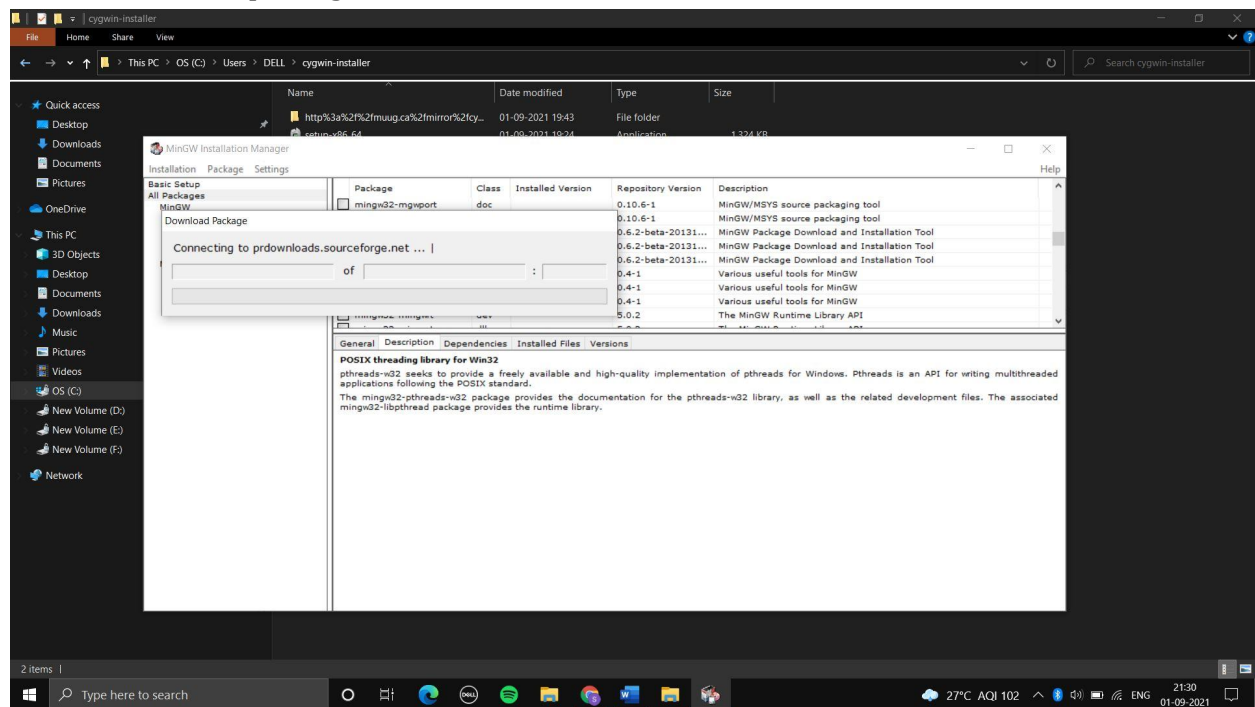


3. Select packages

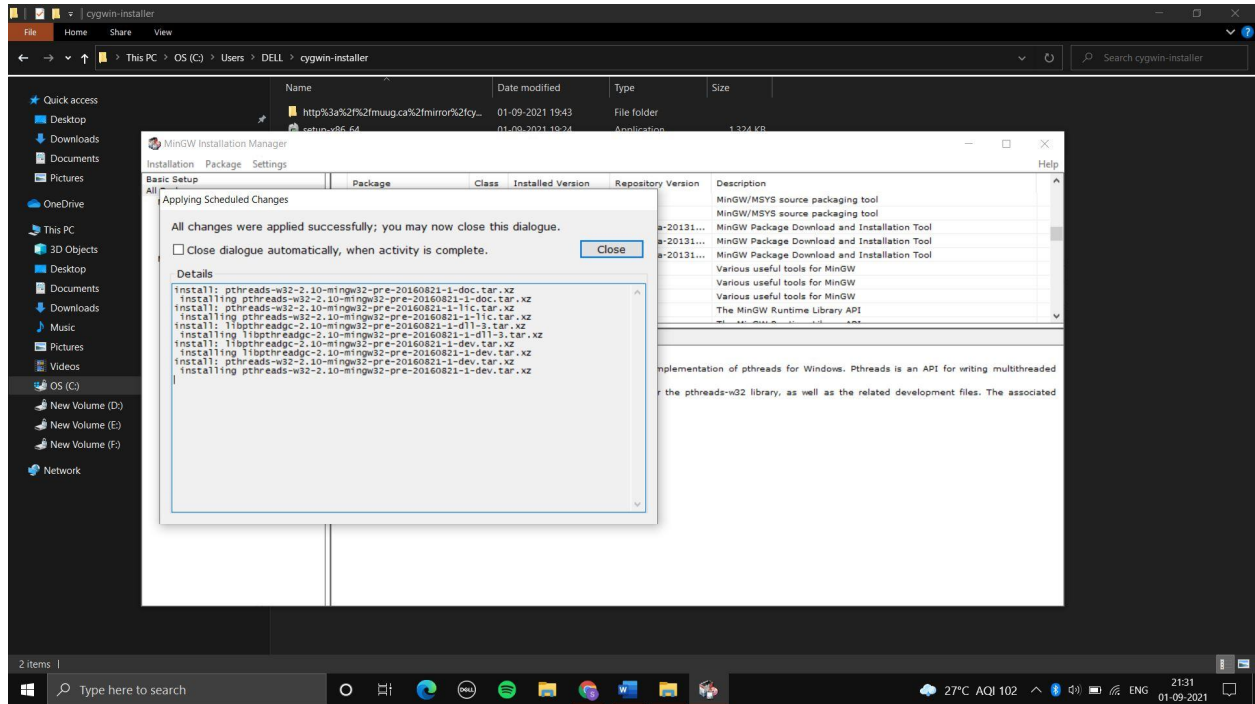




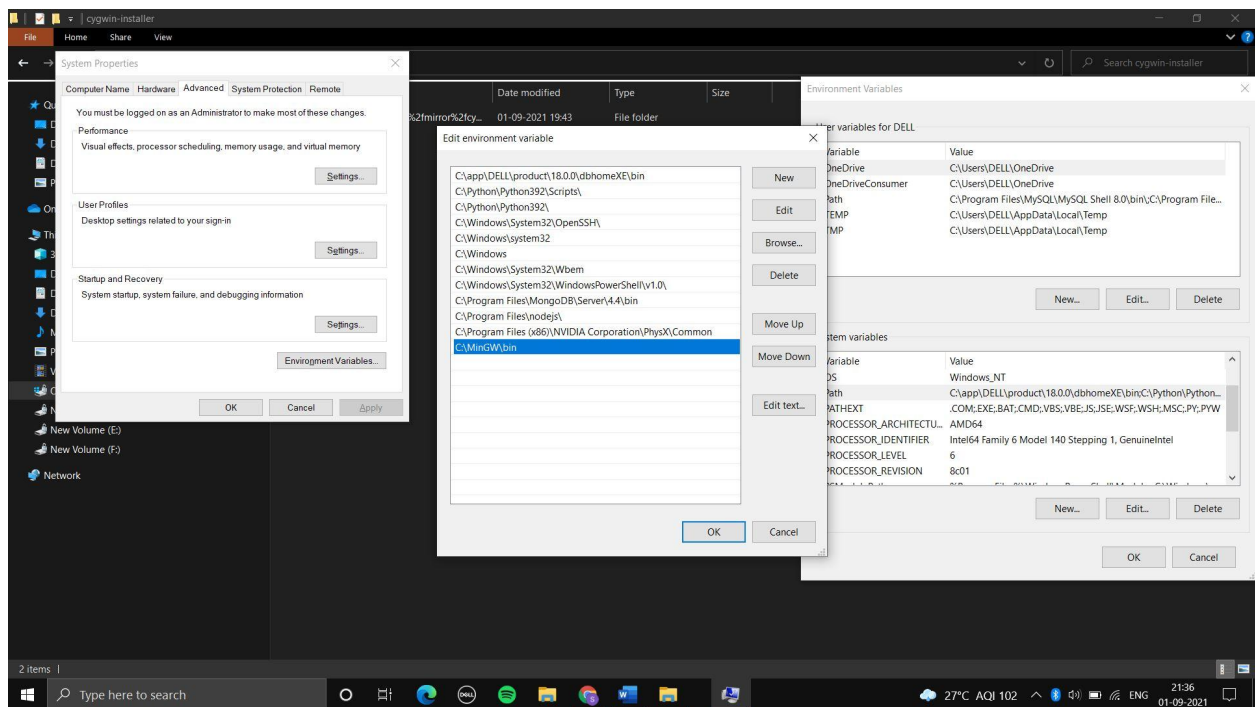
4. Download packages



5. Applying scheduled changes



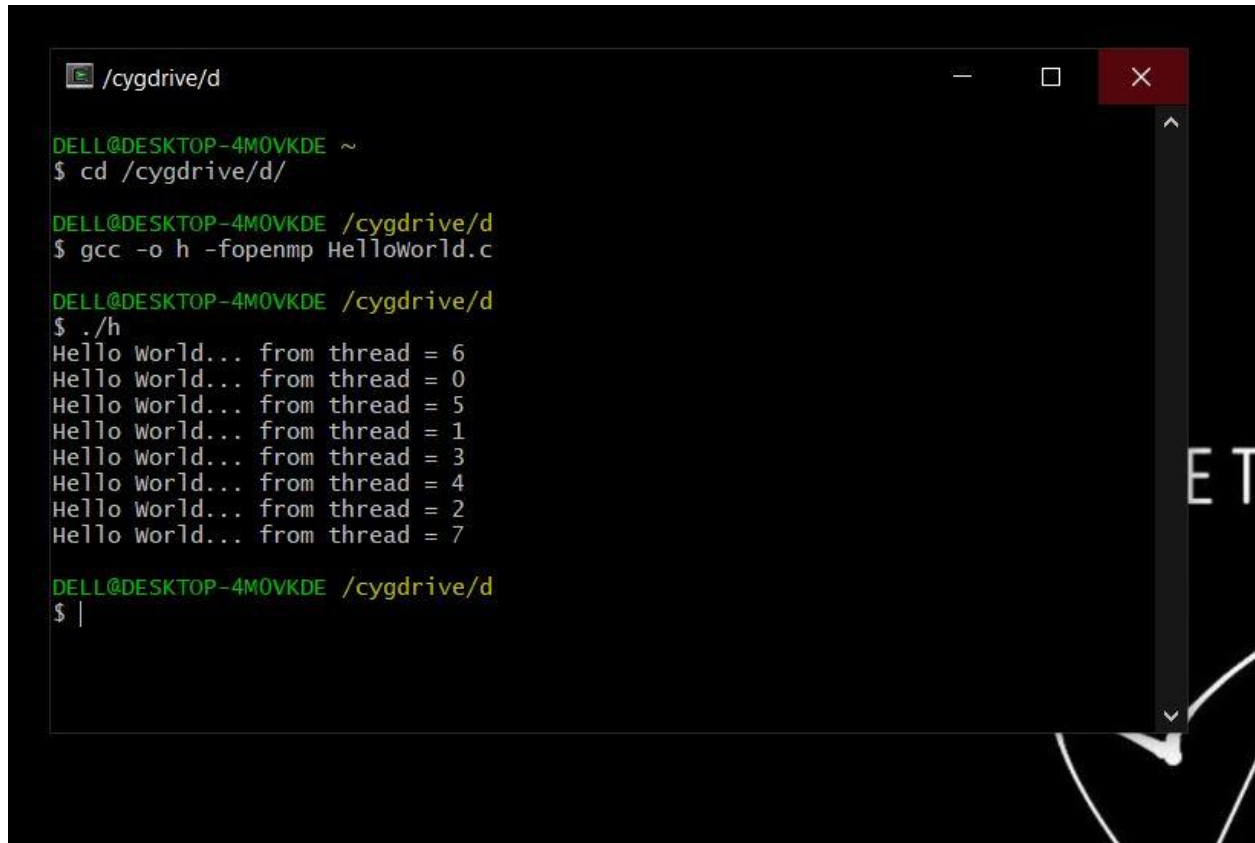
6. Set Path



Problem Statement 3: “Hello World” program

Screenshots and Information:

1. Output of “Hello World” program



```
/cygdrive/d
DELL@DESKTOP-4M0VKDE ~
$ cd /cygdrive/d/
DELL@DESKTOP-4M0VKDE /cygdrive/d
$ gcc -o h -fopenmp HelloWorld.c
DELL@DESKTOP-4M0VKDE /cygdrive/d
$ ./h
Hello World... from thread = 6
