Deccan Education Society's

Kirti M. Doongursee College of Arts, Science and Commerce

[NAAC Accredited: "A Grade"]

M.Sc. [Computer Science]

Practical Journal

PAPER: PSCSP301

Roll Number [_____]

Department of Computer Science and Information Technology

C E R T I F I C A T E

This is to certify that Mr./Mrs. _____

of M.Sc. (Computer Science) with Roll No._____ has completed _____

Practicals of Paper **PSCSP301** under my supervision in this College during the

year 2022-2023.

Dr. Neha Ansari.   **Dr. Apurva Yadav.**

Lecturer-In-Charge   **H.O.D.**

                                             Dept of CS & IT

Date: Date:

Examined by: **Remarks:**

Date: _____

Index

| Sr.No	Date	Title	Sign
1		Installation of Citrix Xen. Deployment of virtual machine using Citrix Xen.	
2		Installation of Microsoft Hyper-V. Deployment of virtual machine using Hyper-V.	
3		Demonstrate Model View Controller framework	
4		Implementing Client Server based web service on NetBeans	

Practical No. 1

Aim: Installation of Citrix Xen. Deployment of virtual machine using Citrix Xen.

Step 1: Go to file and Click on New Virtual Machine.
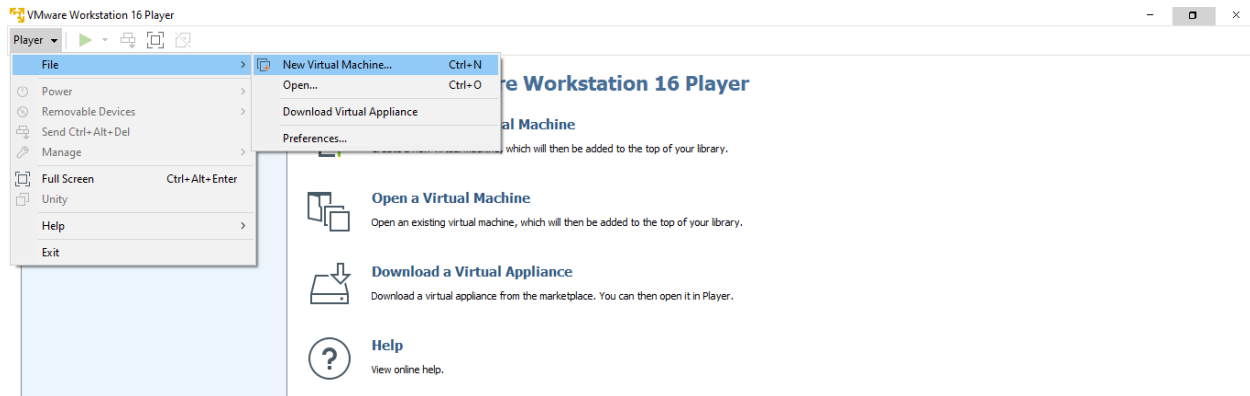
Step 2: Select Installer disc image file (iso) and Browse XenServer iso file.
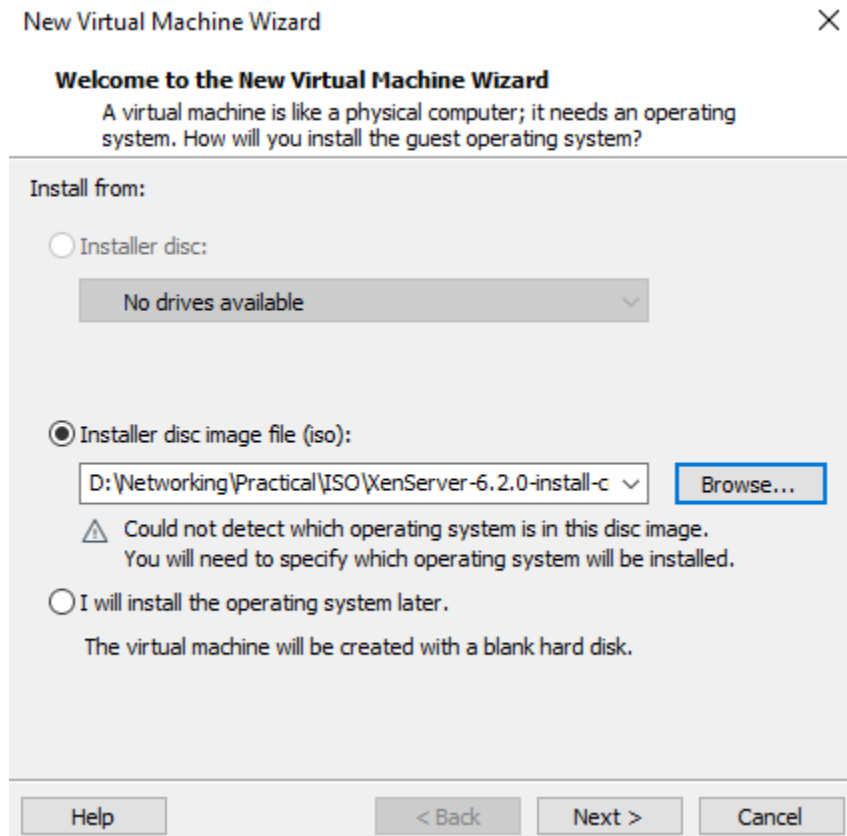
Step 3: Select a Guest Operating System (Linux and select version: Other Linux 2.6.x 64bit)

New Virtual Machine Wizard   ✕

Select a Guest Operating System
Which operating system will be installed on this virtual machine?

Guest operating system
○ Microsoft Windows
◉ Linux
○ Other

Version
Other Linux 2.6.x kernel 64-bit ⌄

Help   < Back   Next >   Cancel

Step 4: Name the Virtual Machine

New Virtual Machine Wizard   ✕

Name the Virtual Machine
What name would you like to use for this virtual machine?

Virtual machine name:
Practical 2

Location:
D:\Networking\Practical\VMware Practicals\practical2   Browse...

< Back   Next >   Cancel

Select Disk size 50GB

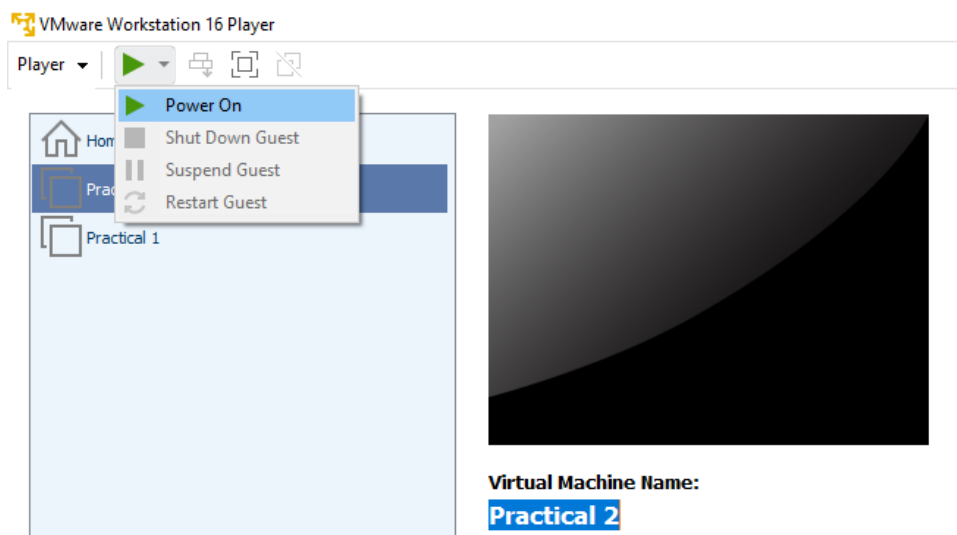**Step 5:** Edit virtual machine setting

Change Memory to 4GB, Processor 2 and Check Virtualize Intel VT and Network Host only.

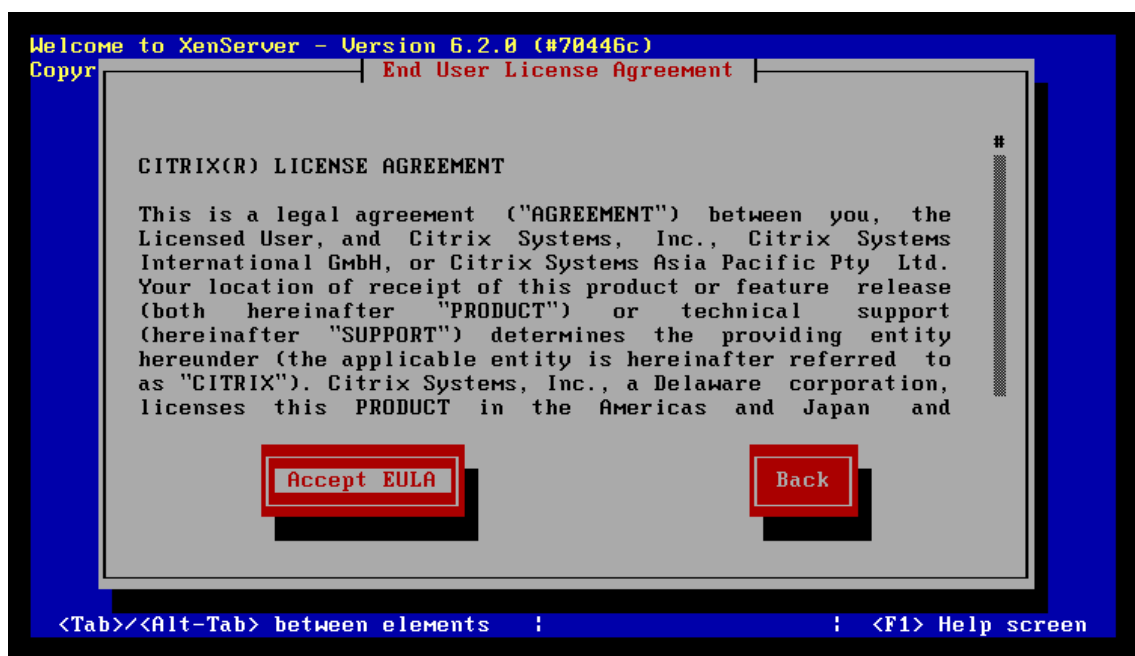Then Power on the virtual machine
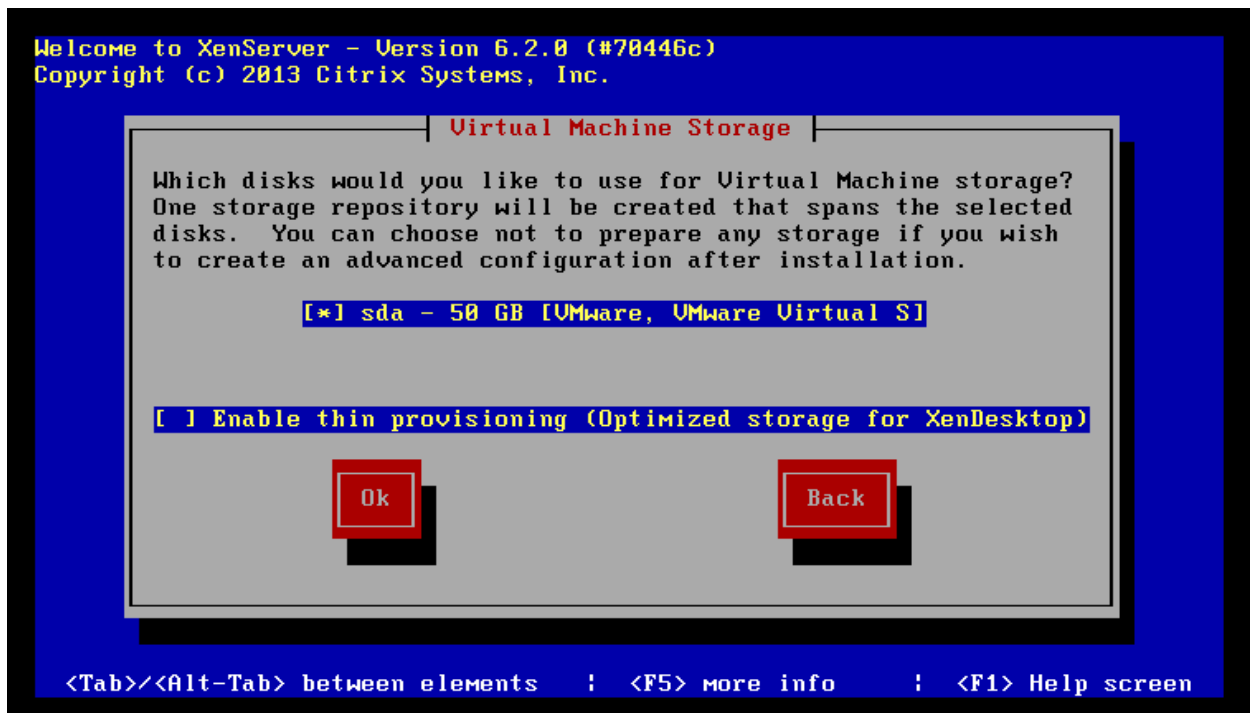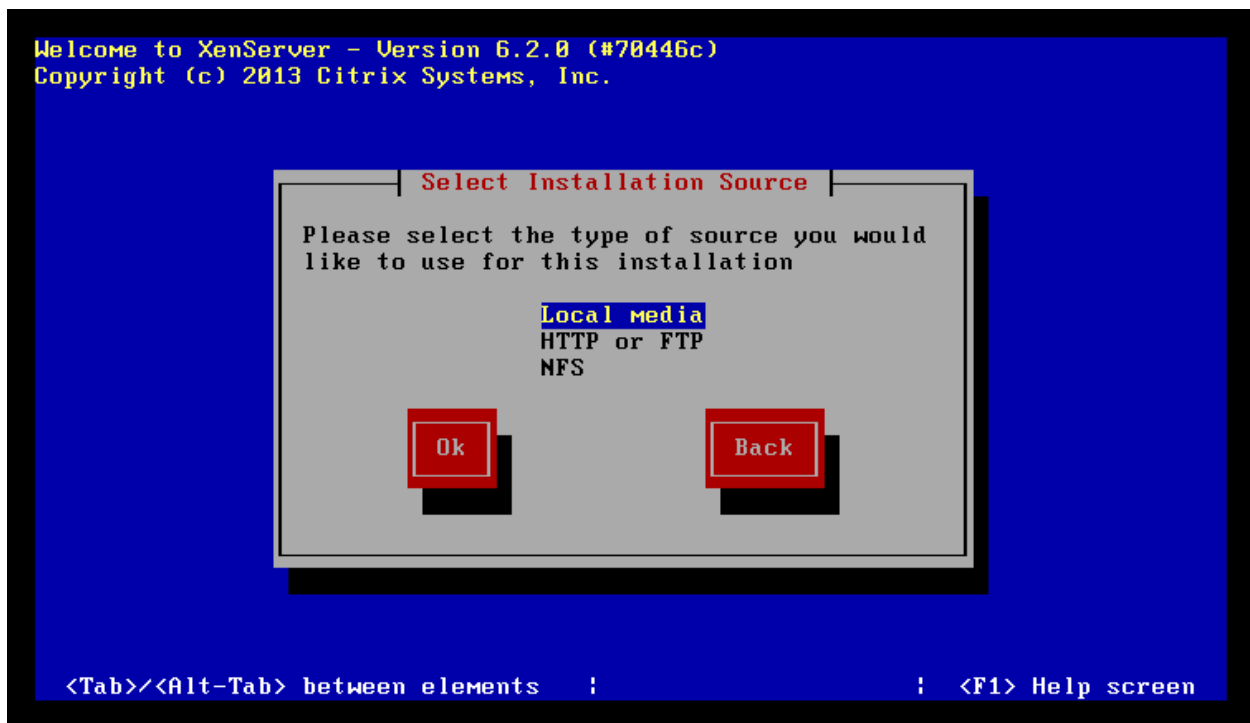
Step 6: Installation process start.
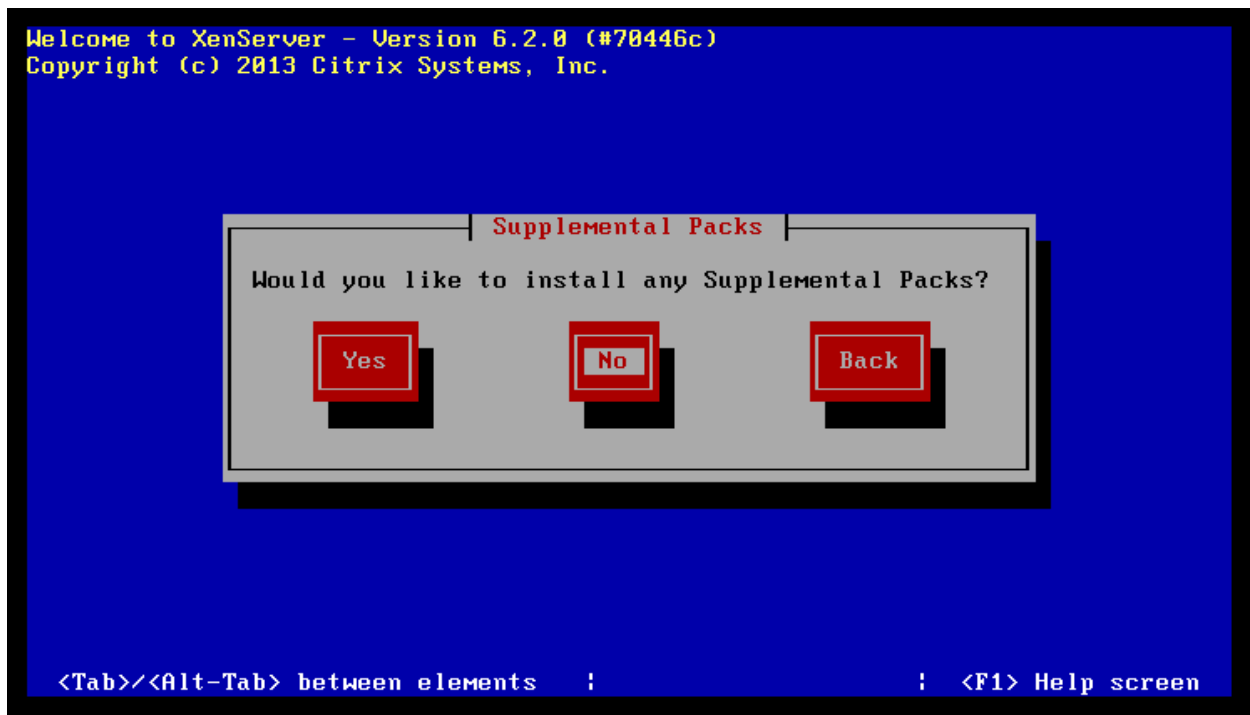

Accept License
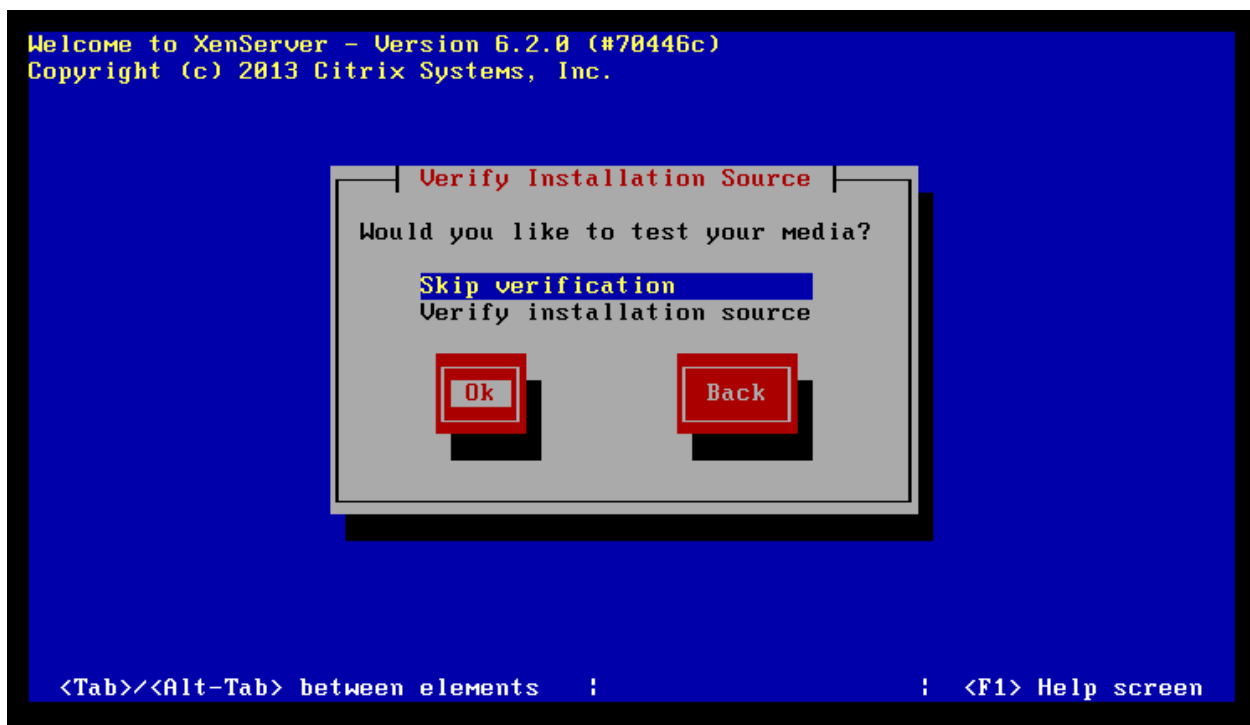
Select Disk and Click ok.

