SIES (NERUL) COLLEGE OF ARTS, SCIENCE AND COMMERCE

NAAC ACCREDITED 'A' GRADE COLLEGE

(ISO 9001:2015 CERTIFIED INSTITUTION)

NERUL, NAVI MUMBAI - 400706

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Certified that VARMA VISHAL VIJAY

Of Class MSC.IT PART-1 has duly completed the practical course in the subject of CLOUD COMPUTING during the academic year 2021-22 as per the syllabus prescribed by the University of Mumbai.

Subject Teacher **External Examiner**

Head of Department **Principal**

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3.	A] Multicast Socket example.		
4.	A] A RMI based application program to display current date and time. B] A RMI based application program that converts digits to words, e.g. 123 will be converted to one two three.		
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Practical No. 1

Aim: Write a program for implementing Client Server communication model using TCP.

Practical 1A: A client server based program using TCP to find if the number entered is prime

Server side :-

server.java | client.java

```
1  import java.net.*;
2  import java.io.*;
3
4  class server
5  {
6  public static void main (String args[])throws Exception
7  {
8  ServerSocket ss=new ServerSocket(3333);
9  Socket s=ss.accept();
10 DataOutputStream out=new DataOutputStream(s.getOutputStream());
11 DataInputStream in=new DataInputStream(s.getInputStream());
12 int x=in.readInt();
13 int y=0;
14 for(int i=2;i<x;i++)
15 {
16 if(x%i==0)
17 {
18 y=1;
19 break;
20 }
21 }
22 if(y==0)
23 out.writeUTF(x +" is prime number");
24 else
25 out.writeUTF(x +" is not a prime number");
26 out.flush();
27 in.close();
28 s.close();
29 ss.close();
30 }
31 }
```

Client:-

server.java | client.java

```
1  import java.net.*;
2  import java.io.*;
3
4  class client
5  {
6  public static void main (String args[])throws Exception
7  {
8  Socket s=new Socket("localhost",3333);
9  DataOutputStream out=new DataOutputStream(s.getOutputStream());
10 DataInputStream in=new DataInputStream(s.getInputStream());
11 BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
12 int x=Integer.parseInt(br.readLine());
13 out.writeInt(x);
14 out.flush();
15 String s1=in.readUTF();
16 System.out.println(" output from server side " + s1);
17 out.close();
18 s.close();
19 }
20 }
```

Output:-

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1>javac server.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1>java server
```

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1>javac client.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1>java client
15
 output from server side 15 is not a prime number
```

Practical 1B : A client server TCP based chatting application**.**

Server side:-

chatserver.java chatclient.java

```
1
2   import java.net.*;
3   import java.io.*;
4
5   class chatserver
6   {
7   public static void main (String args[])
8   throws Exception
9   {
10  ServerSocket ss=new ServerSocket(3333);
11  Socket s=ss.accept();
12
13  DataOutputStream out=new DataOutputStream(s.getOutputStream());
14  DataInputStream in=new DataInputStream(s.getInputStream());
15
16  BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
17
18  String s1="",s2="";
19  while(!s1.equals("bye"))
20  {
21  s1=in.readUTF();
22  System.out.println("client: "+s1);
23  s2=br.readLine();
24  out.writeUTF(s2);
25  out.flush();
26
27  }
28  in.close();
29
30  s.close();
31  ss.close();
32
33  }
34  }
```

Client side :-

chatserver.java | chatclient.java

```
1  import java.net.*;
2  import java.io.*;
3
4  class chatclient
5  {
6  public static void main (String args[])throws Exception
7  {
8  Socket s=new Socket("localhost",3333);
9
10 DataOutputStream out=new DataOutputStream(s.getOutputStream());
11 DataInputStream in=new DataInputStream(s.getInputStream());
12
13 BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
14
15 String s1="",s2="";
16 while(!s1.equals("bye"))
17 {
18 s2=br.readLine();
19 out.writeUTF(s2);
20 out.flush();
21 s1=in.readUTF();
22 System.out.println("server: "+s1);
23
24 }
25
26 out.close();
27 s.close();
28
29 }
30 }
```

Output:-

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1B>javac chatserver.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1B>java chatserver
client: hiiiii
helllo
client: H r U
I am fine ...
client: Thats good
Yeah
```

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1B>javac chatclient.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 1B>java chatclient
hiiiii
server: helllo
H r U
server: I am fine ...
Thats good
server: Yeah
```

Practical No 02

Aim: Write a program for implementing Client Server communication model using UDP.

Practical 2A: A client server-based program using UDP to find if the number entered is even or odd.

Server side:-

udpserver.java udpclient.java

```
1  /*Program which finds entered number is even or odd */
2  import java.io.*;
3  import java.net.*;
4  public class udpserver
5  {
6  public static void main(String args[])
7  {
8  try
9  {
10 DatagramSocket ds = new DatagramSocket(2000); byte b[] = new byte[1024];
11 DatagramPacket dp = new DatagramPacket(b,b.length); ds.receive(dp);
12 String str = new String(dp.getData(),0,dp.getLength());
13 System.out.println(str);
14 int a= Integer.parseInt(str);
15 String s= new String();
16 if (a%2 == 0)
17 s = "Number is even";
18 else
19 s = "Number is odd";
20 byte b1[] = new byte[1024];
21 b1 = s.getBytes();
22 DatagramPacket dp1 = new
23 DatagramPacket(b1,b1.length,InetAddress.getLocalHost(),1000);
24 ds.send(dp1);
25 }
26 catch(Exception e)
27 {
28 e.printStackTrace();
29 }
30 }
31 }
```

Client side :-

udpserver.java | udpclient.java

```
1  import java.io.*;
2  import java.net.*;
3  public class udpclient
4  {
5  public static void main(String args[])
6  {
7  try
8  {
9  DatagramSocket ds = new DatagramSocket(1000);
10  BufferedReader br = new BufferedReader(new
11 InputStreamReader(System.in));
12 System.out.println("Enter a number : ");
13 String num = br.readLine();
14 byte b[] = new byte[1024];
15 b=num.getBytes();
16 DatagramPacket dp = new
17 DatagramPacket(b,b.length,InetAddress.getLocalHost(),2000);
18 ds.send(dp);
19 byte b1[] = new byte[1024];
20 DatagramPacket dp1 = new DatagramPacket(b1,b1.length);
21 ds.receive(dp1);
22 String str = new String(dp1.getData(),0,dp1.getLength());
23 System.out.println(str);
24 }
25 catch(Exception e)
26 {
27 e.printStackTrace();
28 }
29 }
30 }
```

Output:-

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 2A>javac udpserver.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 2A>java udpserver
15
```

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 2A>javac udpclient.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRATICAL 2A>java udpclient
Enter a number :
15
Number is odd
```

Practical 2B: A client server-based program using UDP to find the factorial of the entered number.

Server side:

```
import java.io.*;
import java.net.*;

public class fact
{
public static void main(String args[])
{
try
{
DatagramSocket ds = new DatagramSocket(2000);
byte b[] = new byte [1024];
DatagramPacket dp =new DatagramPacket(b, b.length);
ds . receive (dp) ;
String str = new String(dp.getData(), 0, dp.getLength());
System.out.println(str);
int a = Integer.parseInt(str);
int f = 1, i;
String s = new String();
for (i = 1; i <= a; i++)
{
f=f * i;
}
s = Integer.toString(f);
String str1 = "The Factorial of " + str + " is :"+f;
byte b1[] = new byte[1024];
b1 = str1.getBytes();
DatagramPacket dp1 = new DatagramPacket (b1, b1.length, InetAddress.getLocalHost(), 1000);
ds . send (dp1) ;
}
catch (Exception e)
{
e. printStackTrace( ) ;
}
}
}
```

CLIENT

```
import java.io.*;
import java.net.*;

public class fact1
{

public static void main(String args[])
{

try
{
DatagramSocket ds = new DatagramSocket(1000);
BufferedReader br = new BufferedReader (new InputStreamReader (System. in) ) ;
System.out.println("Enter a number : ");
String num = br.readLine() ;

byte b[] = new byte [1024];
b = num.getBytes();
DatagramPacket dp = new DatagramPacket(b, b. length, InetAddress.getLocalHost(), 2000);
ds.send (dp);
byte b1[] = new byte[1024];
DatagramPacket dp1 = new DatagramPacket(b1, b1.length);
ds. receive(dp1) ;
String str = new String(dp1.getData(), 0, dp1.getLength());
System.out.println(str);
}
catch (Exception e)
{
e. printStackTrace() ;
}
}
}
```

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRACTICAL 2B>javac fact.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRACTICAL 2B>java fact
```

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRACTICAL 2B>set classpath=C:\Program Files\Java\j
dk1.8.0_221\lib;

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRACTICAL 2B>javac fact1.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRACTICAL 2B>java fact1
Enter a number :
5
The Factorial of 5 is :120

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC PRATICAL\PRACTICAL 2B>
```

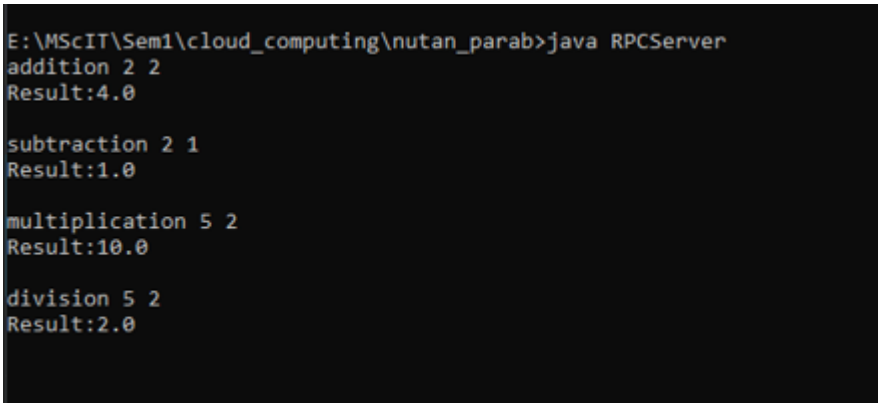
Practical 2C: A program to implement simple calculator operations like addition, subtraction, m-multiplication and division.

1)RPCServer.java

```
import java.io.*;
import java.net.*;
import java.util.*;
class RPCServer
{
String s,methodName,result;
int val1 , val2;
RPCServer()
{
try
{
        DatagramSocket ds = new DatagramSocket(1200);
        byte b[] = new byte[4096];
        while(true)
        {
                DatagramPacket dp = new DatagramPacket(b,b.length);
                ds.receive(dp);
                s = new String(dp.getData(),0,dp.getLength());
                if(s.equalsIgnoreCase("q"))
                {
                        System.exit(1);
                }
                else
                {
                        StringTokenizer st = new StringTokenizer(s," ");

                        while(st.hasMoreTokens())
                        {
                                String token = st.nextToken();
                                methodName=token;
                                val1 = Integer.parseInt(st.nextToken());
                                val2 = Integer.parseInt(st.nextToken());
                        }
                }
                System.out.println(s);

                if(methodName.equalsIgnoreCase("addition"))
                {
                        result = "" + addition(val1, val2);
                }
                else if(methodName.equalsIgnoreCase("subtraction"))
                {
                        result = "" + subtraction(val1 , val2);
```

```
                }
                else if(methodName.equalsIgnoreCase("multiplication"))
                {
                        result = "" + multiplication(val1 , val2);
                }
                else if(methodName.equalsIgnoreCase("division"))
                {
                        result = "" + division(val1 , val2);
                }

                byte b1[] = result.getBytes();
                dp = new
DatagramPacket(b1,b1.length,InetAddress.getLocalHost(),1300);
                System.out.println("Result:" +result+"\n");
                ds.send(dp);
        }
}
catch(Exception e)
{
        e.printStackTrace();
}
}
public double addition(int a, int b) throws Exception
{
return a+b;
}
public double subtraction(int a, int b) throws Exception
{
return a-b;
}
public double multiplication(int a, int b) throws Exception
{
return a*b;
}
public double division(int a, int b) throws Exception
{
return a/b;
}
public static void main(String[] args)
{
new RPCServer();
}
}
```

Output:



2)RPCClient.java

```
import java.io.*;
import java.net.*;
import java.util.*;
class RPCClient
{
RPCClient()
{
try
{

        DatagramSocket ds = new DatagramSocket(1300);

        System.out.println("\n RPC Client\n");
        System.out.println(" 1. For addition of the numbesr - addition\n 2.
For subtraction of the numbers -subtraction\n 3. For the multiplication of
the numbers - multiplication\n 4. For the division of the numbers -
division");
        System.out.println("Enter method name and the number\n");
        while(true)
        {
                BufferedReader br = new BufferedReader(new
InputStreamReader(System.in));
                String str = br.readLine();
                byte b[] = str.getBytes();
                DatagramPacket dp = new
DatagramPacket(b,b.length,InetAddress.getLocalHost(),1200);
                ds.send(dp);

                if(str.equalsIgnoreCase("q"))
                {
                        System.exit(1);
                }
```

```
                dp = new DatagramPacket(b,b.length);
                ds.receive(dp);
                String s = new String(dp.getData(),0,dp.getLength());
                System.out.println("\n Result = " + s +"\n");
        }
}
catch(Exception e)
{
        e.printStackTrace();
}

}
public static void main(String[] args)
{
        new RPCClient();
}
}
```

Output:

```
E:\MScIT\Sem1\cloud_computing\nutan_parab>java RPCClient

 RPC Client

 1. For addition of the numbesr - addition
 2. For subtraction of the numbers -subtraction
 3. For the multiplication of the numbers - multiplication
 4. For the division of the numbers - division
Enter method name and the number

addition 2 2

 Result = 4.0

subtraction 2 1

 Result = 1.0

multiplication 5 2

 Result = 10.0

division 5 2

 Result = 2.0
```

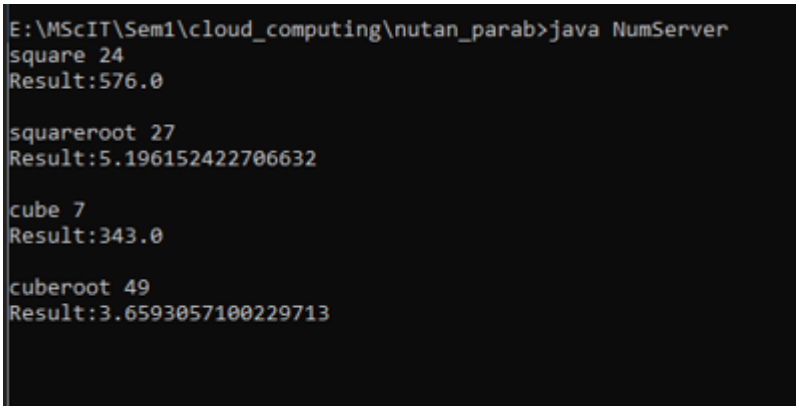
Practical 2D: A program that finds the square, square root, cube and cube root of the entered number.

1)RPCNumServer.java

```
import java.io.*;
import java.net.*;
import java.util.*;
class NumServer
{
String s,methodName,result;
int val;
NumServer()
{
try
{
	DatagramSocket ds = new DatagramSocket(1200);
	byte b[] = new byte[4096];
	while(true)
	{
		DatagramPacket dp = new DatagramPacket(b,b.length);
		ds.receive(dp);
		s = new String(dp.getData(),0,dp.getLength());
		if(s.equalsIgnoreCase("q"))
		{
			System.exit(1);
		}
		else
		{
			StringTokenizer st = new StringTokenizer(s," ");

			while(st.hasMoreTokens())
			{
				String token = st.nextToken();
				methodName=token;
				val = Integer.parseInt(st.nextToken());
			}
		}
		System.out.println(s);

		if(methodName.equalsIgnoreCase("square"))
		{
			result = "" + square(val);
		}
		else if(methodName.equalsIgnoreCase("squareroot"))
		{
```

```
                    result = "" + squareroot(val);
                }
                else if(methodName.equalsIgnoreCase("cube"))
                {
                    result = "" + cube(val);
                }
                else if(methodName.equalsIgnoreCase("cuberoot"))
                {
                    result = "" + cuberoot(val);
                }

                byte b1[] = result.getBytes();
                dp = new
DatagramPacket(b1,b1.length,InetAddress.getLocalHost(),1300);
                System.out.println("Result:" +result+"\n");
                ds.send(dp);
        }
}
catch(Exception e)
{
        e.printStackTrace();
}
}
public double square(int a) throws Exception
{
return a*a;
}
public double squareroot(int a) throws Exception
{
return (Math.sqrt(a));
}
public double cube(int a) throws Exception
{
return a*a*a;
}
public double cuberoot(int a) throws Exception
{
return Math.cbrt(a);
}
public static void main(String[] args)
{
new NumServer();
}
}
```

Output:



2)RPCNumClient.java

```
import java.io.*;
import java.net.*;
import java.util.*;
class NumClient
{
NumClient()
{
try
{

        DatagramSocket ds = new DatagramSocket(1300);

        System.out.println("\n RPC Client\n");
        System.out.println("1. Square of the number - square\n 2.Square
root of the number -squareroot\n 3. Cube of the number - cube\n 4. cube
root of the number - cuberoot ");
        System.out.println("Enter method name and the number\n");
        while(true)
        {
                BufferedReader br = new BufferedReader(new
InputStreamReader(System.in));
                String str = br.readLine();
                byte b[] = str.getBytes();
                DatagramPacket dp = new
DatagramPacket(b,b.length,InetAddress.getLocalHost(),1200);
                ds.send(dp);
```

```
                if(str.equalsIgnoreCase("q"))
                {
                        System.exit(1);
                }
                dp = new DatagramPacket(b,b.length);
                ds.receive(dp);
                String s = new String(dp.getData(),0,dp.getLength());
                System.out.println("\n Result = " + s +"\n");
        }
}
catch(Exception e)
{
        e.printStackTrace();
}

}
public static void main(String[] args)
{
        new NumClient();
}
}
```

Optput:

```
E:\MScIT\Sem1\cloud_computing\nutan_parab>java NumClient

 RPC Client

1. Square of the number - square
 2.Square root of the number -squareroot
 3. Cube of the number - cube
 4. cube root of the number - cuberoot
Enter method name and the number

square 24

 Result = 576.0

squareroot 27

 Result = 5.19615242270

cube 7

 Result = 343.0

cuberoot 49

 Result = 3.659305710
```

Practical No: 03

Aim: A multicast Socket example.

Client:

MulticastServer.java | MulticastClient.java

```
1  import java.net.*;
2  import java.io.*;
3  import java.util.*;
4  public class MulticastServer
5  {
6  public static void main(String args[]) throws Exception
7  {
8  String msg="Welcome in offline classes";
9  InetAddress group = InetAddress.getByName("228.5.6.7");
10 MulticastSocket s = new MulticastSocket(6789);
11 s.joinGroup(group);
12 DatagramPacket p1= new DatagramPacket(msg.getBytes(),msg.length(),group,6789);
13 s.send(p1);
14 }
15 }
```

Server:

MulticastServer.java | MulticastClient.java

```
1  import java.net.*;
2  import java.io.*;
3  import java.util.*;
4  public class MulticastClient
5  {
6  public static void main(String args[]) throws Exception
7  {
8  InetAddress group = InetAddress.getByName("228.5.6.7");
9  MulticastSocket s = new MulticastSocket(6789);
10 s.joinGroup(group);
11 byte[] msg = new byte[100];
12 DatagramPacket dp= new DatagramPacket(msg,msg.length);
13 s.receive(dp);
14 String S1 = new String(dp.getData());
15 System.out.println("Message received from"+dp.getAddress()+":"+S1);
16 s.leaveGroup(group);
17 }
18 }
```

Output:

```
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>javac MulticastServer.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>java MulticastServer

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>
```

```
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>javac MulticastClient.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>java MulticastClient
Message received from/127.0.0.1:Welcome in offline classes


C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>
```

```
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>javac MulticastClient.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>java MulticastClient
Message received from/127.0.0.1:Welcome in offline classes


C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>
```

```
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>javac MulticastClient.java

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>java MulticastClient
Message received from/127.0.0.1:Welcome in offline classes


C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\3>
```

Practical No 04

Aim: Write a program to show the object communication using RMI.

Practical 4A: A RMI based application program to display current date and time.

