Cloud Computing

Project on :-

Application Server- (Kids Virtual Playground)

Presented by:-

Raja Shah

Pankaj Saha

Pinak Das

Saurav Biswas

Akhirul Alom Mondal

Guided by:- Binayak Prasad Gupta

Acknowledgement

In the accomplishment of this project successfully, many people have best owned upon us, their blessings and the heart pledge support, this time we are utilizing to thank all the people who have been concerned with this project.

Primarily we would thank god for being able to complete this project with success. Then we should like to thank my principal Dr. Reeta Sharma and our teacher Mr. Binayak Prasad Gupta, whose valuable guidance has been the ones that helped me patch this project and make it full proof success. His suggestions and his instructions have served as the major contributor towards the completion of the project.

Then we should like to thank our parents and friends who have helped us with their valuable suggestions and guidance has been very helped in various phases of the completion of the project.

Last but not the least we should like to thank our classmates who have helped us a lot.

Content

Introduction

Cloud computing is the delivery of computing services—servers, storage, databases, networking, software, analytics and more—over the Internet ("the cloud"). Companies offering these computing services are called cloud providers and typically charge for cloud computing services based on usage, similar to how you are billed for water or electricity at home.

Uses of cloud computing

You are probably using cloud computing right now, even if you don't realize it. If you use an online service to send email, edit documents, watch movies or TV, listen to music, play games or store pictures and other files, it is likely that cloud computing is making it all possible behind the scenes. The first cloud computing services are barely a decade old, but already a variety of organizations—from tiny startups to global corporations, government agencies to non-profits—are embracing the technology for all sorts of reasons. Here are a few of the things you can do with the cloud:

- Create new apps and services
- Store, back up and recover data
- Host websites and blogs
- Stream audio and video
- Deliver software on demand
- Analyze data for patterns and make predictions

Types of cloud services: IaaS, PaaS, SaaS

Most cloud computing services fall into three broad categories: infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS). These are sometimes called the cloud computing stack, because they build on top of one another. Knowing what they are and how they are different makes it easier to accomplish your business goals.

Infrastructure-as-a-service (IaaS)

The most basic category of cloud computing services. With IaaS, you rent IT infrastructure—servers and virtual machines (VMs), storage, networks, operating systems—from a cloud provider on a pay-as-you-go basis.

Platform as a service (PaaS)

Platform-as-a-service (PaaS) refers to cloud computing services that supply an on-demand environment for developing, testing, delivering and managing software applications. PaaS is designed to make it easier for developers to quickly create web or mobile apps, without worrying about setting up or managing the underlying infrastructure of servers, storage, network and databases needed for development.

Software as a service (SaaS)

Software-as-a-service (SaaS) is a method for delivering software applications over the Internet, on demand and typically on a subscription basis. With SaaS, cloud providers host and manage the software application and underlying infrastructure and handle any maintenance, like software upgrades and security patching. Users connect to the application over the Internet, usually with a web browser on their phone, tablet or PC.

Types of cloud deployments: public, private, hybrid

Not all clouds are the same. There are three different ways to deploy cloud computing resources: public cloud, private cloud and hybrid cloud.

Public cloud

Public clouds are owned and operated by a third-party cloud service provider, which deliver their computing resources like servers and storage over the

Internet. Microsoft Azure is an example of a public cloud. With a public cloud, all hardware, software and other supporting infrastructure is owned and managed by the cloud provider. You access these services and manage your account using a web browser.

Private cloud

A private cloud refers to cloud computing resources used exclusively by a single business or organisation. A private cloud can be physically located on the company's on-site datacentre. Some companies also pay third-party service providers to host their private cloud. A private cloud is one in which the services and infrastructure are maintained on a private network.

Hybrid cloud

Hybrid clouds combine public and private clouds, bound together by technology that allows data and applications to be shared between them. By allowing data and applications to move between private and public clouds, hybrid cloud gives businesses greater flexibility and more deployment options.

Virtualization in Cloud Computing

Virtualization is the "creation of a virtual (rather than actual) version of something, such as a server, a desktop, a storage device, an operating system or network resources".

In other words, Virtualization is a technique, which allows to share a single physical instance of a resource or an application among multiple customers and organizations. It does by assigning a logical name to a physical storage and providing a pointer to that physical resource when demanded.

What is the concept behind the Virtualization?

Creation of a virtual machine over existing operating system and hardware is known as Hardware Virtualization. A Virtual machine provides an environment that is logically separated from the underlying hardware.

The machine on which the virtual machine is going to create is known as Host Machine and that virtual machine is referred as a Guest Machine

Types of Virtualization:

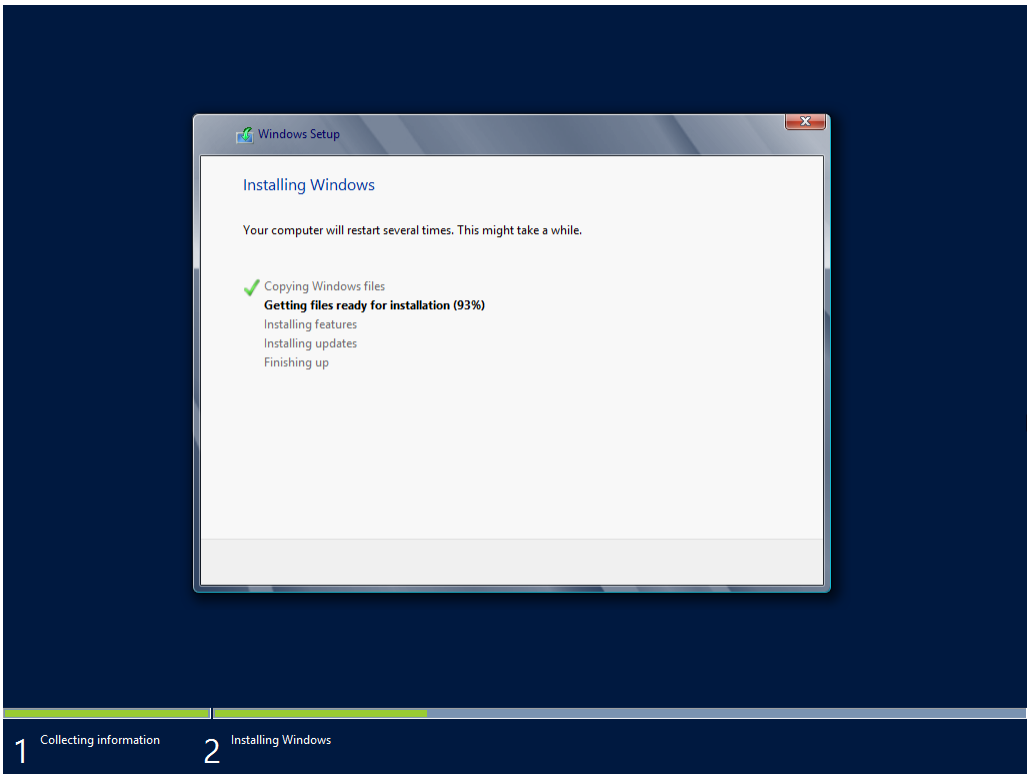
1. Hardware Virtualization.
2. Operating system Virtualization.
3. Server Virtualization.
4. Storage Virtualization.

VMware Installation

- Go to www.vmware.com in your web browser and download VMware.
- Run the .exe you downloaded from the website, and follow the instructions that the Install wizard gives you.

I) Adding new virtual machine:

- Go to file > New Virtual Machine
- Select typical settings
- Select the disk image file(iso) or can select the operating system late
- Select the version and the click on next
- Give a name of the virtual machine and then click on next
- Then wait for OS to be installed.



2) Cloning of the above virtual machine:

- At first power off the virtual machine,
- Then go to VM > Manage > Clone. Then proceed as the instructions provided.

3) Changing the host name of the cloned virtual machine:

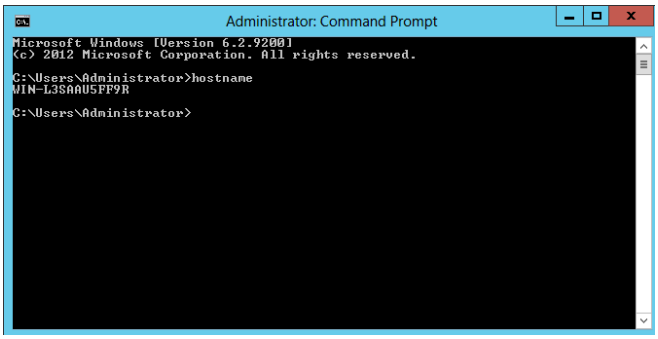


Fig: Hostname of the virtual machine

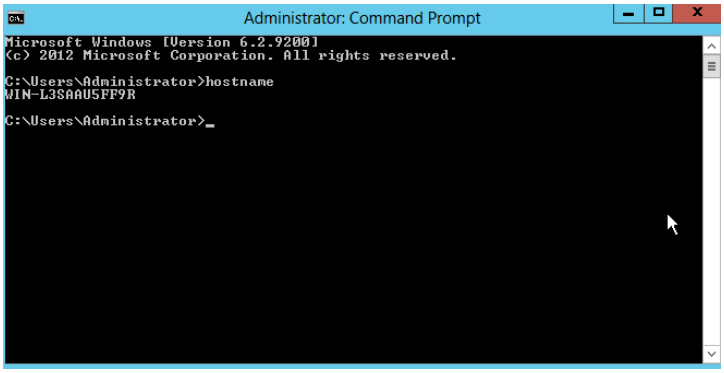
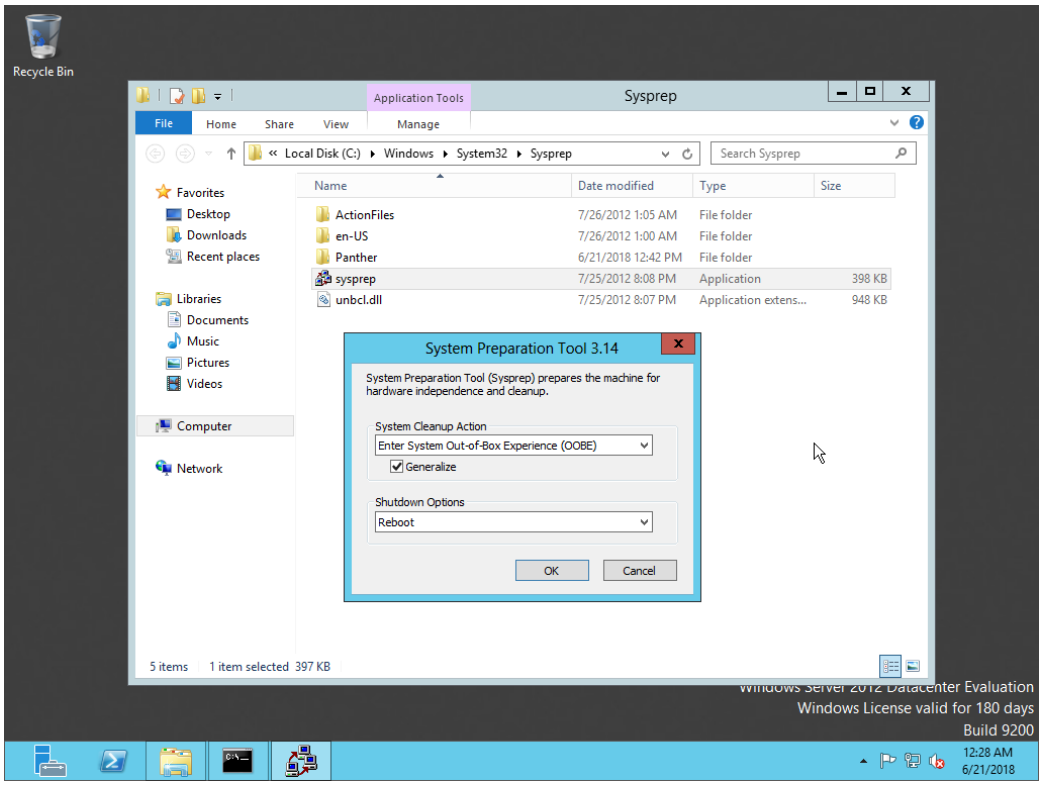