Select Installation Media as Local

Select Supplement Packs: No

Then Skip verification

Enter Password

Welcome to XenServer - Version 6.2.0 (#70446c)
Copyright (c) 2013 Citrix Systems, Inc.

┤ Set Password ├

Please specify a password of at least 6
characters for the root account.

(This is the password used when connecting
to the XenServer Host from XenCenter.)

Password *********_____
Confirm *********_____

Ok   Back

<Tab>/<Alt-Tab> between elements   ┊   ┊ <F1> Help screen

Select Automatic configuration (DHCP)

Welcome to XenServer - Version 6.2.0 (#70446c)
Copyright (c) 2013 Citrix Systems, Inc.

┤ Networking ├

Please specify how networking should be configured
for the management interface on this host.

(*) Automatic configuration (DHCP)
( ) Static configuration:
        IP Address: _____
        Subnet mask: _____
        Gateway: _____

Ok   Back

<Tab>/<Alt-Tab> between elements   ┊   ┊ <F1> Help screen
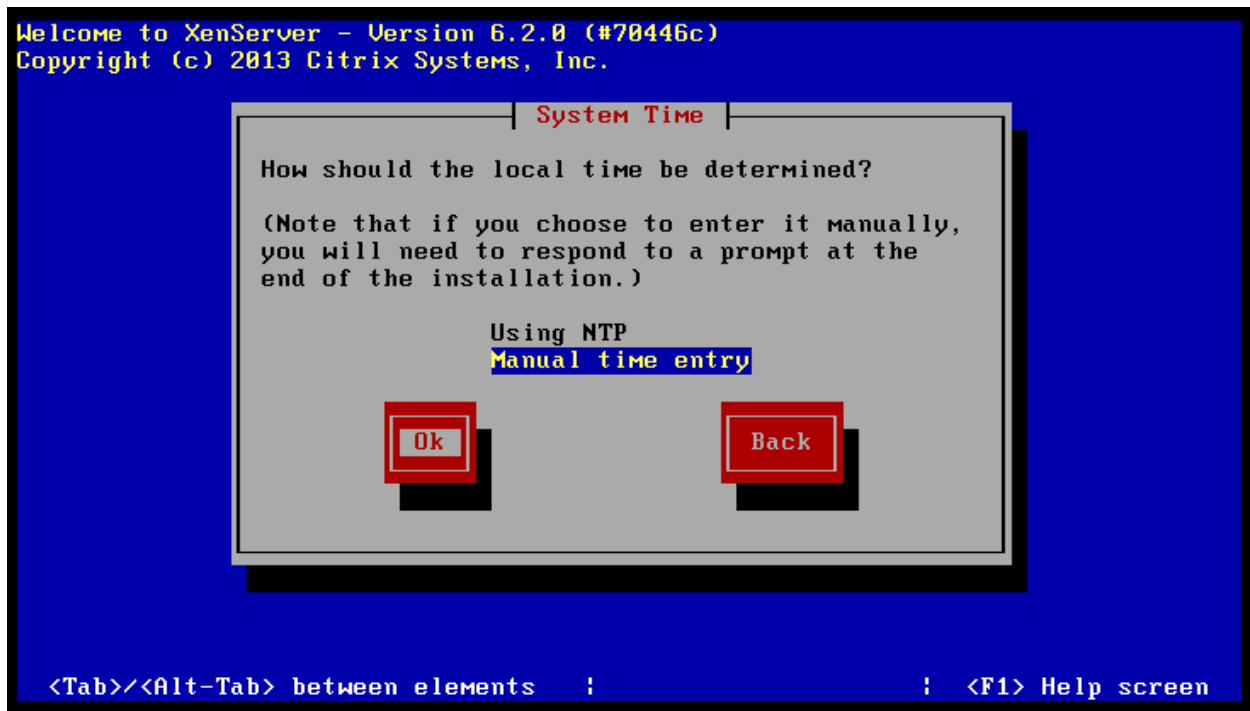
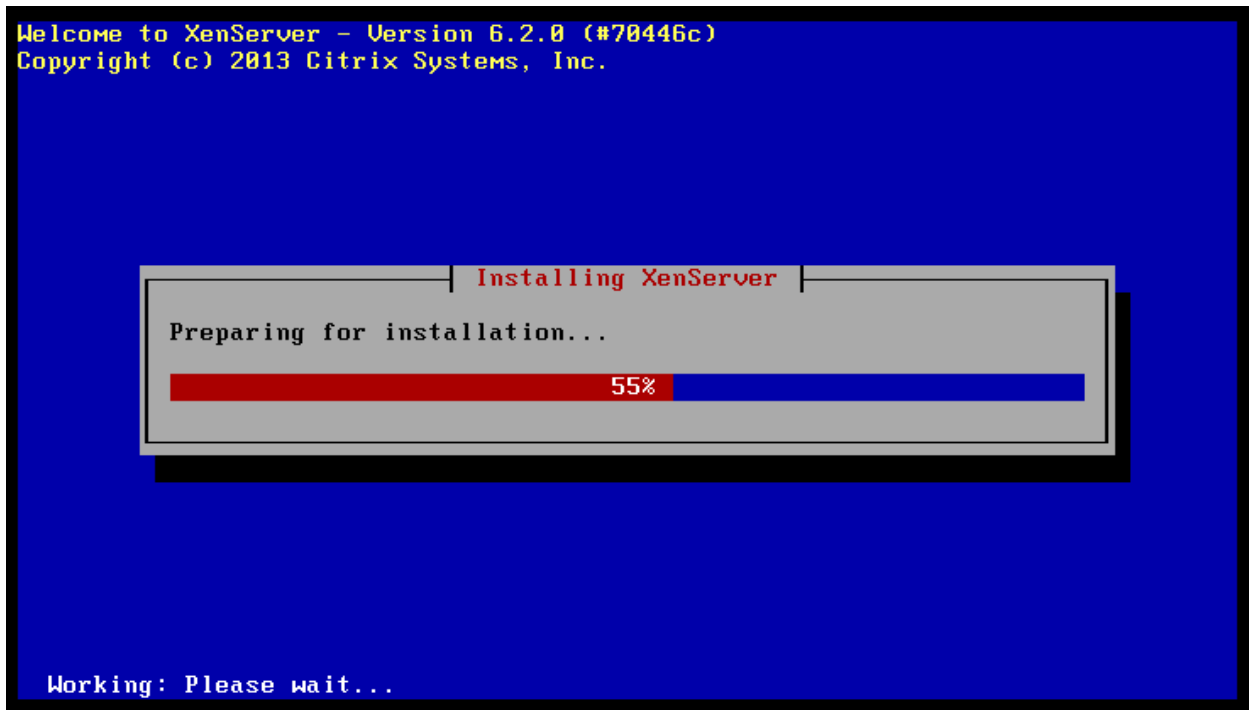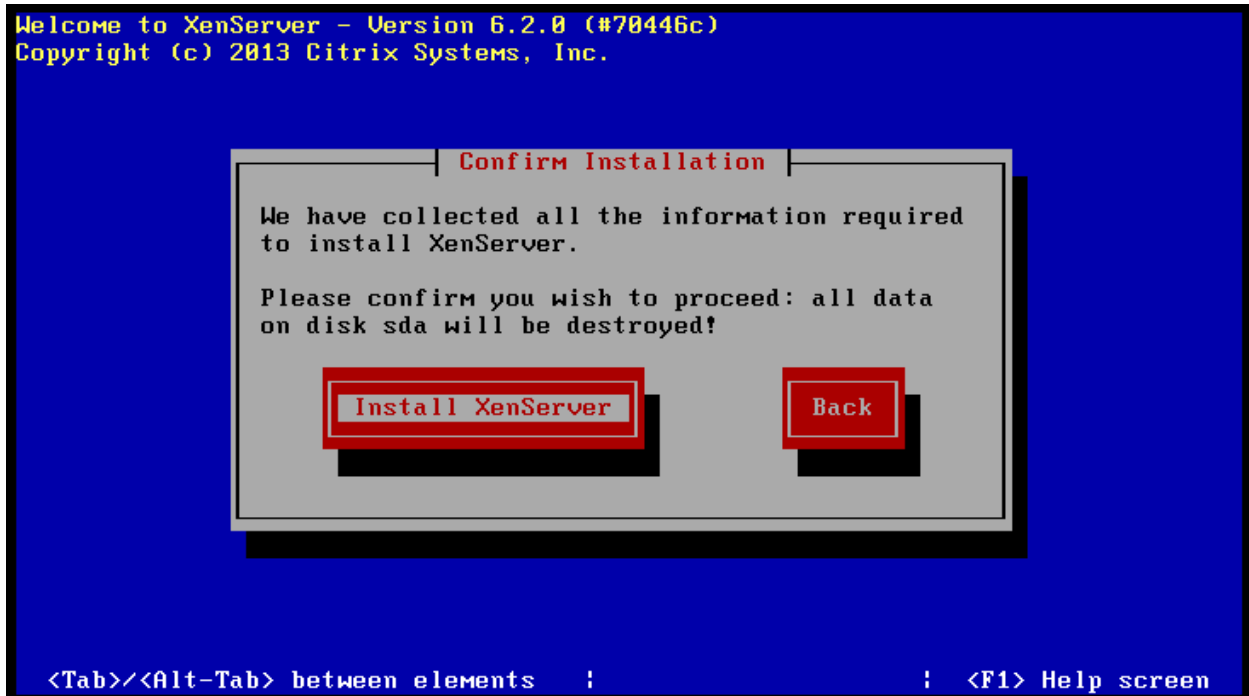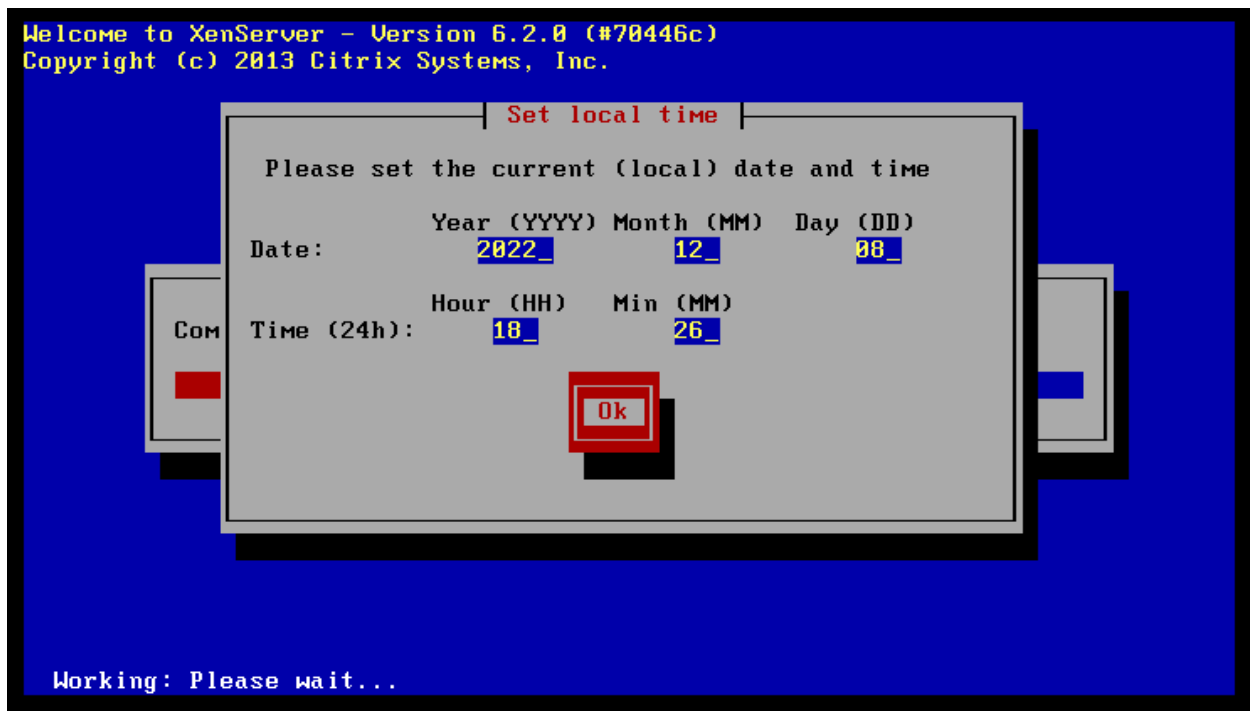Now Configuring Hostname and DNS set as below
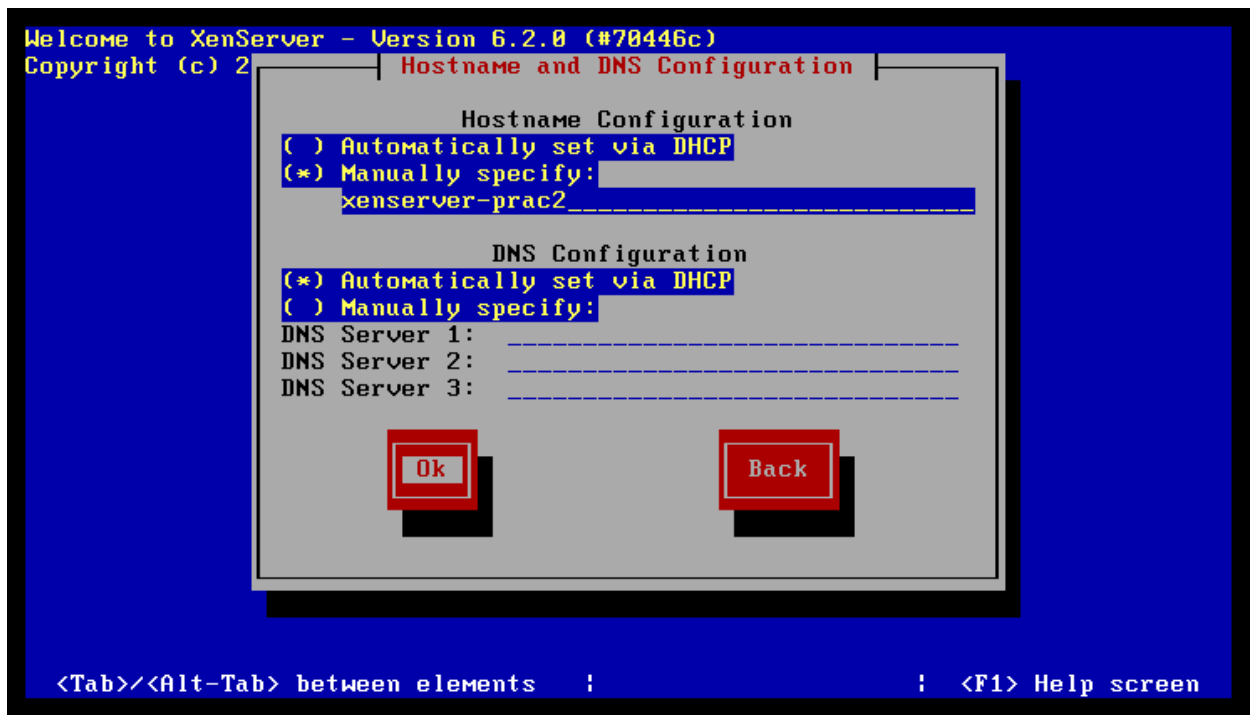
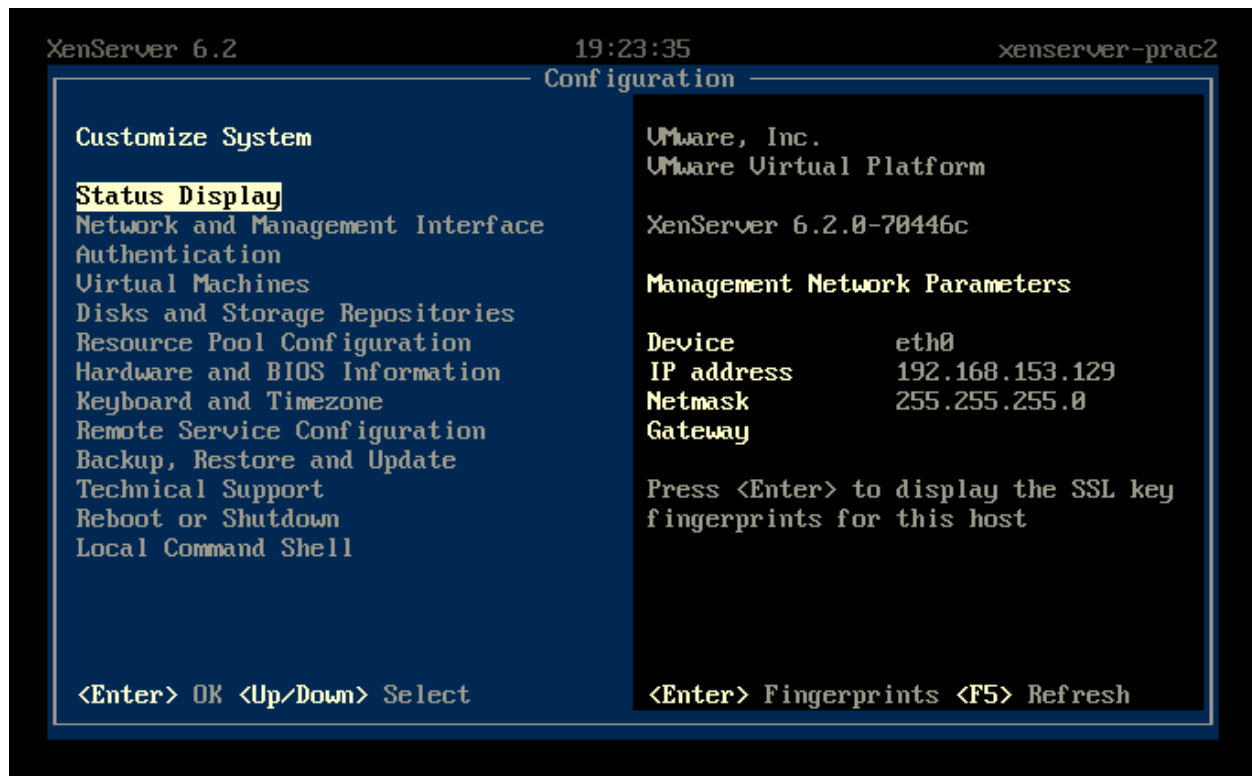Select Time Zone: Asia
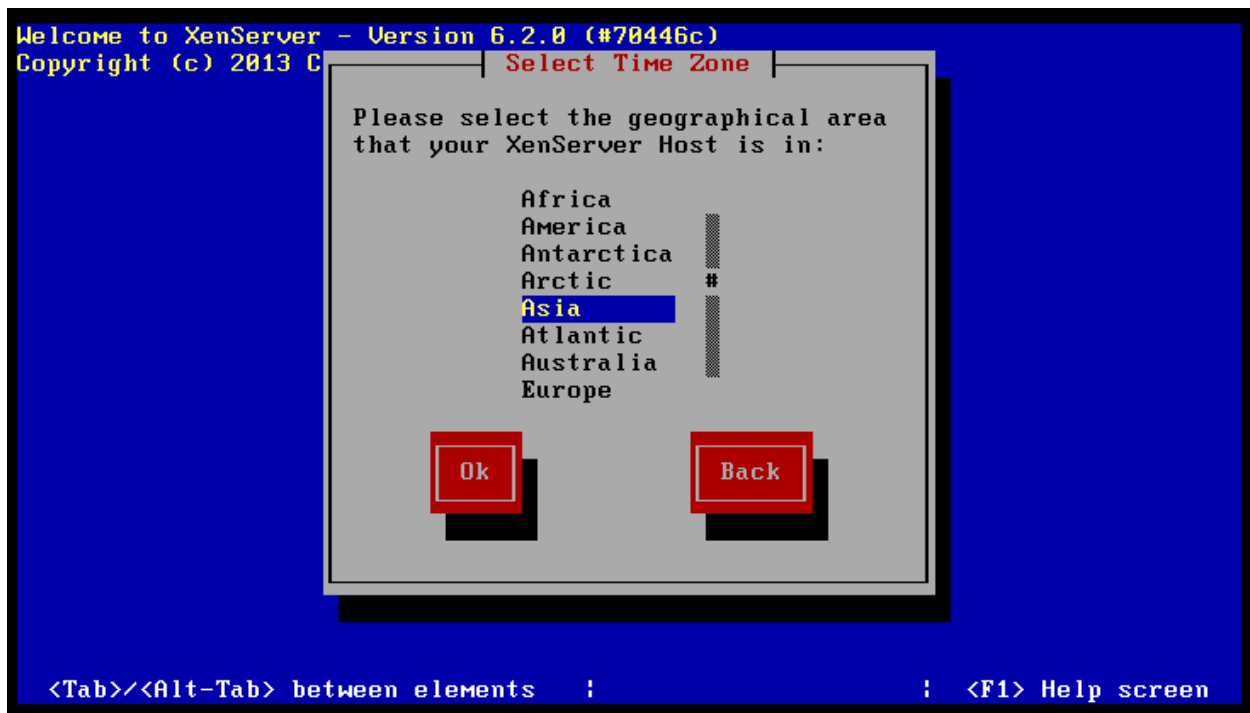
Then Select Manual Time Entry