InterDate.java

```
1  import java.rmi.*;
2  public interface InterDate extends Remote
3  {
4  public String display() throws Exception;
5  }
```

Server:

InterDate.java | ServerDate.java | ClientDate.java

```
1
2  import java.rmi.*;
3  import java.rmi.server.*;
4  import java.util.*;
5  public class ServerDate extends UnicastRemoteObject implements
6  InterDate
7  {
8  public ServerDate()
9  throws Exception{ }
10 public String display()
11 throws Exception
12 {
13 String str = "";
14 Date d = new Date();
15 str = d.toString();
16 return str;
17 }
18 public static void main(String args[]) throws
19 Exception
20 {
21 ServerDate s1 = new ServerDate();
22 Naming.bind("DS",s1);
23 System.out.println("Object registered.....");
24 }
25 }
```

Client:

InterDate.java | ServerDate.java | ClientDate.java

```java
import java.rmi.*;
import java.io.*;
public class ClientDate
{
public static void main(String args[]) throws
Exception
{
String s1;
InterDate h1 = (InterDate)Naming.lookup("DS");
s1 = h1.display();
System.out.println(s1);
}
 }
```

Output:

CMD 1

```
C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\4>rmic ServerDate
Warning: generation and use of skeletons and static stubs for JRMP
is deprecated. Skeletons are unnecessary, and static stubs have
been superseded by dynamically generated stubs. Users are
encouraged to migrate away from using rmic to generate skeletons and static
stubs. See the documentation for java.rmi.server.UnicastRemoteObject.

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\4>rmiregistry
```

Server:

```
C:\Windows\System32\cmd.exe - java  ServerDate
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\4>java ServerDate
Object registered.....
```

Client:

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\4>java ClientDate
Wed Jan 12 12:13:59 IST 2022

C:\Users\Vishal Kunal\OneDrive\Desktop\MSCIT\MSC PRATICAL\CC\4>
```

Practical 4B: A RMI based application program that converts digits to words, e.g. 123 will be converted to one two three.

1. InterConvert.java

```
import java.rmi.*;
public interface InterConvert extends Remote
{
public String convertDigit(String no) throws Exception;
}
```

2. ServerConvert.java

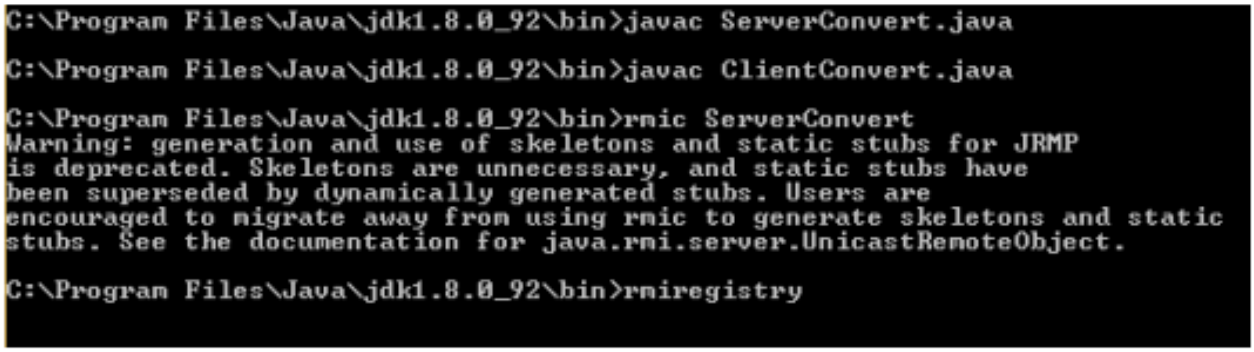
```
import java.rmi.*;
import java.rmi.server.*;
import java.util.*;
public class ServerDate extends UnicastRemoteObject implements
InterDate {
public ServerDate()
throws Exception
{ }
public String display()
throws Exception
{
String str = "";
Date d = new Date();
str = d.toString();
return str;
}
public static void main(String args[]) throws
Exception {
ServerDate s1 = new ServerDate();
Naming.bind("DS",s1);
System.out.println("Object registered.....");
}
}
```

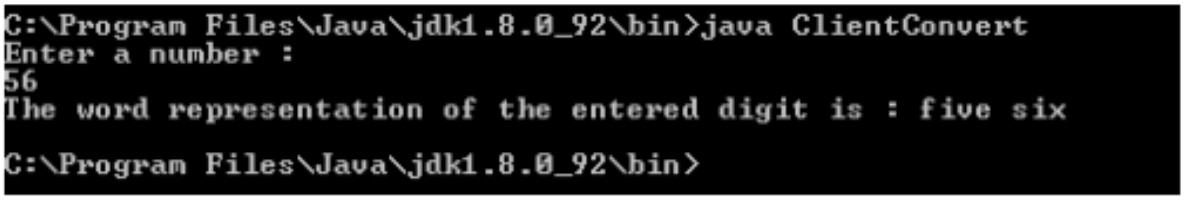
3. ClientConvert.java

```
import java.rmi.*;
import java.io.*;
public class ClientConvert
{
public static void main(String args[])
throws Exception {
InterConvert h1 = (InterConvert)Naming.lookup("Wrd");
BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
System.out.println("Enter a number :\t");
String no = br.readLine();
```

```
String ans = h1.convertDigit(no);
System.out.println("The word representation of the entered digit is : " +ans);
}
}
```

Output:





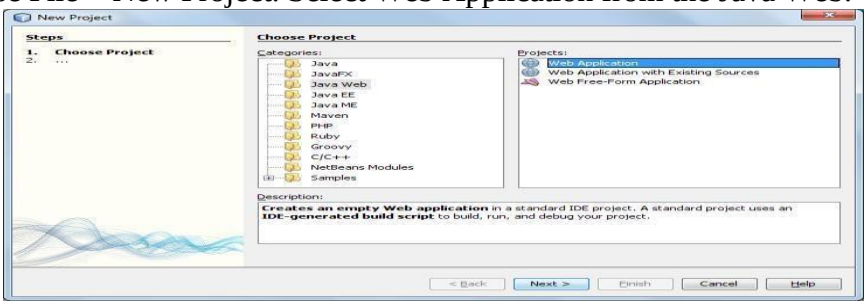
Practical No: 05

Aim: Show the implementation of web services.

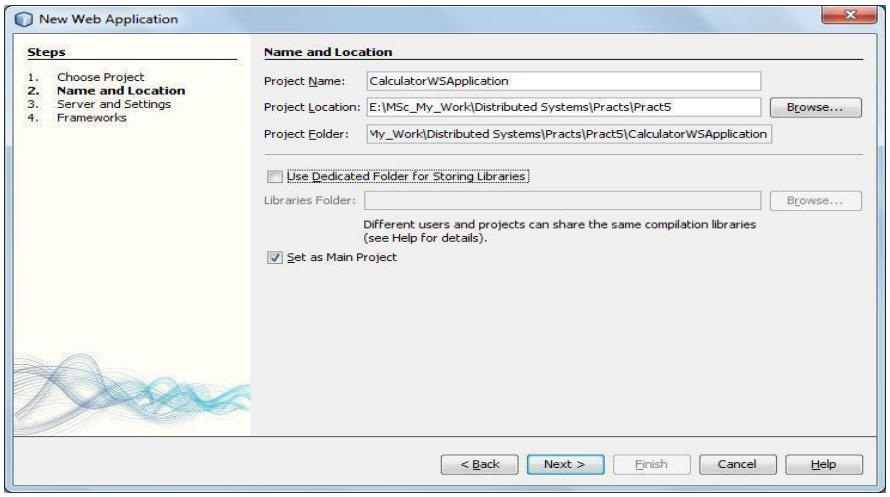
1) Creating a Web Service

A. Choosing a Container:

1. Choose File > New Project. Select Web Application from the Java Web.



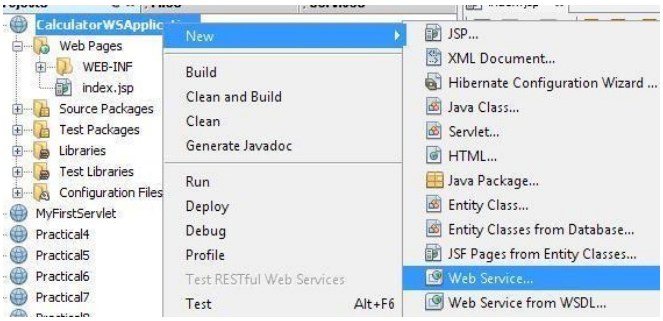
2. Name the project CalculatorWSApplication. Select a location for the project. Click Next.



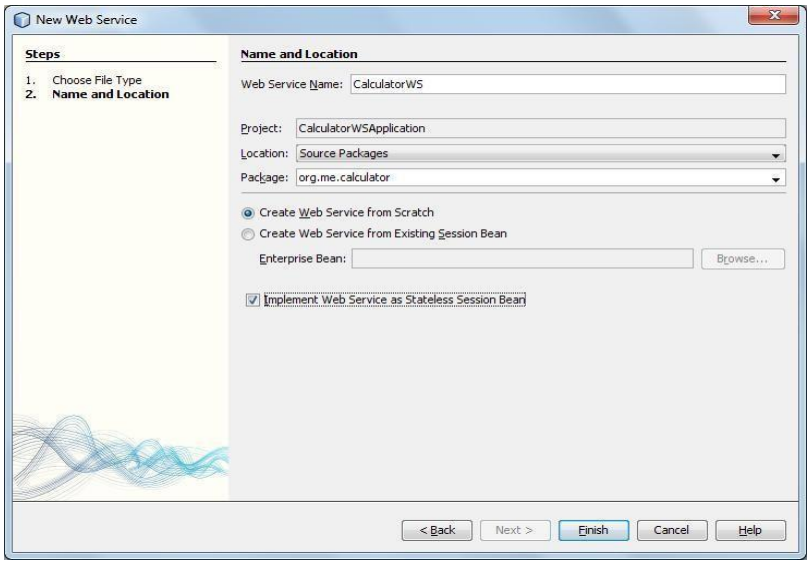
3. Select your server and Java EE version and click Finish.

B. Creating a Web Service from a Java Class

1. Right-click the CalculatorWSApplication node and choose New > Web Service.



2. Name the web service CalculatorWS and type org.me.calculator in Package. Leave Create Web Service from Scratch selected. If you are creating a Java EE 6 project on GlassFish or WebLogic, select Implement Web Service as a Stateless Session Bean.



1. Click Finish. The Projects window displays the structure of the new web service and the source code is shown in the editor area.

2) Adding an Operation to the Web Service

The goal of this exercise is to add to the web service an operation that adds two numbers received from a client. The NetBeans IDE provides a dialog for adding an operation to a web service. You can open this dialog either in the web service visual designer or in the web service context menu.

A. To add an operation to the web service:

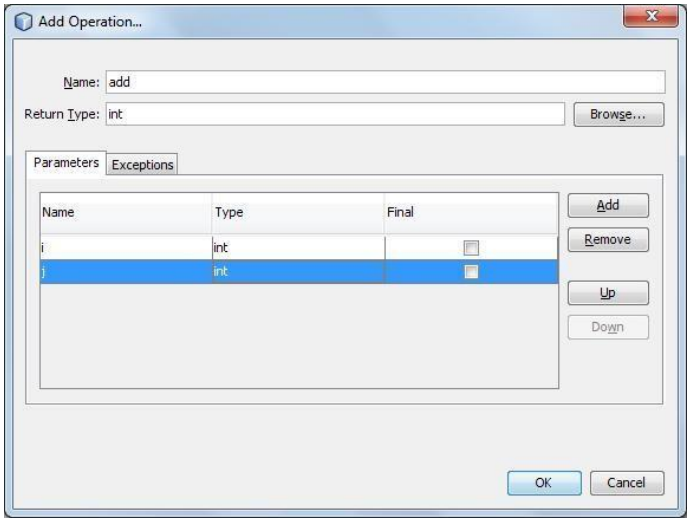
1. Change to the Design view in the editor.

2. Click Add Operation in either the visual designer or the context menu. The Add Operation dialog opens.

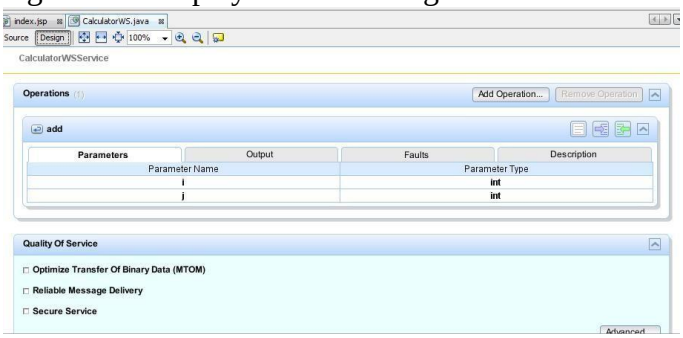
3. In the upper part of the Add Operation dialog box, type add in Name and type int in the Return Type drop-down list.

4. In the lower part of the Add Operation dialog box, click Add and create a parameter of type int named i.

5. Click Add again and create a parameter of type int called j. You now see the following:



1. Click OK at the bottom of the Add Operation dialog box. You return to the editor.
2. The visual designer now displays the following:



3. Click Source. And code the following.

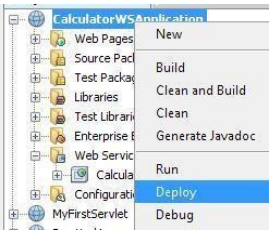
```
@WebMethod(operationName = "add")
    public int add(@WebParam(name = "i") int i, @WebParam(name = "j") int j)
{
        intk = i + j; return k;
    }
```

3) Deploying and Testing the Web Service

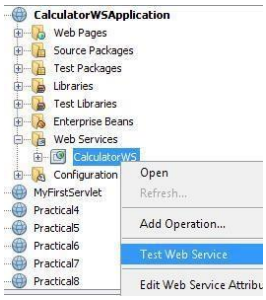
After you deploy a web service to a server, you can use the IDE to open the server's test client, if the server has a test client. The GlassFish and WebLogic servers provide test clients.

A. To test successful deployment to a GlassFish or WebLogic server:

1. Right-click the project and choose Deploy. The IDE starts the application server, builds the application, and deploys the application to the server



2. In the IDE's Projects tab, expand the Web Services node of the CalculatorWSApplication project. Right-click the CalculatorWS node, and choose Test Web Service.



3. The IDE opens the tester page in your browser, if you deployed a web application to the GlassFish server.

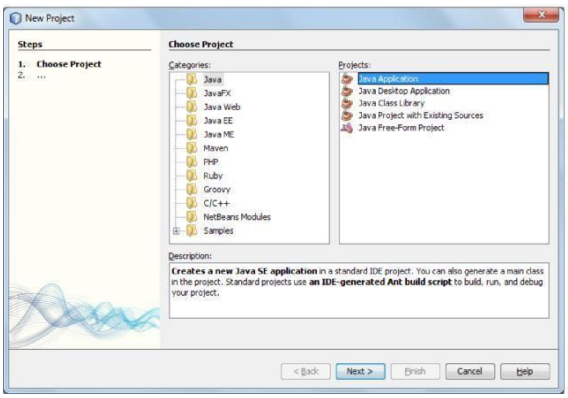
4. If you deployed to the GlassFish server, type two numbers in the tester page, as shown below:

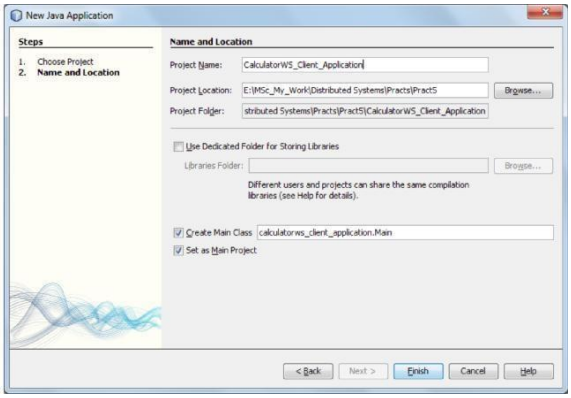
4. Consuming the Web Services

Now that you have deployed the web service, you need to create a client to make use of the web service's add method.

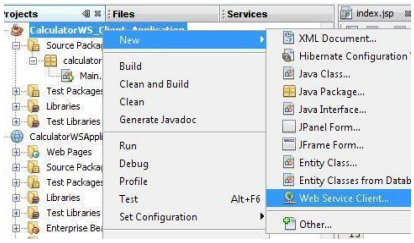
1. Client: Java Class in Java SE Application

1. Choose File > New Project. Select Java Application from the Java category. Name the project CalculatorWS_Client_Application. Leave Create Main Class selected and accept all other default settings. Click Finish.\



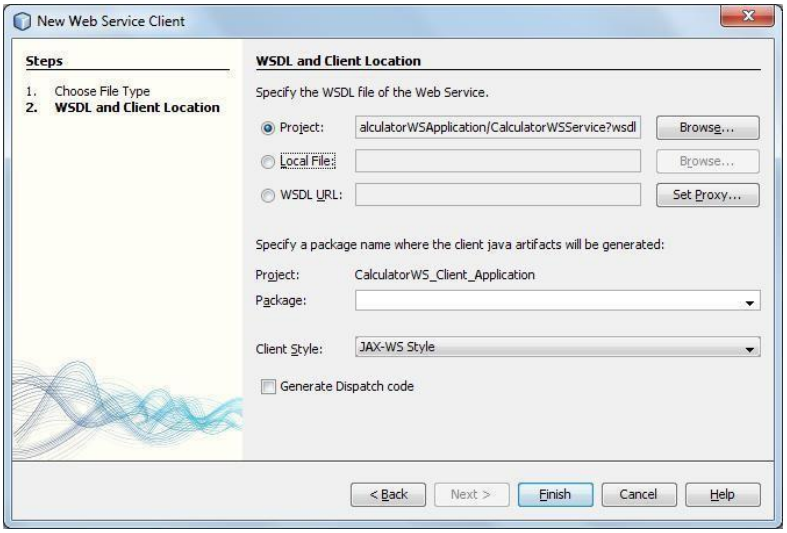


2. Right-click the CalculatorWS_Client_Application node and choose New > Web Service Client. The New Web Service Client wizard opens.

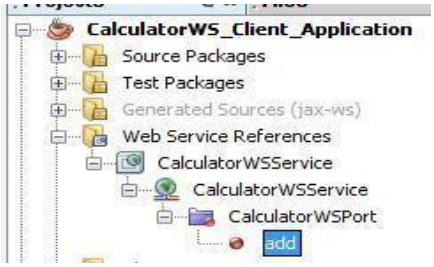


3. Select Project as the WSDL source. Click Browse. Browse to the CalculatorWS web service in the CalculatorWSApplication project. When you have selected the web service, click OK.

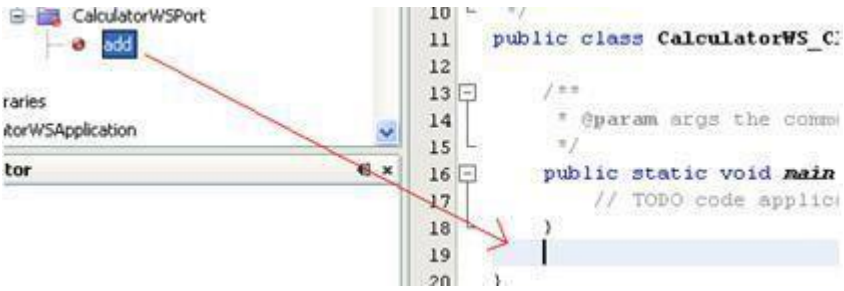
4. Do not select a package name. Leave this field empty.



5. Leave the other settings at default and click Finish. The Projects window displays the new web service client, with a node for the add method that you created:



6. Double-click your main class so that it opens in the Source Editor. Drag the add node below the main() method.



You now see the following:

```
public static void main(String[] args)
{
// TODO code application logic here
}
private static int add(int i, int j)
{
org.me.calculator.CalculatorWS_Service service = new org.me.calculator.CalculatorWS_Service();
org.me.calculator.CalculatorWS port = service.getCalculatorWSPort(); return port.add(i, j);
}
```

7. In the main() method body, replace the TODO comment with code that initializes values for i and j, calls add(), and prints the result.

```
public static void main(String[] args)
{
int i = 3; int j = 4;
int result = add(i, j); System.out.println("Result = " + result);
}
```

8. Surround the main() method code with a try/catch block that prints an exception.