Hello World... from thread = 0
Hello World... from thread = 5
Hello World... from thread = 1
Hello World... from thread = 3
Hello World... from thread = 4
Hello World... from thread = 2
Hello World... from thread = 7
DELL@DESKTOP-4M0VKDE /cygdrive/d
$ |
```

2. Output when number of threads=4

```
/cygdrive/d  
  
DELL@DESKTOP-4M0VKDE ~  
$ cd /cygdrive/d/  
  
DELL@DESKTOP-4M0VKDE /cygdrive/d  
$ gcc -o h -fopenmp HelloWorld.c  
  
DELL@DESKTOP-4M0VKDE /cygdrive/d  
$ ./h  
Hello World... from thread = 1  
Hello World... from thread = 7  
Hello World... from thread = 0  
Hello World... from thread = 5  
Hello World... from thread = 3  
Hello World... from thread = 2  
Hello World... from thread = 4  
Hello World... from thread = 6  
  
DELL@DESKTOP-4M0VKDE /cygdrive/d  
$ export OMP_NUM_THREADS=4  
  
DELL@DESKTOP-4M0VKDE /cygdrive/d  
$ gcc -o h -fopenmp HelloWorld.c  
  
DELL@DESKTOP-4M0VKDE /cygdrive/d  
$ ./h  
Hello World... from thread = 1  
Hello World... from thread = 3  
Hello World... from thread = 2  
Hello World... from thread = 0  
  
DELL@DESKTOP-4M0VKDE /cygdrive/d  
$ |
```

Github Link: <https://github.com/mohiteshruti/HPC-Lab>