Fig: Hostname of the cloned machine

Go to run > Type sysprep > Check Generalise > Click OK



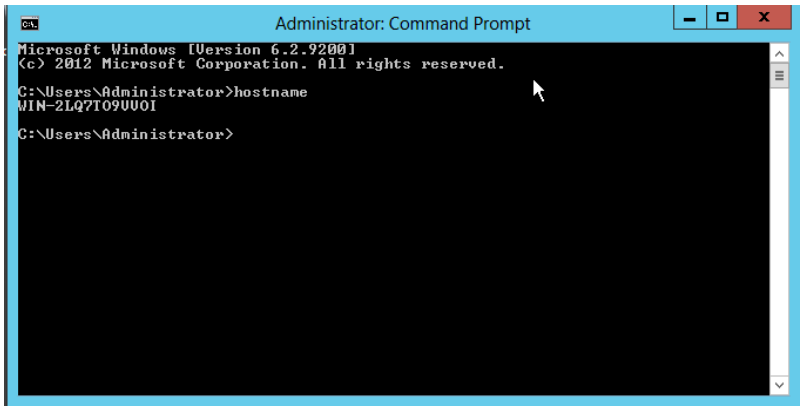


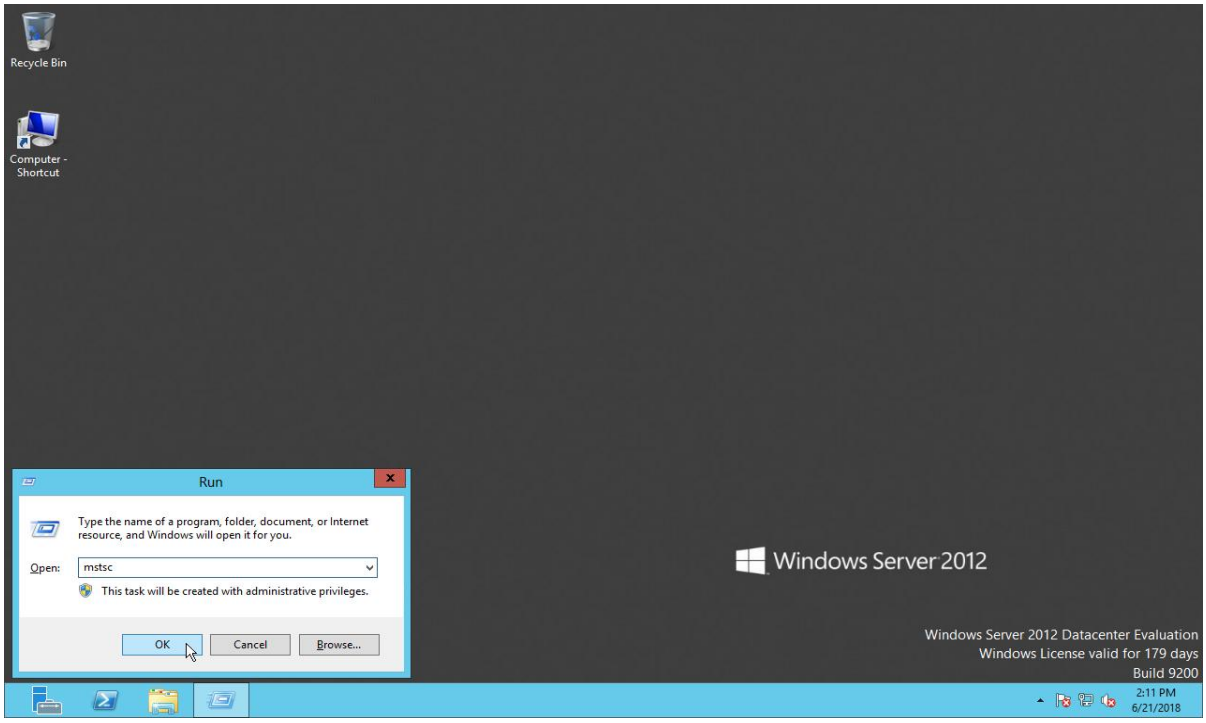
Fig: The changed hostname of the cloned machine

- Then proceed as instructed.

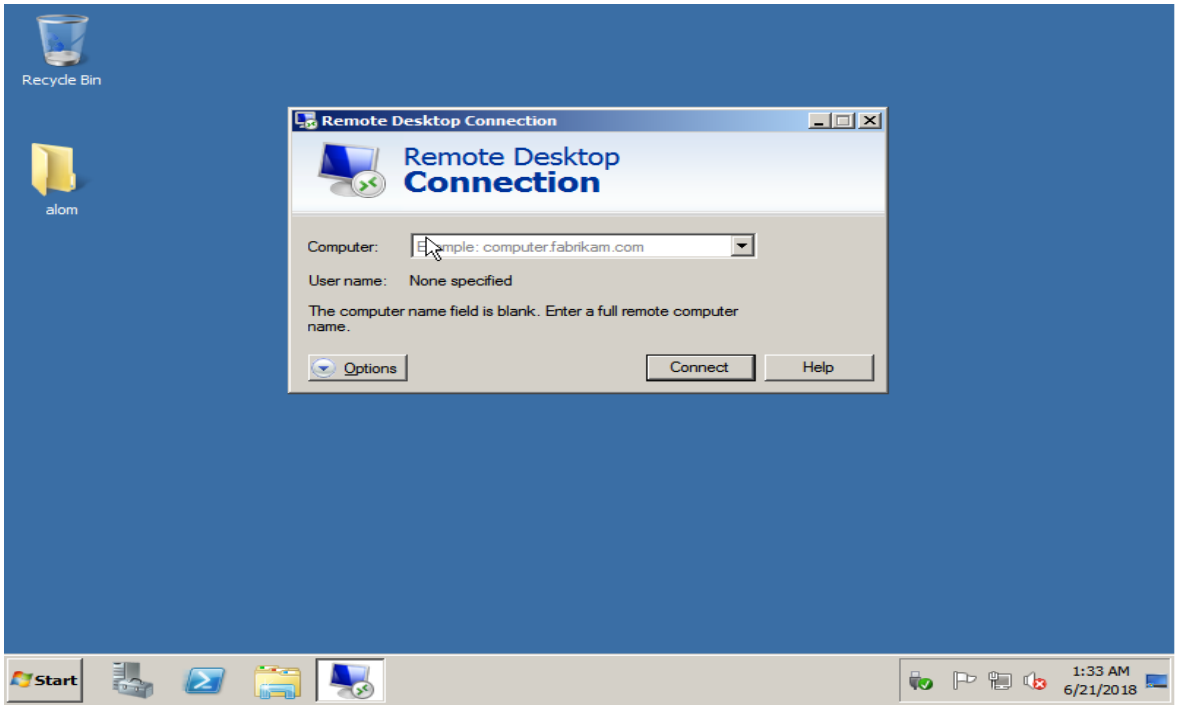
Remote Desktop Connection

I. Accessing the main virtual machine from the cloned virtual machine:-

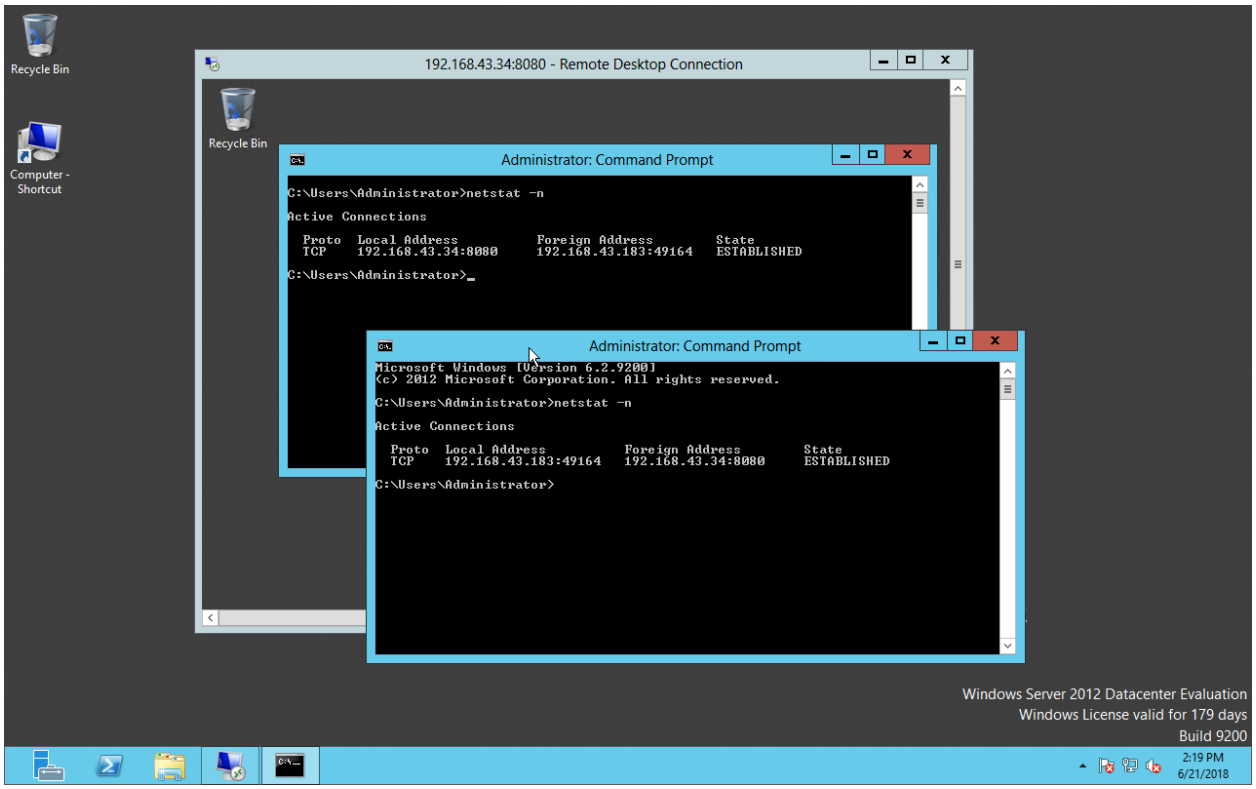
- First of all we will go to cloned server and type (mstsc) in run.



- Then a REMOTE DESKTOP CONNECTION will appear, there we will put the IP ADDRESS of the main server and then click CONNECT.



- Then we type (netstat -n) i.e. network statics. in COMMAND PROMPT of cloned server in both main windows and nested windows, there we will see the LOCAL ADDRESS and FOREIGN ADDRESS are interchanged with each other, STATES are established and PROTO is TCP.