```
public static void main(String[] args)
{
try
{
int i = 3;
int j = 4;
int result = add(i, j); System.out.println("Result = " + result);
} catch (Exception ex) { System.out.println("Exception: " + ex);
}
}
```

Right-click the project node and choose Run.

The Output window now shows the sum: compile:
run:
Result = 7
BUILD SUCCESSFUL (total time: 1 second)

Practical 5B: Implementing Web Service that connects to MySQL database.

Building Web Service:-

- JAX-WS is an important part of the Java EE platform.
- JAX-WS simplifies the task of developing Web services using Java technology.
- It provides support for multiple protocols such as SOAP, XML and by providing a facility for supporting additional protocols along with HTTP.
- With its support for annotations, JAX-WS simplifies Web service development and reduces the size of runtime files.
- Here basic demonstration of using IDE to develop a JAX-WS Web Service is given.
- After creating the web service, create web service clients that use the Web service over a network which is called consuming a web service.
- The client is a servlet in a web application.
- Let's build a Web Service that returns the book name along with its cost for a particular ISBN.
- To begin building this service, create the data store. The server will access the data stored in a MySQL table to serve the client.

Creating MySQL DB Table

create database bookshop; use bookshop;

Create a table named Books that will store valid books information

create table books(isbn varchar(20) primary key, bookname varchar(100), bookprice varchar(10));

Insert valid records in the Books table

insert into books values("111-222-333","Learn My SQL","250");
insert into books values("111-222-444","Java EE 6 for Beginners","850"); insert into books values("111-222-555","Programming with Android","500"); insert into books values("111-222-666","Oracle Database for you","400");
insert into books values("111-222-777","Asp.Net for advanced programmers","1250");
Creating a web service

Choosing a container

- Web service can be either deployed in a Web container or in an EJB container.

- If a Java EE 6 application is created, use a Web container because EJBs can be placed directly in a Web application.

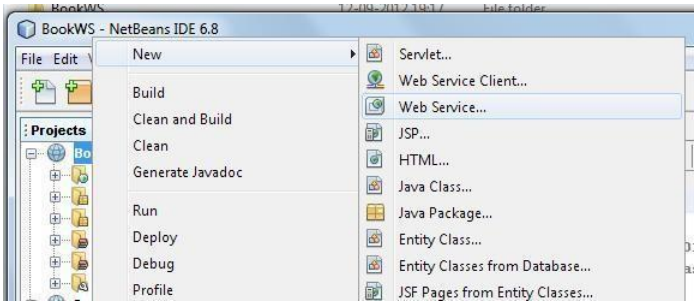
Creating a web application

- To create a Web application, select File - New Project.

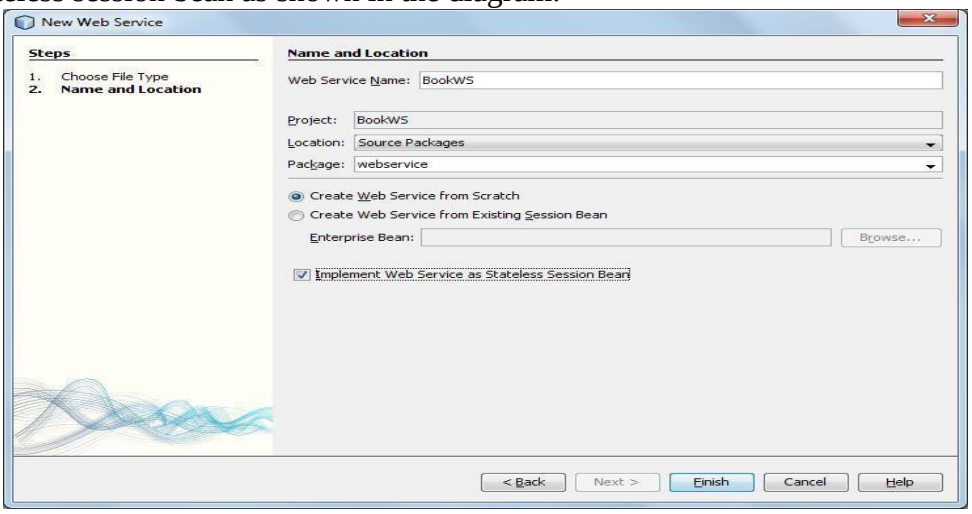
- New Project dialog box appears. Select Java Web available under the Categories section and Web Application available under the Projects section. Click Next

i. Creating a web service

Right-click the BookWS project and select New -> Web Service as shown in diagram.



