

## Building Container Image through Automation

The following is the continuation of the previous document. Here we will work with the automation concept through which the container images can be created.

- Previously you were working in a PowerShell console. Continue the following with the same pane. We have saved the code in the Dockerfile. In that there is a folder called websrc which is not created, but written in the code. So, we shall proceed further by creating a folder called websrc. Run the command now.

`mkdir websrc`

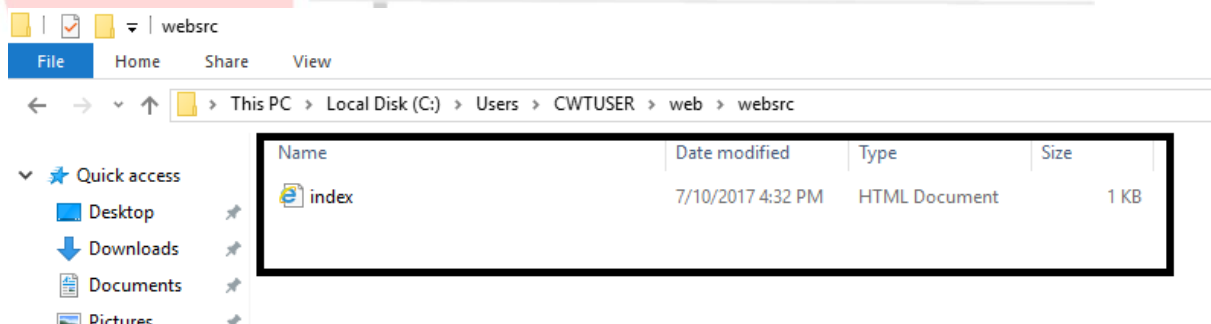
```
PS C:\Users\CWTUSER\web> mkdir websrc

Directory: C:\Users\CWTUSER\web

Mode                LastWriteTime         Length Name
----                -
d-----          7/10/2017   4:27 PM              websrc

PS C:\Users\CWTUSER\web>
```

- Now open the new folder which we have created. There create a new notepad file and add some text in it and save it as **index.html** . (Save with HTML extension)




- Now we shall build the Dockerfile which we have created earlier. This file is in the web folder and we are in the same directory in our PowerShell now. We shall build that file by using a **tag** name for it as **web**. For this, run the command,

`docker build -t web .`

**The dot in the above code is to indicate the current folder.**

- This will now start to create an image for us along with the web server. The code gets executed step by step and it will take a couple of minutes to get completely done.

 Select Administrator: Windows PowerShell

```
PS C:\Users\CWTUSER\web>
PS C:\Users\CWTUSER\web>
PS C:\Users\CWTUSER\web>
PS C:\Users\CWTUSER\web> docker build -t web .
Sending build context to Docker daemon 4.096 kB
Step 1/5 : FROM microsoft/windowsservercore
--> 015cd665fbdd
Step 2/5 : MAINTAINER @kishore_1702
--> Running in cdd77f4c35a5
--> 3ad5efc19bd2
Removing intermediate container cdd77f4c35a5
Step 3/5 : RUN PowerShell.exe -Command Install-WindowsFeature Web-Server
--> Running in 16dd7bba51fb

Success Restart Needed Exit Code      Feature Result
-----
True      No              Success          {Common HTTP Features, Default Documen...

--> 4e8f7444f459
Removing intermediate container 16dd7bba51fb
Step 4/5 : COPY ./websrc c:/inetpub/wwwroot
--> 5923e4cfe25d
Removing intermediate container cfb8674604a4
Step 5/5 : CMD powershell
--> Running in 3c4da06e5a1b
--> 0b048da7dfbd
Removing intermediate container 3c4da06e5a1b
Successfully built 0b048da7dfbd
PS C:\Users\CWTUSER\web>
```

- Now clear the screen using **cls** and get all the available images by running the below command. There you can find the newly created image with the name **WEB**.

#### docker images

```
PS C:\Users\CWTUSER\web>
PS C:\Users\CWTUSER\web>
PS C:\Users\CWTUSER\web> docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
web                  latest              0b048da7dfbd       3 minutes ago      10.5 GB
my-custom-image      latest              a191228d94b3       5 hours ago        1.09 GB
microsoft/nanoserver 10.0.14393.1358_ru-ru cc521f5796c9       3 weeks ago        1.07 GB
microsoft/windowsservercore latest              015cd665fbdd       3 weeks ago        10.2 GB
microsoft/nanoserver latest              4a8212a9c691       3 weeks ago        1.04 GB
PS C:\Users\CWTUSER\web>
```

- We shall now checkout our docker history so that the different layers of the docker image which we have created now can be seen. Here the docker will showing different layered time intervals because we have created it in multiple steps. Run the following command,

#### docker history web

```

PS C:\Users\CWTUSER\web>
PS C:\Users\CWTUSER\web> docker history web
IMAGE          CREATED          CREATED BY          SIZE          COMMENT
0b048da7dfbd   8 minutes ago   cmd /S /C #(nop)   41 kB
5923e4cfe25d   8 minutes ago   cmd /S /C #(nop)   41 kB
4e8f7444f459   8 minutes ago   cmd /S /C PowerShell.exe -Command Install-... 276 MB
3ad5efc19bd2   10 minutes ago  cmd /S /C #(nop)   41 kB
015cd665fbdd   3 weeks ago     Install update 10.0.14393.1358 2.51 GB
<missing>      6 months ago    Apply image 10.0.14393.0 7.68 GB
PS C:\Users\CWTUSER\web>

```

- The above method will let you to create the docker images in an automated process. Here we have created the image with some layers. If you want you can create the images without having any layers by using the command **RUN** command. Replace the code in the Dockerfile with the below given code and build the container again. Check back the history of the container and you will be not getting any layers since the **RUN** command will let you to execute the code without any layered concepts.

FROM windowsservercore

RUN powershell.exe -Command \

\$ErrorActionPreference = 'Stop'; \

Invoke-WebRequest https://www.python.org/ftp/python/3.5.1/python-3.5.1.exe -OutFile  
c:\python-3.5.1.exe ; \

Start-Process c:\python-3.5.1.exe -ArgumentList '/quiet InstallAllUsers=1 PrependPath=1' -Wait ; \

Remove-Item c:\python-3.5.1.exe -Force