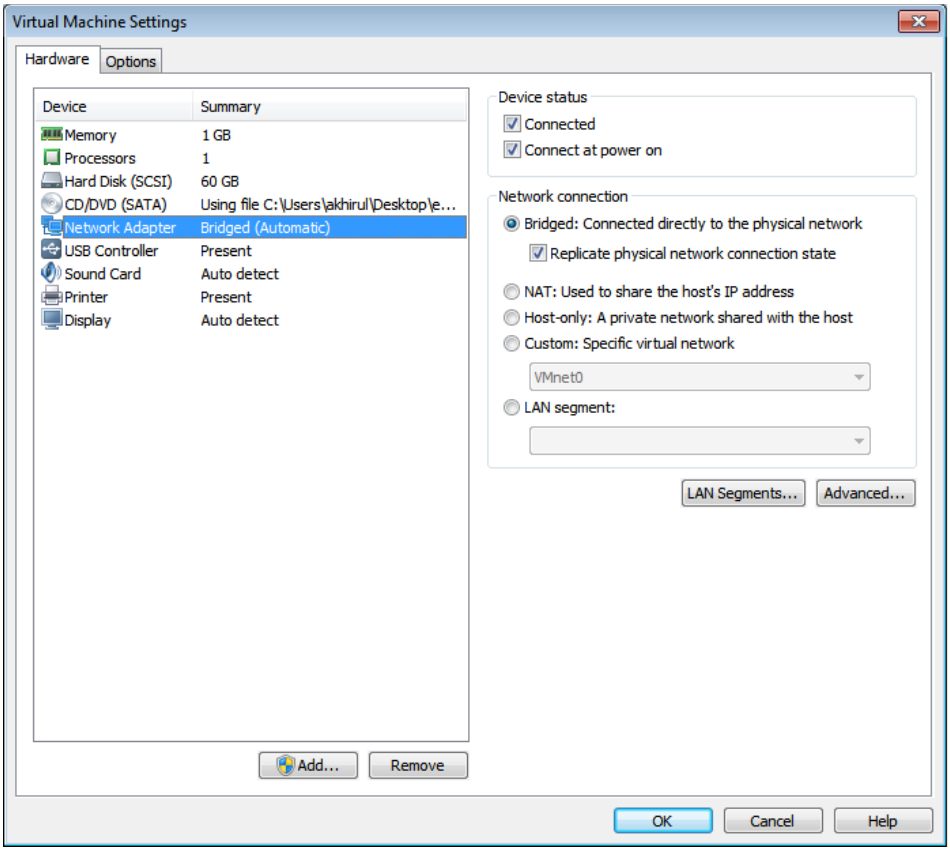


"NOTE- While performing nested window in a cloned server, the main server will shut down automatically. If we on the main server, the REMOTE CONNECTION will break in cloned server."

Bridge Networking

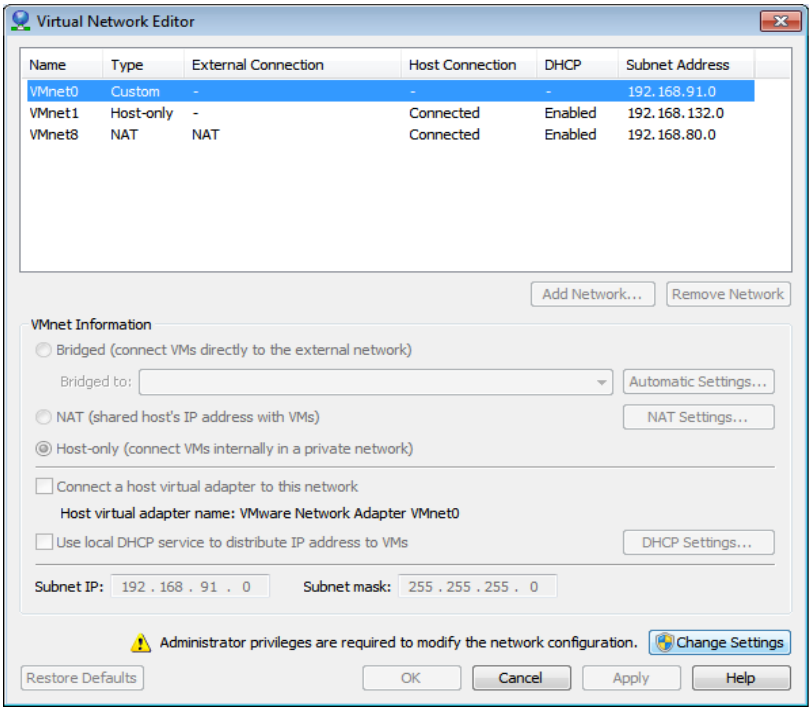
[CONNECTION OF WIFI DIRECTLY TO MAIN SERVER IN VIRTUAL MACHINE / BRIDGE]

- Here, first we will choose a SERVER, before power it on. Then we select the NETWORK ADAPTER and choose the NETWORK CONNECTION to BRIDGED then check on the REPLICATE, then click OK.

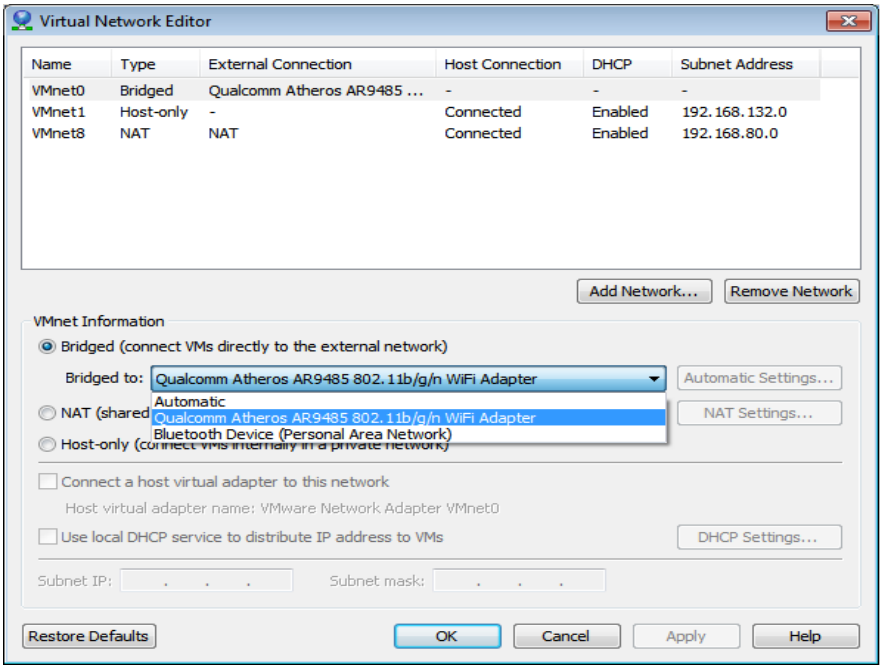


Now, SERVER is bridged.

- Next, we go to EDIT option of VIRTUAL MACHINE and we choose VIRTUAL NETWORK EDITOR. Then we click CHANGE SETTINGS

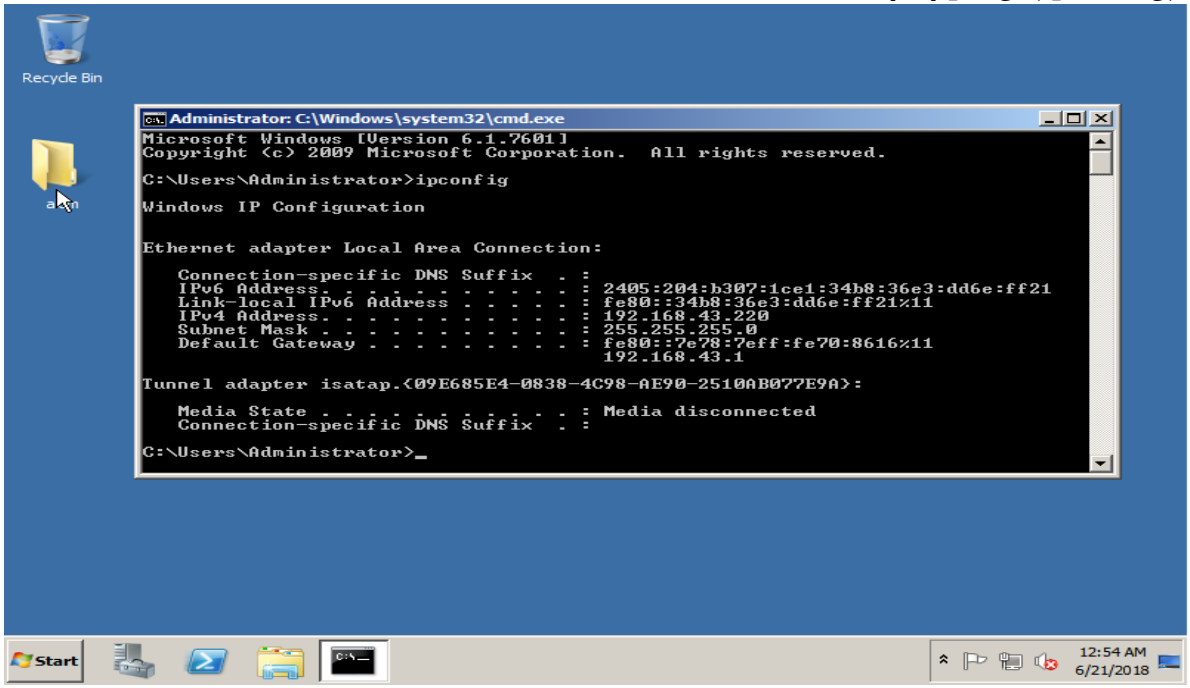


then we click OK.



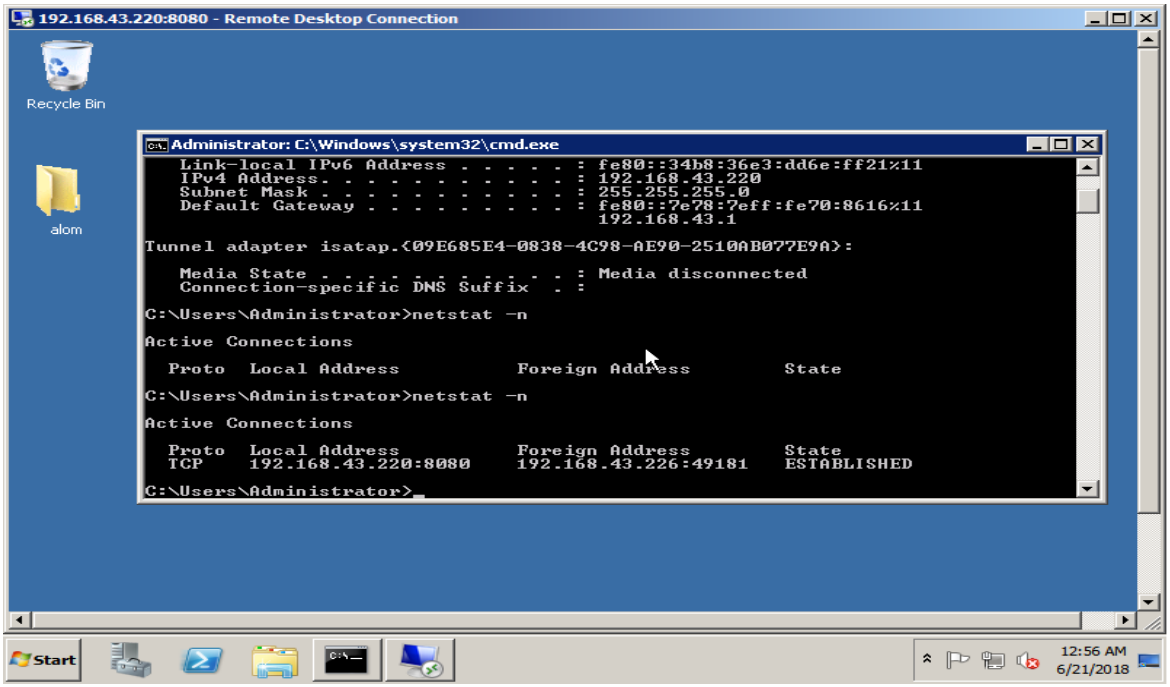
Then in VMNET INFORMATION we choose BRIDGED CONNECTION then we select bridged to as INTEL(R) DUAL BAND WIRELESS-AC 8265 or QUALCOMM ATHEROS AR9485 802.11b/g/n WIFI ADAPTER.