New Web Service dialog box appears. Enter the name BookWS in the Web Service Name textbox, webservice in the Package textbox, select the option Create Web Service from scratch and also select the option implement web service as a stateless session bean as shown in the diagram.



- Click Finish.
- The web service in the form of java class is ready.

3.Designing the web service

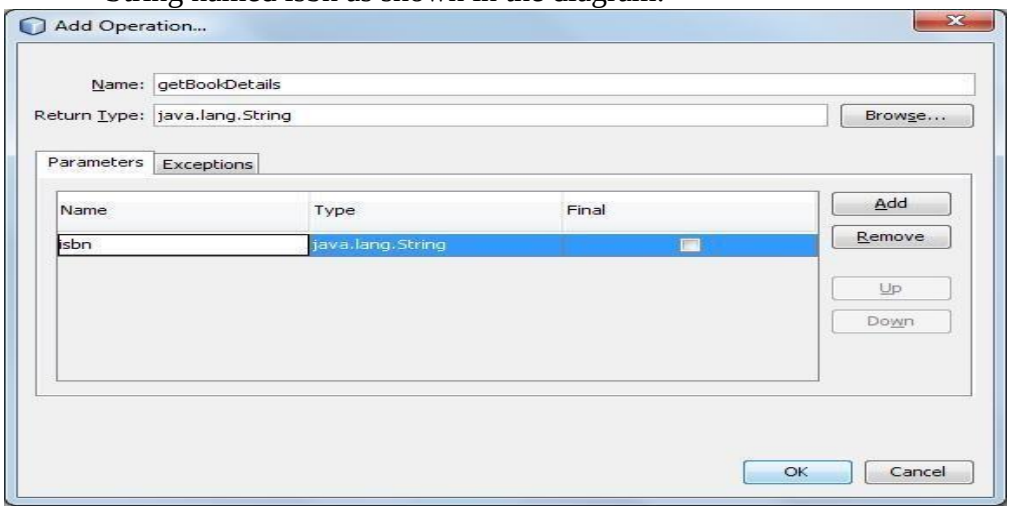
Now add an operation which will accept the ISBN number from the client to the web service.

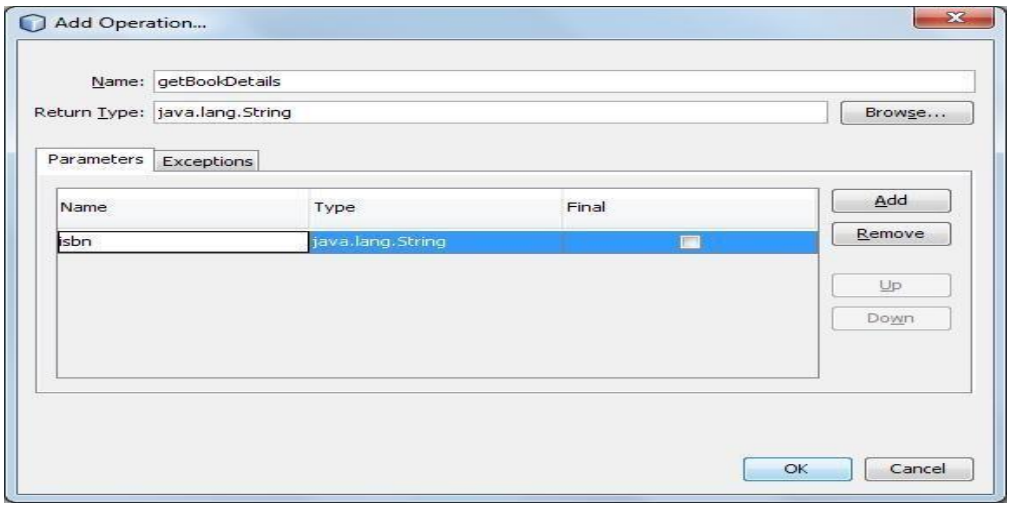
i. Adding an operation to the web service

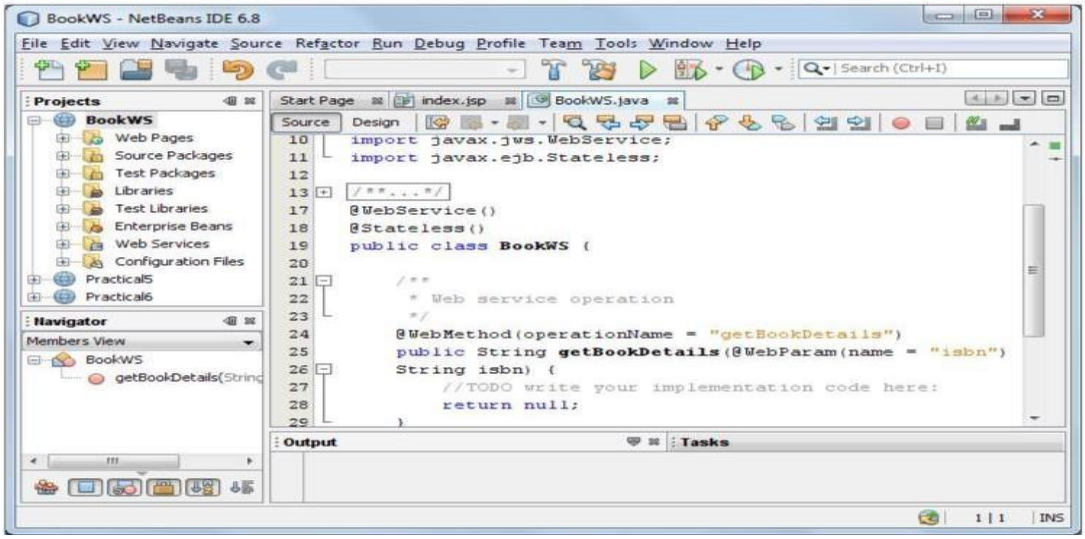
Change the source view of the BookWS.java to design view by clicking Design available just below the name of the BookWS.java tab.
The window changes as shown in the diagram.
Click Add Operation available in the design view of the web service.

Add Operation dialog appears. Enter the name getBookDetails in the Name textbox and java.lang.String in the Return Type textbox as shown in the diagram.

In Add Operation dialog box, click Add and create a parameter of the type String named isbn as shown in the diagram.



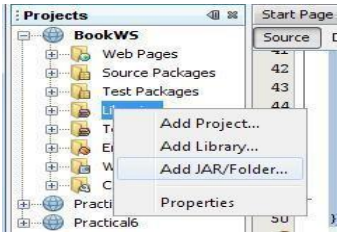




4.Adding the MySQL connector

1. We need to add a reference of MySQL connector to our web service. It is via this connector that our web service will be able to communicate with the database.

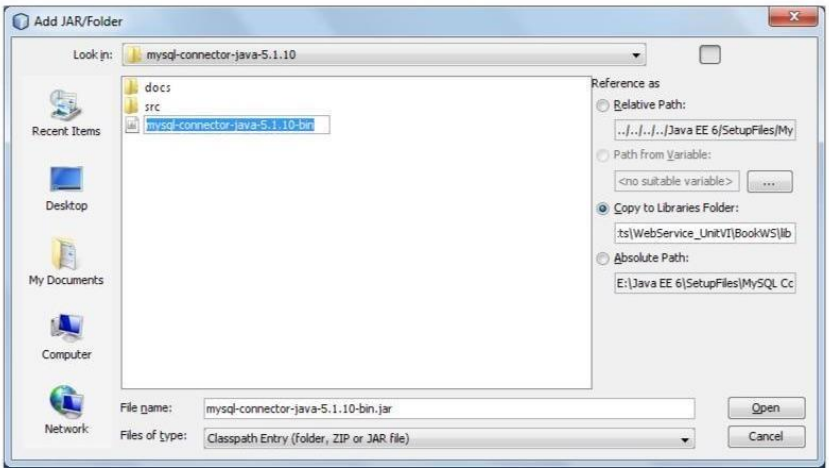
2. Right click on the libraries and select Add JAR/Folder as shown in the diagram.



3. Choose the location where mysql-coonector-java-5.1.10-bin is located, select it and click on open as shown.

5.Deploying and testing the web service

When a web service is deployed to a web container, the IDE allows testing the web service to see if it functions as expected.

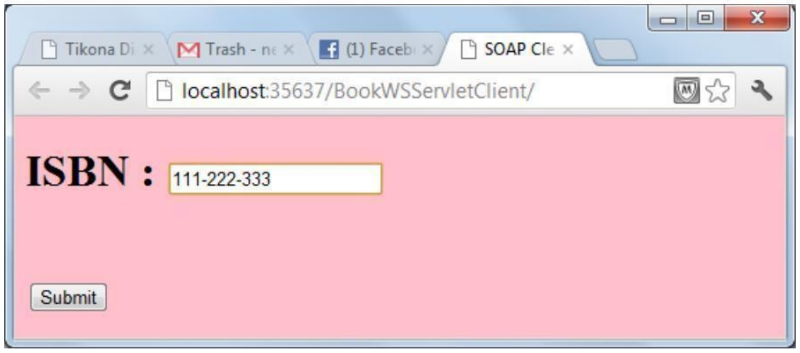


6.Running the Application

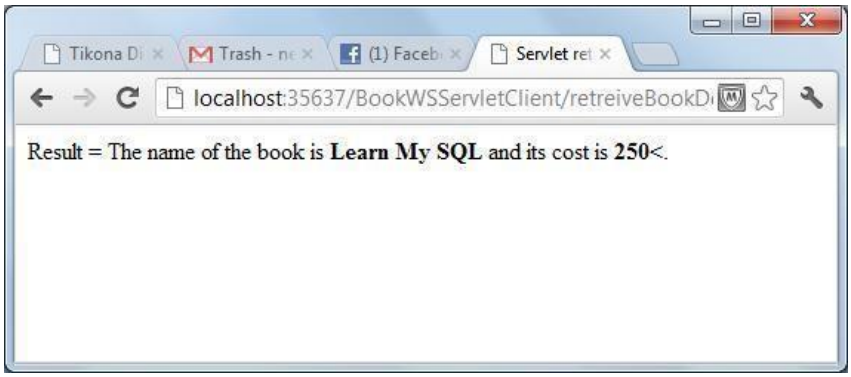
1. Once the compilation and building of the web application is done run the application. Right click the BookWSServerCleint project and select run.

2. Once the run processing completes in NetBeans IDE a web browser is automatically launched and the BookWSServletCleint application is executed as shown in the diagram.

3. Enter the ISBN as shown in the diagram



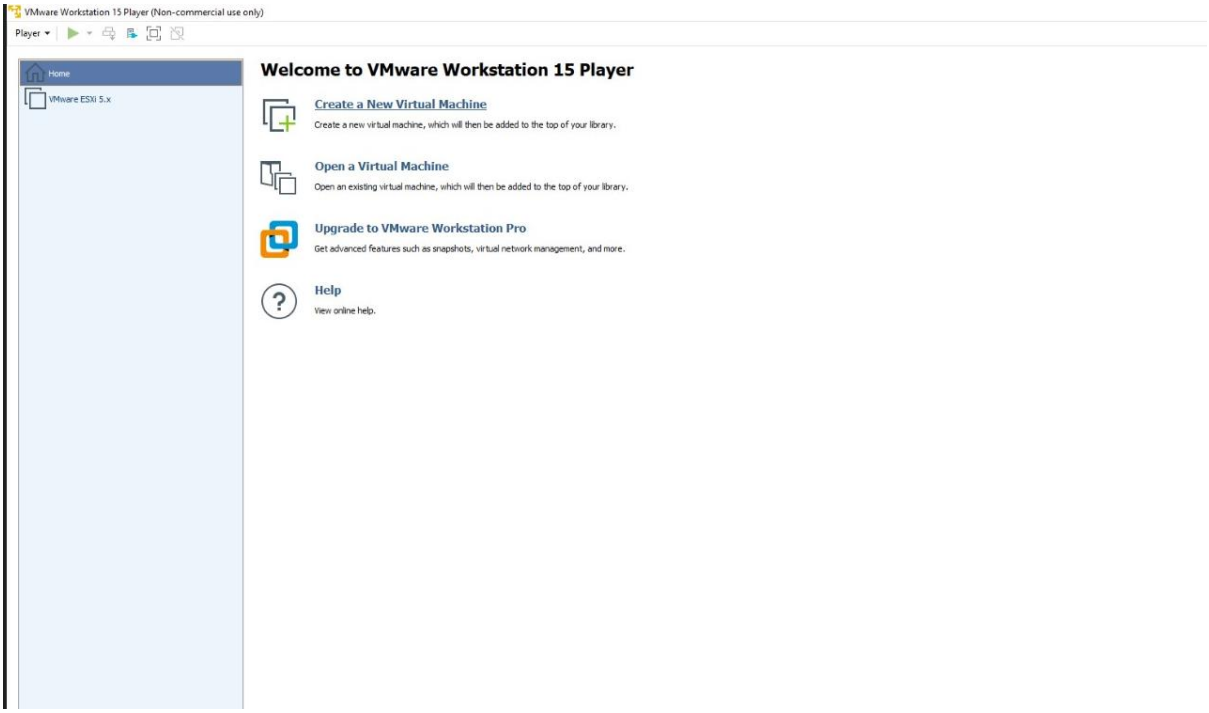
Click Submit. The book name and its cost are displayed as shown in the diagram.



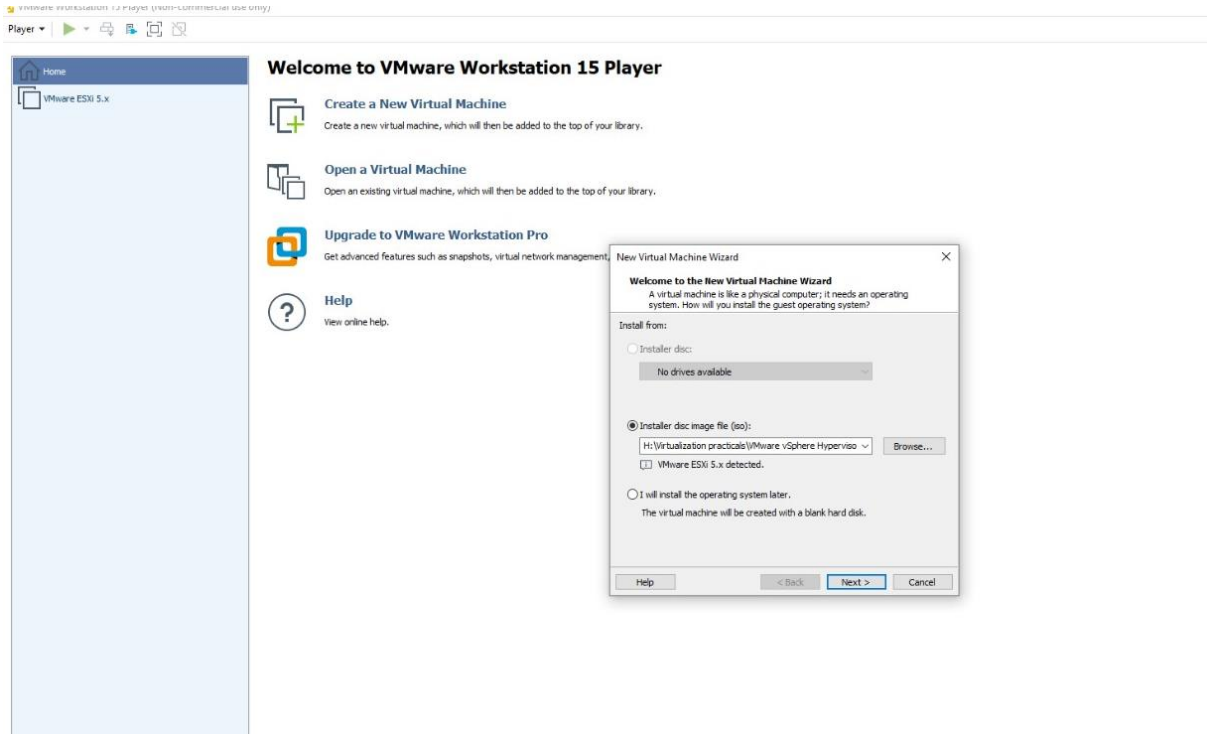
Practical No 06

Aim: Implement Xen virtualization and manage with Xen Center

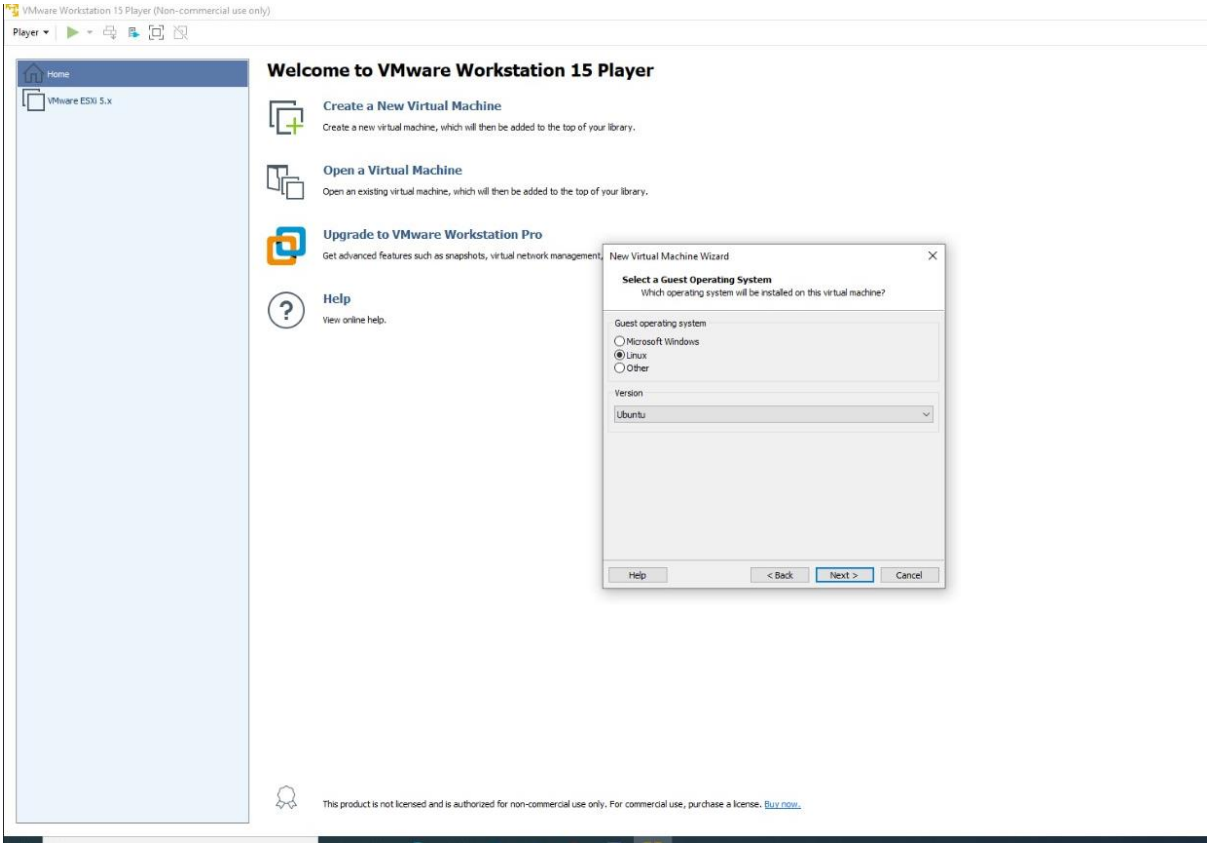