Click on Install

Welcome to XenServer - Version 6.2.0 (#70446c)
Copyright (c) 2013 Citrix Systems, Inc.

┤ Confirm Installation ├

We have collected all the information required
to install XenServer.

Please confirm you wish to proceed: all data
on disk sda will be destroyed!

Install XenServer   Back

<Tab>/<Alt-Tab> between elements   ┆   ┆ <F1> Help screen

Welcome to XenServer - Version 6.2.0 (#70446c)
Copyright (c) 2013 Citrix Systems, Inc.

┤ Installing XenServer ├

Preparing for installation...

55%

Working: Please wait...

Set Date and Time

And reboot it.

Done


```
XenServer 6.2                      19:23:35           xenserver-prac2
                         ─ Configuration ─
  Customize System                   VMware, Inc.
                                     VMware Virtual Platform
  Status Display
  Network and Management Interface   XenServer 6.2.0-70446c
  Authentication
  Virtual Machines                   Management Network Parameters
  Disks and Storage Repositories
  Resource Pool Configuration        Device          eth0
  Hardware and BIOS Information       IP address      192.168.153.129
  Keyboard and Timezone              Netmask         255.255.255.0
  Remote Service Configuration       Gateway
  Backup, Restore and Update
  Technical Support                  Press <Enter> to display the SSL key
  Reboot or Shutdown                 fingerprints for this host
  Local Command Shell




  <Enter> OK <Up/Down> Select        <Enter> Fingerprints <F5> Refresh
```

Step 7: Install XenClient Software

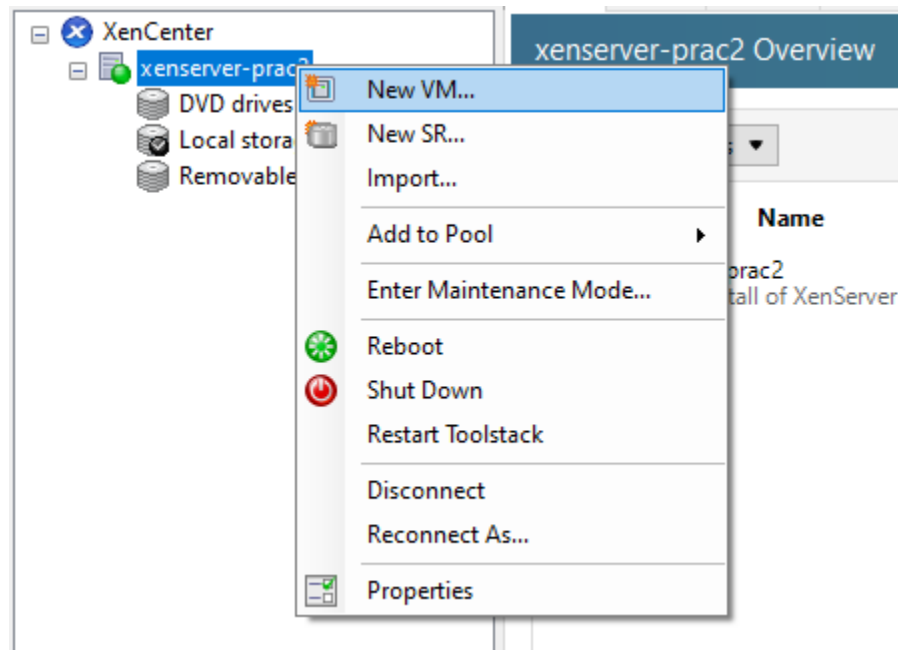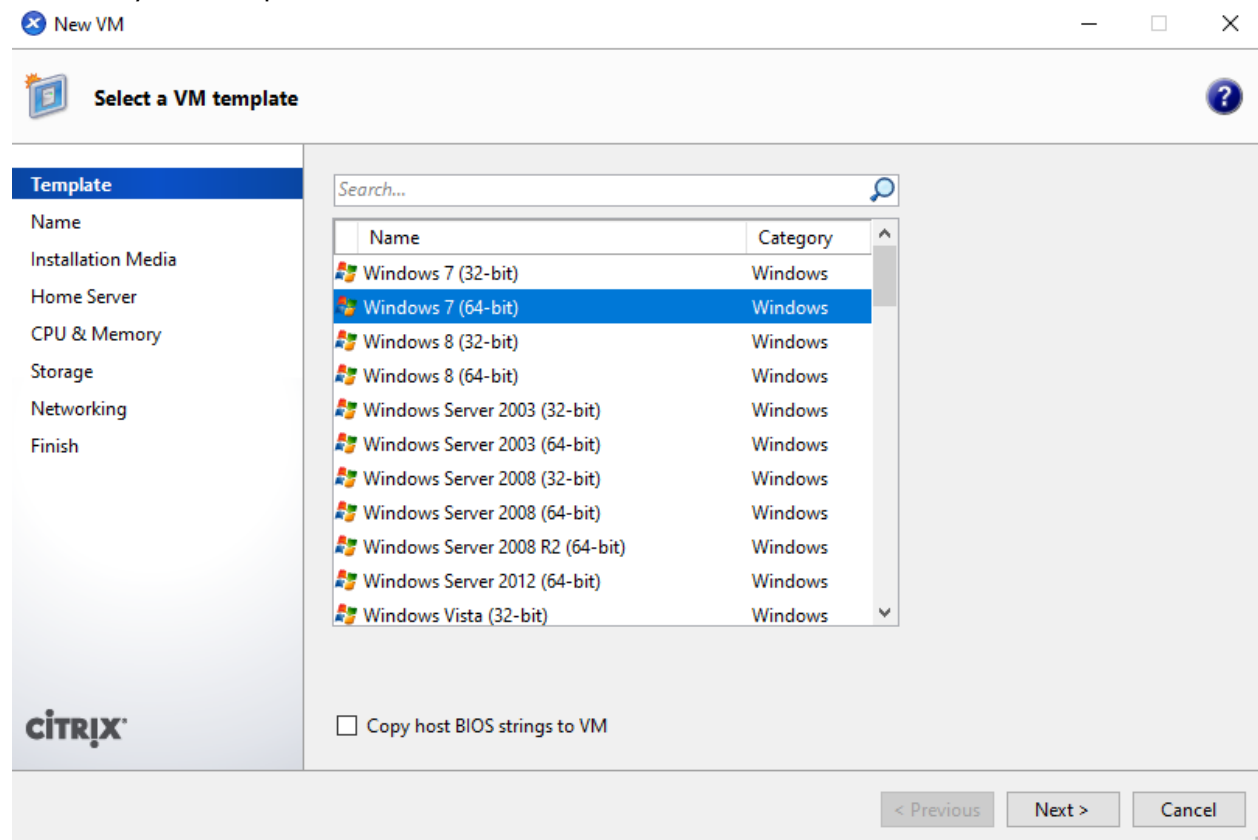| Name	Date modified	Type	Size
VMware-viclient-all-5.1.0-786111	6/22/2013 1:08 PM	Application	355,688 KB
VMware-viclient-all-5.1.0-786111	7/31/2022 12:41 PM	Compressed (zipp...	355,694 KB
VMware-VMvisor-Installer-5.1.0-799733.x...	9/26/2012 3:56 AM	Disc Image File	307,798 KB
VMware-VMvisor-Installer-5.1.0-799733.x...	7/31/2022 12:41 PM	Compressed (zipp...	301,721 KB
Windows Server 2012RC	11/27/2022 2:55 PM	Disc Image File	3,535,730 KB
XenServer-6.2.0-install-cd (ISO Image)	11/8/2022 11:49 AM	Compressed (zipp...	566,117 KB
XenServer-6.2.0-install-cd	7/20/2013 9:45 AM	Disc Image File	576,610 KB
XenServer-6.2.0-XenCenter (Client)	11/8/2022 11:49 AM	Compressed (zipp...	48,891 KB
XenServer-6.2.0-XenCenter	10/26/2013 2:28 PM	Windows Installer ...	49,649 KB

Open XenClient
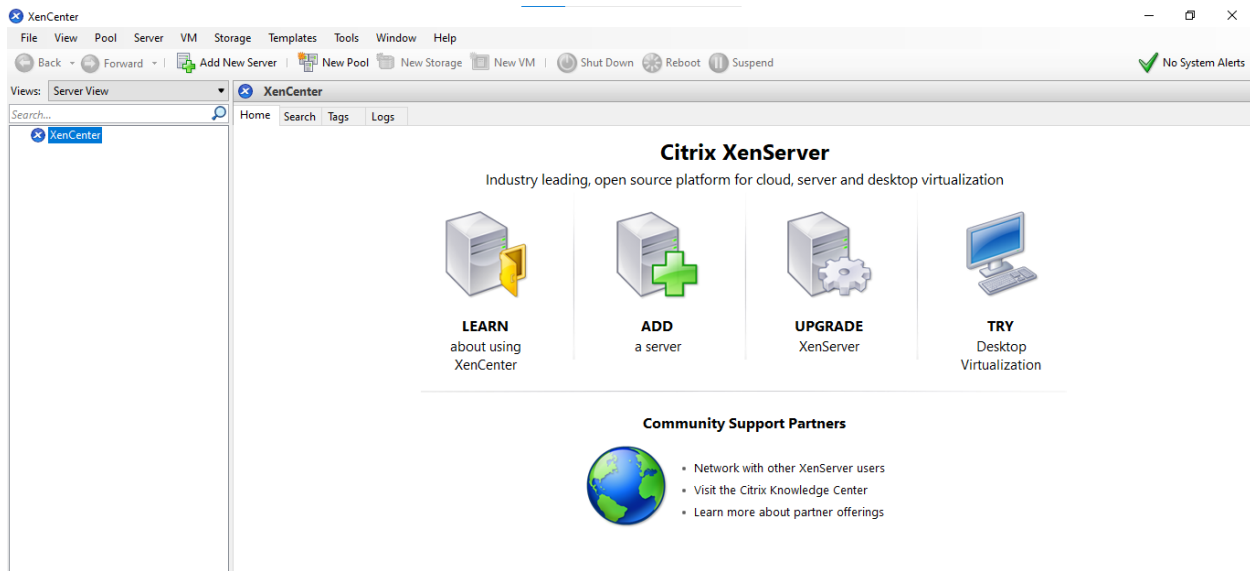
Step 8: Click on Add and Enter IP Address and Password and Click on Add

Click on New VPN

Select any VM Template

Give Name and Click on Next

New VM

Name the new virtual machine

Template
Name
Installation Media
Home Server
CPU & Memory
Storage
Networking
Finish

Enter a name that will help you to identify the virtual machine later. This could be a name that describes its software and hardware such as RHEL DHCP Server, Win2K3 XenApp Server or Exchange 2007 Client Access Server. This name will also be displayed in XenCenter's Resources pane and can be changed later.

You can also add a more detailed description of the VM, if you wish.

Name: Prac-2

Description:

CITRIX

< Previous   Next >   Cancel

New VM

Locate the operating system installation media

Template
Name
Installation Media
Home Server
CPU & Memory
Storage
Networking
Finish

Select the installation method for the operating system software you want to install on the new VM.

◉ Install from ISO library or DVD drive:

    DVD drive 0 on xenserver-prac2   New ISO library...

○ Boot from network

CITRIX

< Previous   Next >   Cancel

Set Memory 2048

Uncheck the checkbox and Click on Create Now
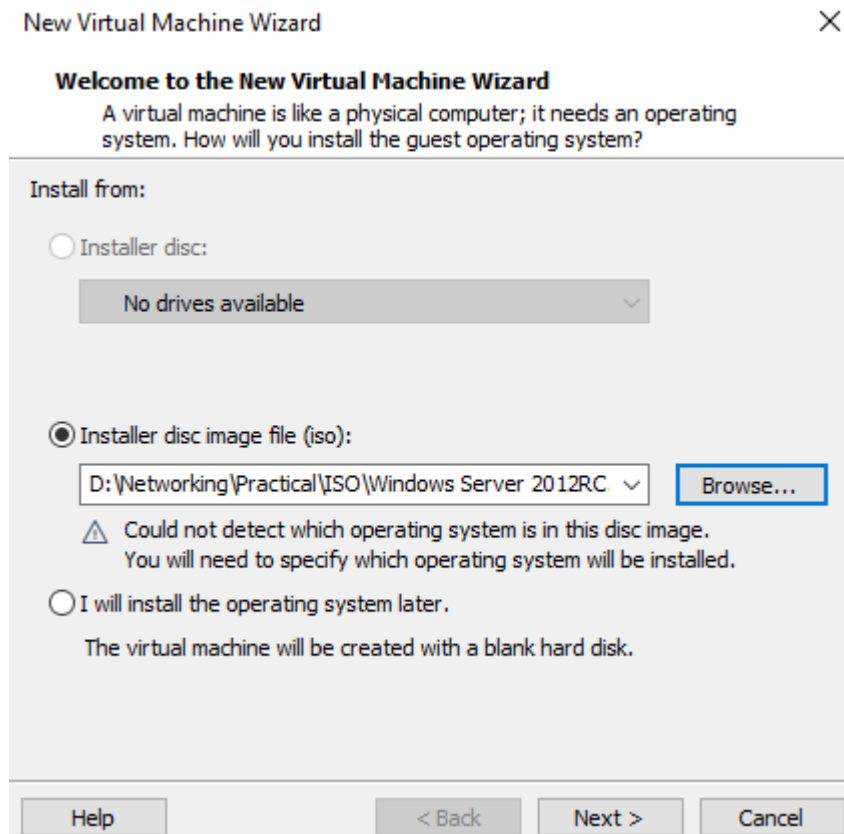
Done

Practical No. 2

Aim: Installation of Microsoft Hyper-V. Deployment of virtual machine using Hyper-V.