- Then we take the IP ADDRESS of main server by typing (ipconfig) in



COMMAND PROMPT.

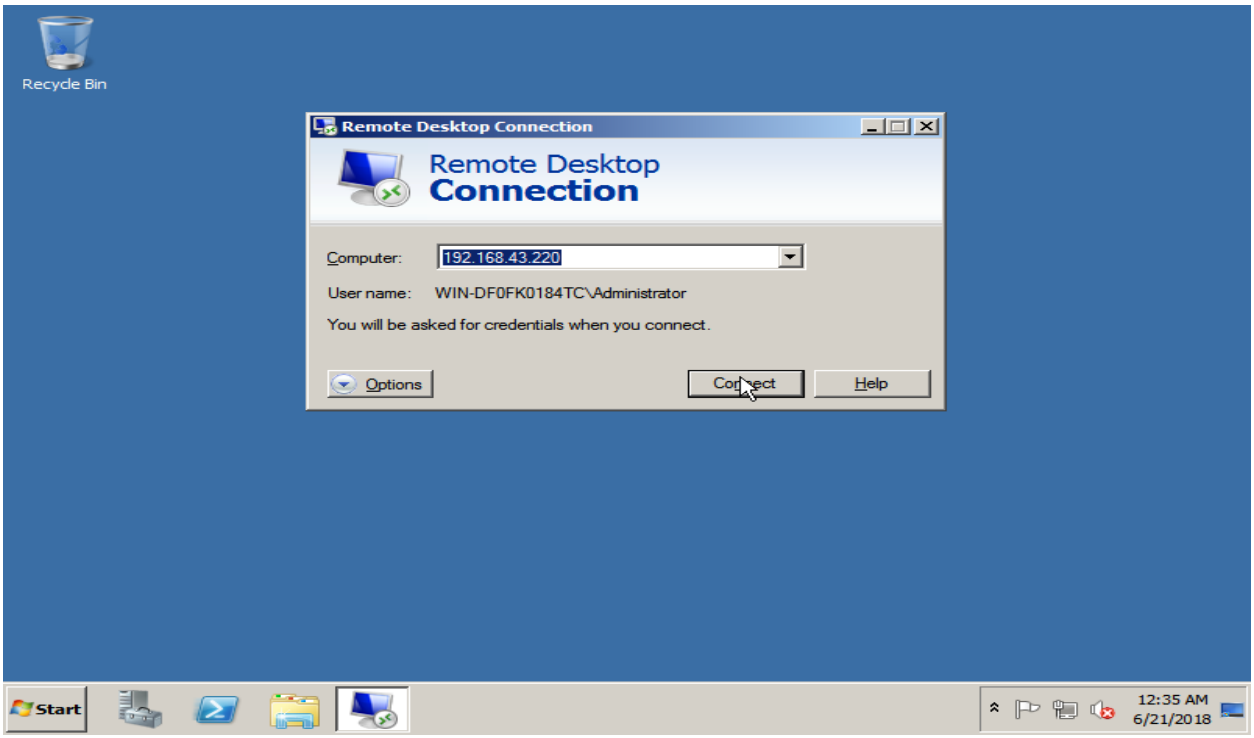
- Then in nested window of cloned server, we type (netstat -n) in COMMAND PROMPT, it will show PROTO as TCP, LOCAL ADDRESS as 192.168.43.220:8080, FOREIGN ADDRESS as 192.168.43.226:49162 and STATE as ESTABLISHED.

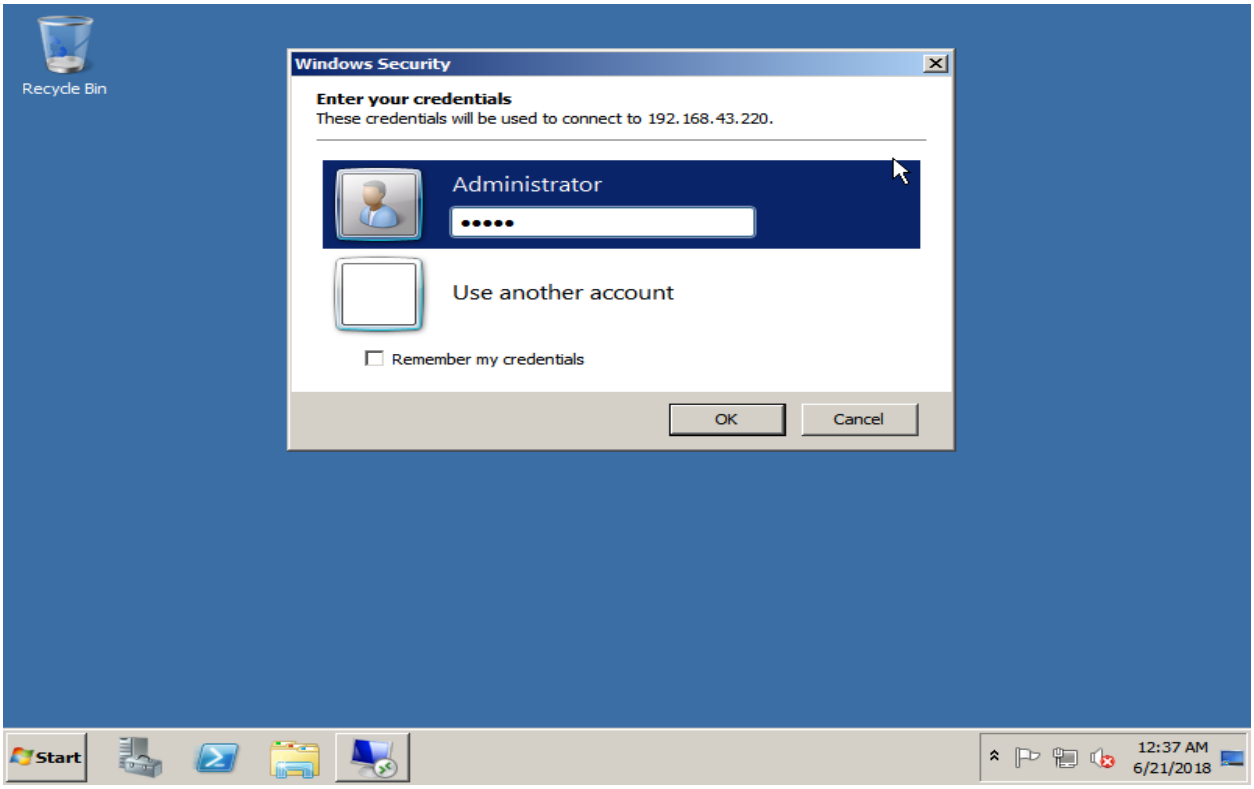


"NOTE- It means now the server in VIRTUAL MACHINE is now directly connected to the hotspot in mobile. Earlier the server was not directly connected."