Open the VMware Workstation 12. Go to the File menu. Click on New Virtual Machine option.



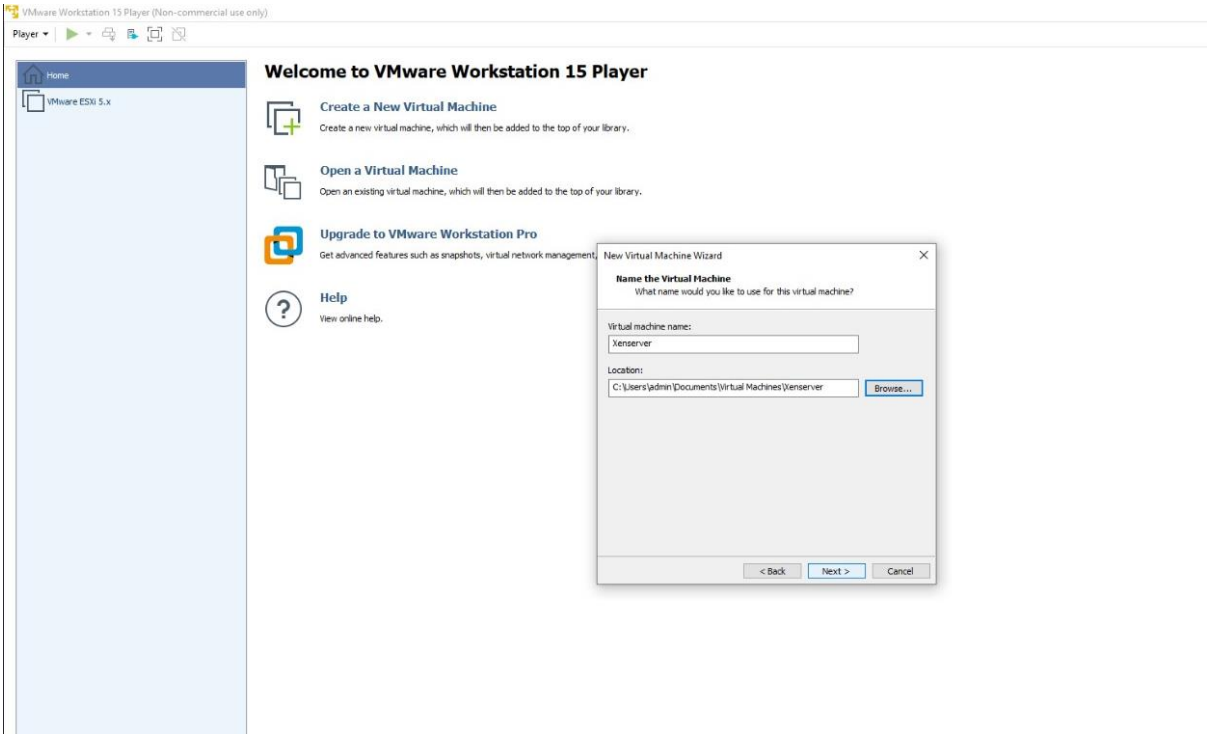
Select theoption button “I will install the operating system later” & click on Next.



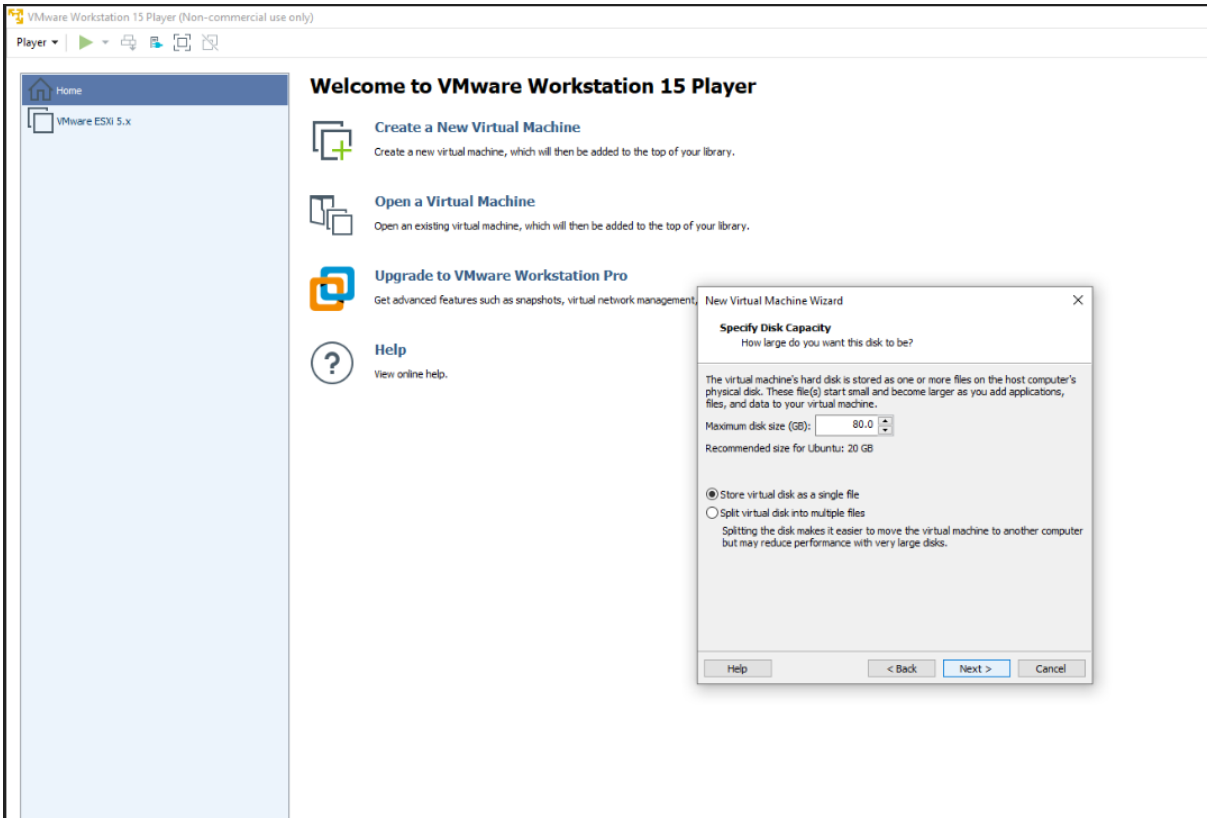
Select the Guest operating system as Linux & confirm the version should be Ubuntu. Then click on Next.

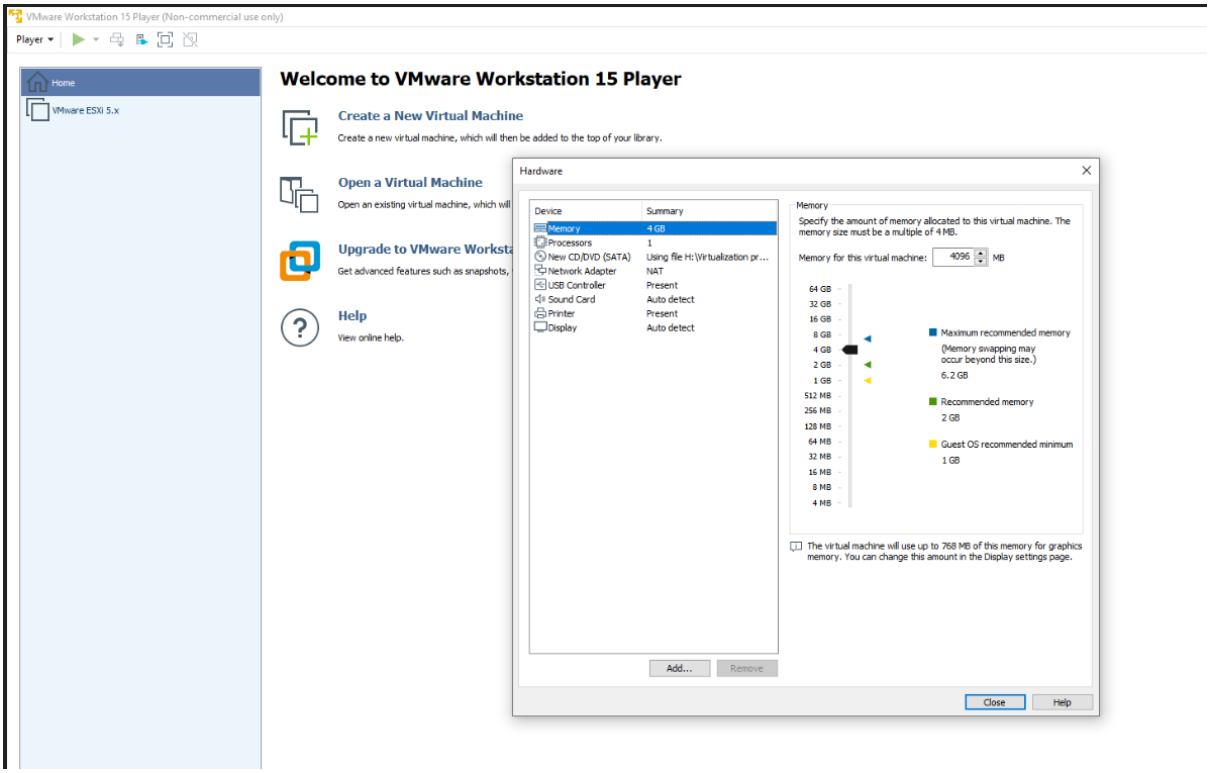


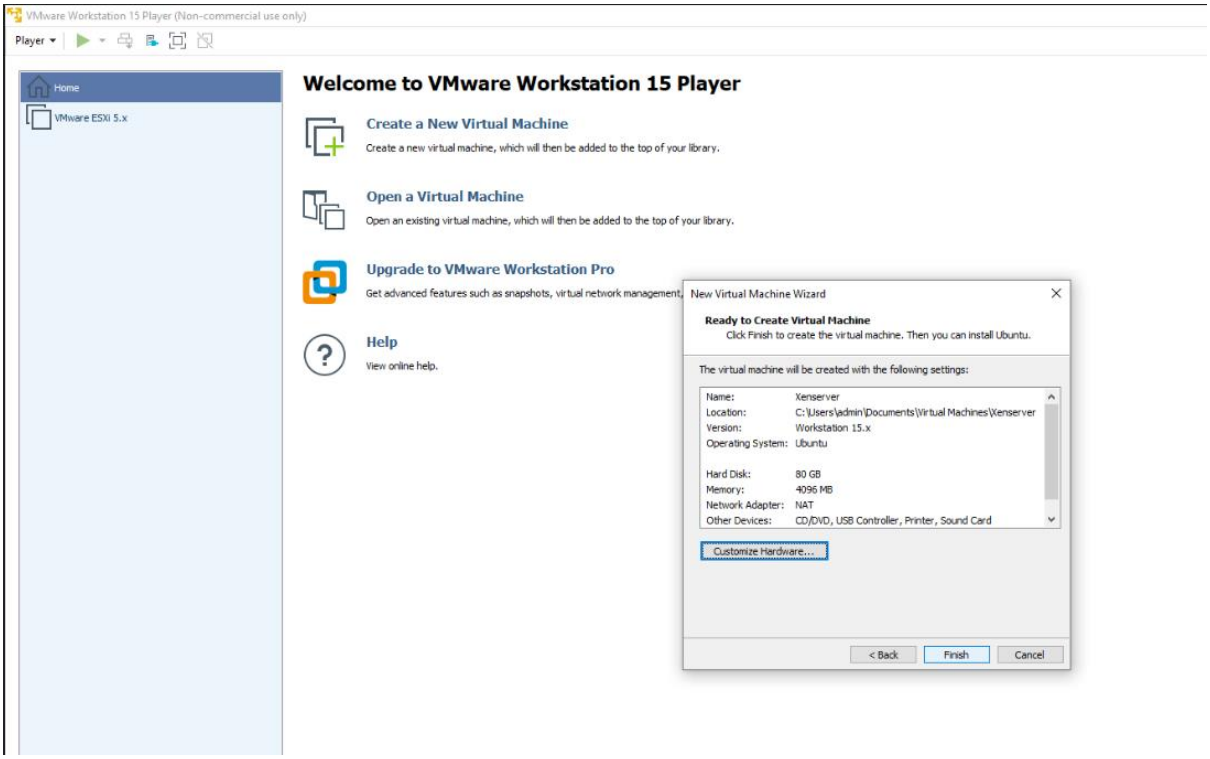
Give the Virtual machine name as xen server. Then click on Next



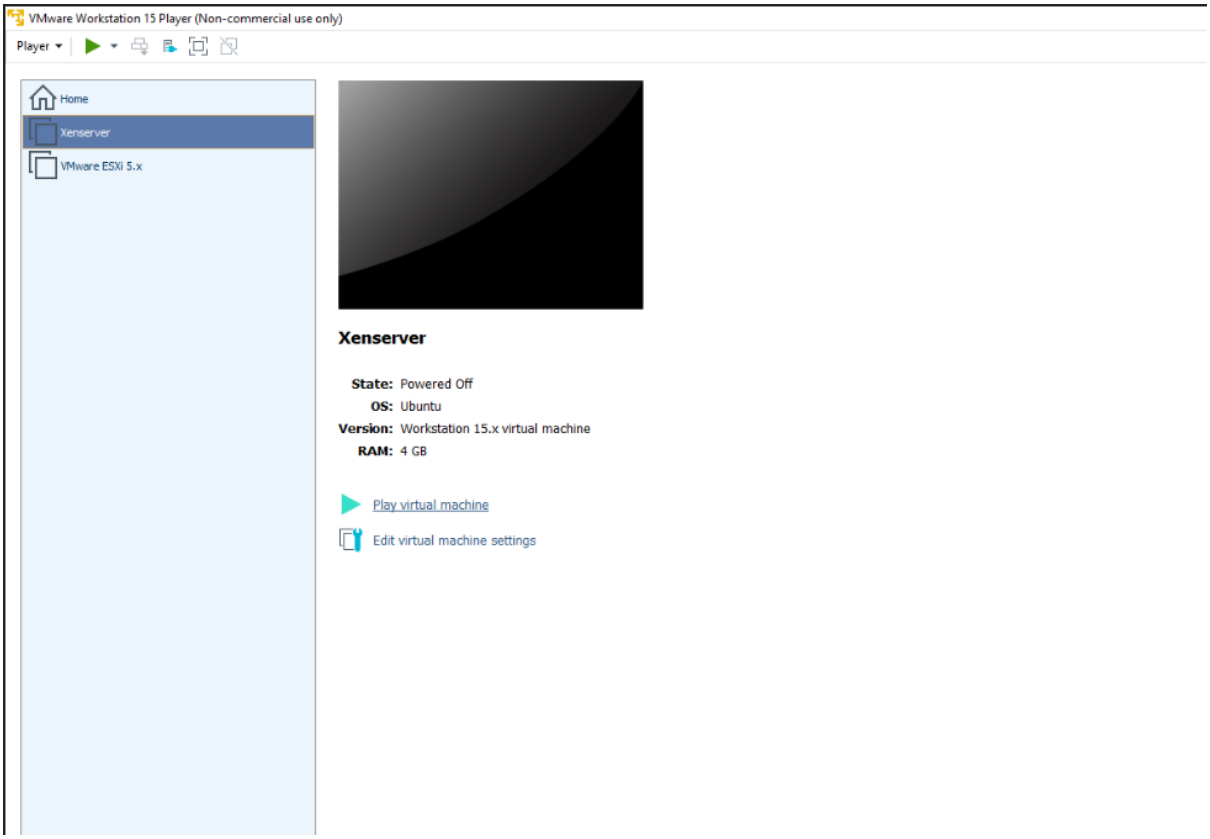
The virtual machine settings will display, by default, memory 256 MB; Selectthe memory option & from the slider at the right side, make the memory as 2 GB. Then click on Close.

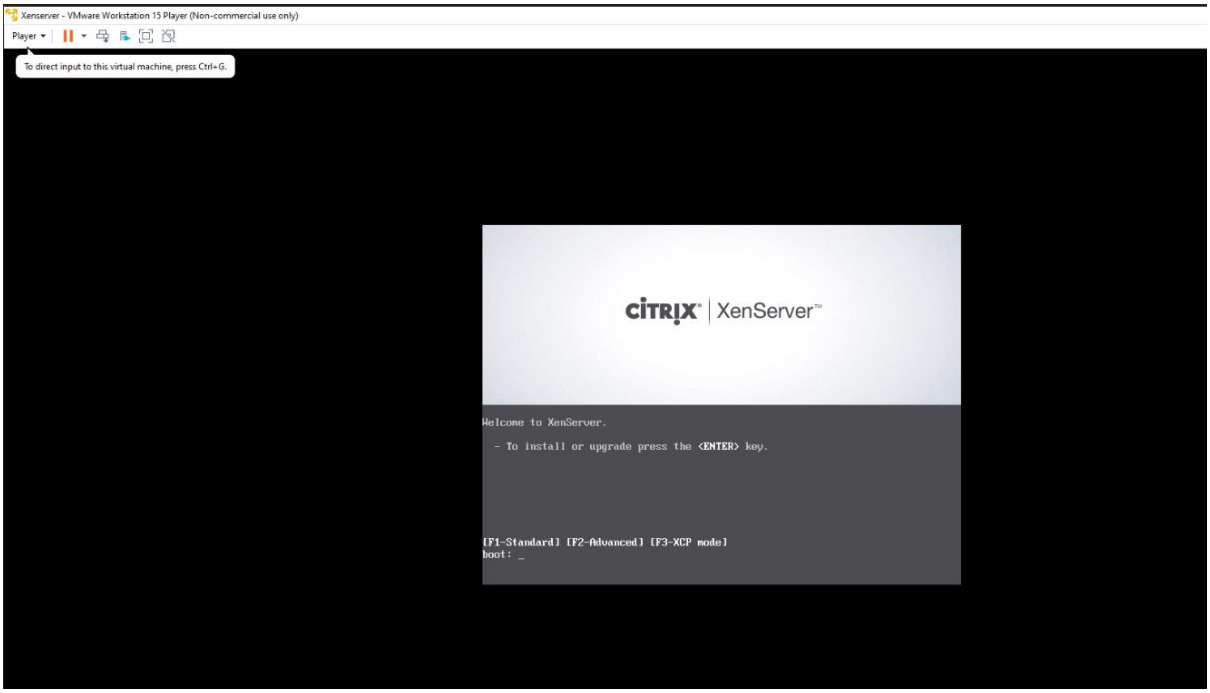


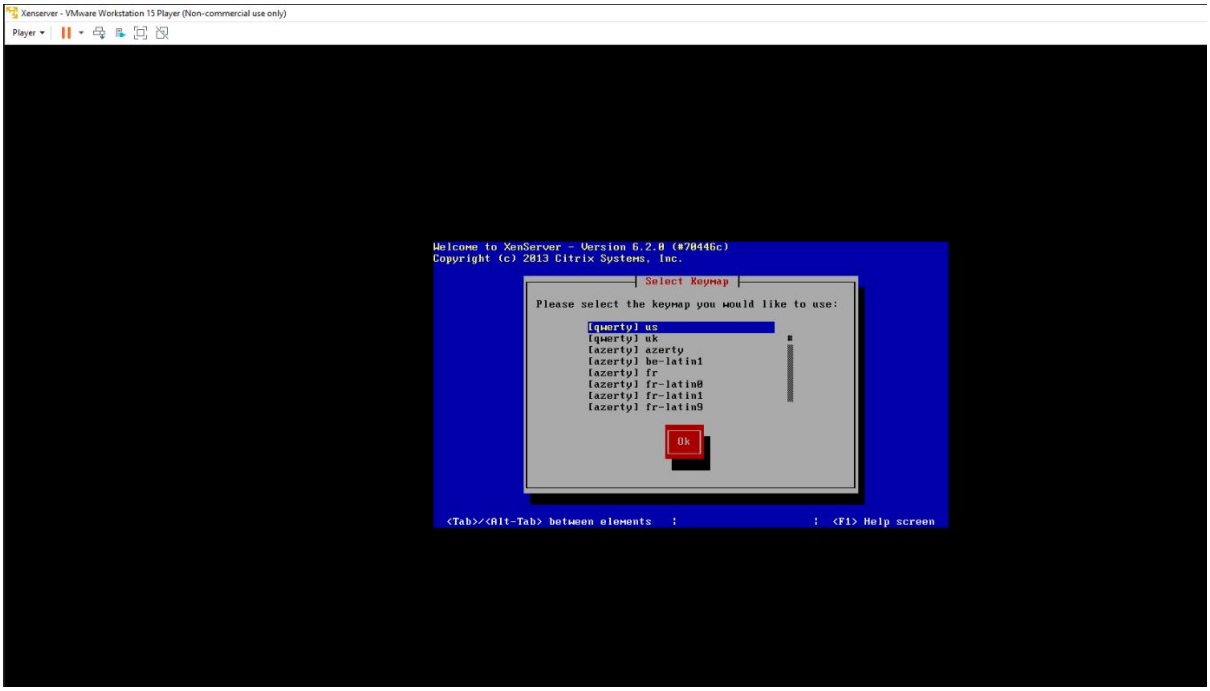




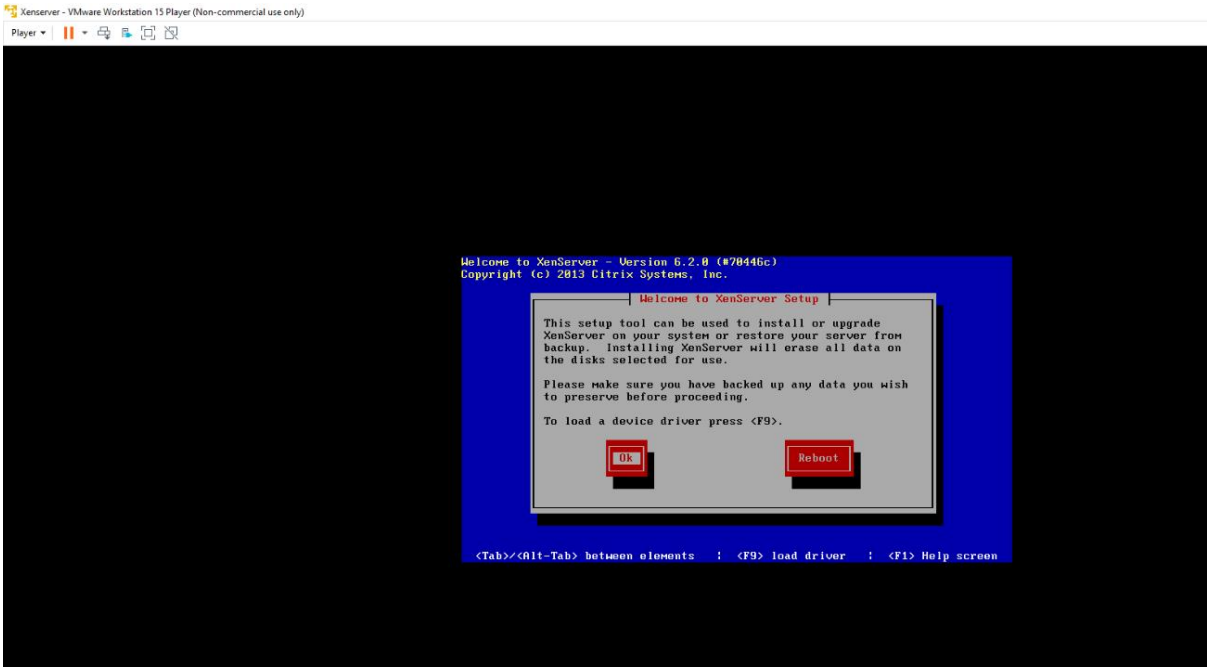
Click on Citrix XEN Server and Power on this virtual machine.
After the machine power on the Citrix xenserver will start.


VMware Workstation 15 Player (Non-commercial use only)
Player
Home
Xenserver
VMware ESXi 5.x
Xenserver
State: Powered Off
OS: Ubuntu
Version: Workstation 15.x virtual machine
RAM: 4 GB
Play virtual machine
Edit virtual machine settings

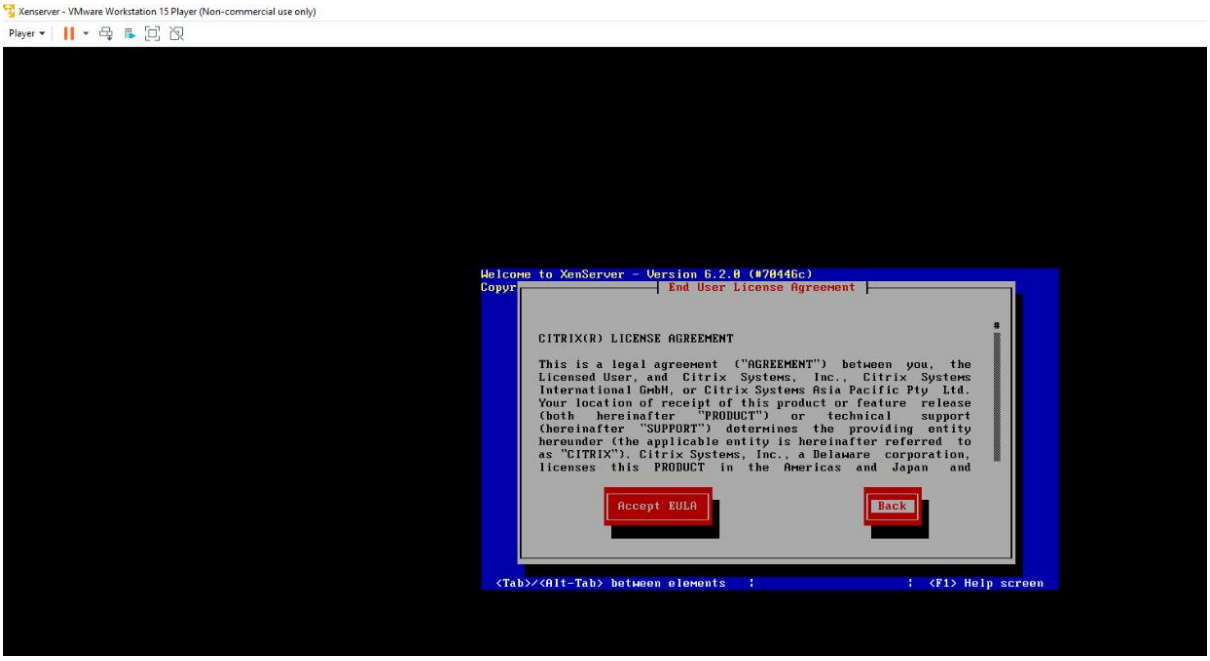

Xenserver - VMware Workstation 15 Player (Non-commercial use only)
Player
To direct input to this virtual machine, press Ctrl+G.
CITRIX | XenServer™
Welcome to XenServer.
- To install or upgrade press the <ENTER> key.
[F1-Standard] [F2-Advanced] [F3-XCP mode]
boot: _

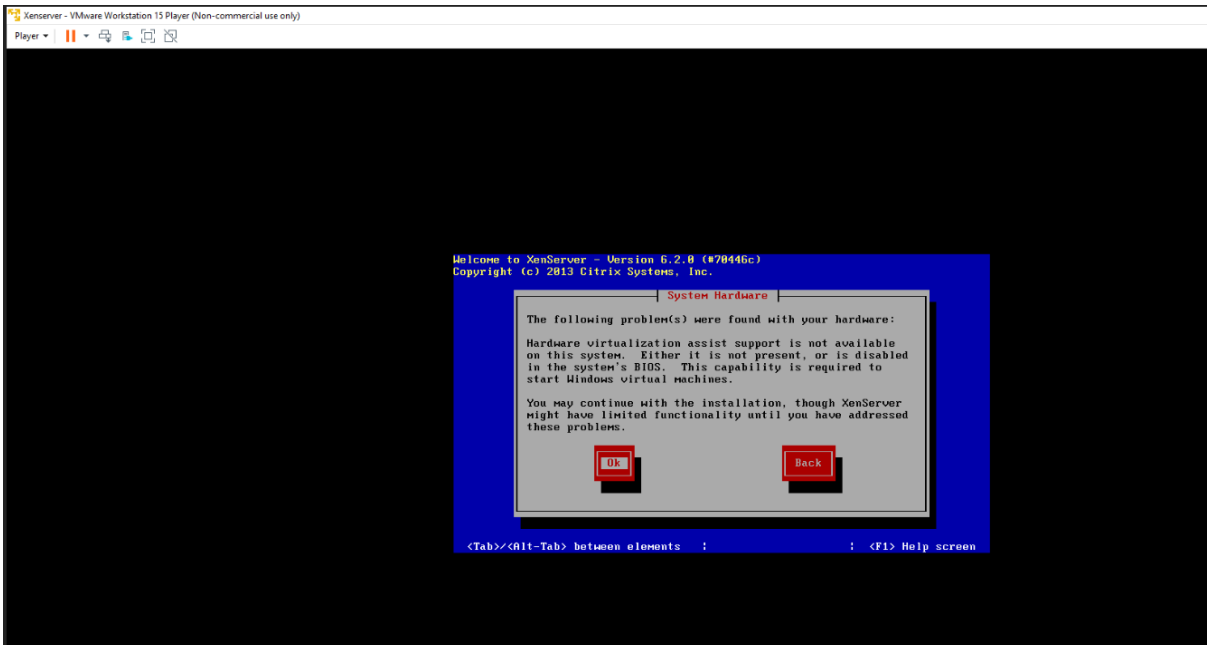


Now we have a standard disclaimer about data loss. Assuming you have backed up your data or are doing an install to a fresh disk (or just don't care about what's on there), we hit **OK**:

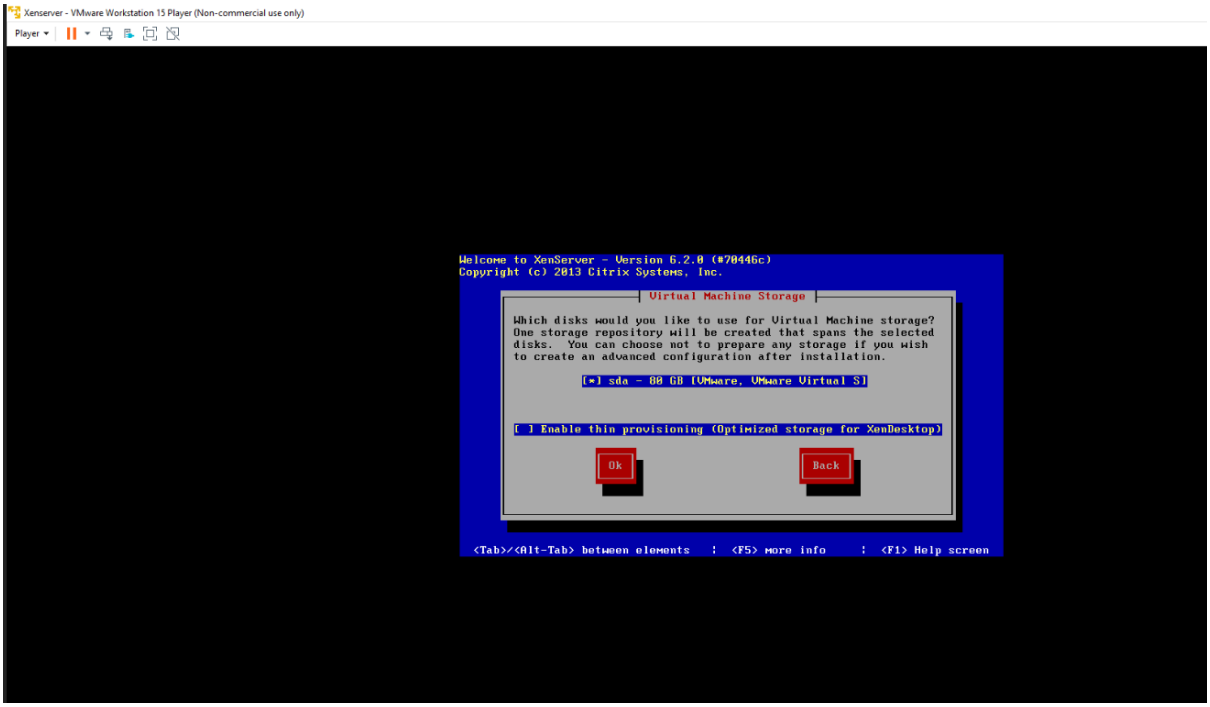


Once you have read the EULA, hit Accept EULA:

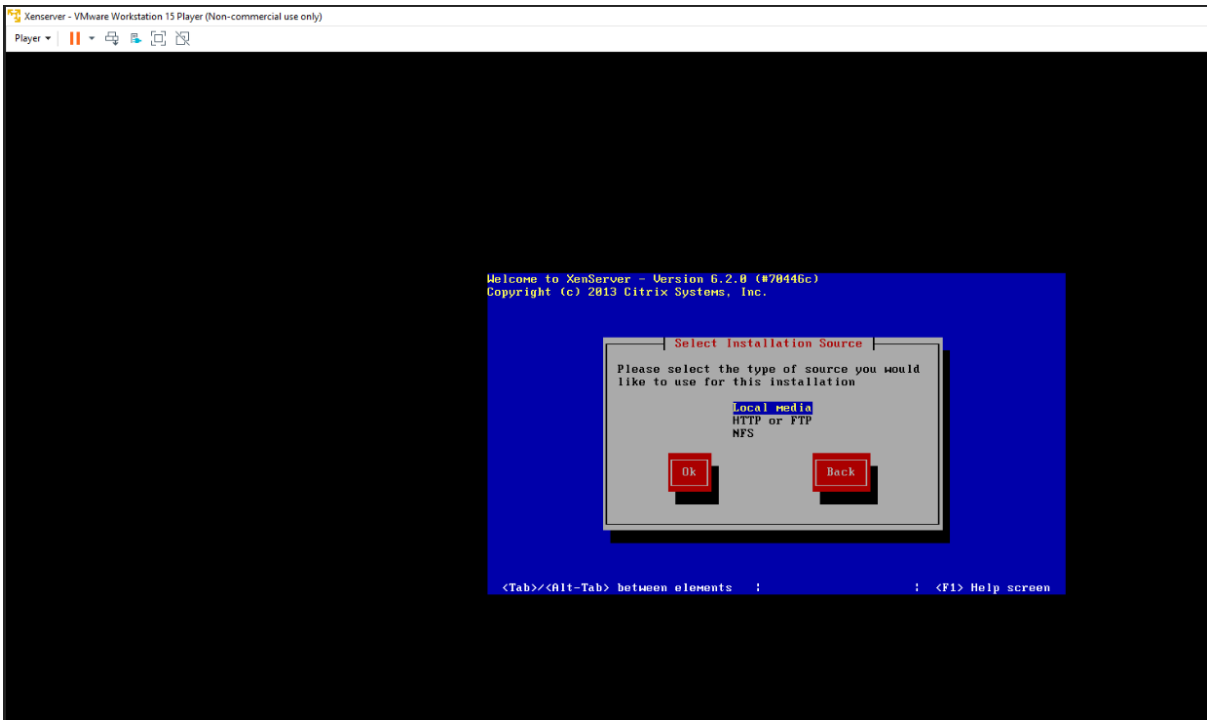




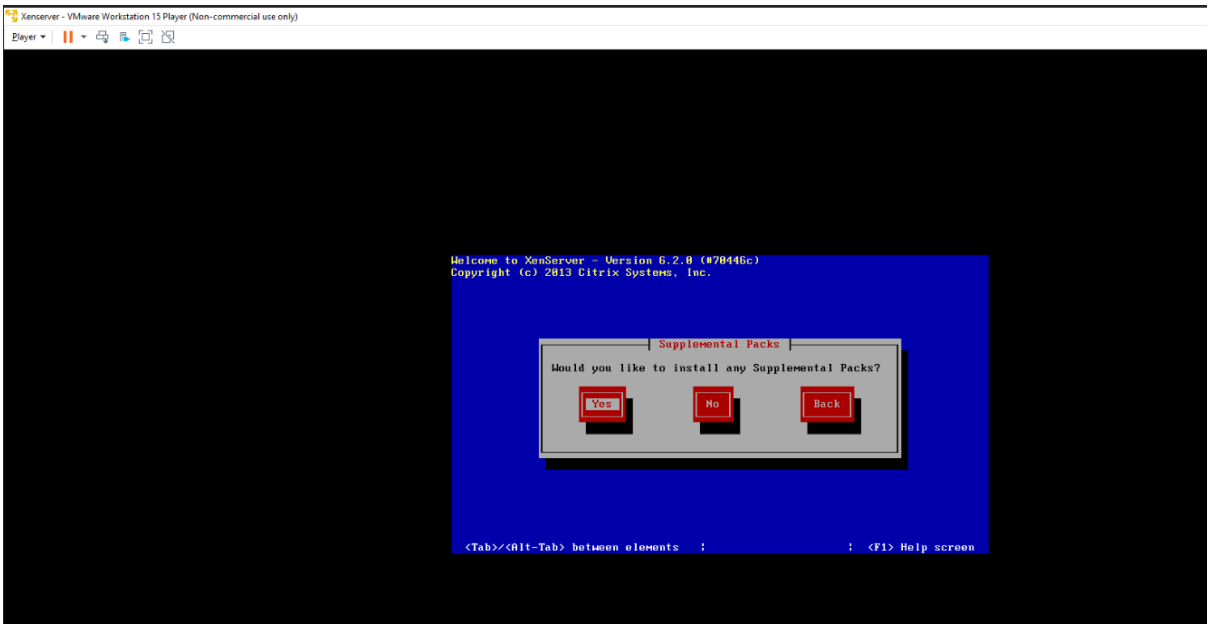
Here we choose which disk to install to. In a similar way to ESXi, we don't have the option of software RAID, so here we choose a single disk or available hardware RAID volume. Press space to select a drive:



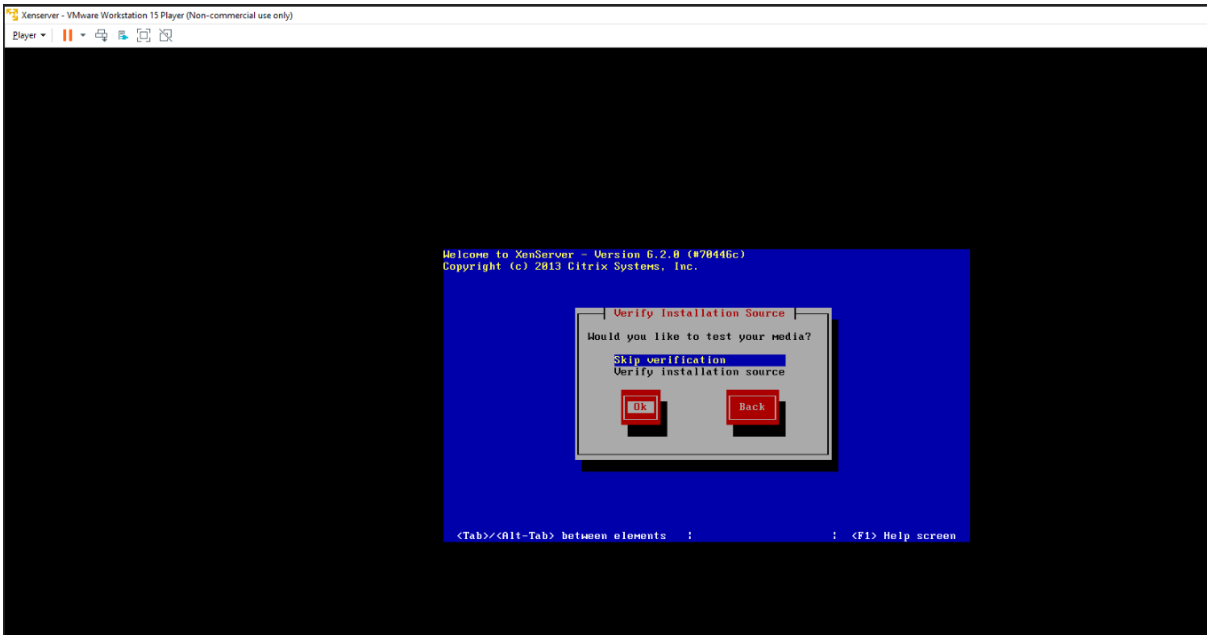
We have the install media here so we will use the Local Media option



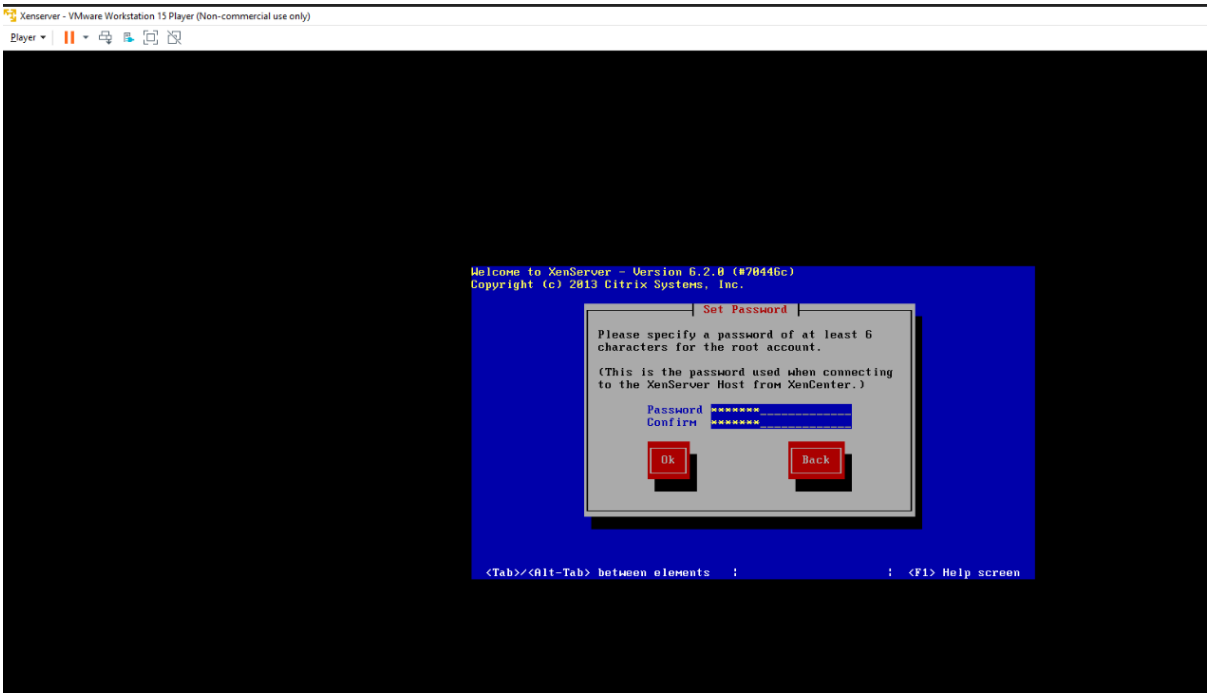
If you have to ask what a Supplemental Pack is, you don't have one. Select No. If you select Yes and don't have one don't worry, it won't harm anything.



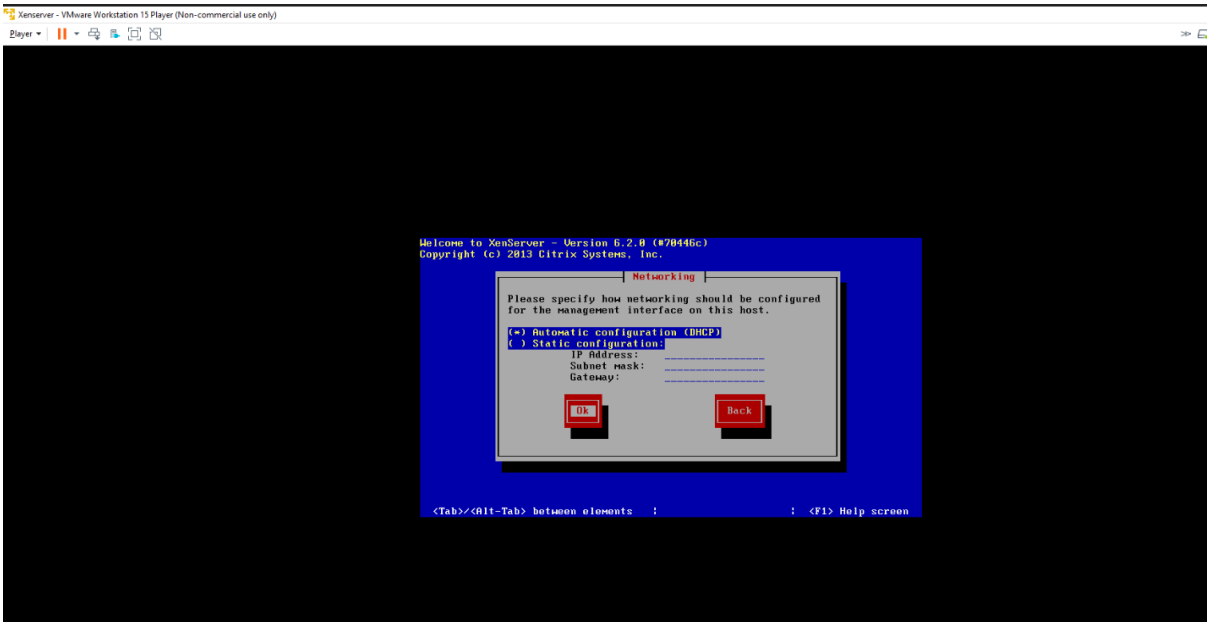
You can verify your installation media here if you like or Skip verification.

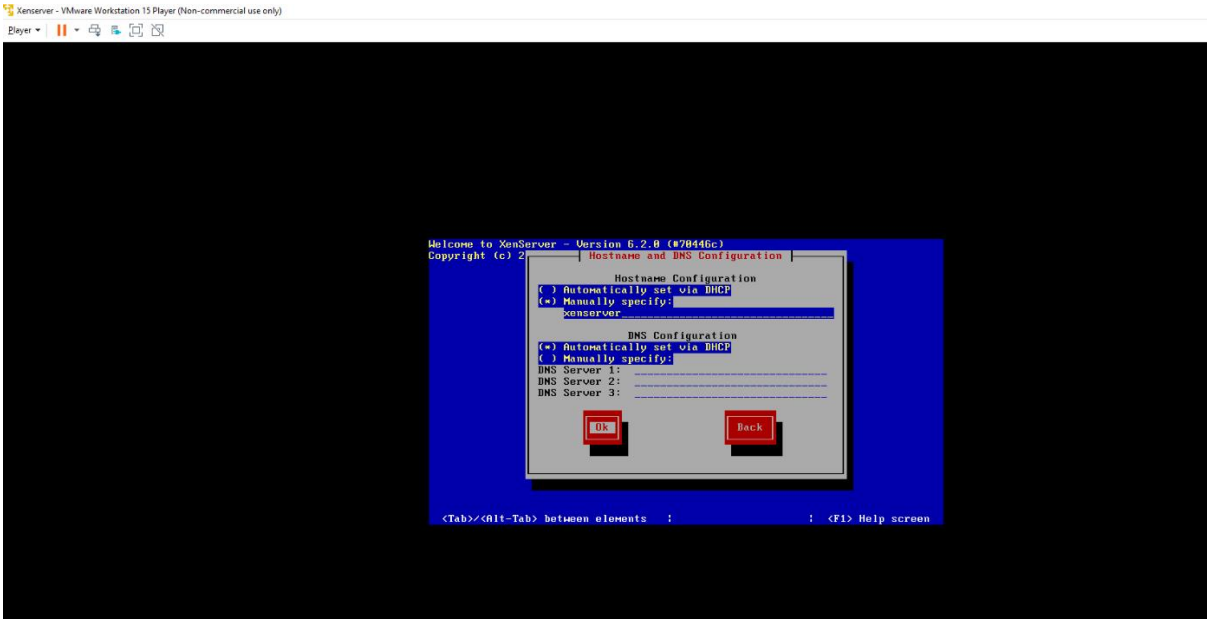


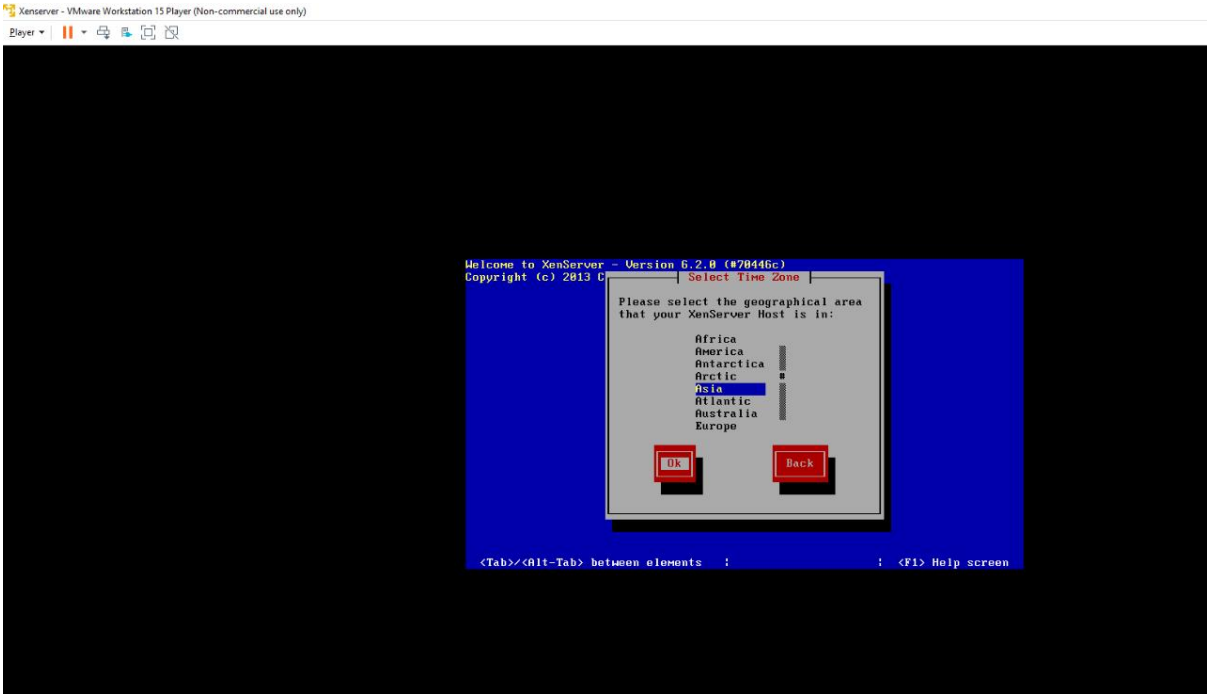