Step 1: Go to file and Click on New Virtual Machine
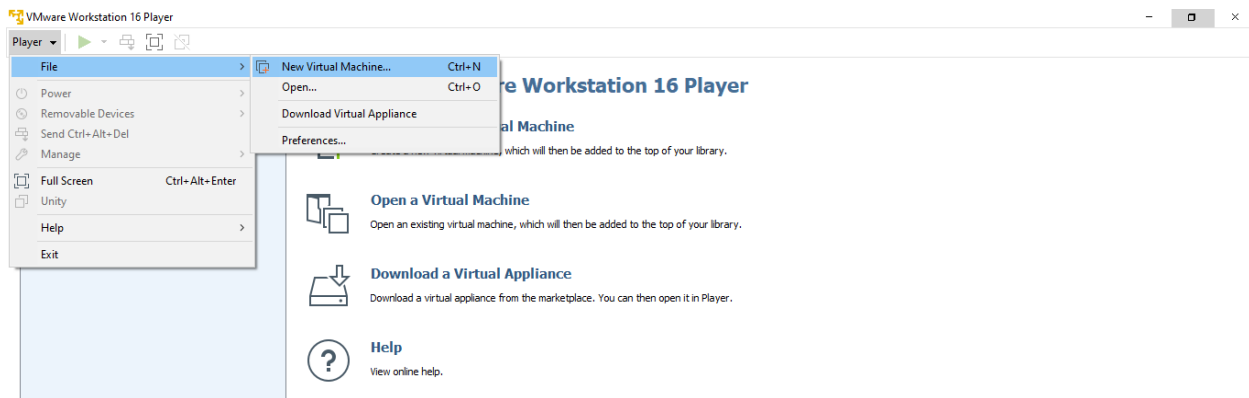
Step 2: Select Installer disc image file (iso) and Browse XenServer iso file.

Step 3: Select a Guest Operating System (Microsoft and select version: Hyper-V)

New Virtual Machine Wizard   ✕

Select a Guest Operating System
Which operating system will be installed on this virtual machine?

Guest operating system

◉ Microsoft Windows
◯ Linux
◯ Other

Version

Hyper-V (unsupported)   ⌄

Help		< Back	Next >	Cancel

Step 4: Name the Virtual Machine

New Virtual Machine Wizard   ✕

Name the Virtual Machine
What name would you like to use for this virtual machine?

Virtual machine name:

Practical 3

Location:

D:\Networking\Practical\VMware Practicals\practical3   Browse...

< Back	Next >	Cancel

Select Disk size 60GB

New Virtual Machine Wizard   ✕

Name the Virtual Machine
What name would you like to use for this virtual machine?

Virtual machine name:

Practical 3

Location:

D:\Networking\Practical\VMware Practicals\practical3   Browse...

                                    < Back   Next >   Cancel

Step 5: Edit virtual machine setting

VMware Workstation 16 Player

Player ▼   ▶ ▼   🖥   ⬜   ⬛

🏠 Home

Practical 3

Practical 2

Practical 1

Virtual Machine Name:
Practical 3

State: Powered Off
OS: Hyper-V (unsupported)
Version: Workstation 16.2.x virtual machine
RAM: 1 GB

▶ Play virtual machine
🔧 Edit virtual machine settings

Change Memory to 4GB, Processor 2 and Check Virtualize Intel VT and Network NAT.
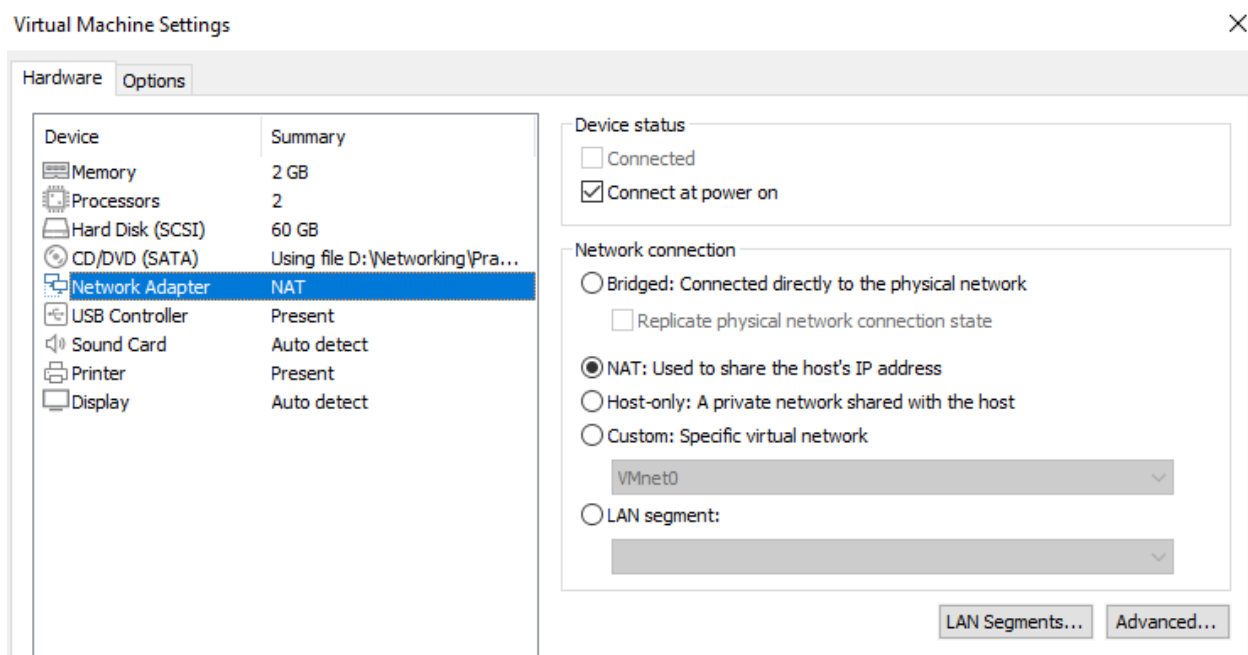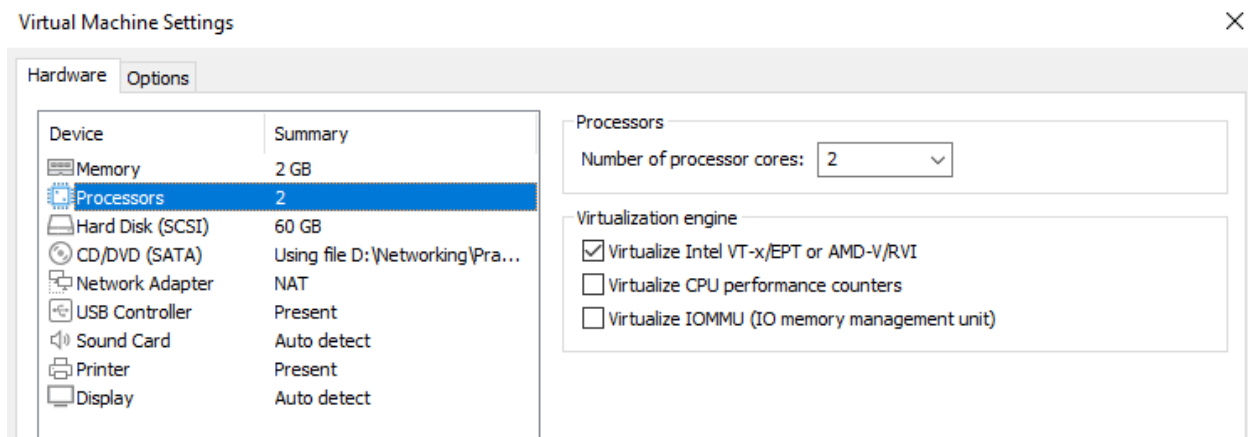
Step 6: Create empty folder in C drive

Copy Windows Server iso and paste in Newly created folder (ISO)

PC > Local Disk (C:) > ISO

Name	Date modified	Type	Size
Windows Server 2012RC	11/27/2022 2:55 PM	Disc Image File	3,535,730 KB

Right click on ISO folder and Click on properties

ISO	12/8/2022 10:34 PM	File folder
PerfLogs		File folder
Program Files		File folder
Program Files (x86)		File folder
Users		File folder
WINDOWS		File folder
xampp		File folder

Context menu:
- **Open**
- Open in new window
- Pin to Quick access
- Git GUI Here
- Git Bash Here
- Scan with Microsoft Defender...
- Give access to >
- Restore previous versions
- Include in library >
- Pin to Start
- Add to archive...
- Add to "ISO.rar"
- Compress and email...
- Compress to "ISO.rar" and email
- Send to >
- Cut
- Copy
- Create shortcut
- Delete
- Rename
- Properties

Inside properties go to Sharing

ISO Properties   ×

General | Sharing | Security | Previous Versions | Customize

Network File and Folder Sharing

ISO
Not Shared

Network Path:
Not Shared

Share...

Advanced Sharing

Set custom permissions, create multiple shares, and set other advanced sharing options.

Advanced Sharing...
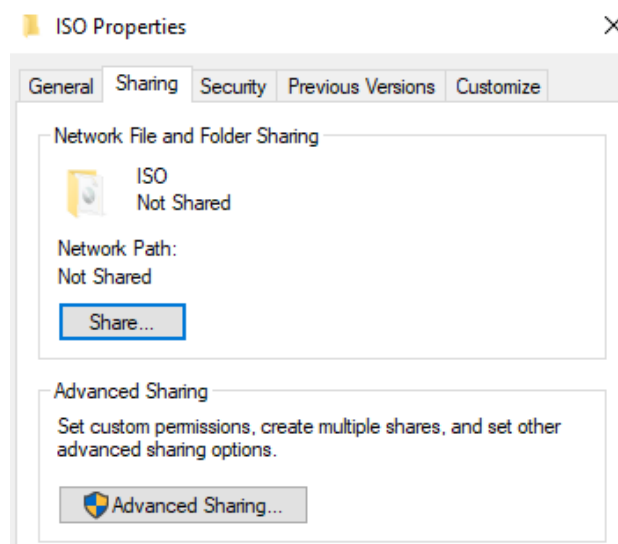
Click on Share and Select Everyone from dropdown
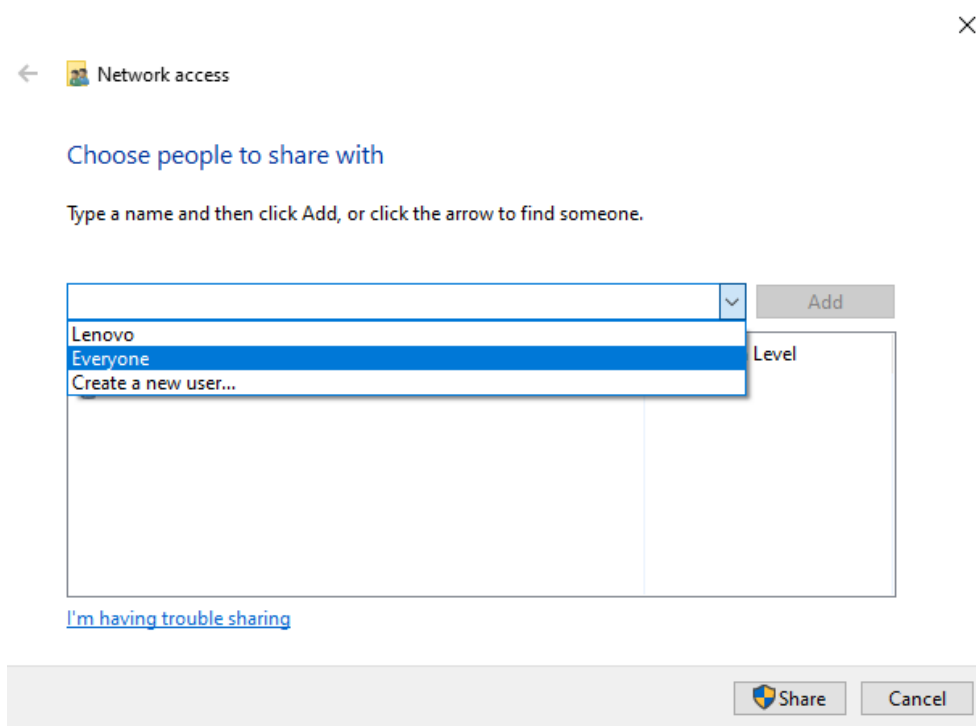
Then click on Add and Give Read Write permission. Then click on Share
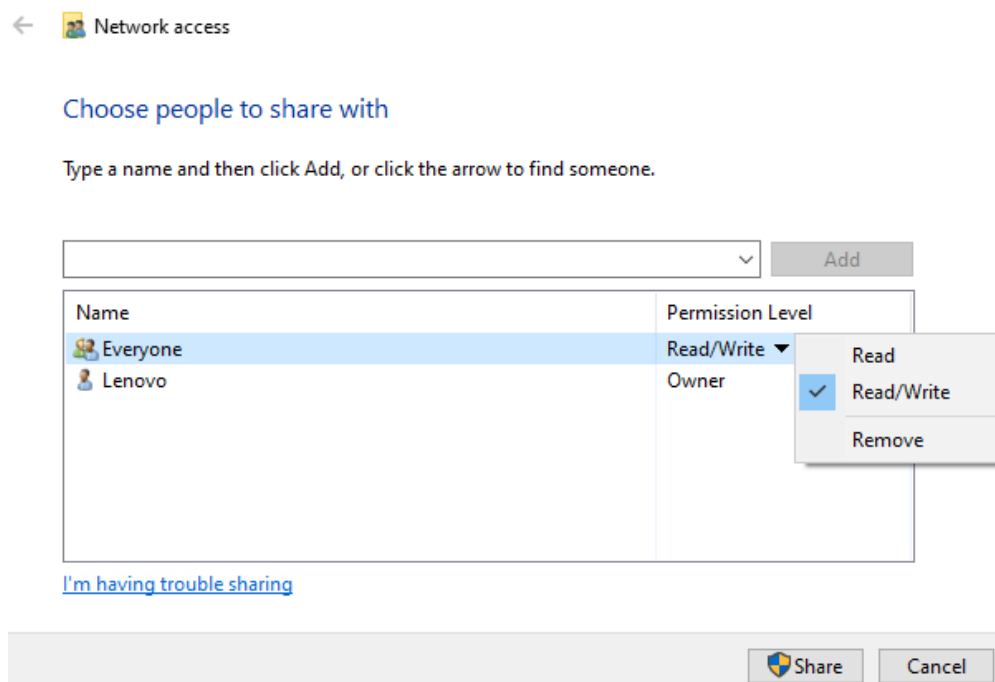
Step 7: Go to VMWare and Edit virtual machine setting. Go to options
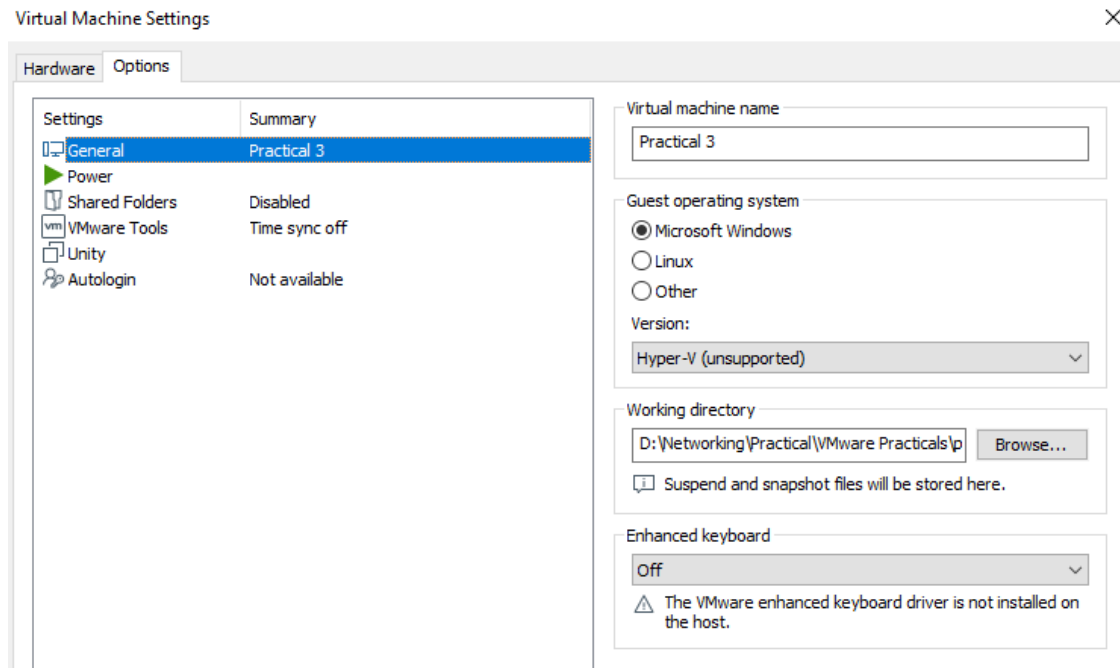
Go to shared folder and select Always enabled option. Check checkbox
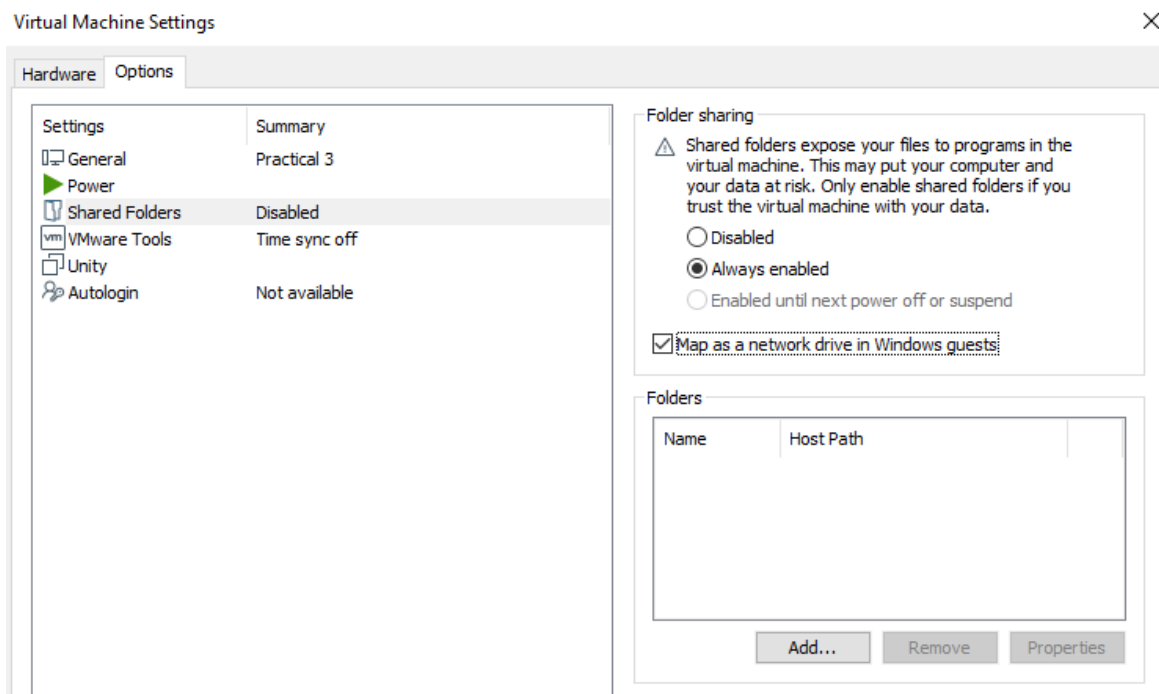
Then click on Add. After click on Add the new window pop up.