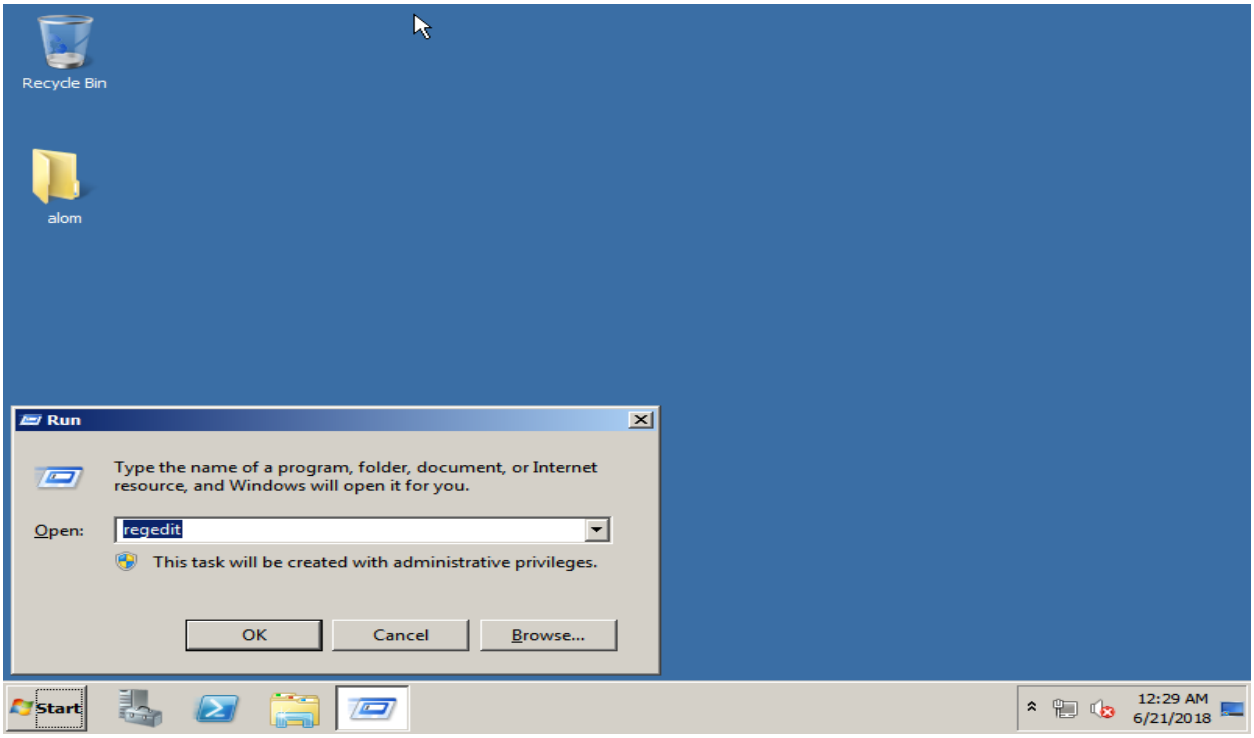
Changing of Port Number

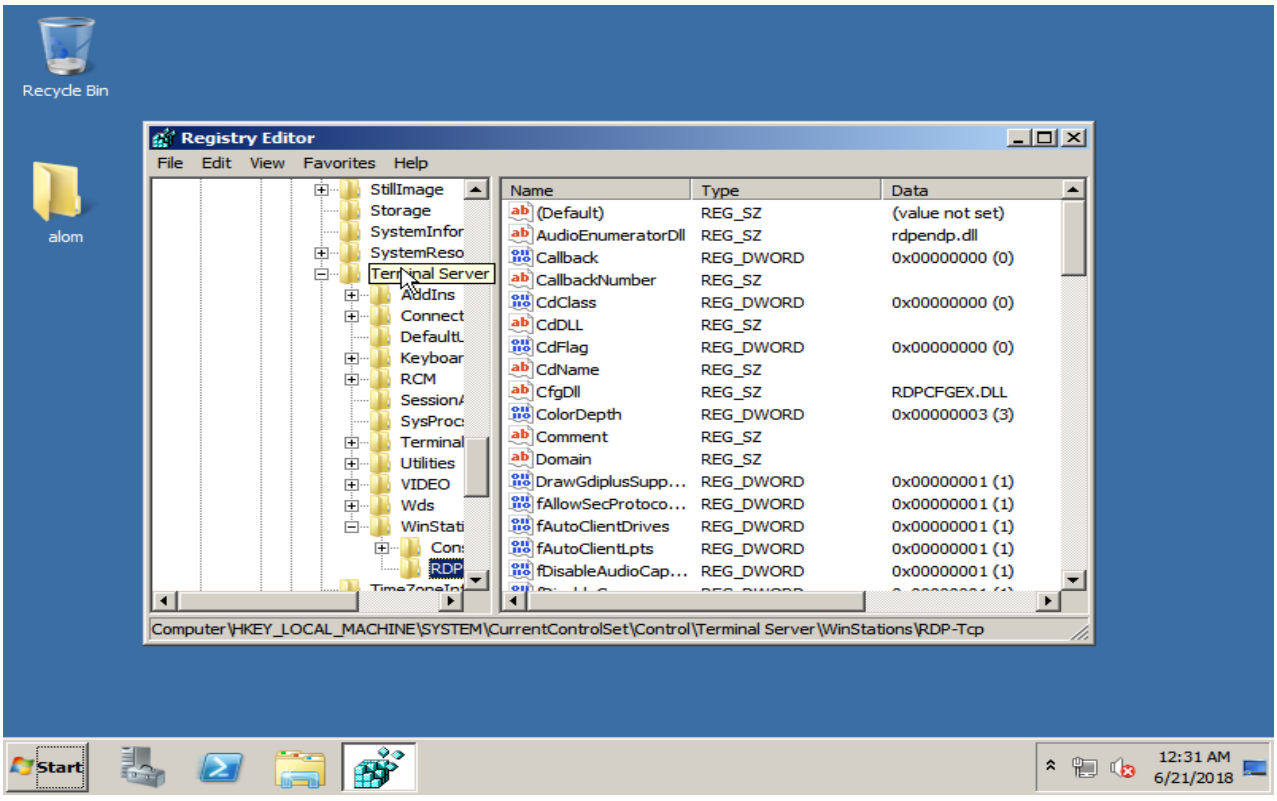
First of all we will make a REMOTE DESKTOP CONNECTION in a CLONED SERVER.

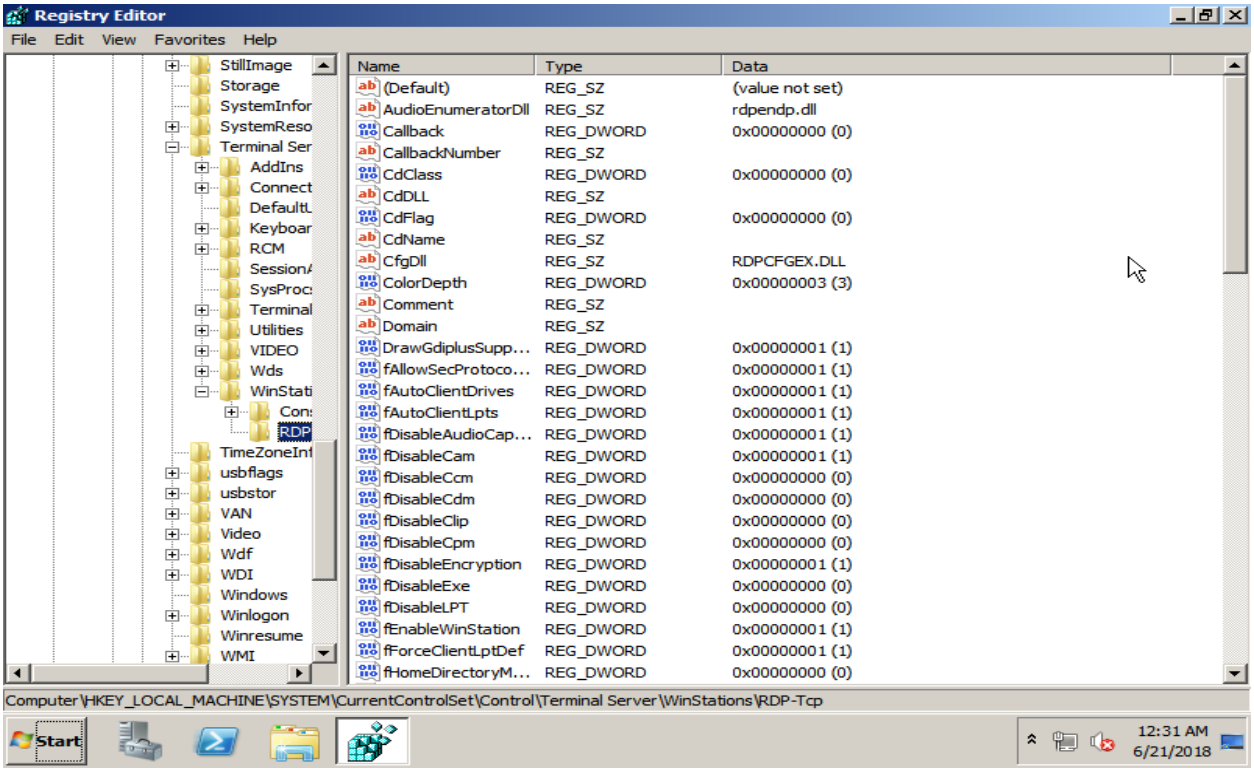


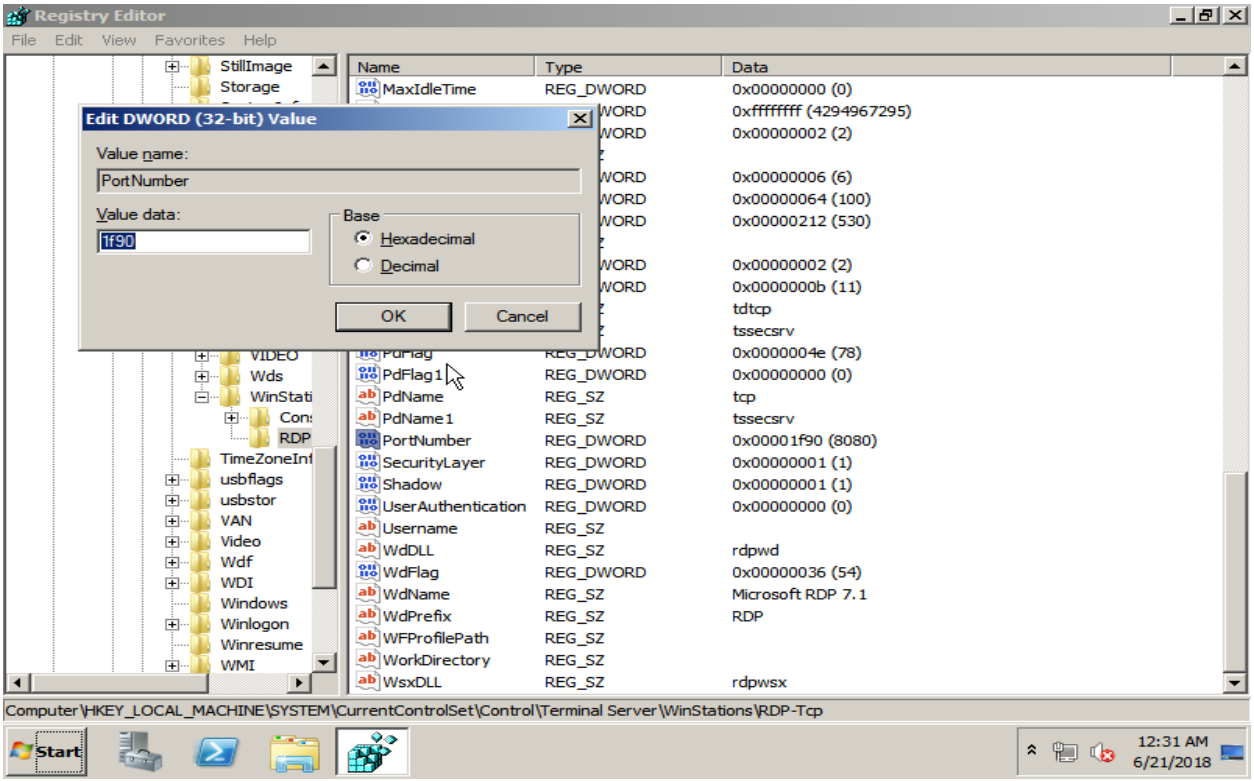


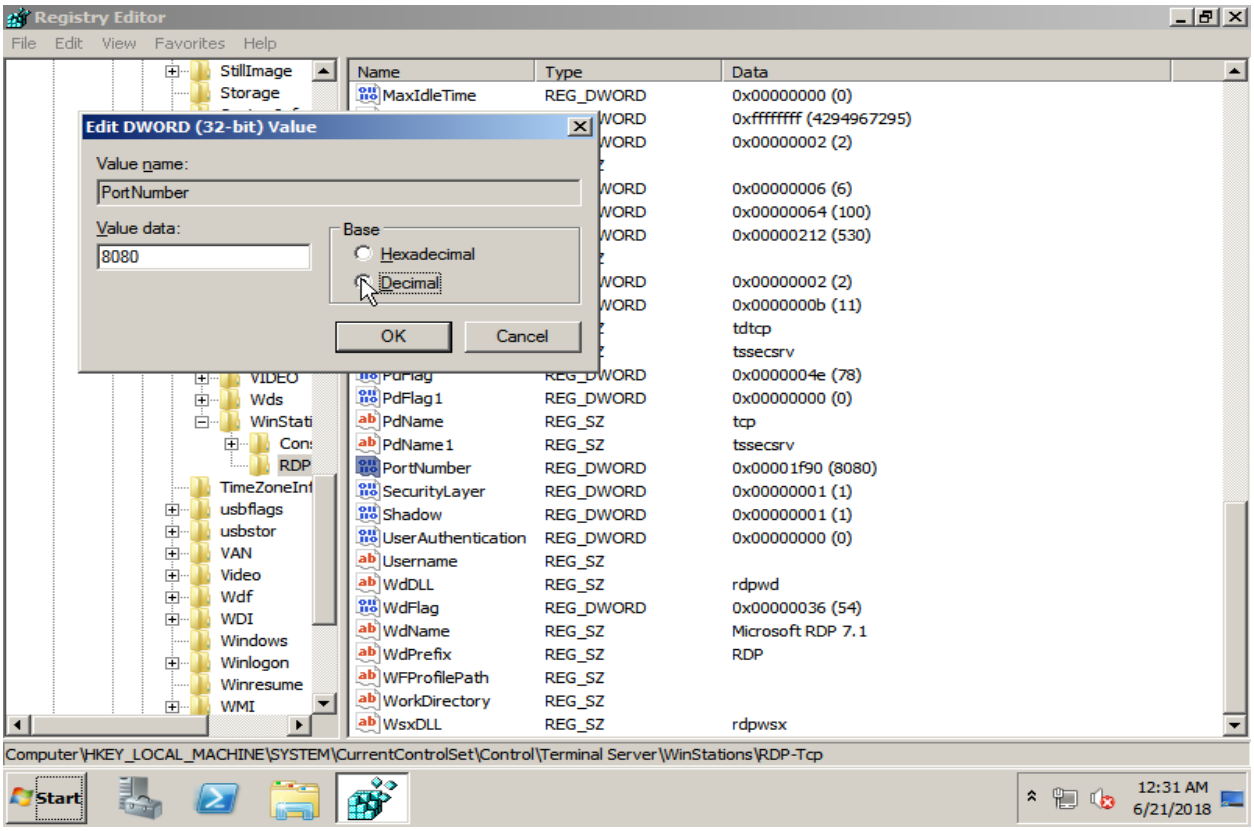
Then we will type (regedit) in run then go to computer->hey local machine->system->current control set->control->terminal server->win station->RDP-TCP->port number (now double click to change the value data)->then click OK.