Pick a root password – you will need this for logging in via the console or via the XenServer client on Windows.

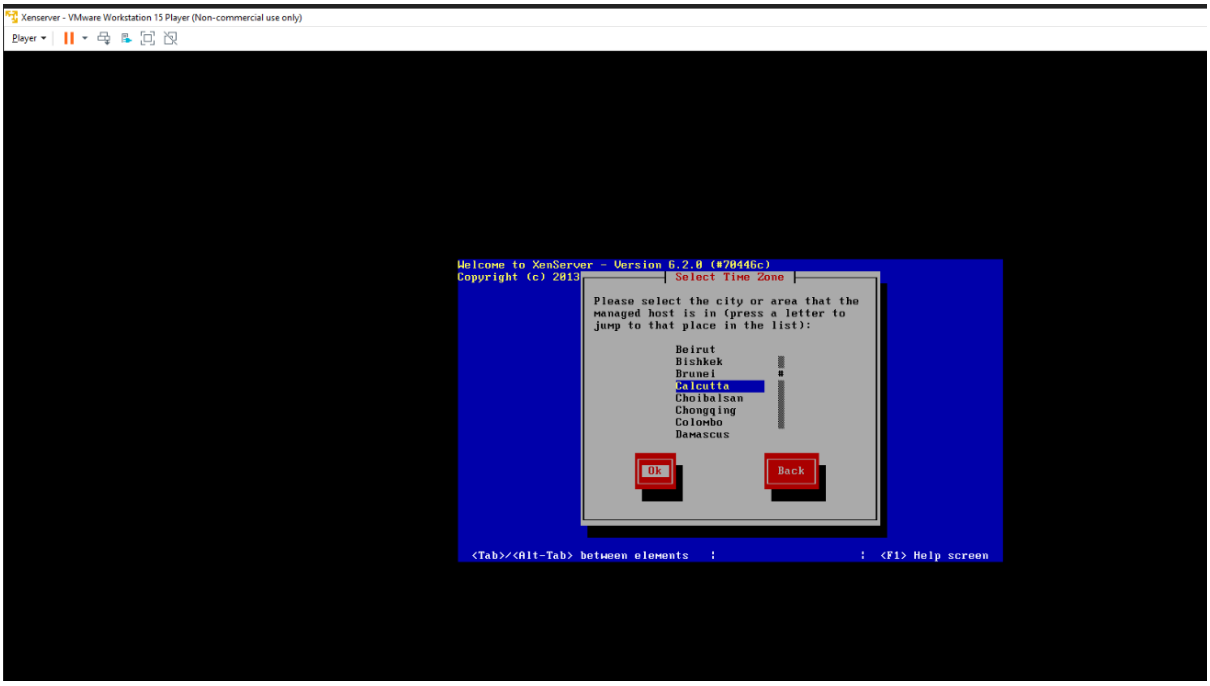


The motherboard we are installing to has two Ethernet ports, both of which are supported by XenServer 6.2. Choose the one you wish to use for the management network – you can change this later.

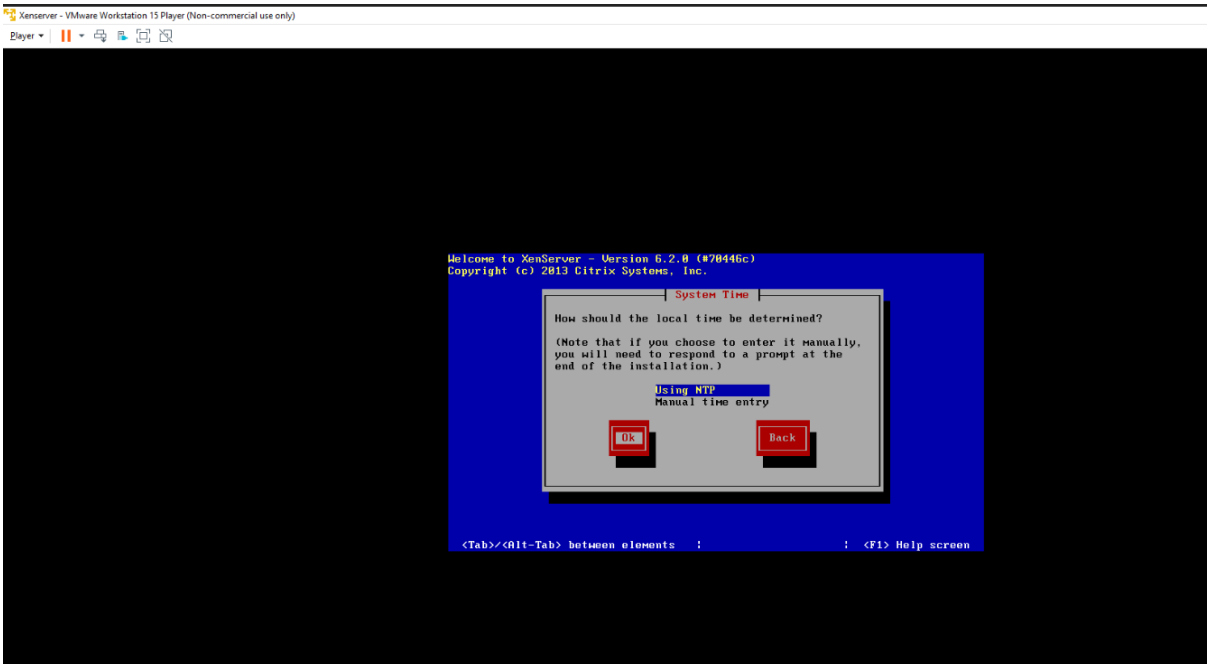


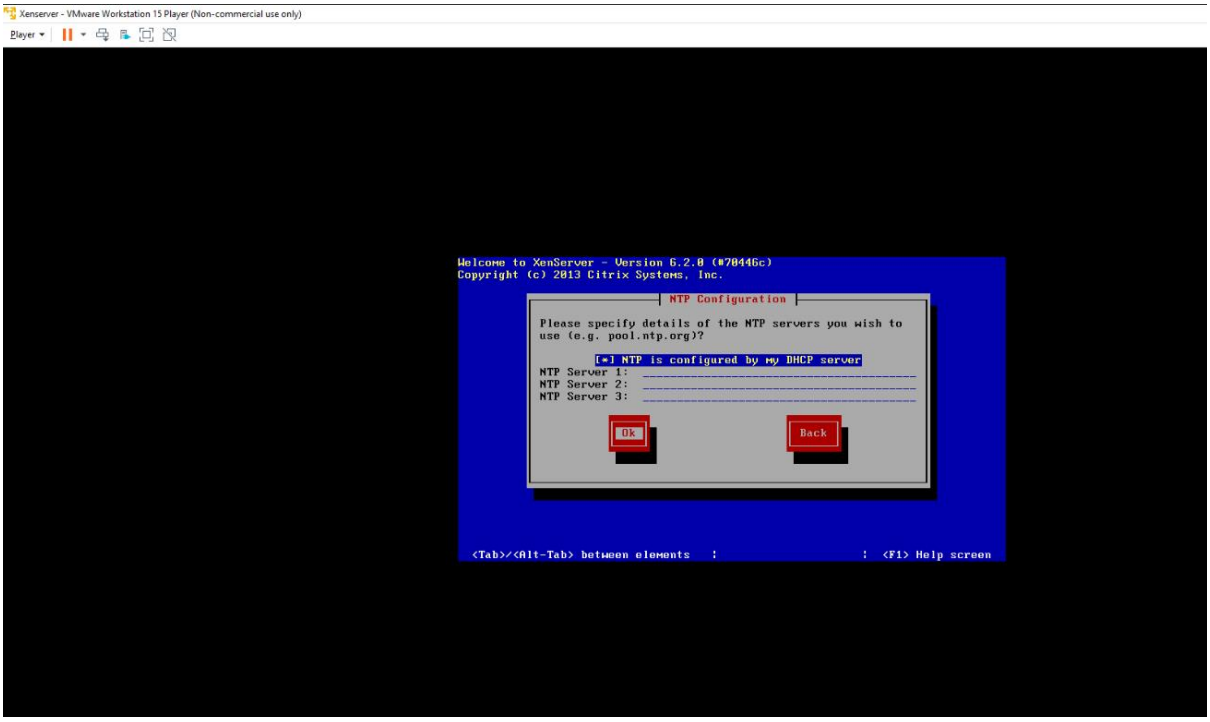

Xenserver - VMware Workstation 15 Player (Non-commercial use only)
Player
Welcome to XenServer - Version 6.2.0 (#70446c)
Copyright (c) 2
Hostname and DNS Configuration
Hostname Configuration
( ) Automatically set via DHCP
(*) Manually specify:
xenserver
DNS Configuration
(*) Automatically set via DHCP
( ) Manually specify:
DNS Server 1:
DNS Server 2:
DNS Server 3:
Ok
Back
<Tab>/<Alt-Tab> between elements
<F1> Help screen


Xenserver - VMware Workstation 15 Player (Non-commercial use only)
Player
Welcome to XenServer - Version 6.2.0 (#70446c)
Copyright (c) 2013 C
Select Time Zone
Please select the geographical area
that your XenServer Host is in:
Africa
America
Antarctica
Arctic
Asia
Atlantic
Australia
Europe
Ok
Back
<Tab>/<Alt-Tab> between elements
<F1> Help screen

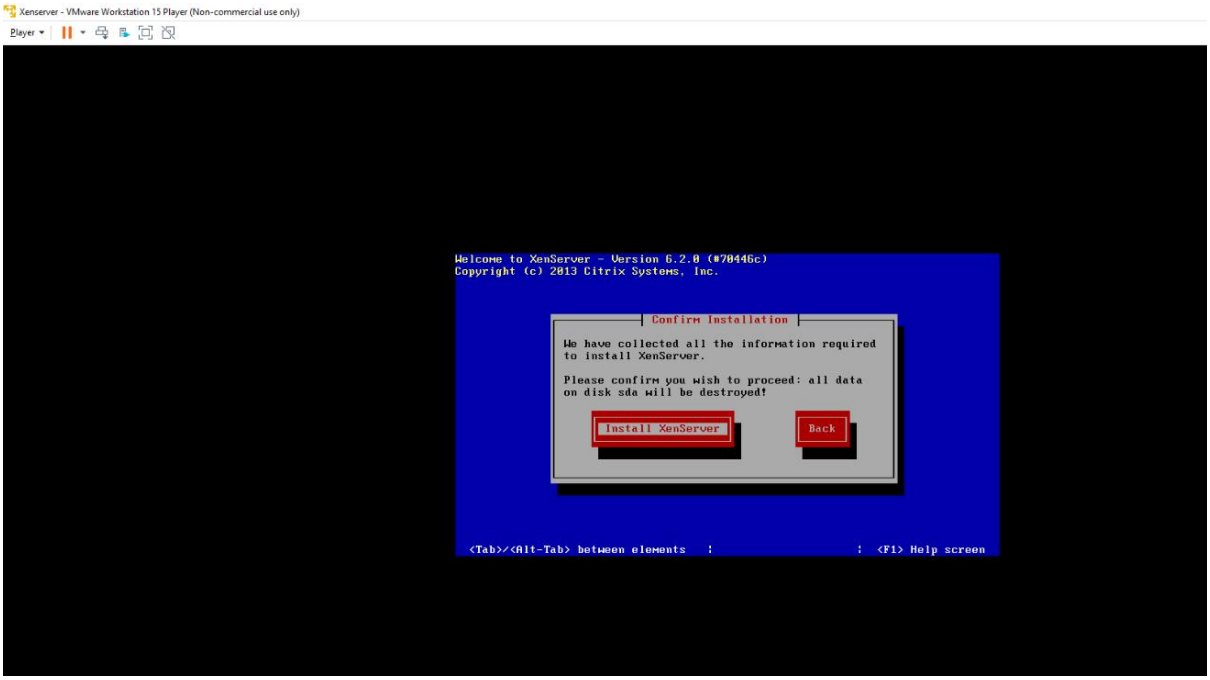


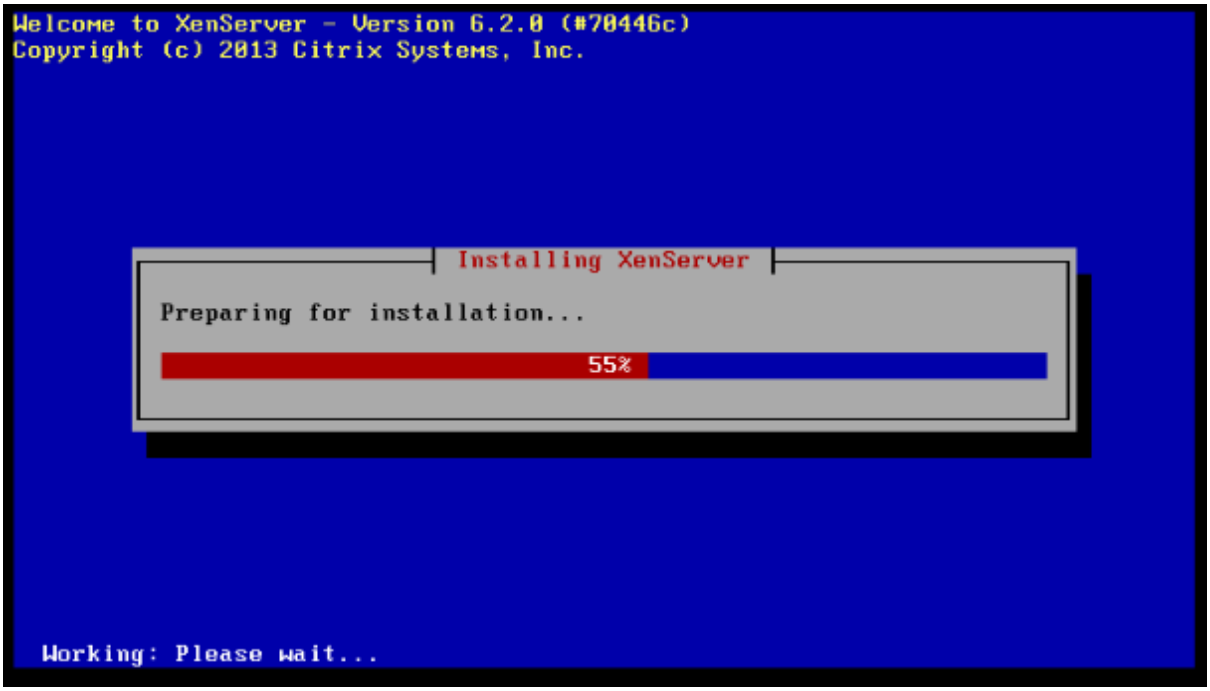
Now choose whether to set your time based on an NTP server or on your manual input.



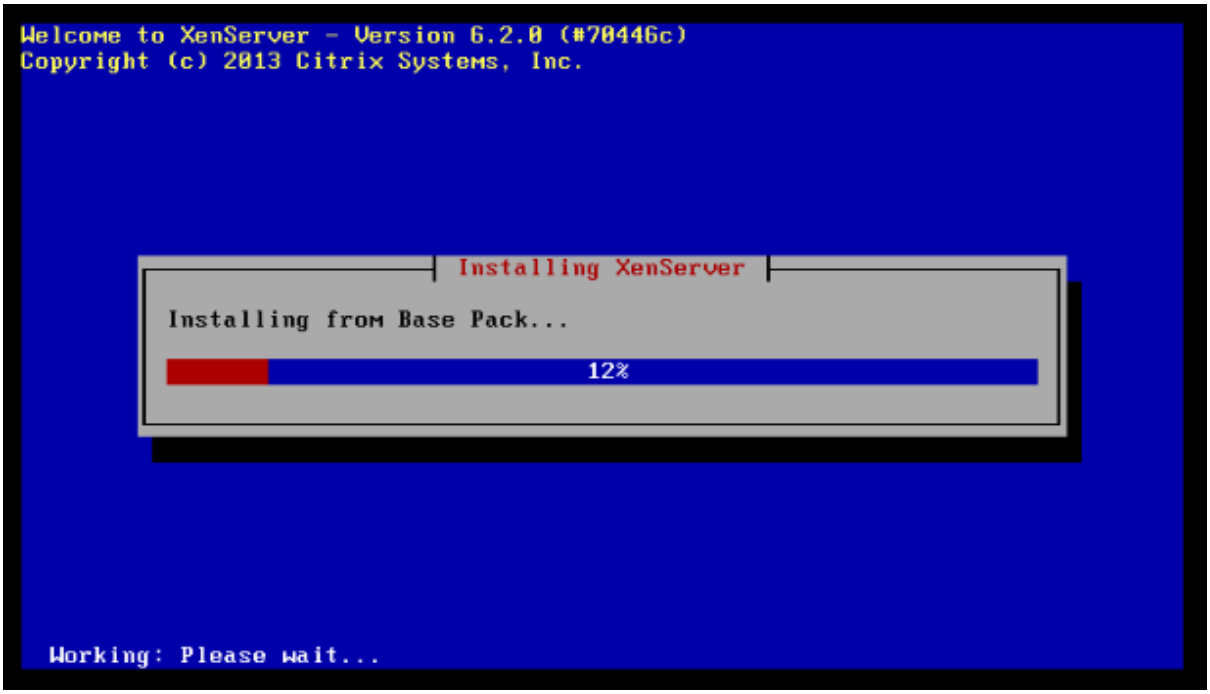


Click on Install Xenserver

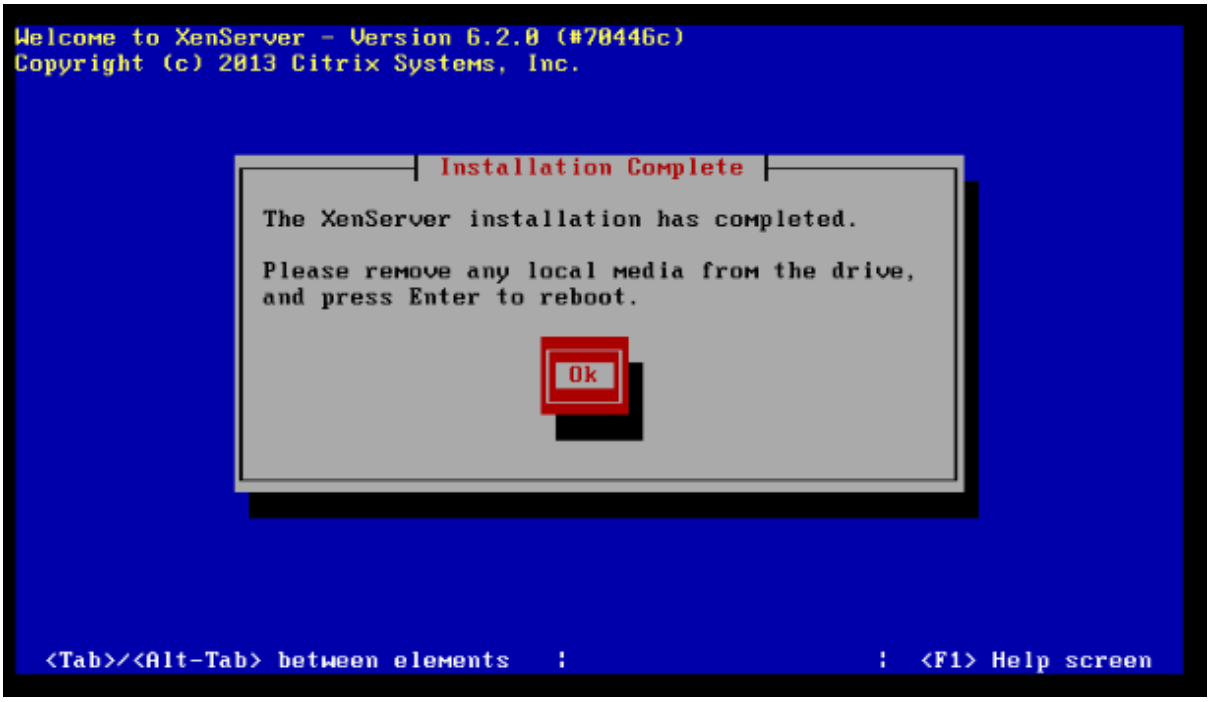




You'll get a progress bar so you can see where the install is up to. Once it has done, if you said you did have supplemental packs you should see:

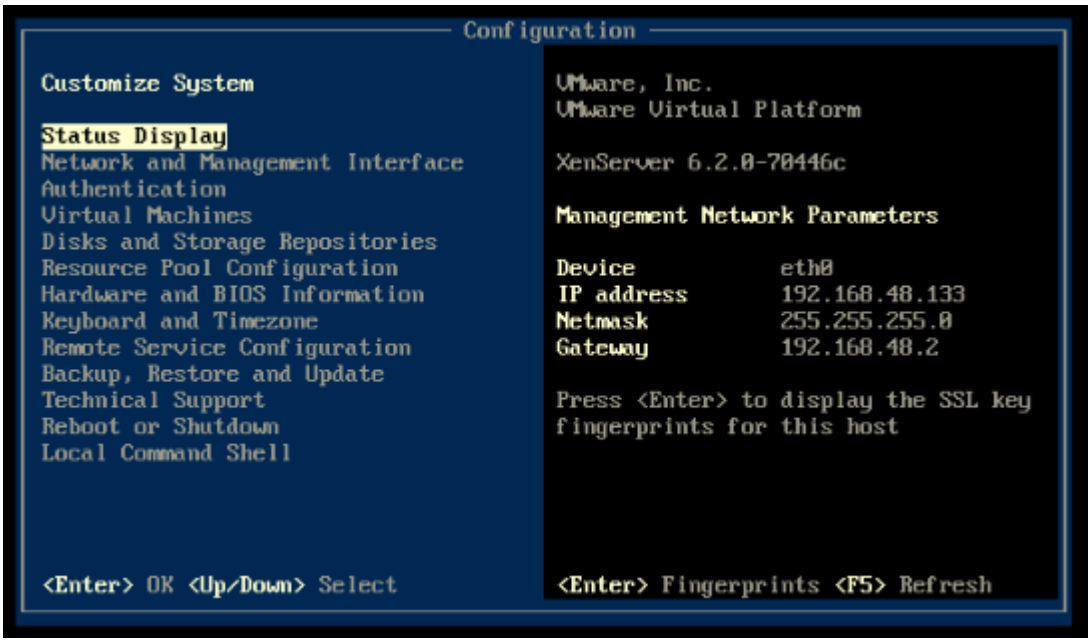


And now click on OK :



This is the loading screen for your new XenServer 6.2 install.

This is the console screen for XenServer 6.2.




XenServer 6.2
14:43:33
xenserver
Configuration
Customize System
VMware, Inc.
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Virtual Mach
Disks and St
Resource Poo
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Keyboard and
Remote Servi
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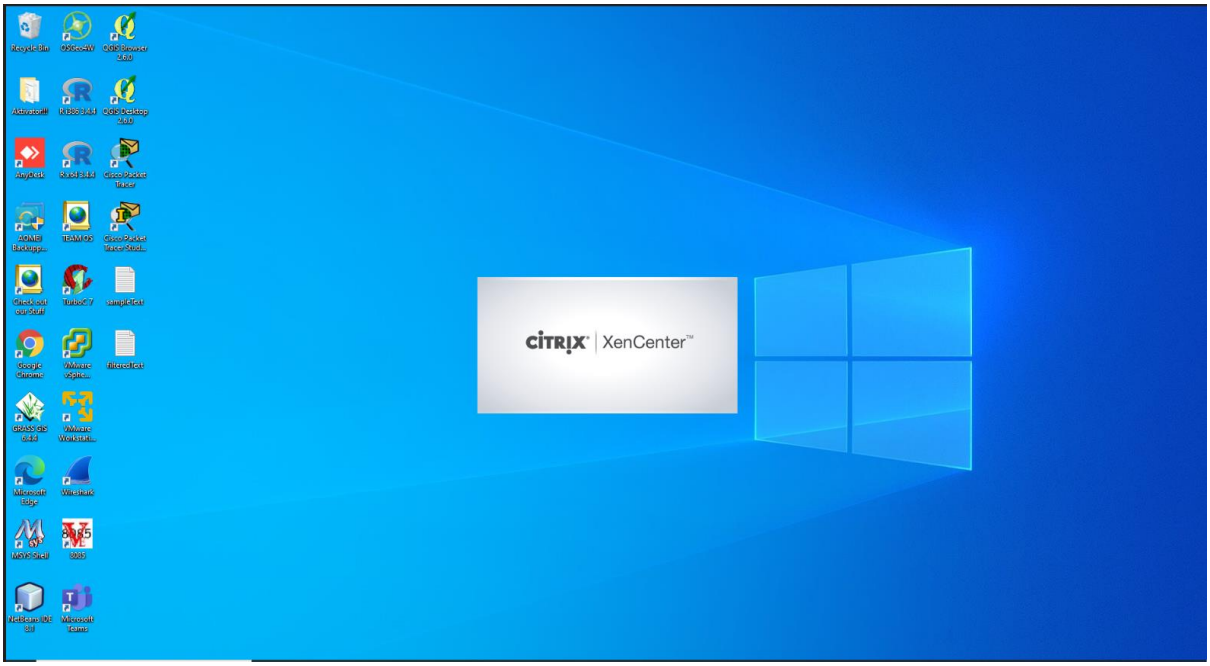
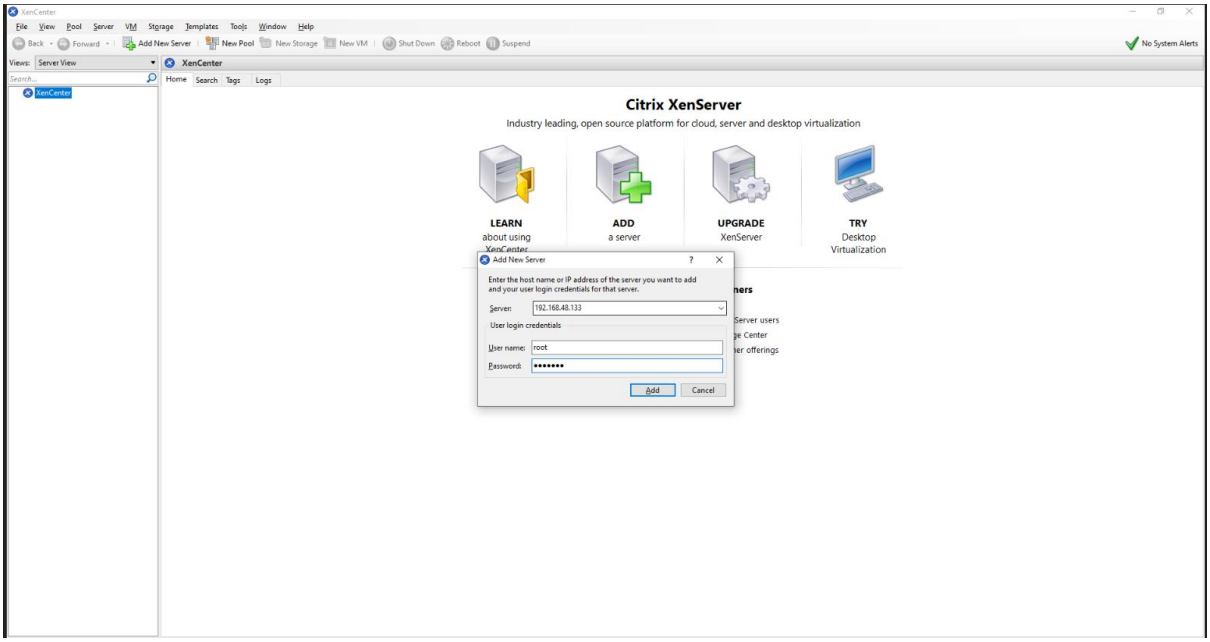
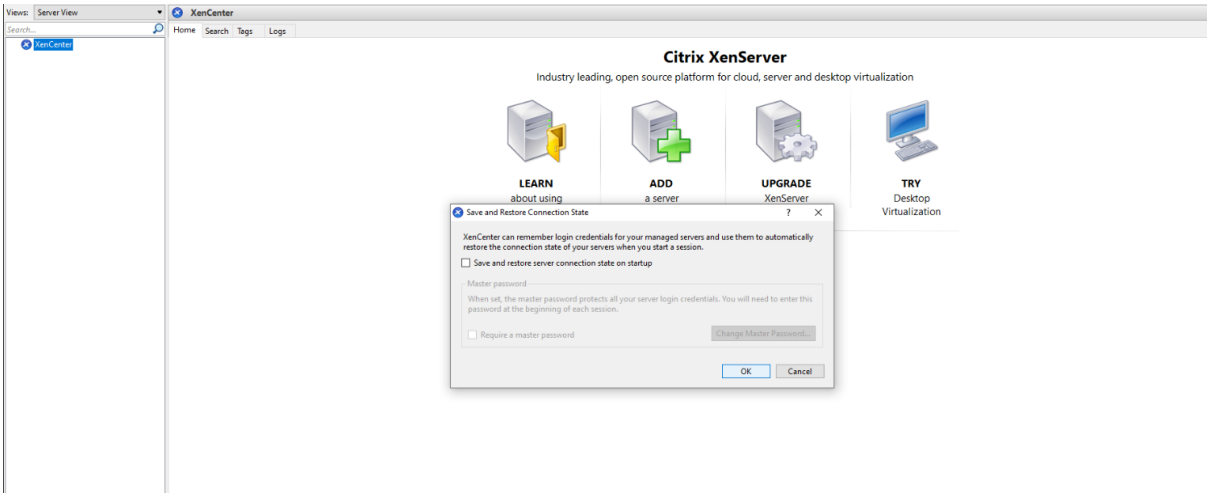
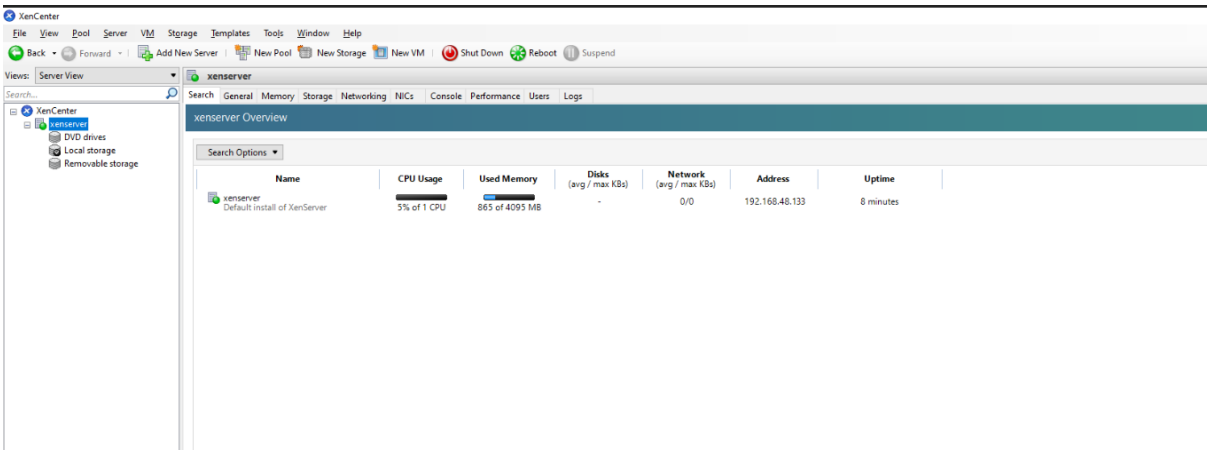
CITRIX | XenCenter™
<Enter> OK <Up/Down> Select
<Enter> Fingerprints <F5> Refresh

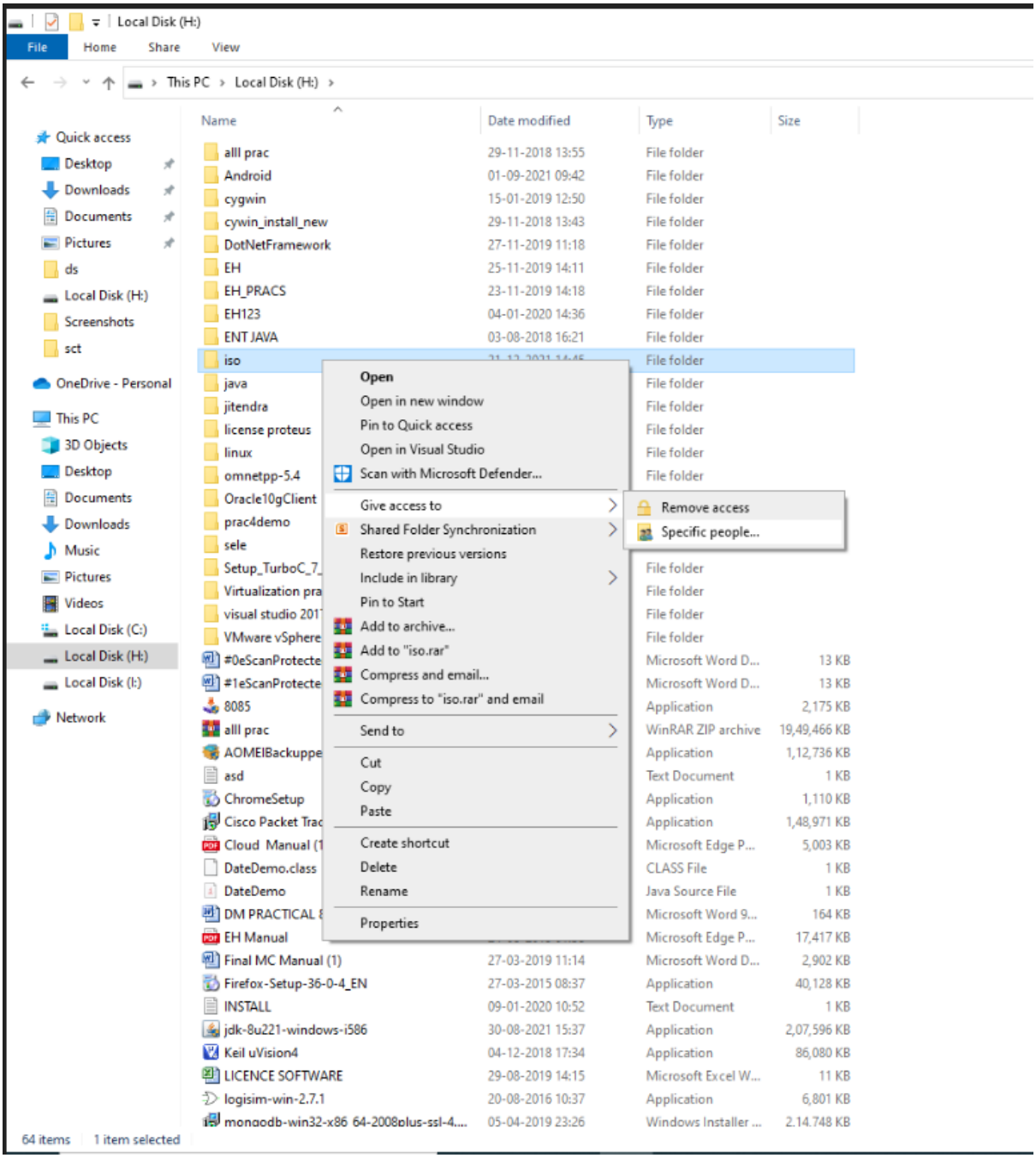

CITRIX | XenCenter™

Open Citrix XenServer and click on Add New Server.
Fill IP address copied from Installation and User name as “root” and Password as “sies1234” which we had given during installation and Click on Add.