Click on Next. Browse the shared folder
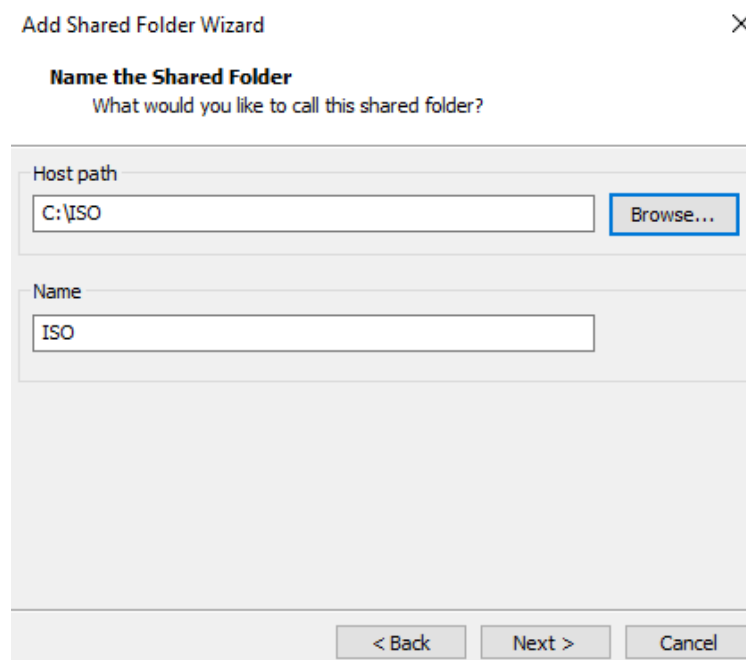
Check Enable share checkbox and then Finish
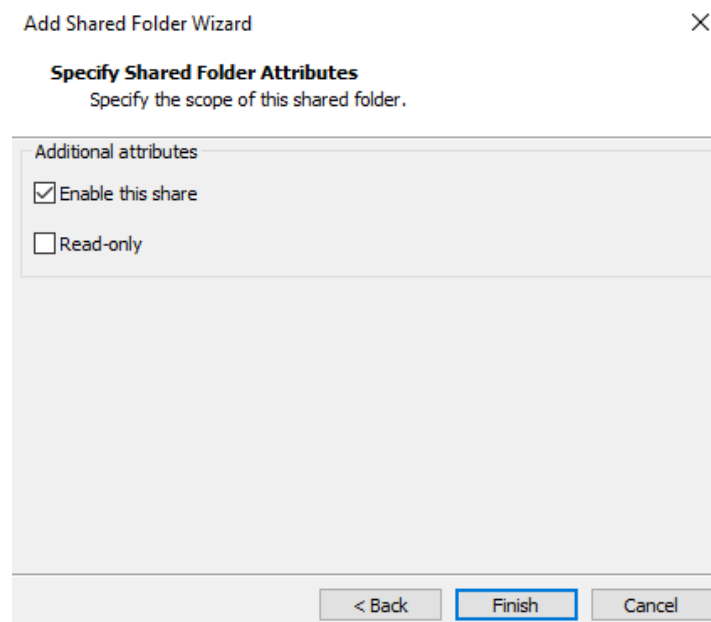
Power on the virtual machine
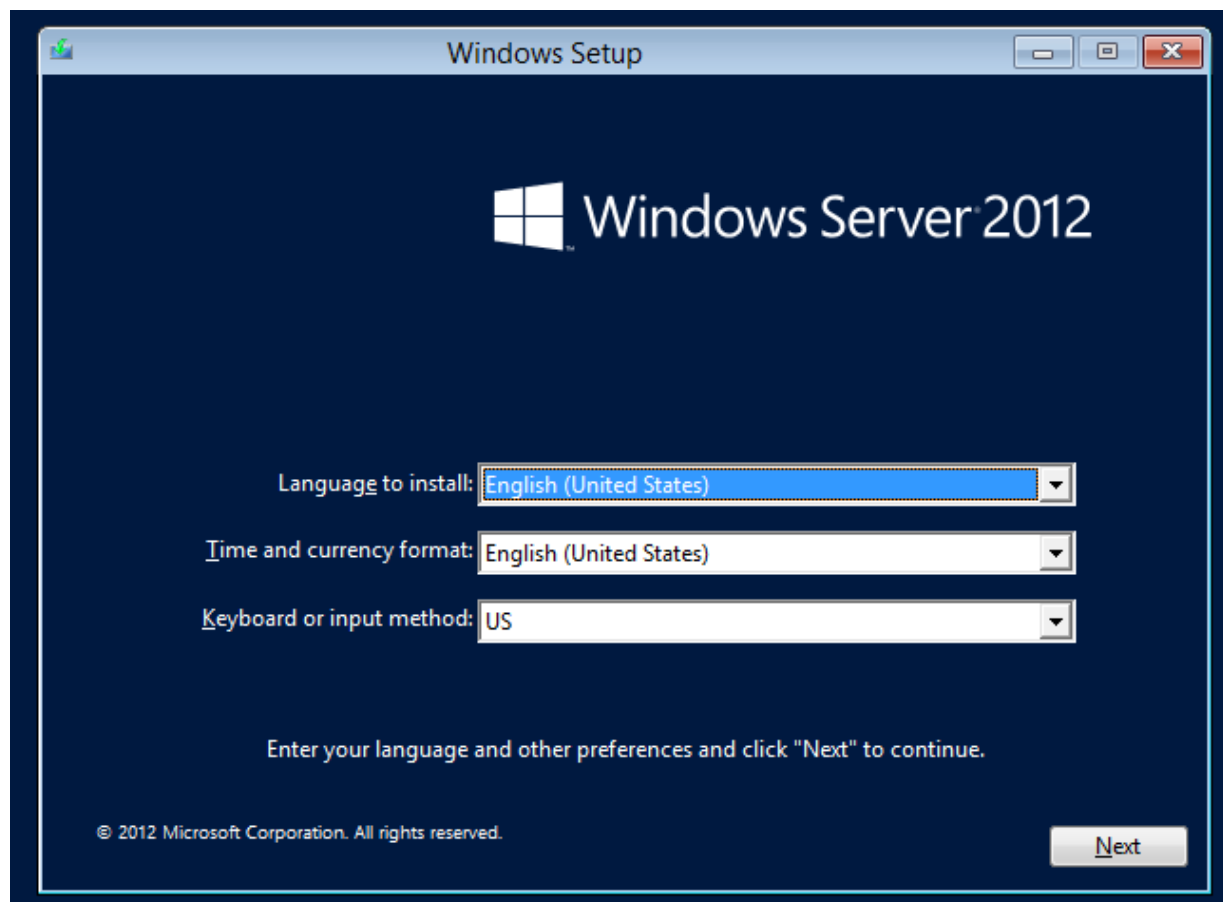
Select GUI
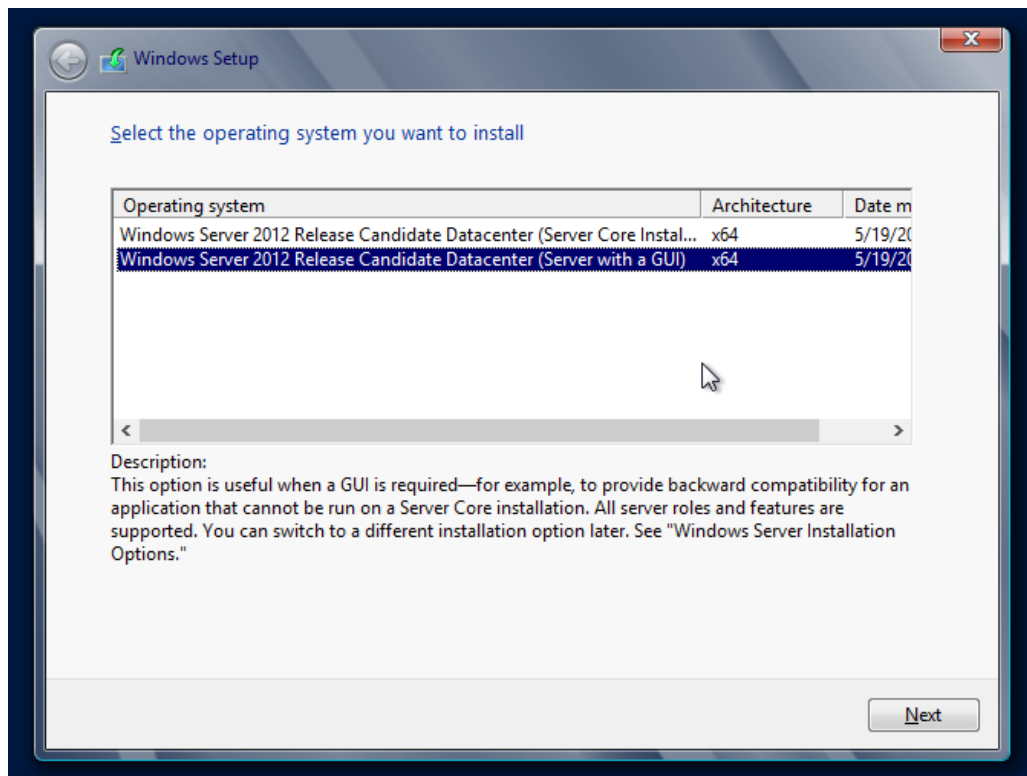
Select Custom and then Select Drive
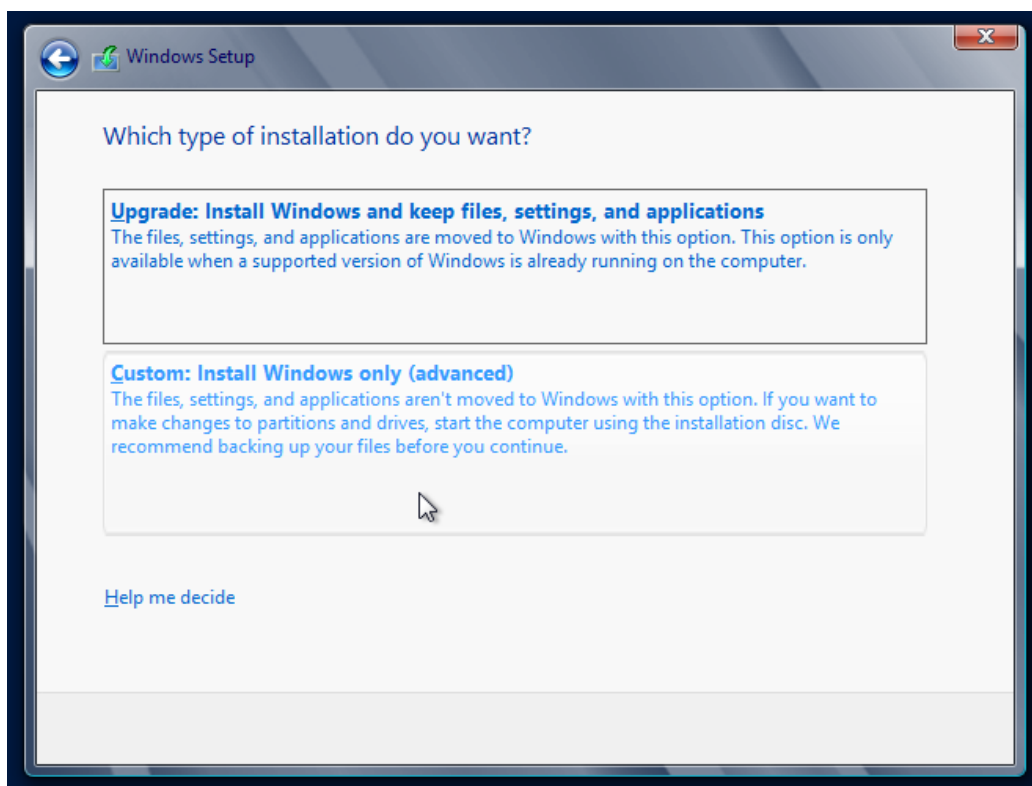
After Successfully installation. Enter Password and click on Finish

Settings

Type a password for the built-in administrator account that you can use to sign in to this computer.

User name	Administrator
Password	••••••••
Reenter password	•••••••••

After that click on Add roles and features

WELCOME TO SERVER MANAGER

- Dashboard
- Local Server
- All Servers
- File and Storage Services ▷

QUICK START

1 Configure this local server

2 Add roles and features

3 Add other servers to manage

4 Create a server group

WHAT'S NEW

LEARN MORE

Hide

Select Installation type Rolde based

Select installation type

DESTINATION SERVER
WIN-AAK8J65V189

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD).

◉ **Role-based or feature-based installation**
Configure a single server by adding roles, role services, and features.

○ **Remote Desktop Services installation**
Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

Select Server Role Hyper-V. Add feature and click on Next.

Select server roles

DESTINATION SERVER
WIN-AAK8J65V189

Select one or more roles to install on the selected server.

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results

Roles

- [ ] Active Directory Certificate Services
- [ ] Active Directory Domain Services
- [ ] Active Directory Federation Services
- [ ] Active Directory Lightweight Directory Services
- [ ] Active Directory Rights Management Services
- [ ] Application Server
- [ ] DHCP Server
- [ ] DNS Server
- [ ] Fax Server
- ▷ ☐ File And Storage Services (Installed)
- [ ] Hyper-V
- [ ] Network Policy and Access Services
- [ ] Print and Document Services
- [ ] Remote Access
- [ ] Remote Desktop Services

Description

Hyper-V provides the services that you can use to create and manage virtual machines and their resources. Each virtual machine is a virtualized computer system that operates in an isolated execution environment. This allows you to run multiple operating systems simultaneously.

< Previous   Next >   Install   Cancel

Add Roles and Features Wizard

Add features that are required for Hyper-V?

The following tools are required to manage this feature, but do not have to be installed on the same server.

⊿ Remote Server Administration Tools
⊿ Role Administration Tools
⊿ Hyper-V Management Tools
[Tools] Hyper-V Module for Windows PowerShell
[Tools] Hyper-V GUI Management Tools

☑ Include management tools (if applicable)