Recycle Bin
alom
Run
Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:
regedit
This task will be created with administrative privileges.
OK
Cancel
Browse...
Start
12:29 AM
6/21/2018


Recycle Bin
alom
Registry Editor
File Edit View Favorites Help
StillImage
Storage
SystemInfor
SystemReso
Terminal Server
AddIns
Connect
DefaultL
Keyboar
RCM
SessionA
SysProc
Terminal
Utilities
VIDEO
Wds
WinStati
Cons
RDP
Name Type Data
(Default) REG_SZ (value not set)
AudioEnumeratorDll REG_SZ rdpendp.dll
Callback REG_DWORD 0x00000000 (0)
CallbackNumber REG_SZ
CdClass REG_DWORD 0x00000000 (0)
CdDLL REG_SZ
CdFlag REG_DWORD 0x00000000 (0)
CdName REG_SZ
CfgDll REG_SZ RDPCFGEX.DLL
ColorDepth REG_DWORD 0x00000003 (3)
Comment REG_SZ
Domain REG_SZ
DrawGdiplusSupp... REG_DWORD 0x00000001 (1)
fAllowSecProtoco... REG_DWORD 0x00000001 (1)
fAutoClientDrives REG_DWORD 0x00000001 (1)
fAutoClientLpts REG_DWORD 0x00000001 (1)
fDisableAudioCap... REG_DWORD 0x00000001 (1)
Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server\WinStations\RDP-Tcp
Start
12:31 AM
6/21/2018

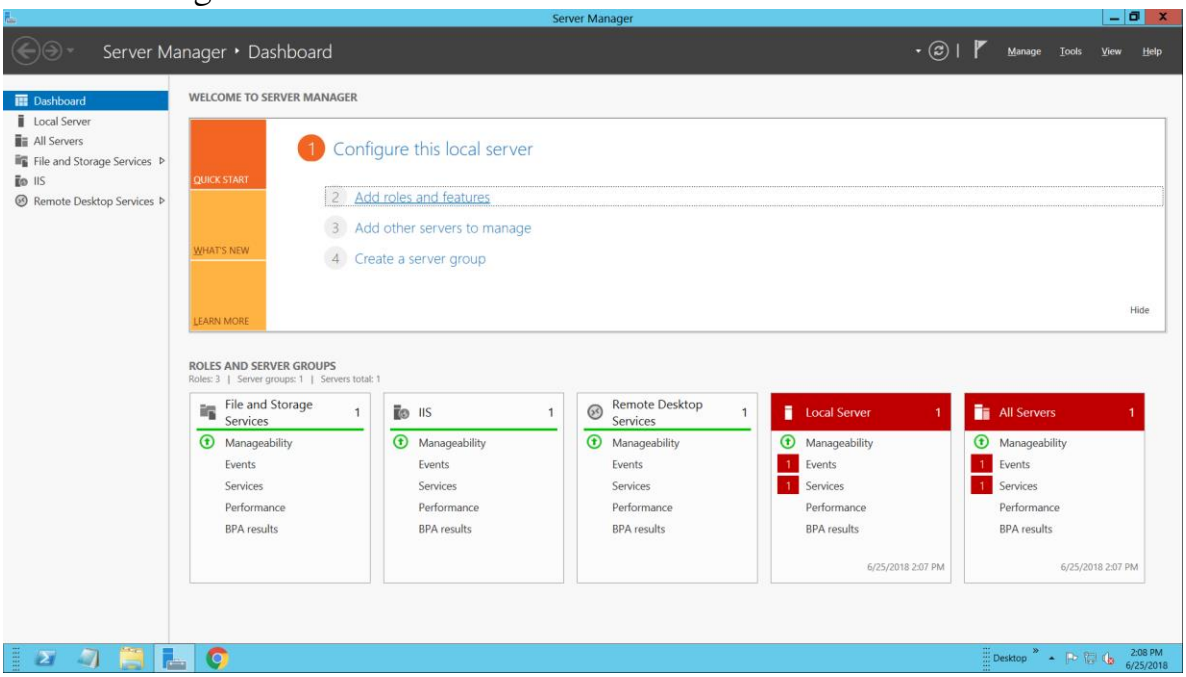

Registry Editor
File Edit View Favorites Help
Name Type Data
(Default) REG_SZ (value not set)
AudioEnumeratorDll REG_SZ rdpendp.dll
Callback REG_DWORD 0x00000000 (0)
CallbackNumber REG_SZ
CdClass REG_DWORD 0x00000000 (0)
CdDLL REG_SZ
CdFlag REG_DWORD 0x00000000 (0)
CdName REG_SZ
CfgDll REG_SZ RDPCFGEX.DLL
ColorDepth REG_DWORD 0x00000003 (3)
Comment REG_SZ
Domain REG_SZ
DrawGdiplusSupp... REG_DWORD 0x00000001 (1)
fAllowSecProtoco... REG_DWORD 0x00000001 (1)
fAutoClientDrives REG_DWORD 0x00000001 (1)
fAutoClientLpts REG_DWORD 0x00000001 (1)
fDisableAudioCap... REG_DWORD 0x00000001 (1)
fDisableCam REG_DWORD 0x00000001 (1)
fDisableCcm REG_DWORD 0x00000000 (0)
fDisableCdm REG_DWORD 0x00000000 (0)
fDisableClip REG_DWORD 0x00000000 (0)
fDisableCpm REG_DWORD 0x00000000 (0)
fDisableEncryption REG_DWORD 0x00000001 (1)
fDisableExe REG_DWORD 0x00000000 (0)
fDisableLPT REG_DWORD 0x00000000 (0)
fEnableWinStation REG_DWORD 0x00000001 (1)
fForceClientLptDef REG_DWORD 0x00000001 (1)
fHomeDirectoryM... REG_DWORD 0x00000000 (0)
Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server\WinStations\RDP-Tcp
Start
12:31 AM
6/21/2018


Registry Editor
File Edit View Favorites Help
Edit DWORD (32-bit) Value
Value name:
PortNumber
Value data:
1f90
Base
Hexadecimal
Decimal
OK
Cancel
Name Type Data
MaxIdleTime REG_DWORD 0x00000000 (0)
0xffffffff (4294967295)
0x00000002 (2)
0x00000006 (6)
0x00000064 (100)
0x00000212 (530)
0x00000002 (2)
0x0000000b (11)
tdtcp
tssecsrv
PdFlag REG_DWORD 0x0000004e (78)
PdFlag1 REG_DWORD 0x00000000 (0)
PdName REG_SZ tcp
PdName1 REG_SZ tssecsrv
PortNumber REG_DWORD 0x00001f90 (8080)
SecurityLayer REG_DWORD 0x00000001 (1)
Shadow REG_DWORD 0x00000001 (1)
UserAuthentication REG_DWORD 0x00000000 (0)
Username REG_SZ
WdDLL REG_SZ rdpwd
WdFlag REG_DWORD 0x00000036 (54)
WdName REG_SZ Microsoft RDP 7.1
WdPrefix REG_SZ RDP
WFProfilePath REG_SZ
WorkDirectory REG_SZ
WsxDLL REG_SZ rdpwsx
Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server\WinStations\RDP-Tcp
Start
12:31 AM
6/21/2018

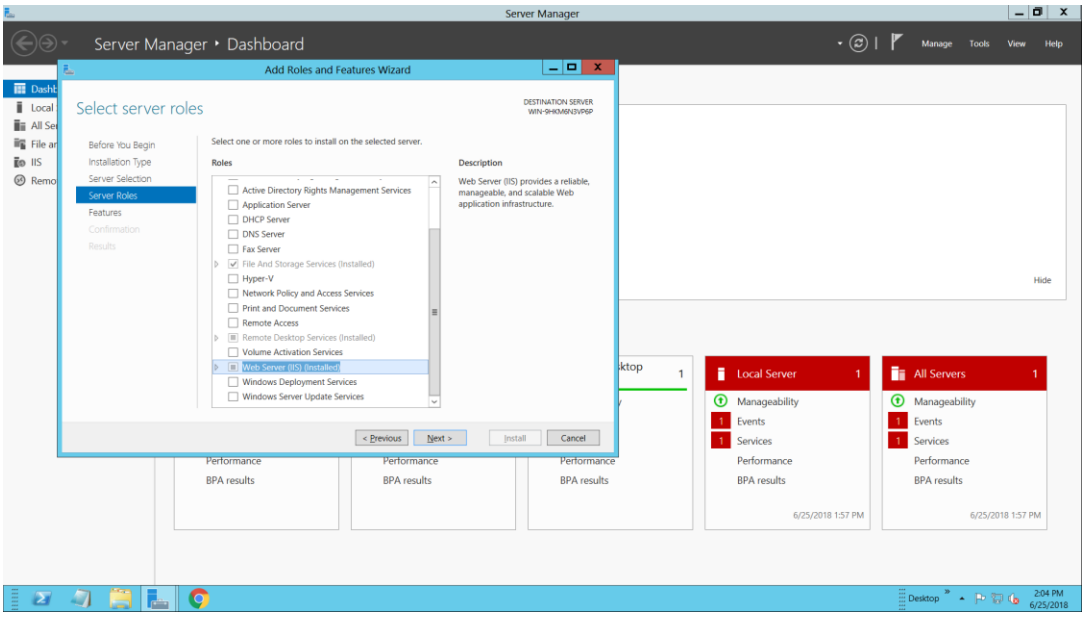

Registry Editor
File Edit View Favorites Help
StillImage
Storage
VIDEO
Wds
WinStati
Cons
RDP
TimeZoneInf
usbflags
usbstor
VAN
Video
Wdf
WDI
Windows
Winlogon
Winresume
WMI
Name Type Data
MaxIdleTime REG_DWORD 0x00000000 (0)
0xffffffff (4294967295)
0x00000002 (2)
0x00000006 (6)
0x00000064 (100)
0x00000212 (530)
0x00000002 (2)
0x0000000b (11)
tdtcp
tssecsrv
0x0000004e (78)
PdFlag1 REG_DWORD 0x00000000 (0)
PdName REG_SZ tcp
PdName1 REG_SZ tssecsrv
PortNumber REG_DWORD 0x00001f90 (8080)
SecurityLayer REG_DWORD 0x00000001 (1)
Shadow REG_DWORD 0x00000001 (1)
UserAuthentication REG_DWORD 0x00000000 (0)
Username REG_SZ
WdDLL REG_SZ rdpwd
WdFlag REG_DWORD 0x00000036 (54)
WdName REG_SZ Microsoft RDP 7.1
WdPrefix REG_SZ RDP
WFProfilePath REG_SZ
WorkDirectory REG_SZ
WsxDLL REG_SZ rdpwsx
Edit DWORD (32-bit) Value
Value name:
PortNumber
Value data:
8080
Base
Hexadecimal
Decimal
OK
Cancel
Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server\WinStations\RDP-Tcp
Start
12:31 AM
6/21/2018

Web Server

- First of all we need to install the web server in the system, in order to do that we will go to ADD ROLES AND FEATURES.