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OneDrive - Personal
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cygwin 15-01-2019 12:50 File folder
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DotNetFramework 27-11-2019 11:18 File folder
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Cisco Packet Trac Application 1,48,971 KB
Cloud Manual (1 Microsoft Edge P... 5,003 KB
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INSTALL 09-01-2020 10:52 Text Document 1 KB
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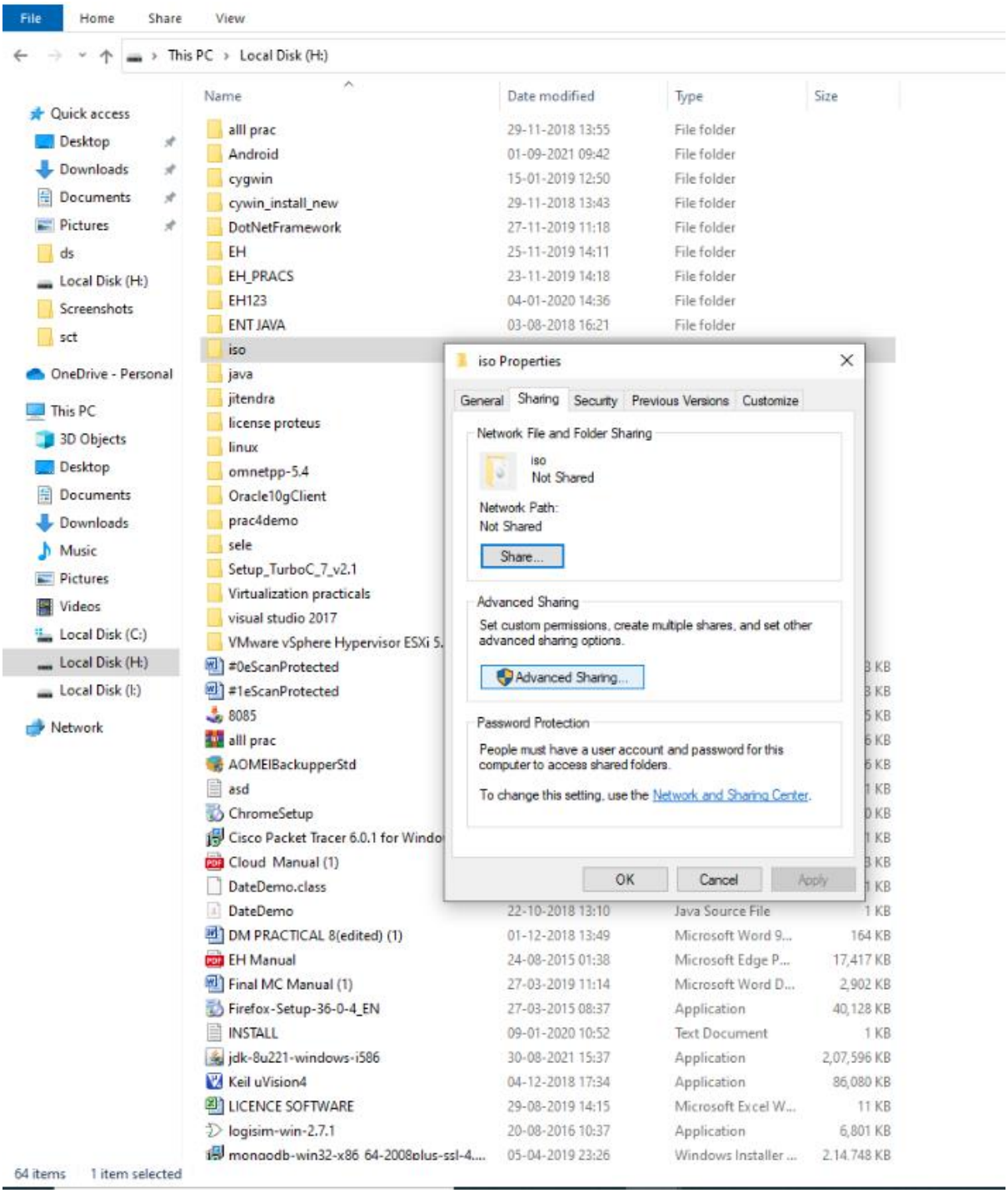
mongodb-win32-x86_64-2008plus-ssl-4.... 05-04-2019 23:26 Windows Installer ... 2,14,748 KB
Open
Open in new window
Pin to Quick access
Open in Visual Studio
Scan with Microsoft Defender...
Give access to
Shared Folder Synchronization
Restore previous versions
Include in library
Pin to Start
Add to archive...
Add to "iso.rar"
Compress and email...
Compress to "iso.rar" and email
Send to
Cut
Copy
Paste
Create shortcut
Delete
Rename
Properties
Remove access
Specific people...
64 items
1 item selected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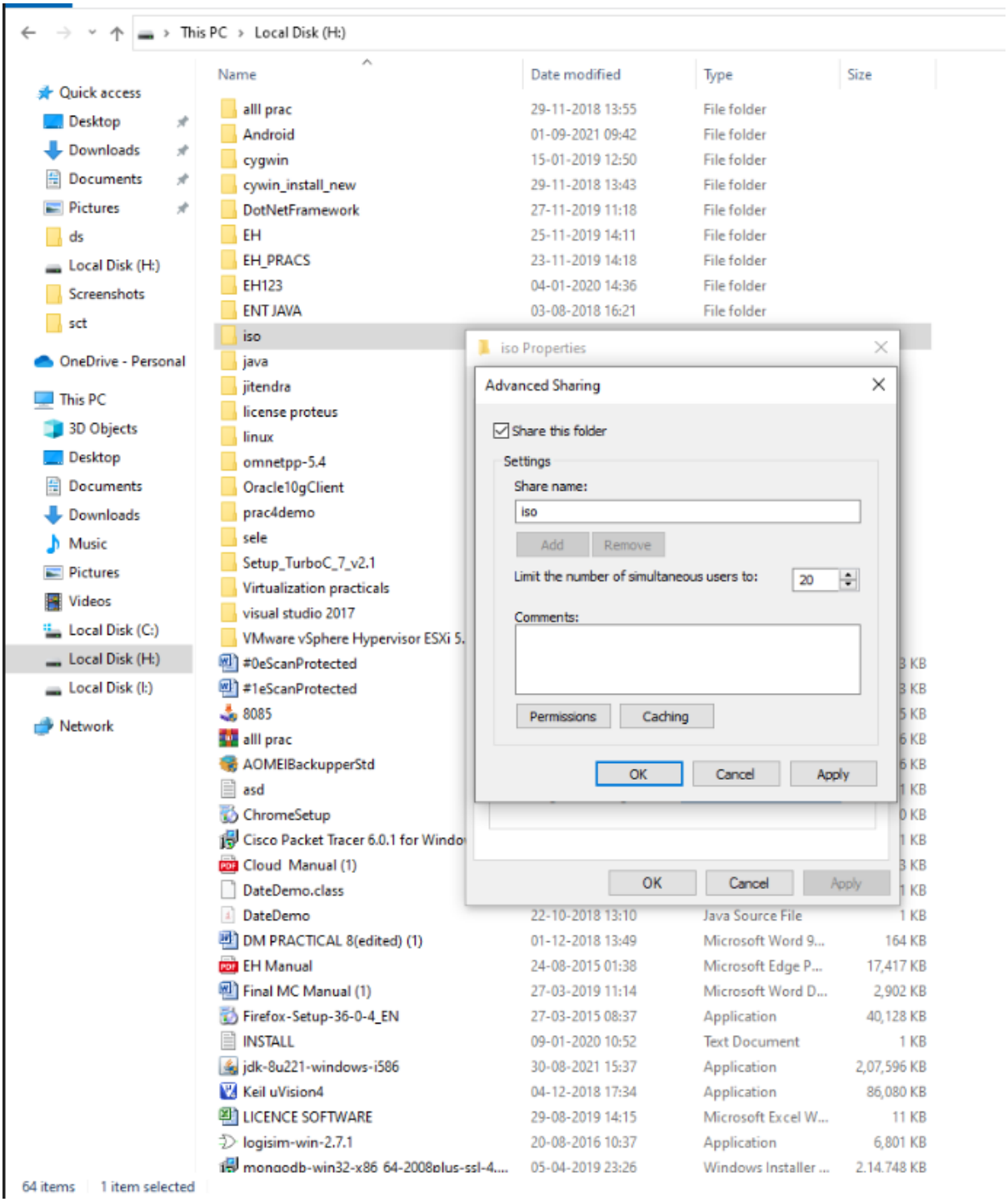
mongodb-win32-x86_64-2008plus-ssl-4.... 05-04-2019 23:26 Windows Installer ... 2,14,748 KB
64 items
1 item selected
iso Properties
General
Sharing
Security
Previous Versions
Customize
Network File and Folder Sharing
iso
Not Shared
Network Path:
Not Shared
Share...
Advanced Sharing
Set custom permissions, create multiple shares, and set other advanced sharing options.
Advanced Sharing...
Password Protection
People must have a user account and password for this computer to access shared folders.
To change this setting, use the Network and Sharing Center.
OK
Cancel
Apply


This PC › Local Disk (H:)
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Remove
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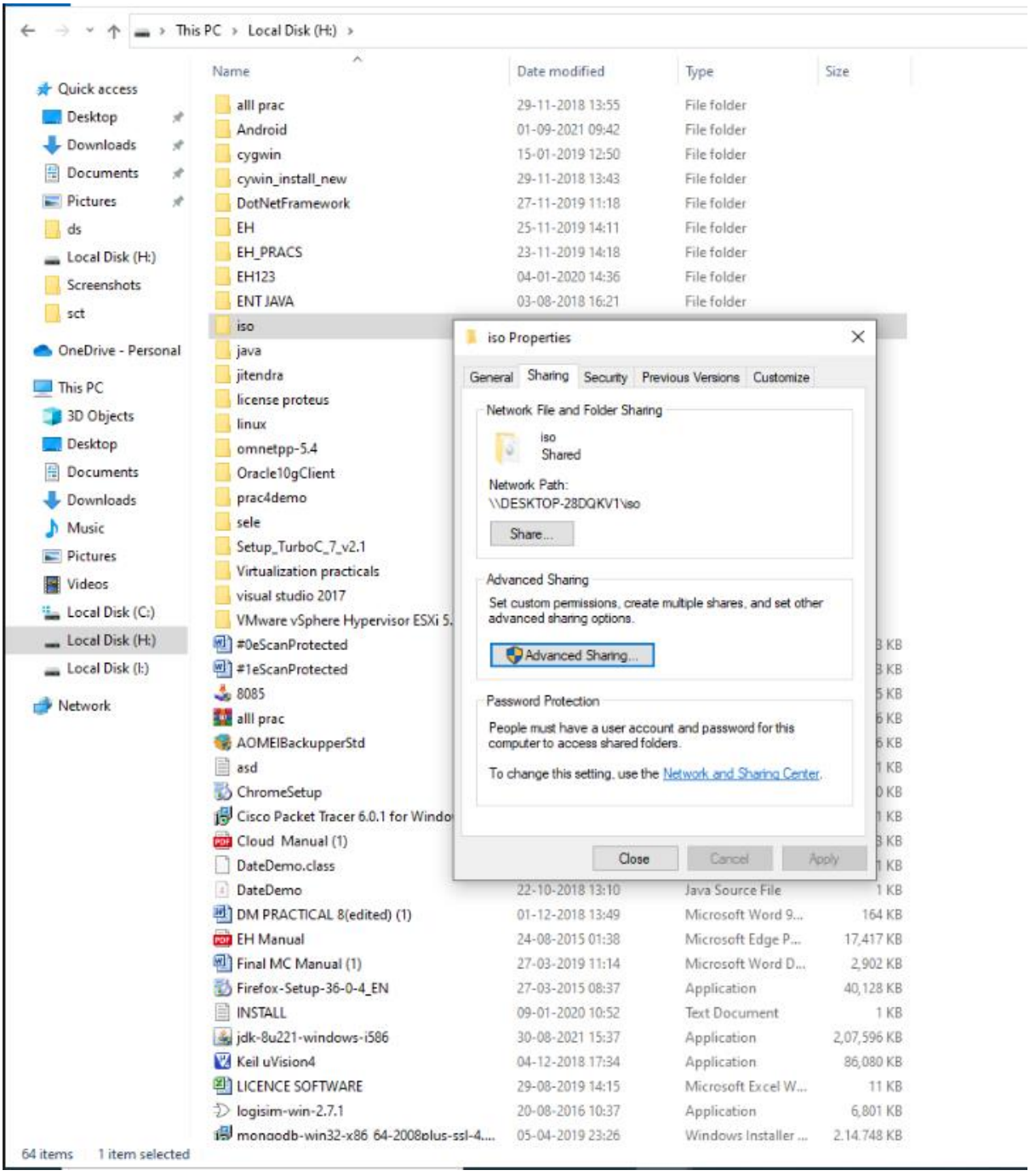
20
Comments:
Permissions
Caching
OK
Cancel
Apply
OK
Cancel
Apply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mongodb-win32-x86_64-2008plus-ssl-4.... 05-04-2019 23:26 Windows Installer ... 2,14,748 KB
64 items 1 item selected
iso Properties
General Sharing Security Previous Versions Customize
Network File and Folder Sharing
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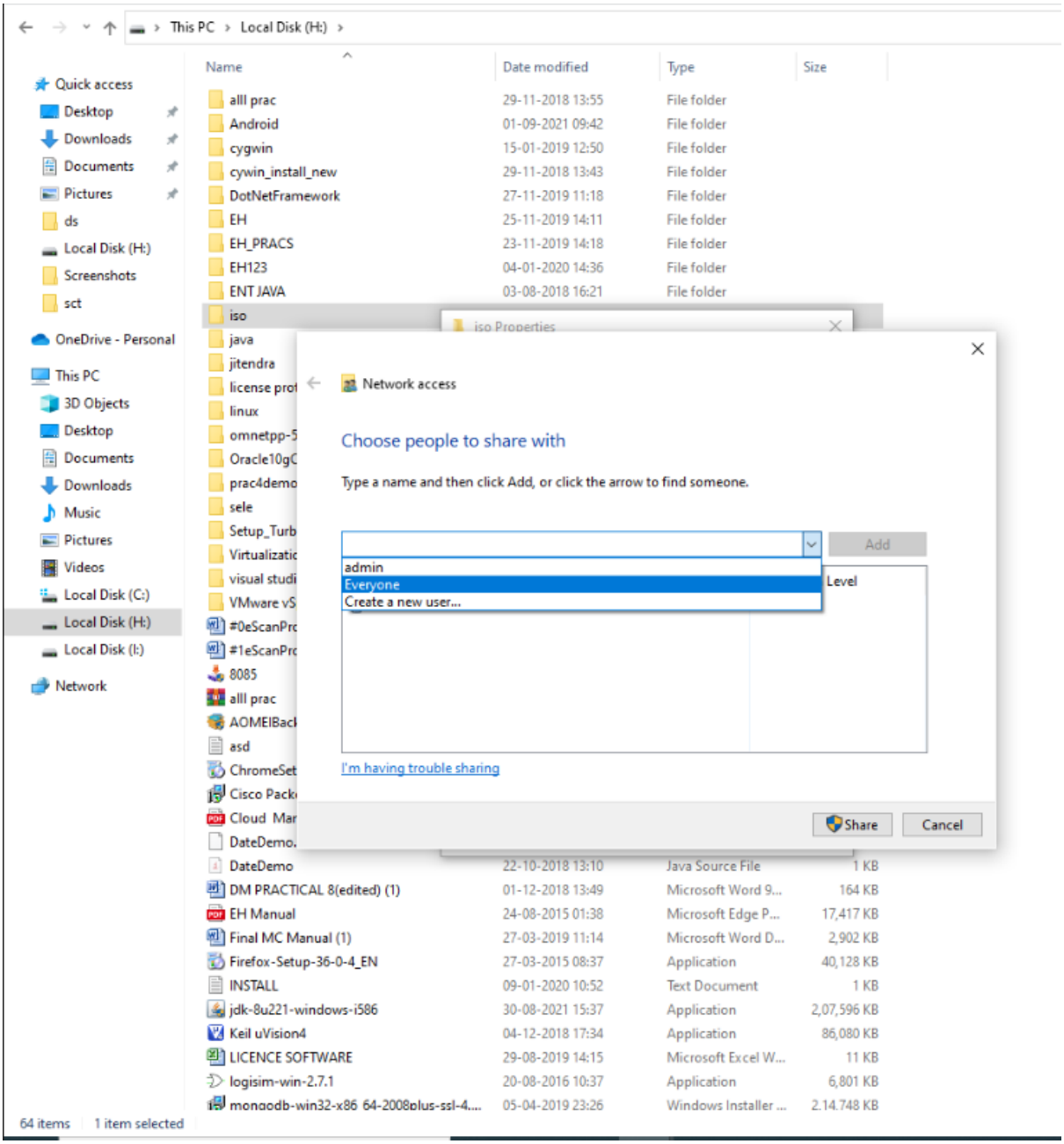
Network Path:
\\DESKTOP-28DQKV1\iso
Share...
Advanced Sharing
Set custom permissions, create multiple shares, and set other advanced sharing options.
Advanced Sharing...
Password Protection
People must have a user account and password for this computer to access shared folders.