Add Features   Cancel

Select Dot Net 3.5 click Next

Select Restart checkbox

Click on Install

Open Folder and Go to Network, click to change and turn on
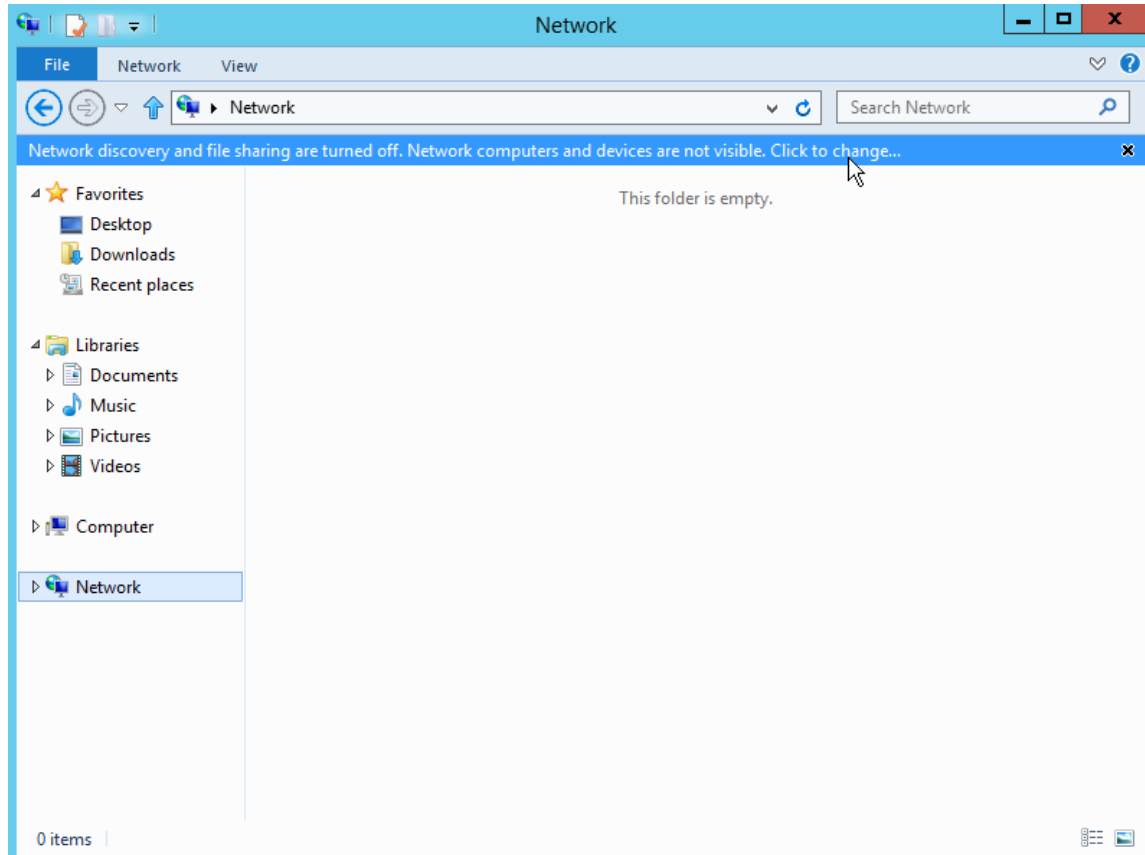
Click on Yes
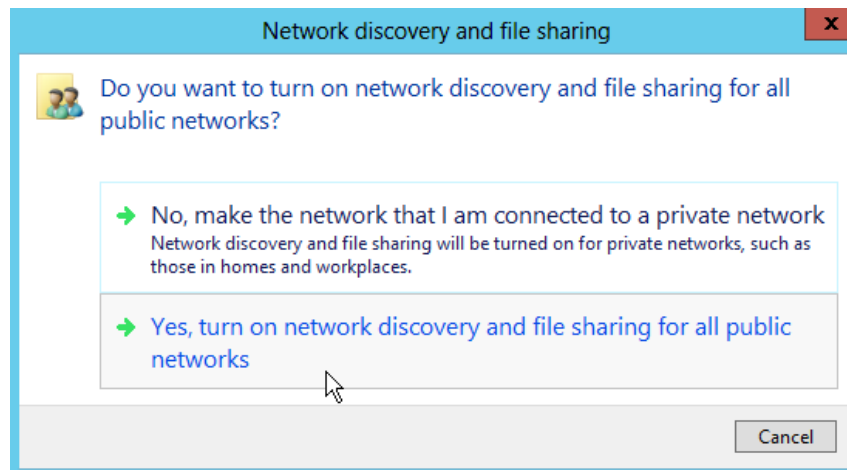
Copy iso file and paste in Computer C drive
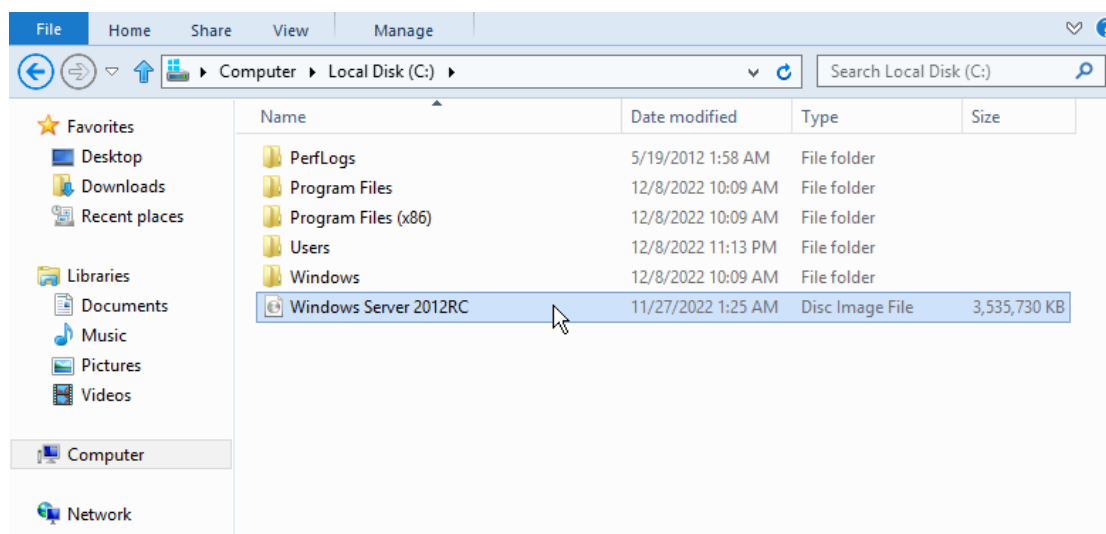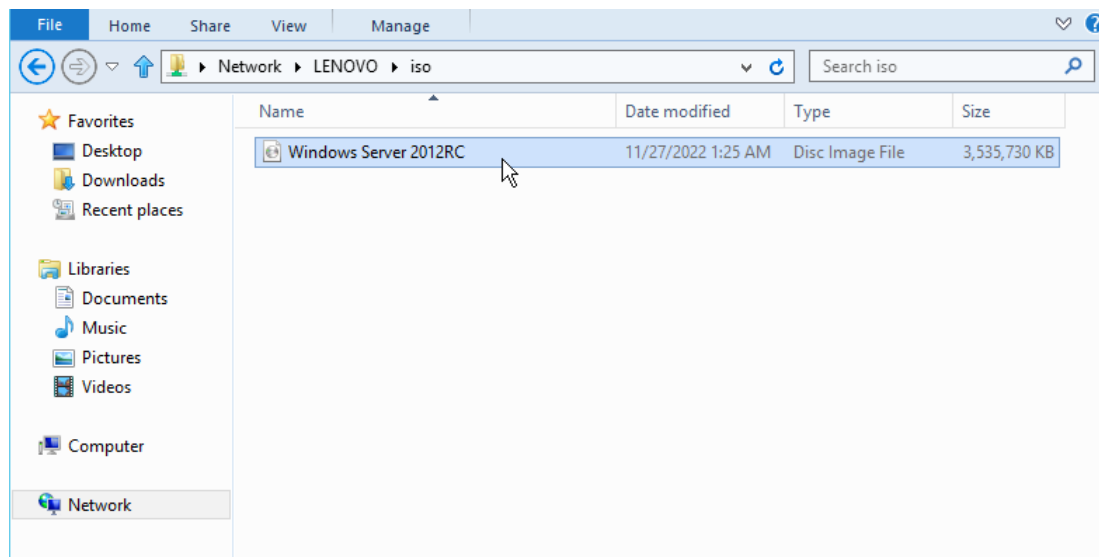
Step 8: Go to Tools Select Hyper-V Manage
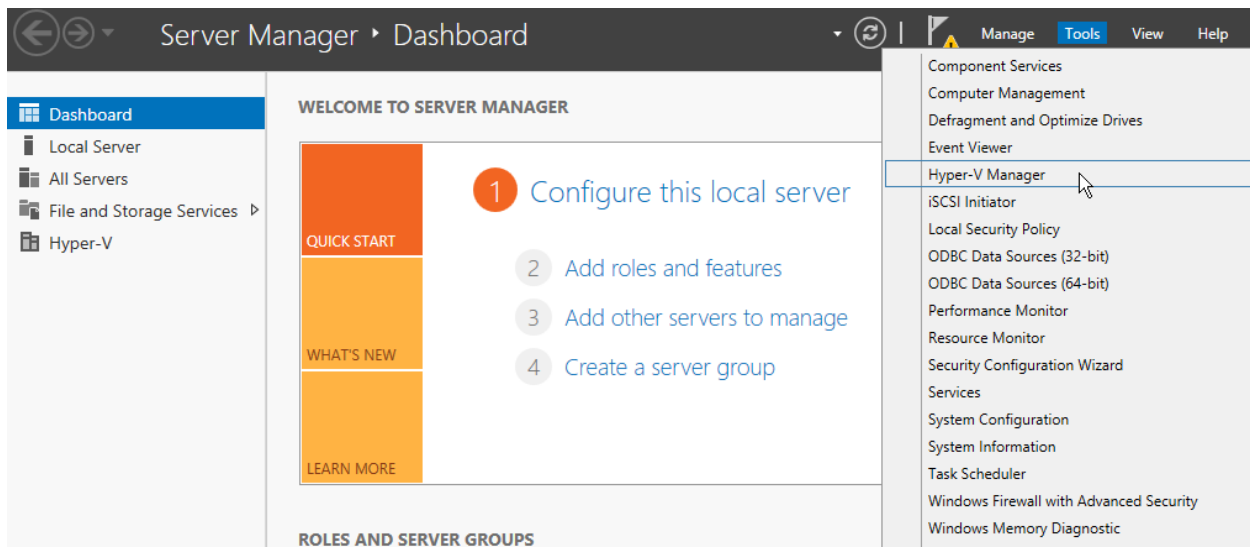
Select Connect to Server
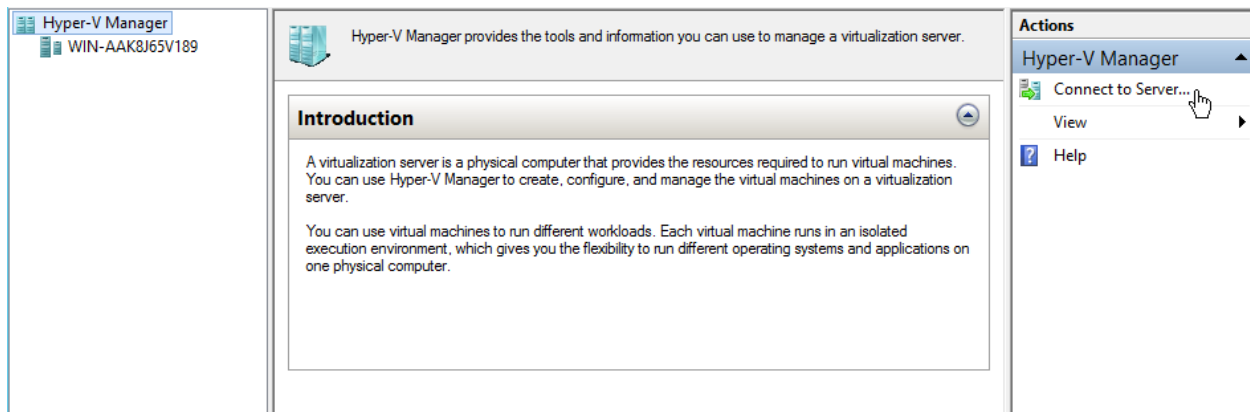
Select Local Computer
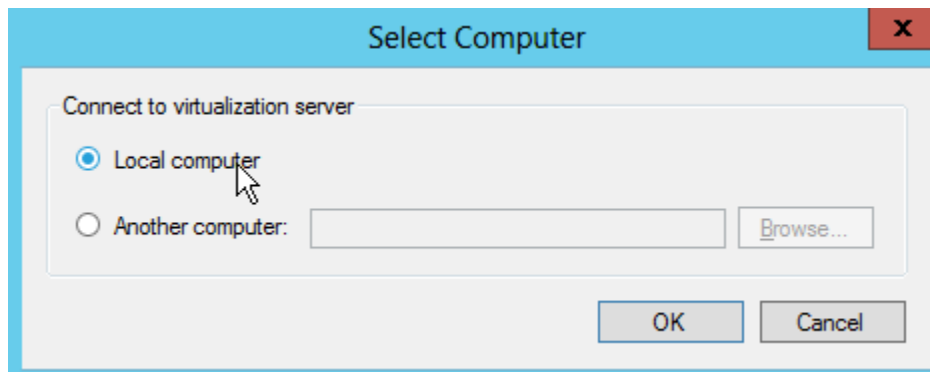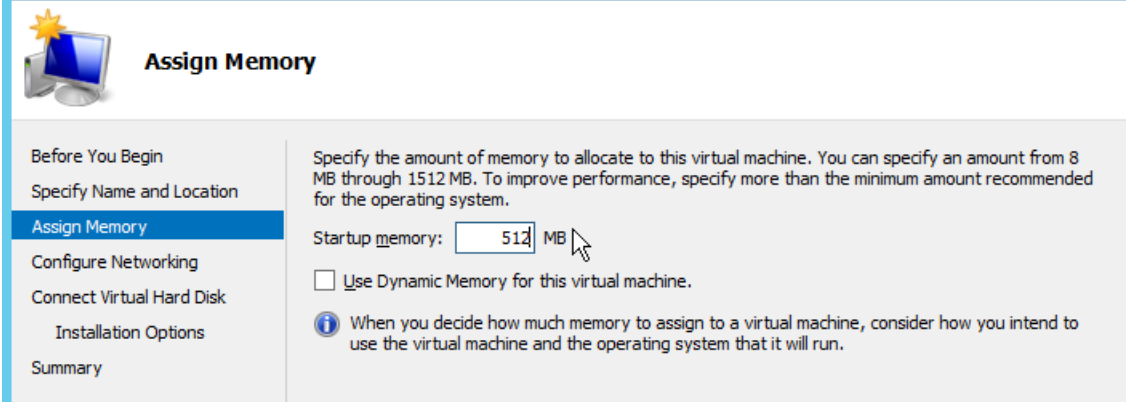
Click on New then Select Virtual Machine
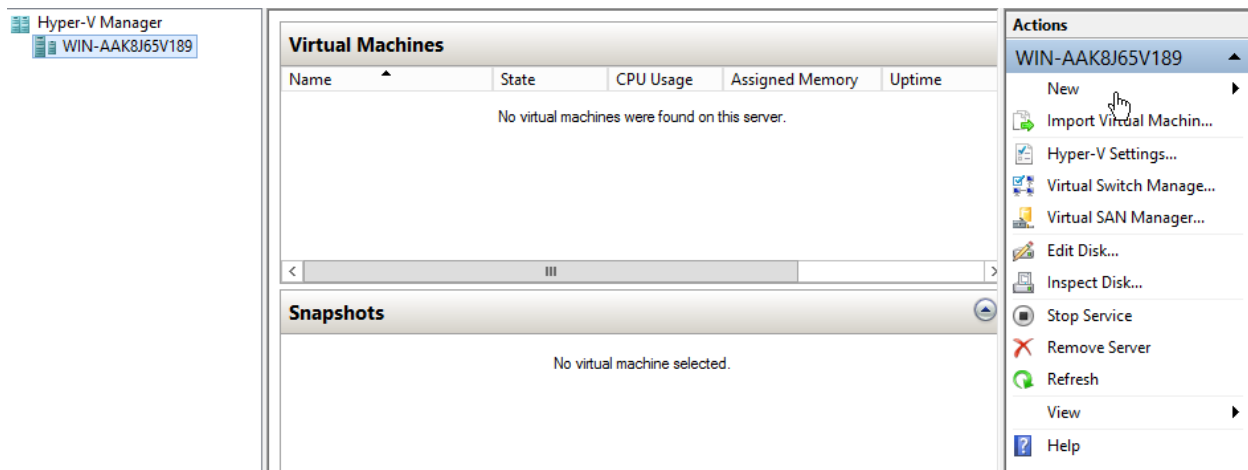
Give Name on virtual machine
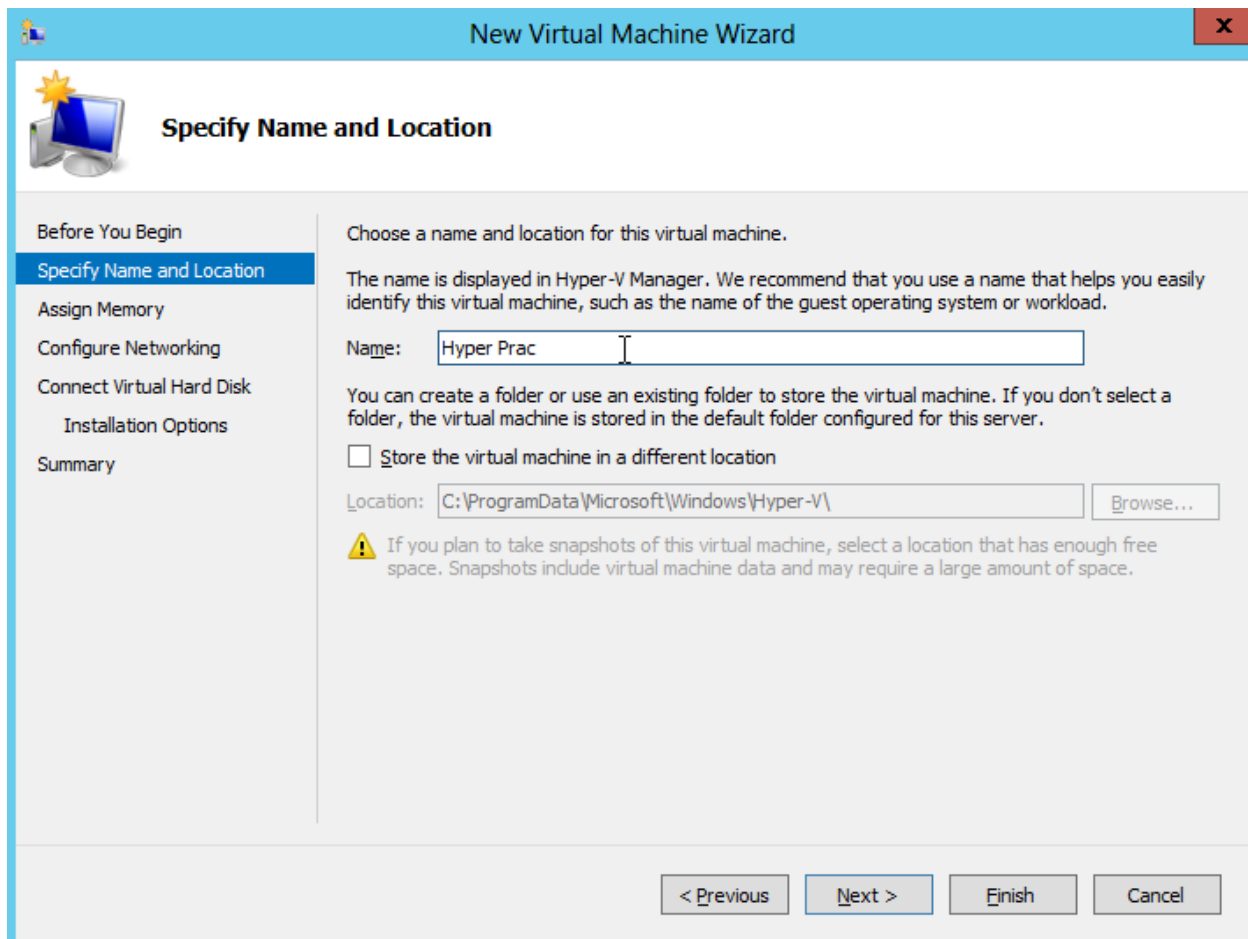
Set Memory to 512MB

Set connection to Not connected

Give Disk size to 12GB

Select Install from boot and select iso image file and click on Finish

Connect to Start

Done

Practical No. 3

Aim: Demonstrate Model View Controller framework.