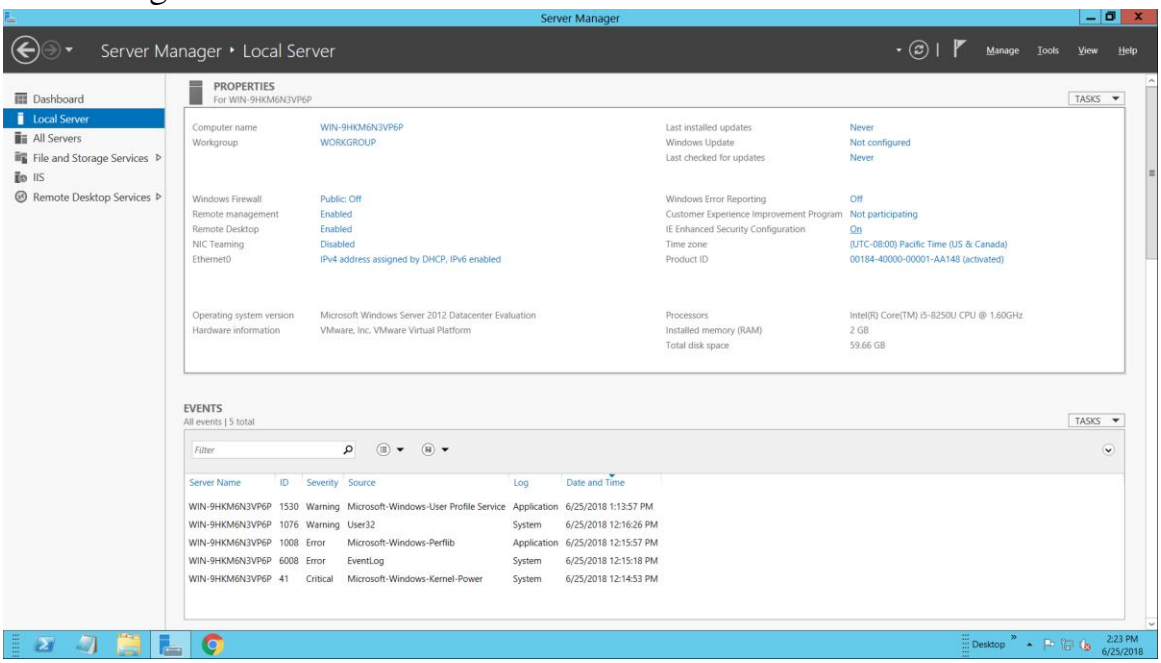
- Then at BEFORE WE BEGIN it remains as default and we click next.
- Then at INSTALLATION TYPE it remains as default and we click next.
- Then at SERVER SELETION it also remains as default and we click next.
- Then at SERVER ROLE we click WEB SERVER and click on next.



- Then again next and then INSTALL.
- Then we need to RESTART the server system.

Now we go to clone server:-

- Then we go to LOCAL SERVER.



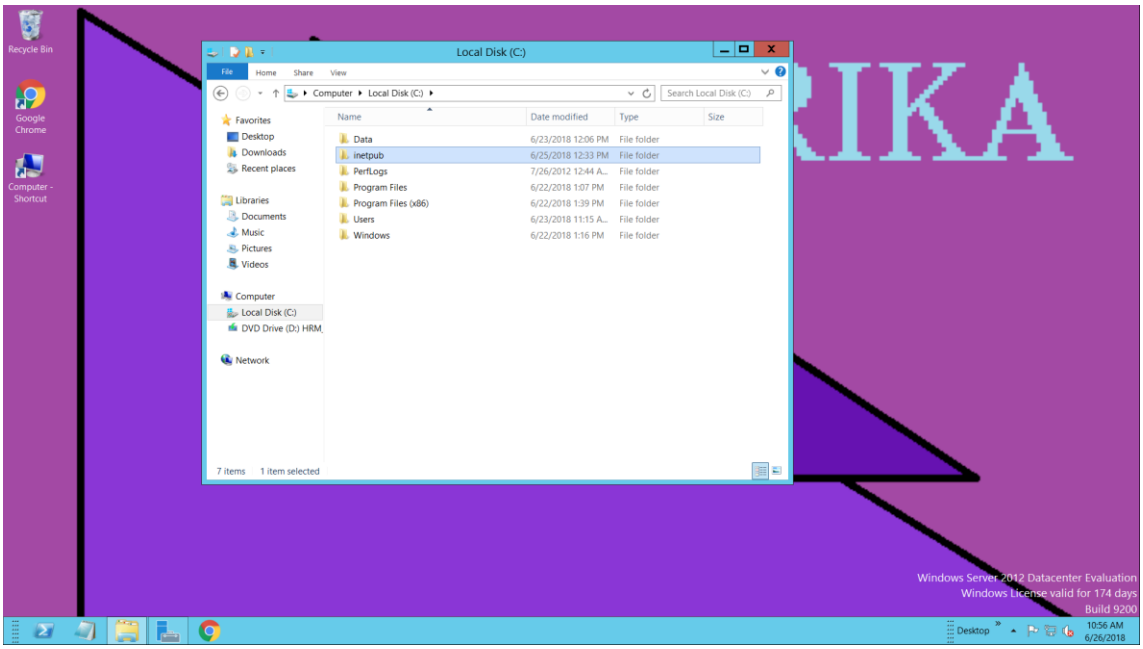
- Then we turn OFF the IE ENHANCEDD SECURITY.
- Then we open the Internet Explorer(IE).

- Then we if we search anything it will open directly without any disturbance pop-up messages.

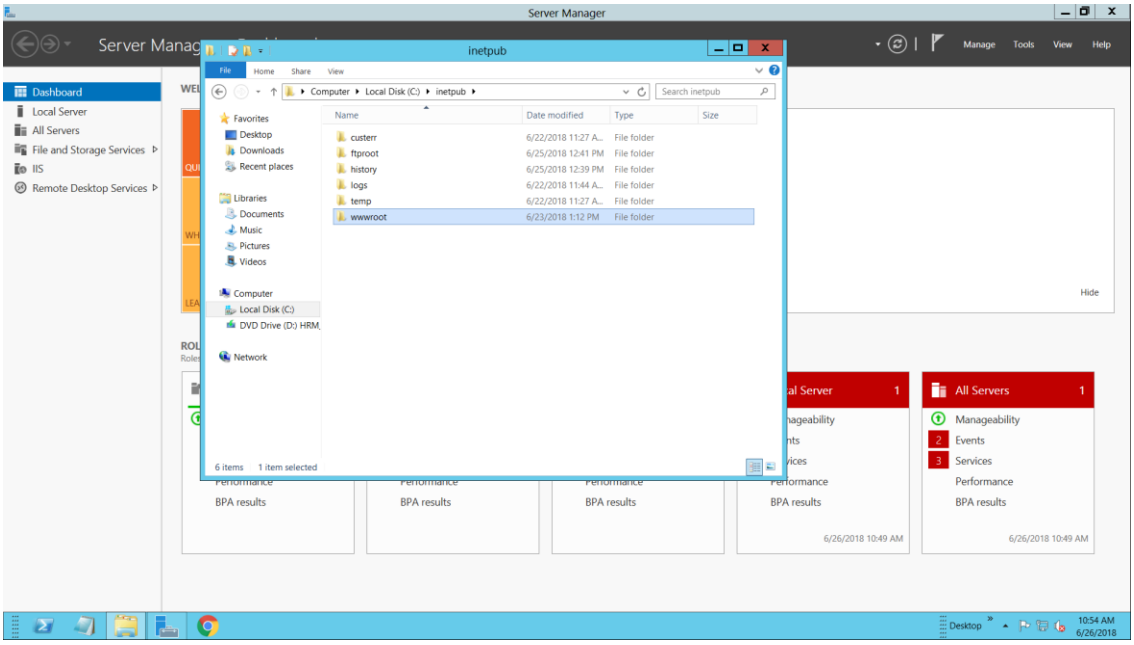
Next we go to main server (web server):-

- There we go in the C-DRIVE.

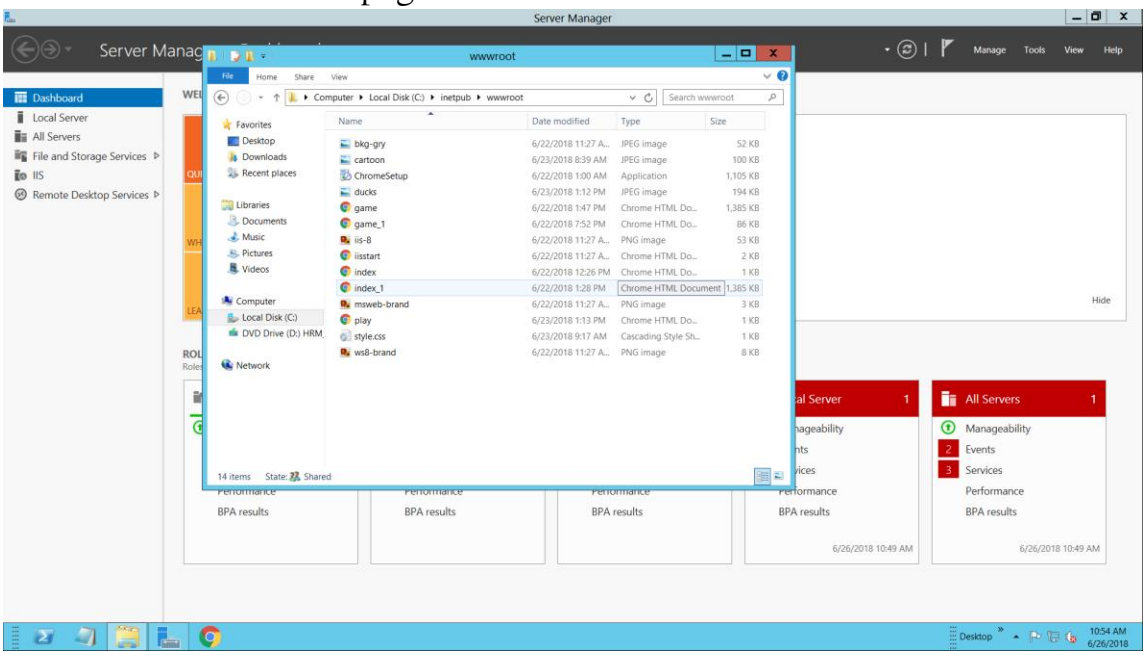
- Then in INETPUB folder.



- Next in WWWROOT folder.



- There we make a html page and save as “index.htm”.



- Finally, we go to clone server and check [http://IP address of main server] and now we can able to check the page that we build in WWWROOT folder, now for specified way we can check [http://IP address of main server/the file name].