Step 1: Download and Install DotNet. Link: https://dotnet.microsoft.com/en-us/learn/dotnet/hello-world-tutorial/install
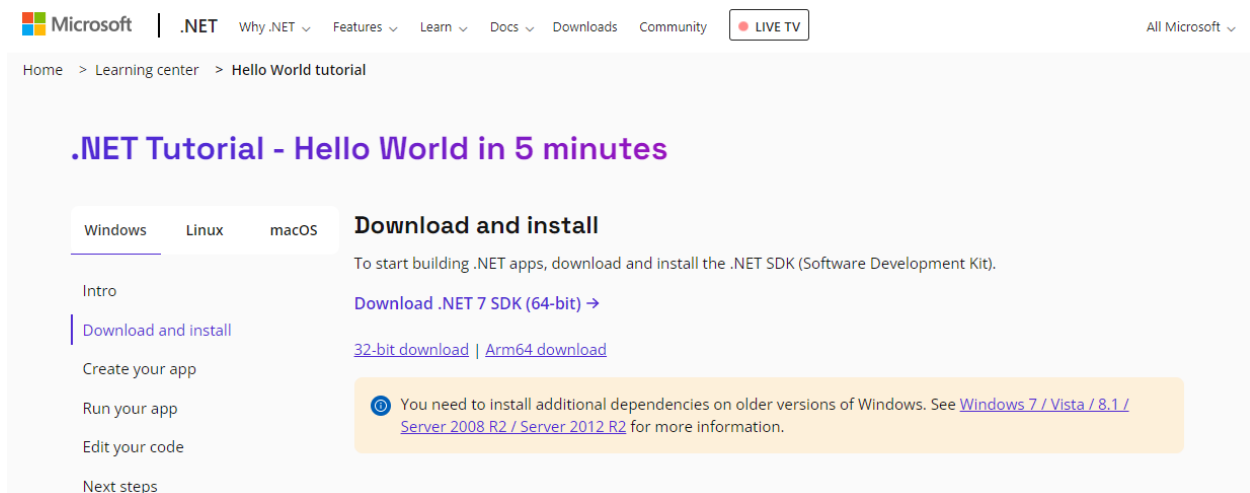
After installing open cmd and run following command

Command: dotnet

Step 2: Create App

Create New folder in D: drive

Open CMD in Newly created folder path and run the following command to create app

Command: dotnet new mvc –auth none

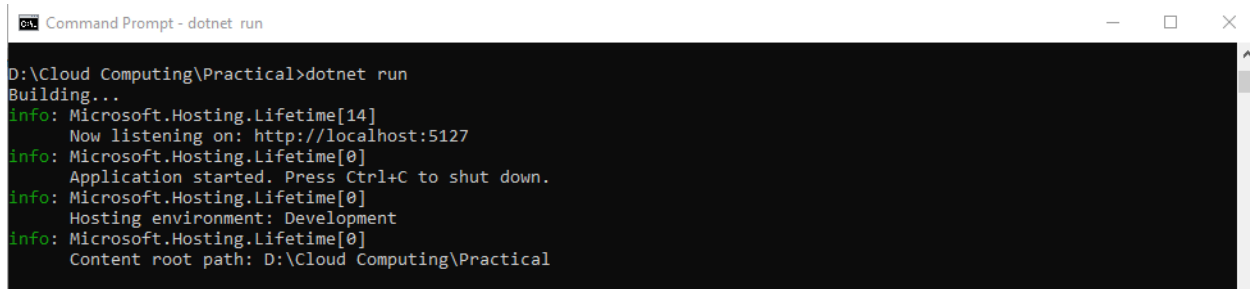**Step 3:** Edit the HomeController.cs file

Edit the file


```csharp
using System.Diagnostics;
using Microsoft.AspNetCore.Mvc;
using Practical.Models;

namespace Practical.Controllers;

public class HomeController : Controller
{
    public String Index() {
            return 'Hello MVC';
    }
}
```

Step 4: Run the app

Command: dotnet run

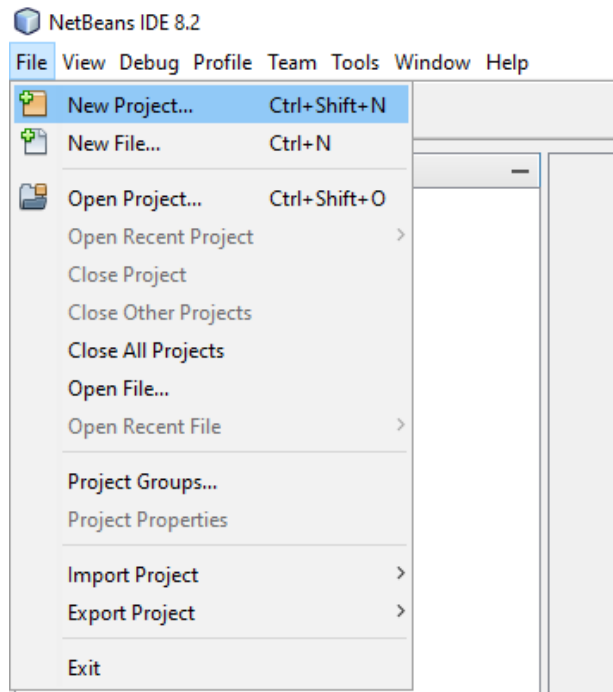**Step 5:** Open URL in browser

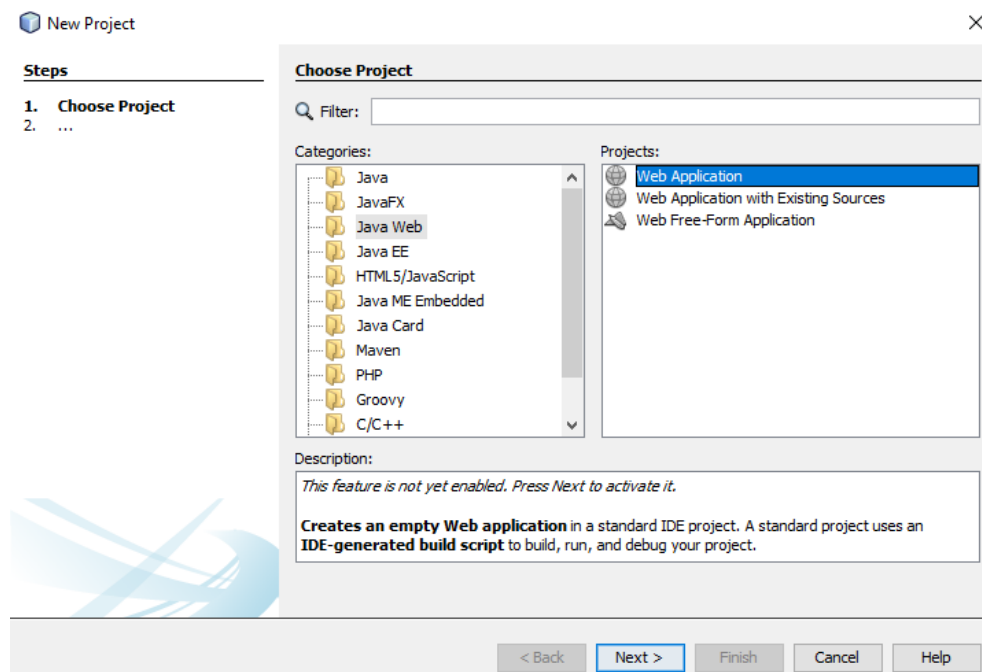Hello MVC

Practical No. 4

Aim: Implementing Client Server based web service on NetBeans.
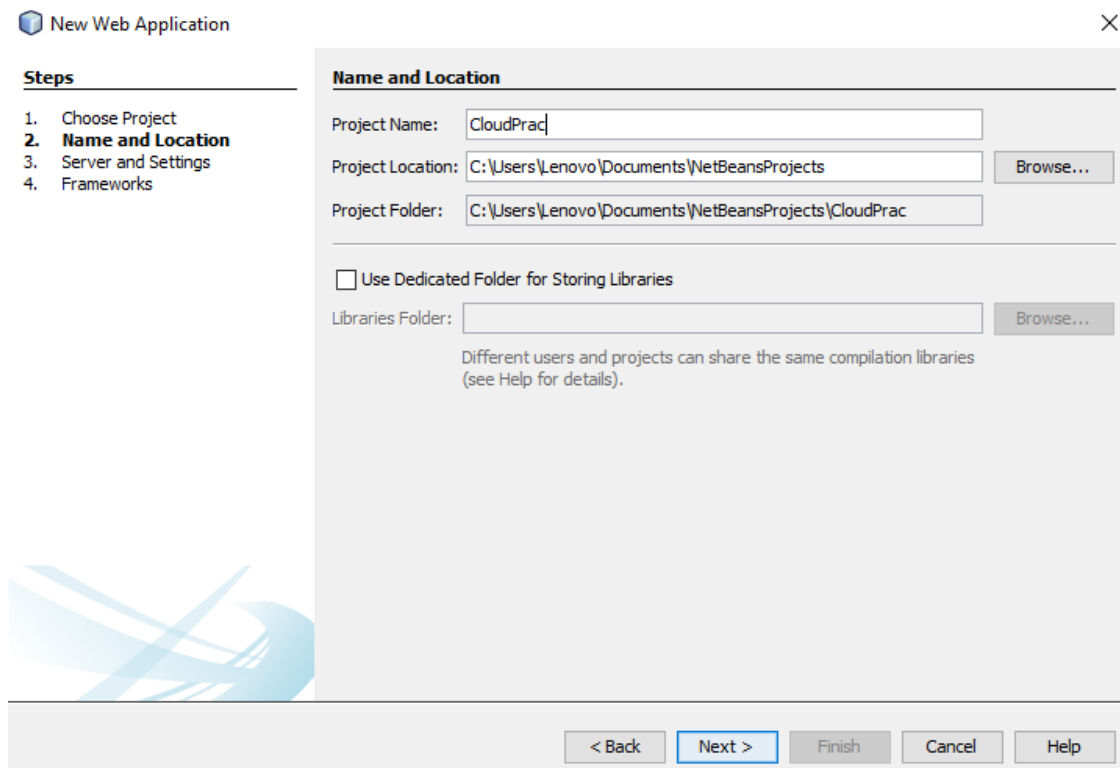
Task 1: Creating Web Server

Step 1: Open NetBeans – Go to file – Select New Project

Step 2: In New Project Window. Select Java Web and Web Application.

Step 3: Next Name to the project.

Step 4: Keep the Default server and Java EE version as it is and click on finish.

Step 5: Right click on the project – Choose New – Web Service
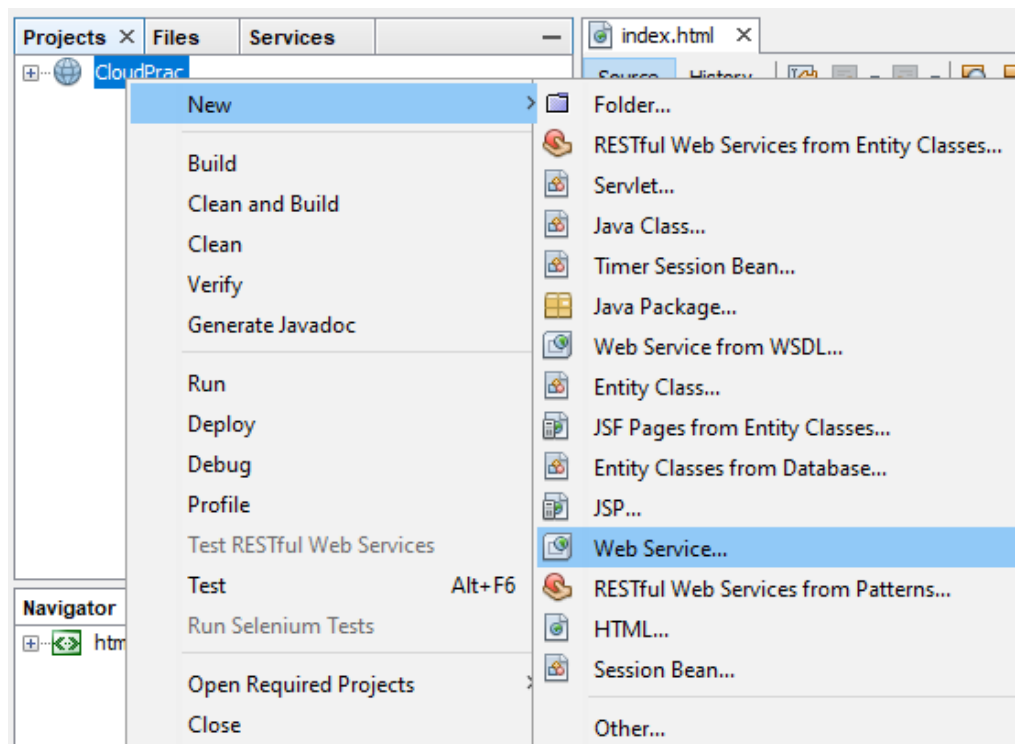
Step 6: Name to the web service – Give package name (the package name must begin with org.me.name) and Select Create web service from scratch and Click on Finish
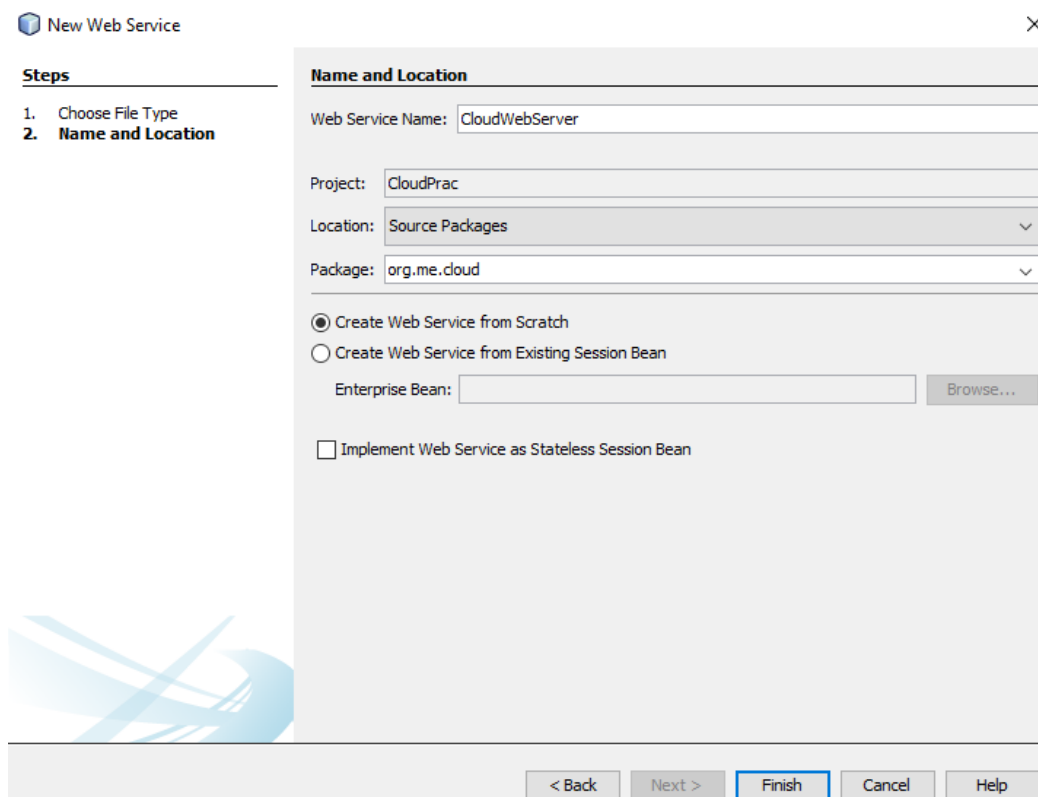
Step 7: Click on Web Service and Go to Design tab.
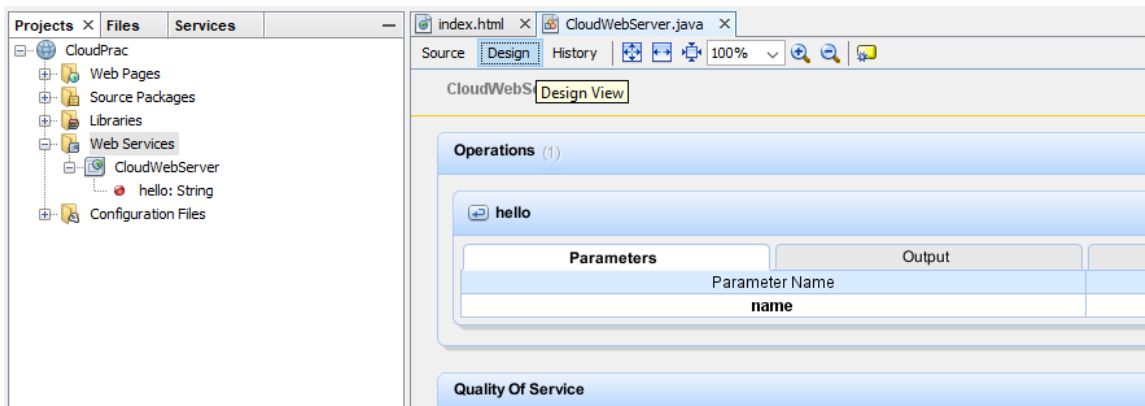
Step 8: Click on Add operation

Give Name and Select Return Type int and Add 2 parameters as follows
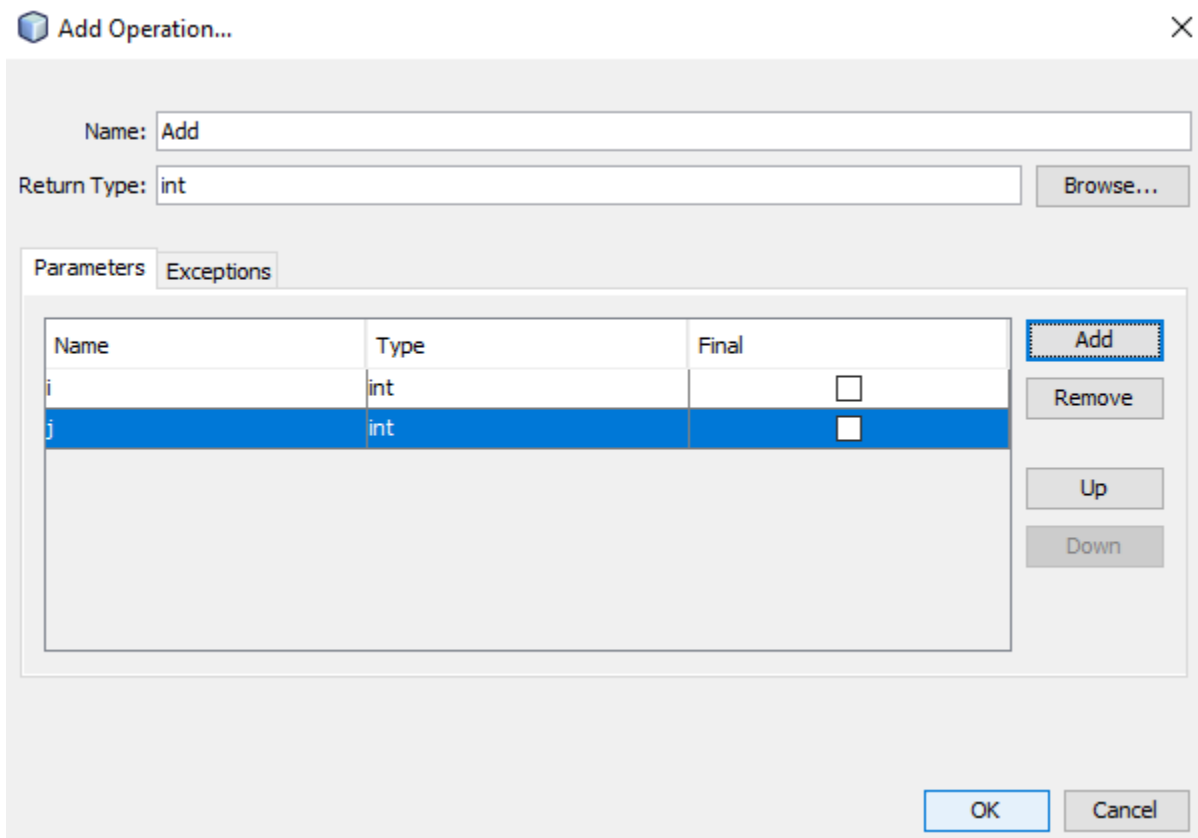
Step 9: Click on Ok and Select Source tab

Inside Source tab write following code.

```java
/**
 * Web service operation
 */
@WebMethod(operationName = "Add")
public int Add(@WebParam(name = "i") int i, @WebParam(name = "j") int j) {
    //TODO write your implementation code here:
    int k;
    k = i + j;
    System.out.println("k is " + k);
    return k;
}
}
```

Step 10: Right click on Project and Click on Deploy
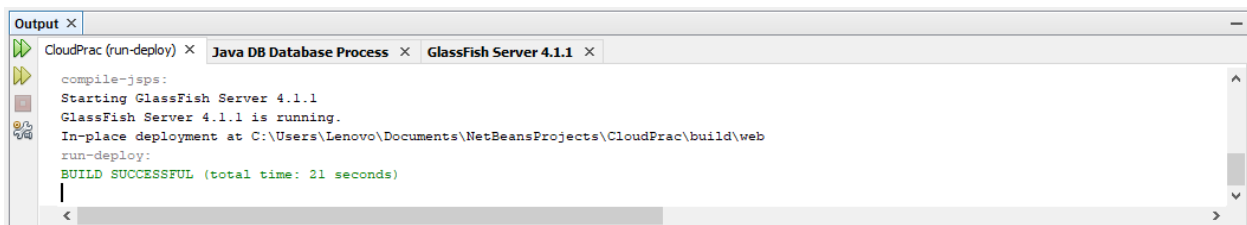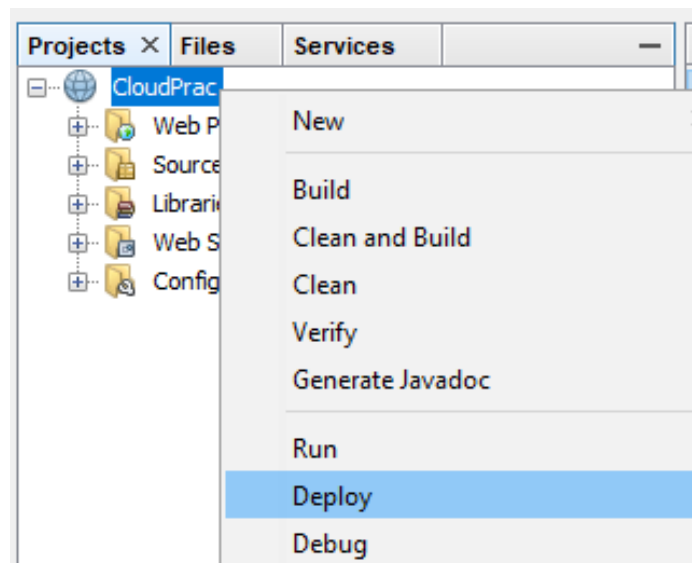
Step 11: Right click on Web Services and click on Test.
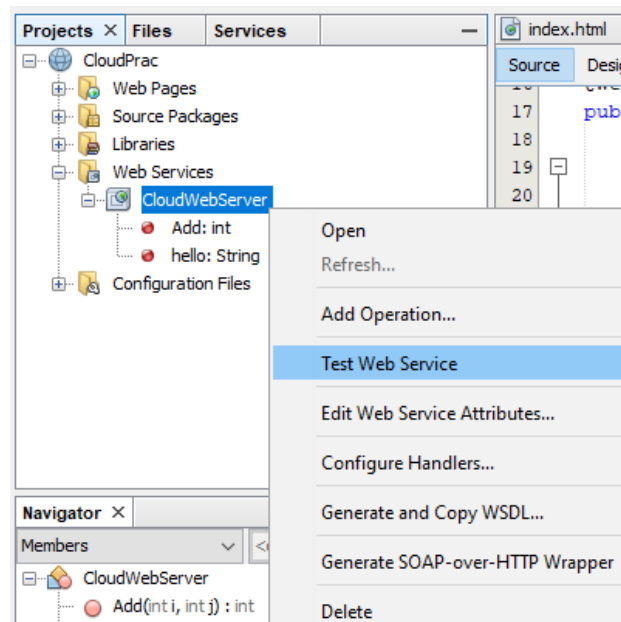
CloudWebServer Web Service Tester

This form will allow you to test your web service implementation (WSDL File)

To invoke an operation, fill the method parameter(s) input boxes and click on the button labeled with the method name.

Methods :

public abstract int org.me.cloud.CloudWebServer.add(int,int)

[add] ([2] , [3])

public abstract java.lang.String org.me.cloud.CloudWebServer.hello(java.lang.String)

[hello] ([   ])

add Method invocation

Method parameter(s)

Type	Value
int	2
int	2

Method returned

int : "**4**"

Task 2: Creating Web Client

Step 1: Go to file – Select New Project
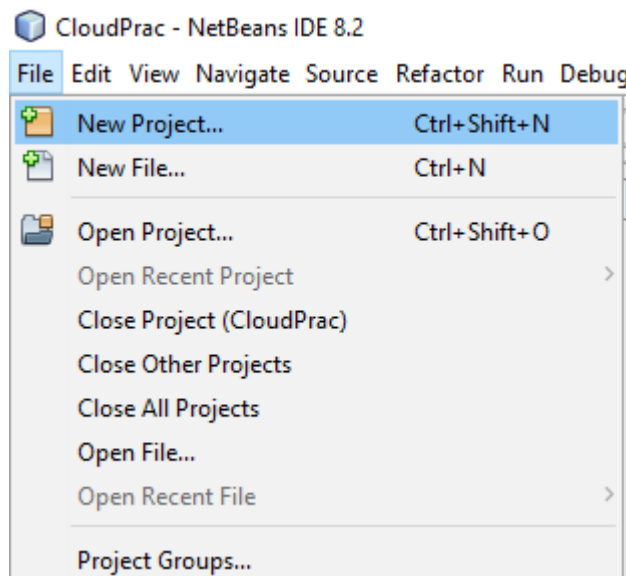
Step 2: In New Project window – Select Java and Java Application
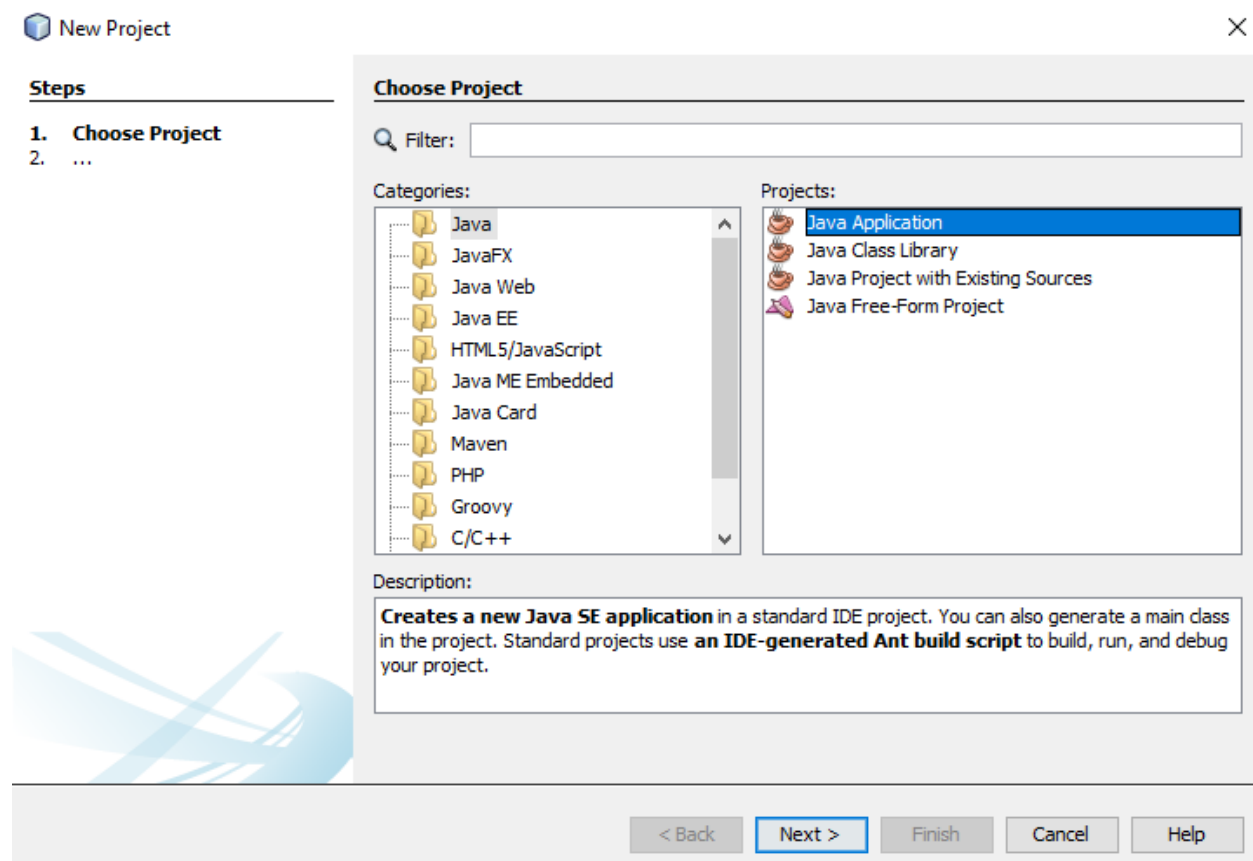
Step 3: Give Name to the project – Select checkbox for main class and set as main project. and Click on Finish
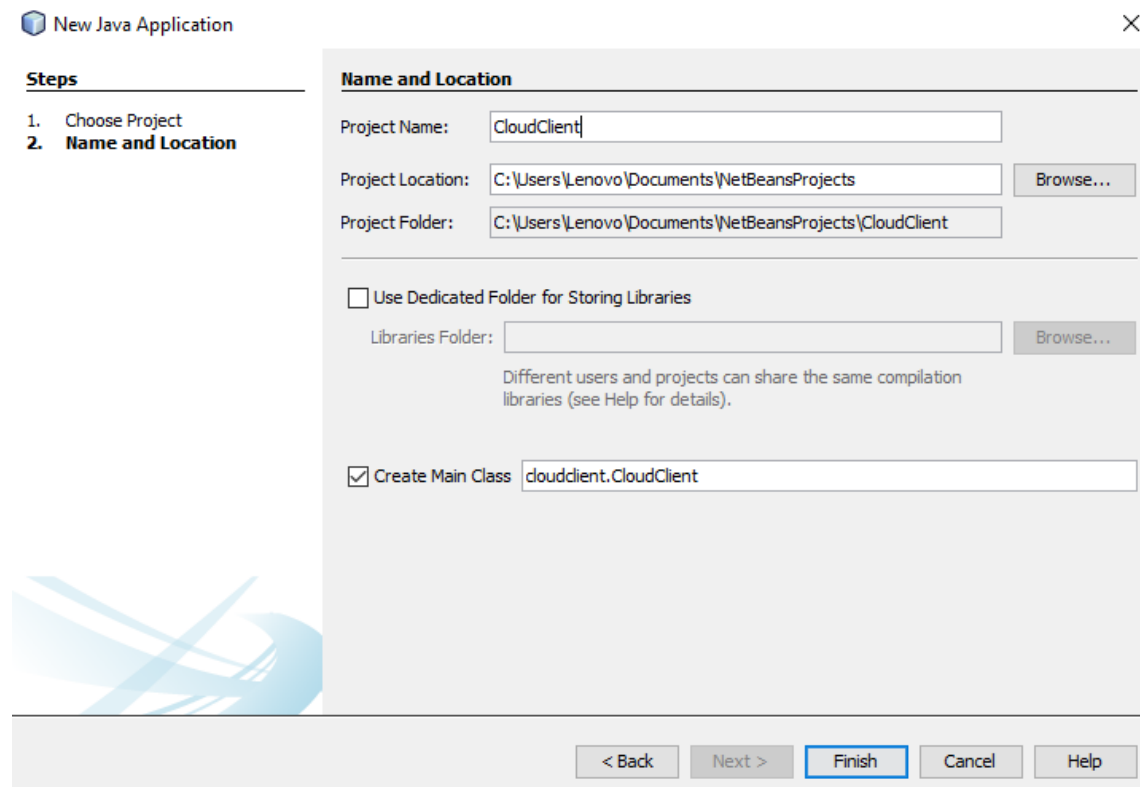
Step 4: Right click on Project – Choose New – Web Service Client
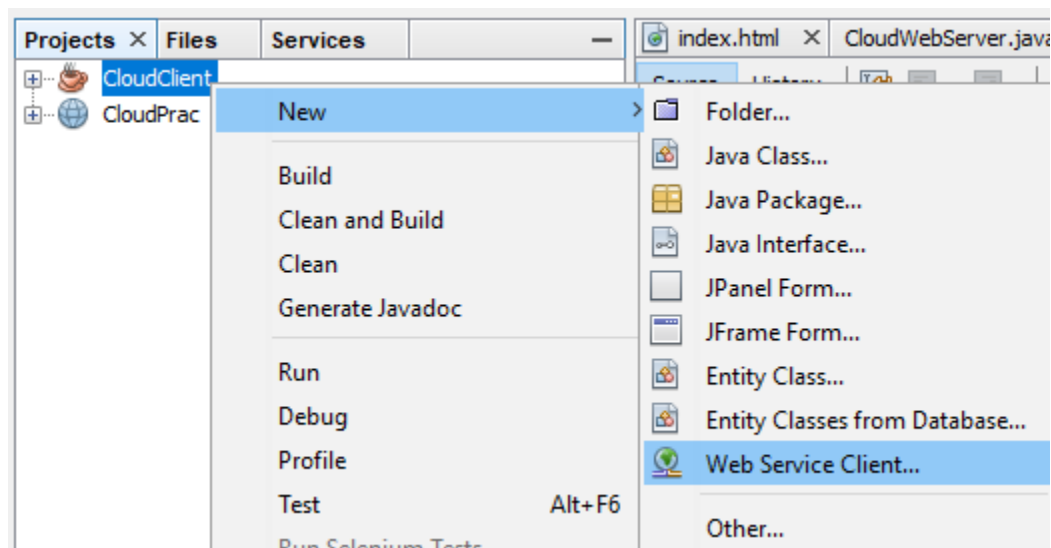
Step 5: Click on Browse and Select Service
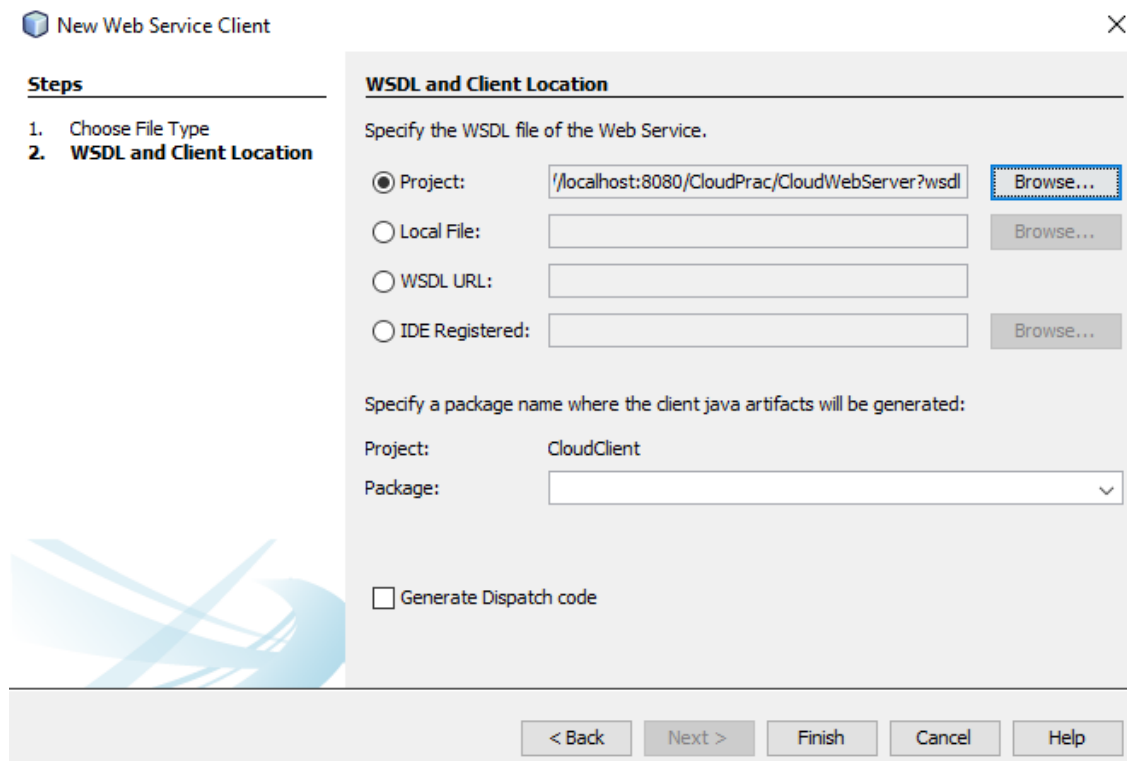
Step 6: Go to Java Application – Web Service References – Service – ServicePort - Add

Drag and Drop in Java application
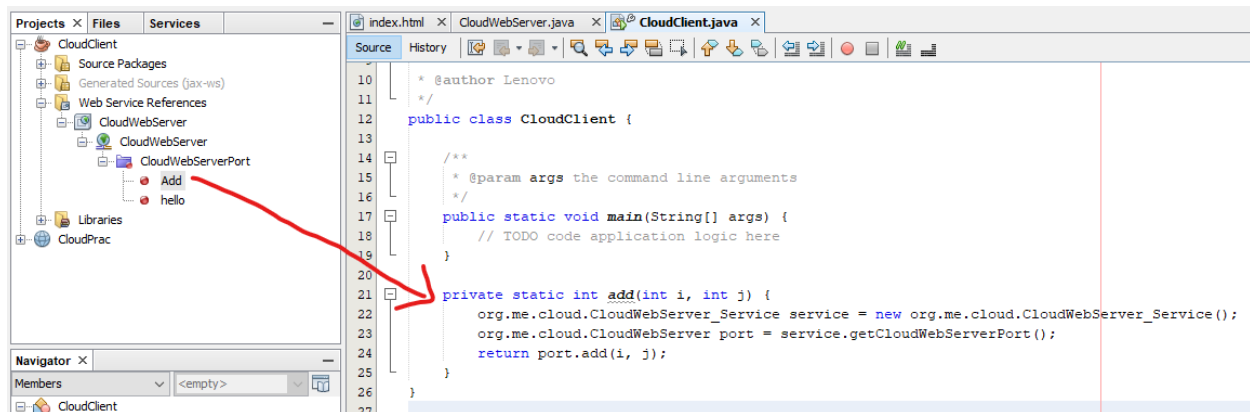
And add the following code

```java
public class CloudClient {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        int i = 3;
        int j = 5;
        int result = add(i ,j);
        System.out.println("Result: " + result);
    }

    private static int add(int i, int j) {
        org.me.cloud.CloudWebServer_Service service = new org.me.cloud.CloudWebServer_Service();
        org.me.cloud.CloudWebServer port = service.getCloudWebServerPort();
        return port.add(i, j);
    }
```

Then Run Project

```
Output

  Java DB Database Process ×   GlassFish Server 4.1.1 ×   Retriever Output ×   CloudClient (run) ×

     Created dir: C:\Users\Lenovo\Documents\NetBeansProjects\CloudClient\build\generated-sources\ap-source-output
     Compiling 9 source files to C:\Users\Lenovo\Documents\NetBeansProjects\CloudClient\build\classes
     Copying 3 files to C:\Users\Lenovo\Documents\NetBeansProjects\CloudClient\build\classes
     compile:
     run:
     Result: 8
     BUILD SUCCESSFUL (total time: 3 seconds)
```