Application Server

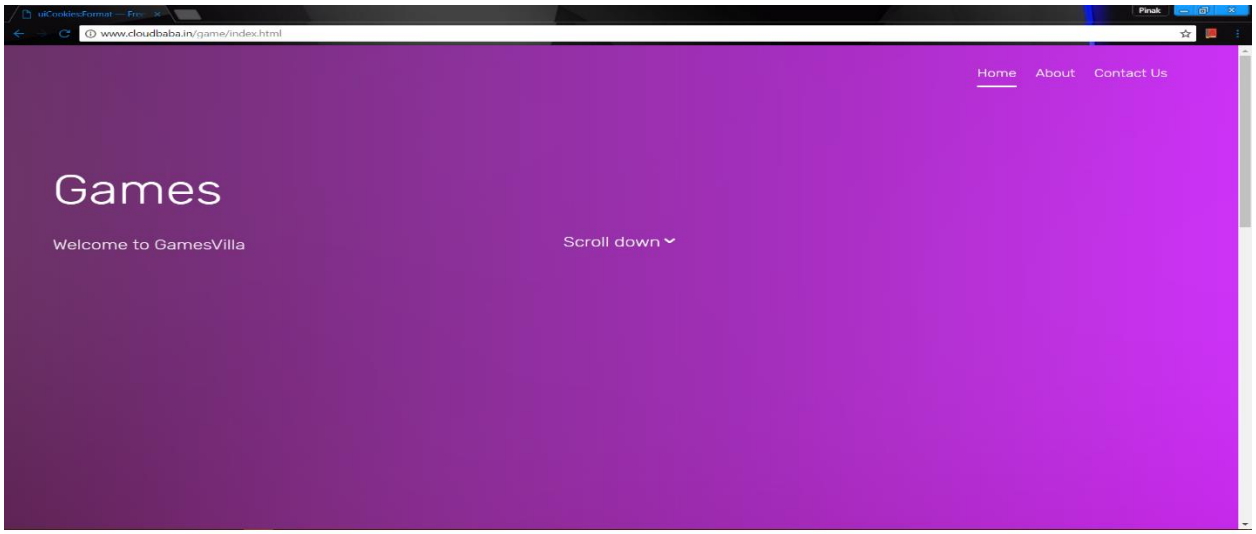
Application servers are system software upon which web applications or desktop application run. Application servers consist of web server connectors, computer programming languages, runtime libraries, database connectors, and the administration code needed to deploy, configure, manage, and connect these components on a web host. An application server runs behind a web Server (e.g. Apache or Microsoft Internet Information Services (IIS)) and (almost always) in front of an SQL database (e.g. PostgreSQL, MySQL, or Oracle). Web applications are computer code which run atop application servers and are written in the language(s) the application server supports and call the runtime libraries and components the application server offers.

All the pages are created using HTML and CSS.

The website consists of following pages :-

1. Index page (index.html).
2. About page (about.html).
3. Contact page (contact.html).
4. Game pages.

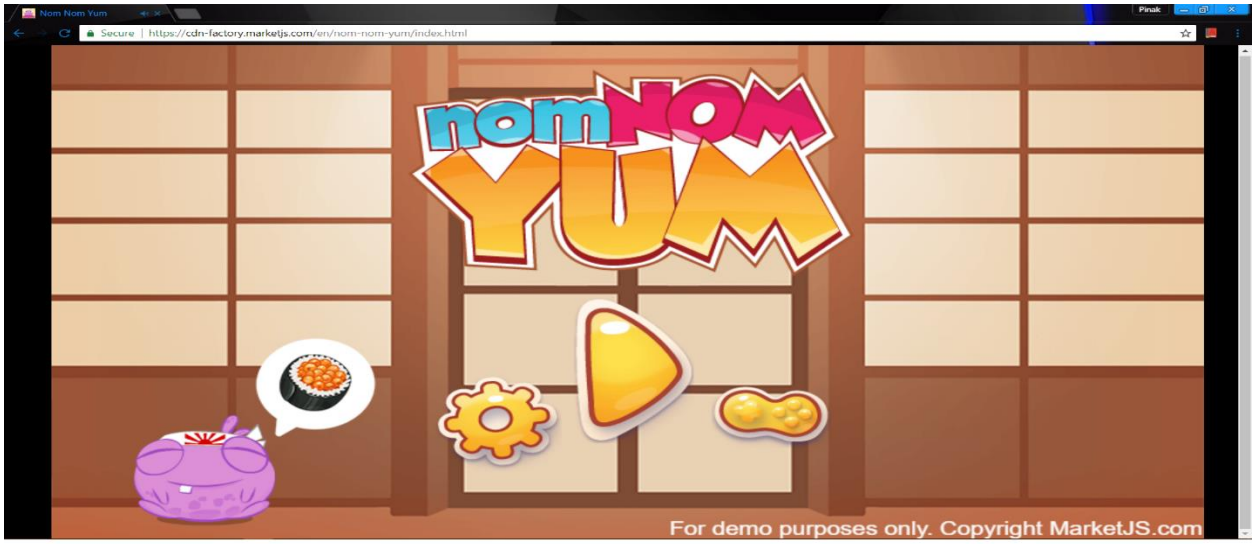
There are total 9 games. Those are mentioned below along with images .



This is the front appearance.

I. Smart Soccer.

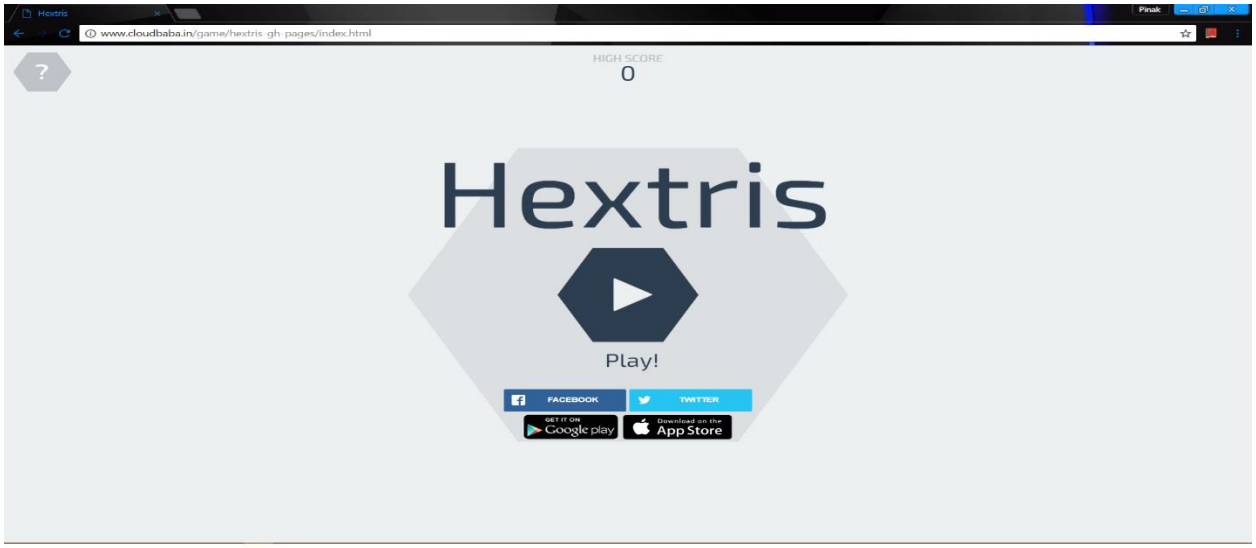
2. Desert Rally.



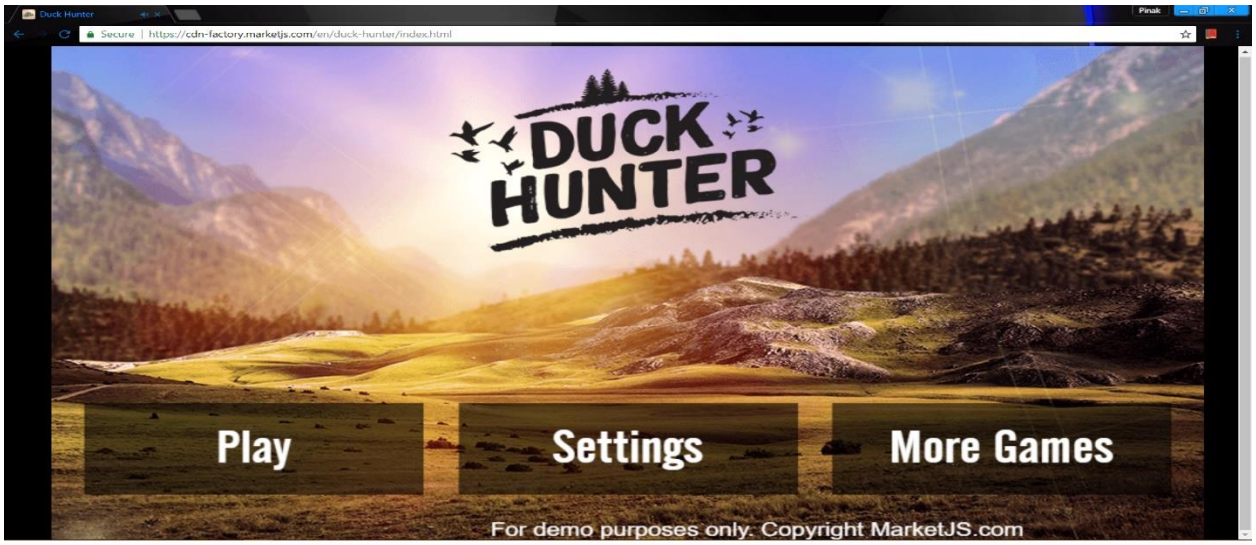
3. Nom Nom Yum.

4. Sky High.

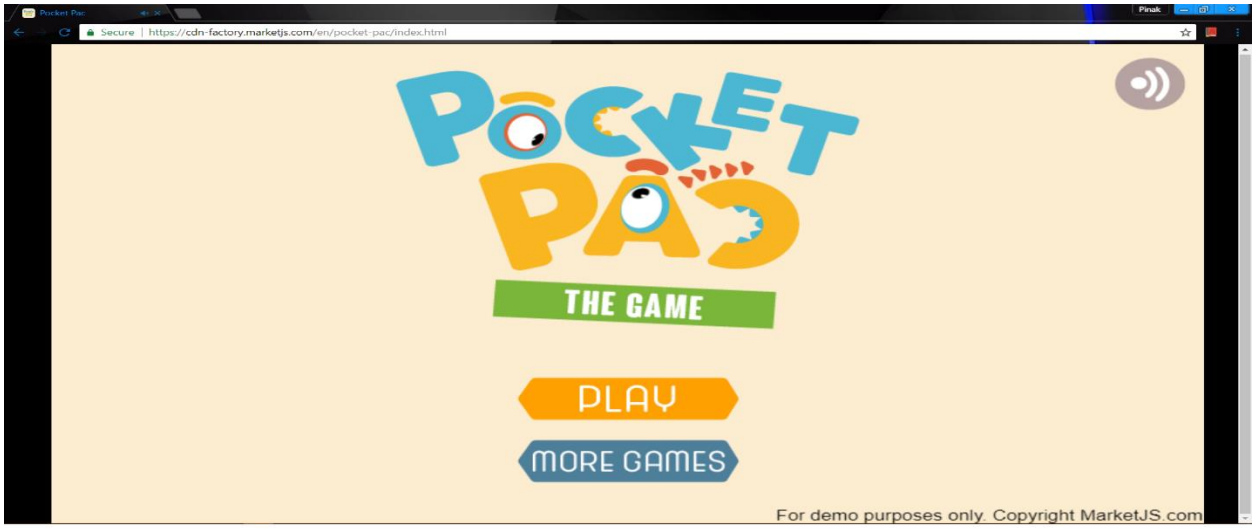
5. Giant Rabbit Run.



6. Hextris.



7. Duck Hunter.



8. Pocket Pad.

9. Muay Thai Training.

Conclusion

It was a wonderful and learning experience for us while working on this project. This project took us through the various phases of project development and gave us real insight into the world of Cloud Computing. The joy of working and the thrill involved while tackling the various problems and challenges gave us a feel of developer's industry.

It was due to this project we came to know how professional websites are designed.

We enjoyed each and every bit of work that we have put into this project. The project is further extendable.

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