To change this setting, use the Network and Sharing Center.
Close
Cancel
Apply


This PC › Local Disk (H:) ›
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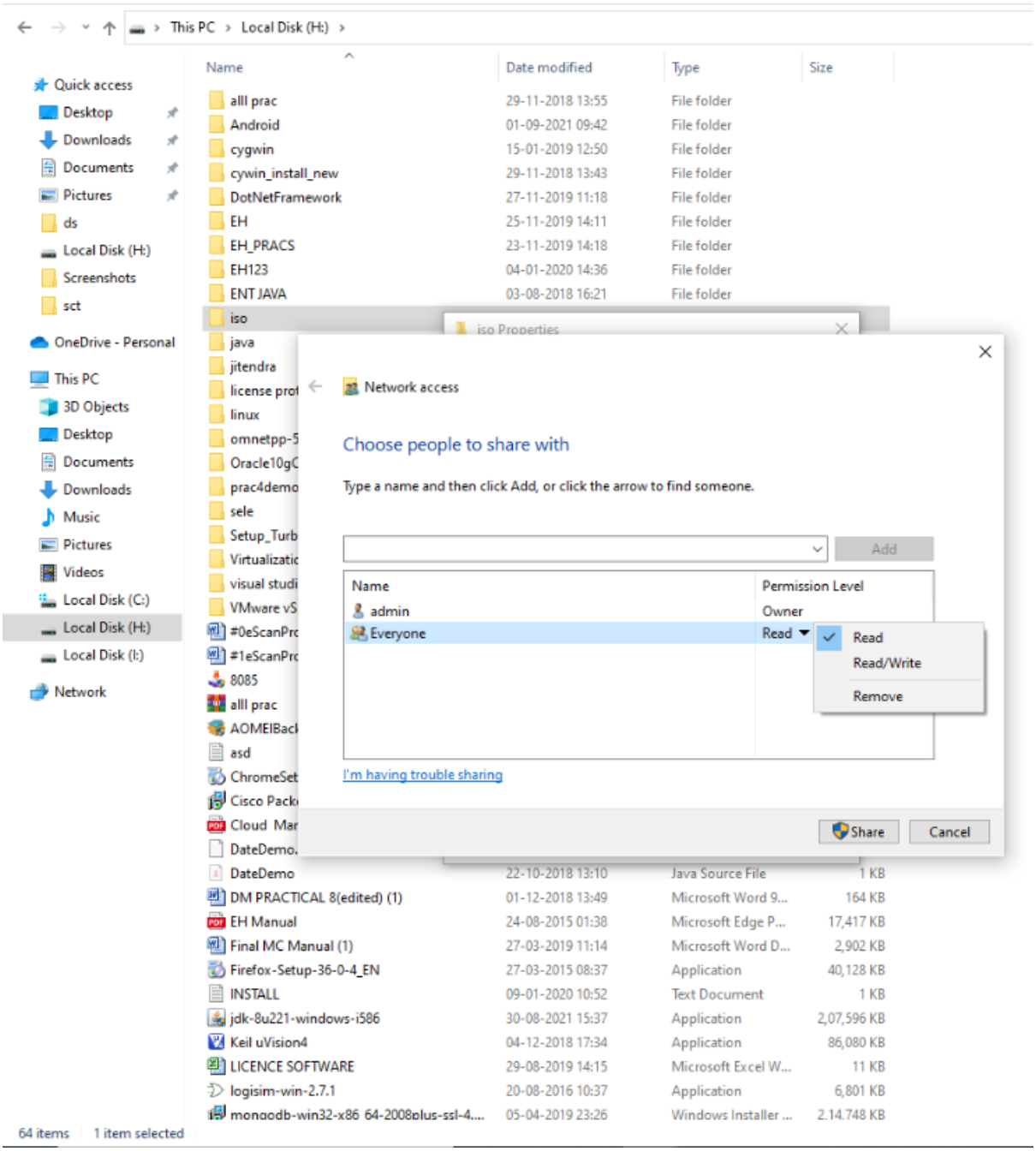
DateDemo
DM PRACTICAL 8(edited) (1) 01-12-2018 13:49 Microsoft Word 9... 164 KB
EH Manual 24-08-2015 01:38 Microsoft Edge P... 17,417 KB
Final MC Manual (1) 27-03-2019 11:14 Microsoft Word D... 2,902 KB
Firefox-Setup-36-0-4_EN 27-03-2015 08:37 Application 40,128 KB
INSTALL 09-01-2020 10:52 Text Document 1 KB
jdk-8u221-windows-i586 30-08-2021 15:37 Application 2,07,596 KB
Keil uVision4 04-12-2018 17:34 Application 86,080 KB
LICENCE SOFTWARE 29-08-2019 14:15 Microsoft Excel W... 11 KB
logisim-win-2.7.1 20-08-2016 10:37 Application 6,801 KB
mongodb-win32-x86_64-2008plus-ssl-4.... 05-04-2019 23:26 Windows Installer ... 2,14,748 KB
DateDemo 22-10-2018 13:10 Java Source File 1 KB
iso Properties
Network access
Choose people to share with
Type a name and then click Add, or click the arrow to find someone.
Add
admin
Everyone
Create a new user...
Level
I'm having trouble sharing
Share
Cancel
64 items
1 item selected


This PC › Local Disk (H:) ›
Quick access
Desktop
Downloads
Documents
Pictures
ds
Local Disk (H:)
Screenshots
sct
OneDrive - Personal
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Local Disk (H:)
Local Disk (I:)
Network
Name
Date modified
Type
Size
alll prac 29-11-2018 13:55 File folder
Android 01-09-2021 09:42 File folder
cygwin 15-01-2019 12:50 File folder
cywin_install_new 29-11-2018 13:43 File folder
DotNetFramework 27-11-2019 11:18 File folder
EH 25-11-2019 14:11 File folder
EH_PRACS 23-11-2019 14:18 File folder
EH123 04-01-2020 14:36 File folder
ENT JAVA 03-08-2018 16:21 File folder
iso
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DateDemo 22-10-2018 13:10 Java Source File 1 KB
DM PRACTICAL 8(edited) (1) 01-12-2018 13:49 Microsoft Word 9... 164 KB
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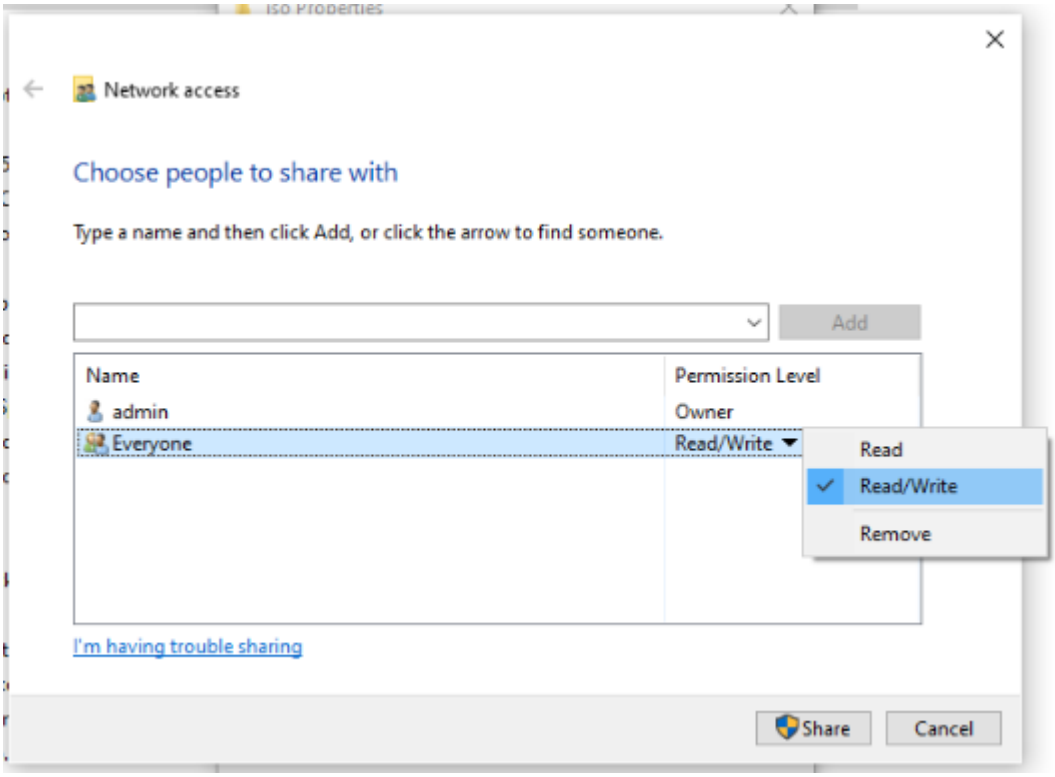
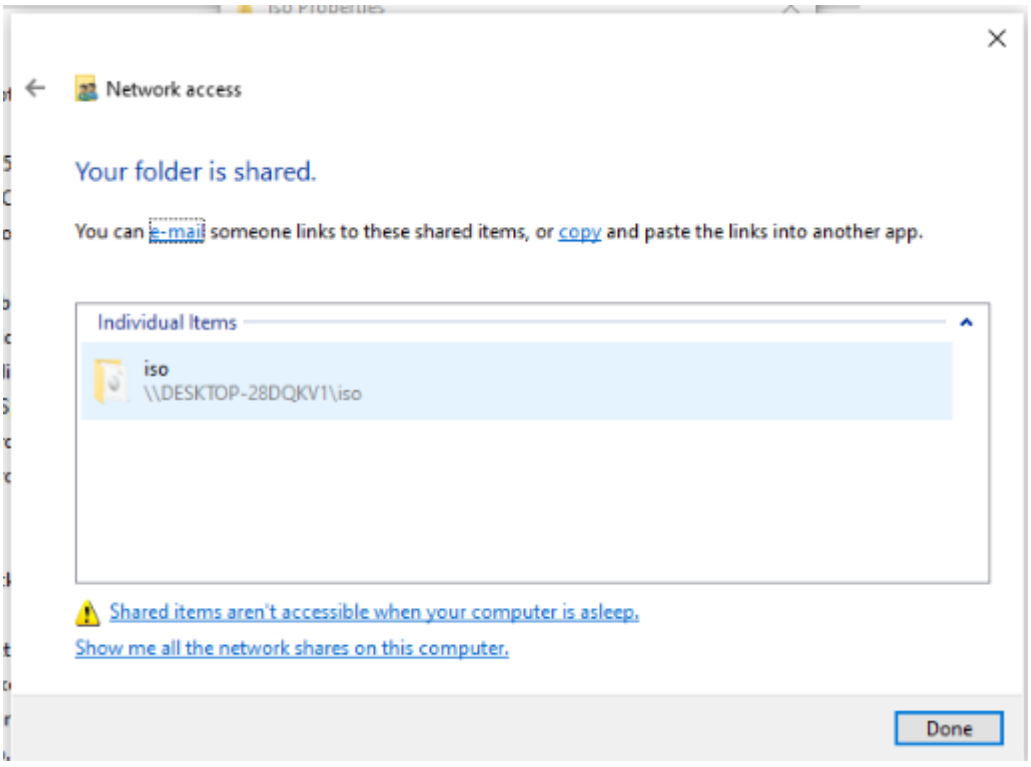
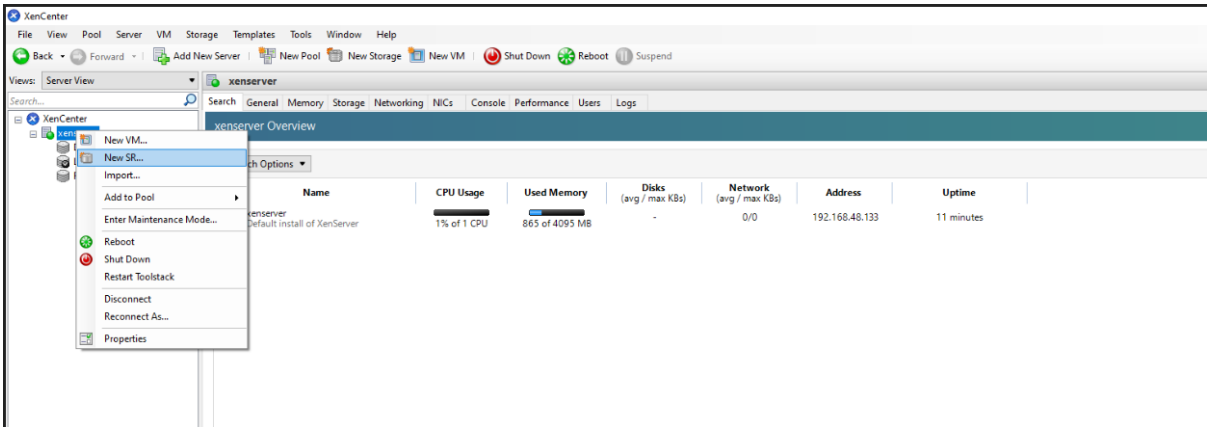
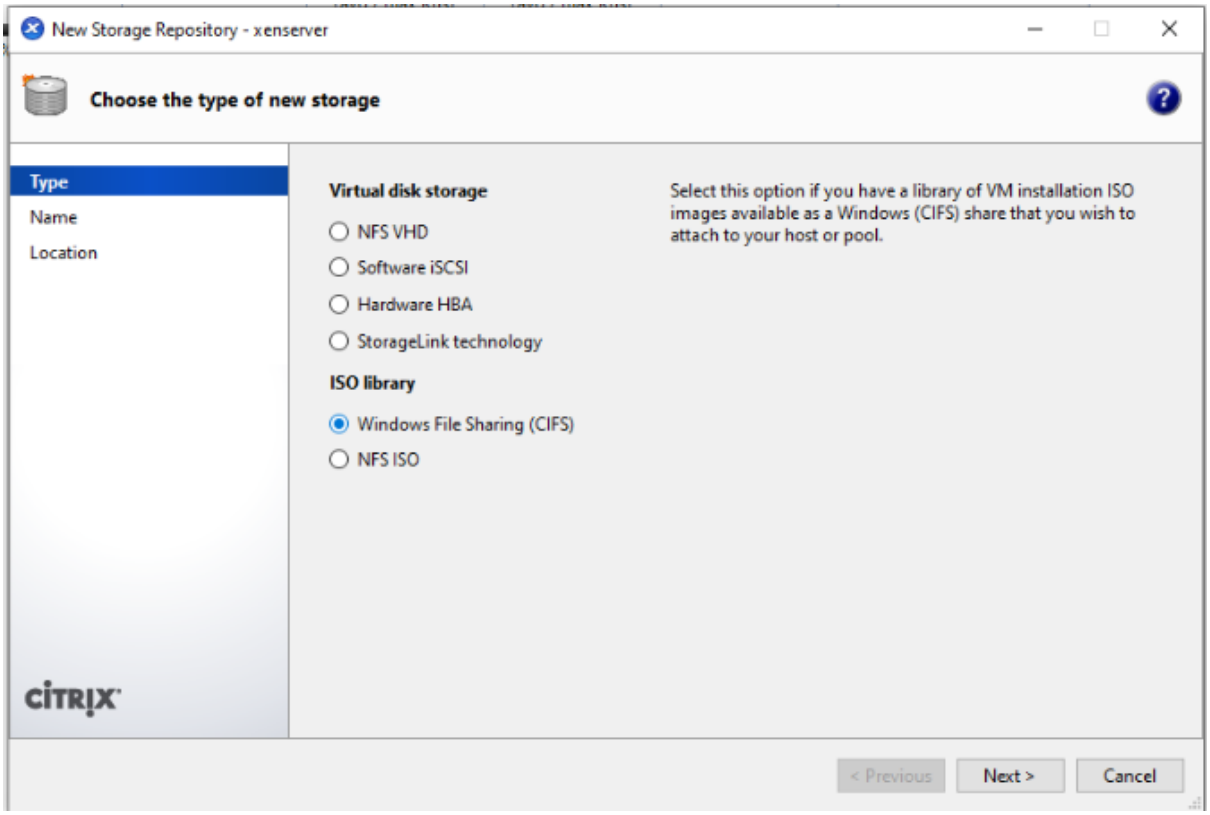
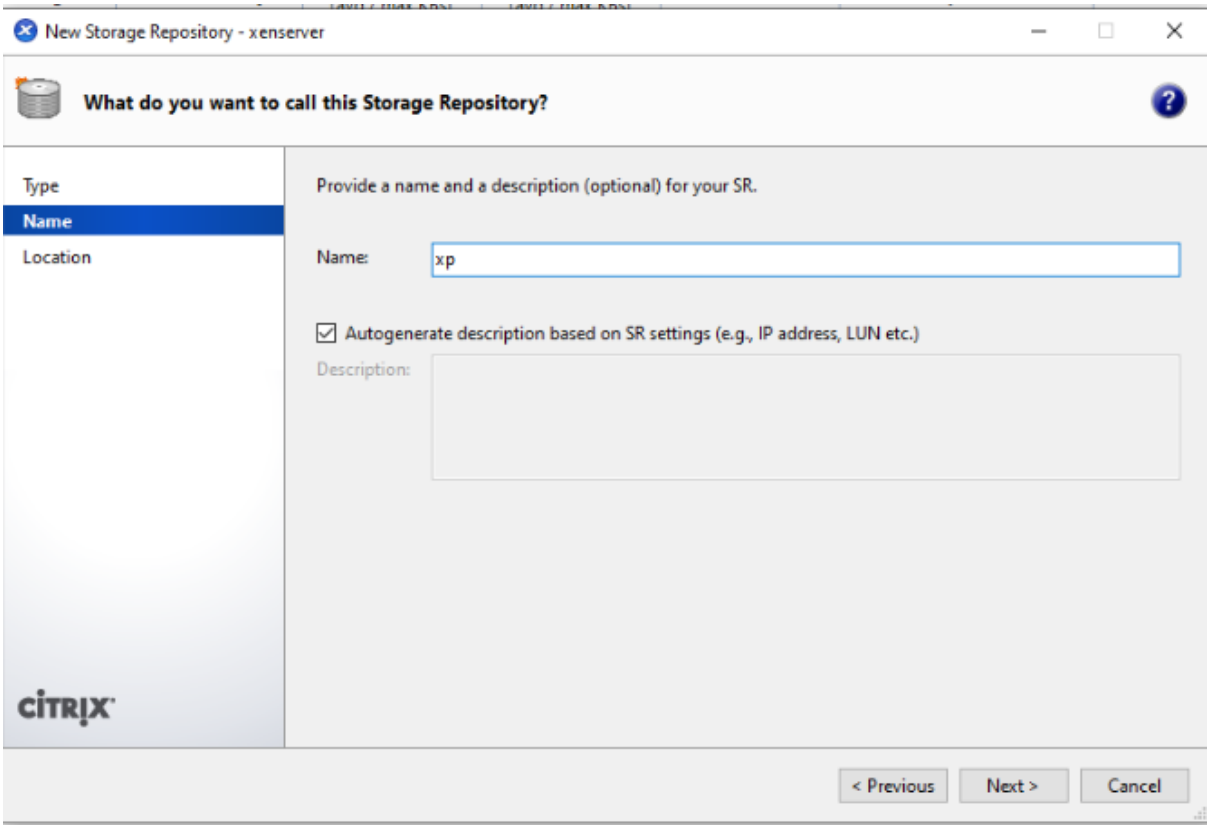
LICENCE SOFTWARE 29-08-2019 14:15 Microsoft Excel W... 11 KB
logisim-win-2.7.1 20-08-2016 10:37 Application 6,801 KB
mongodb-win32-x86_64-2008plus-ssl-4.... 05-04-2019 23:26 Windows Installer ... 2,14,748 KB
64 items
1 item selected
iso Properties
Network access
Choose people to share with
Type a name and then click Add, or click the arrow to find someone.
Add
Name
Permission Level
admin
Owner
Everyone
Read
Read
Read/Write
Remove
I'm having trouble sharing
Share
Cancel

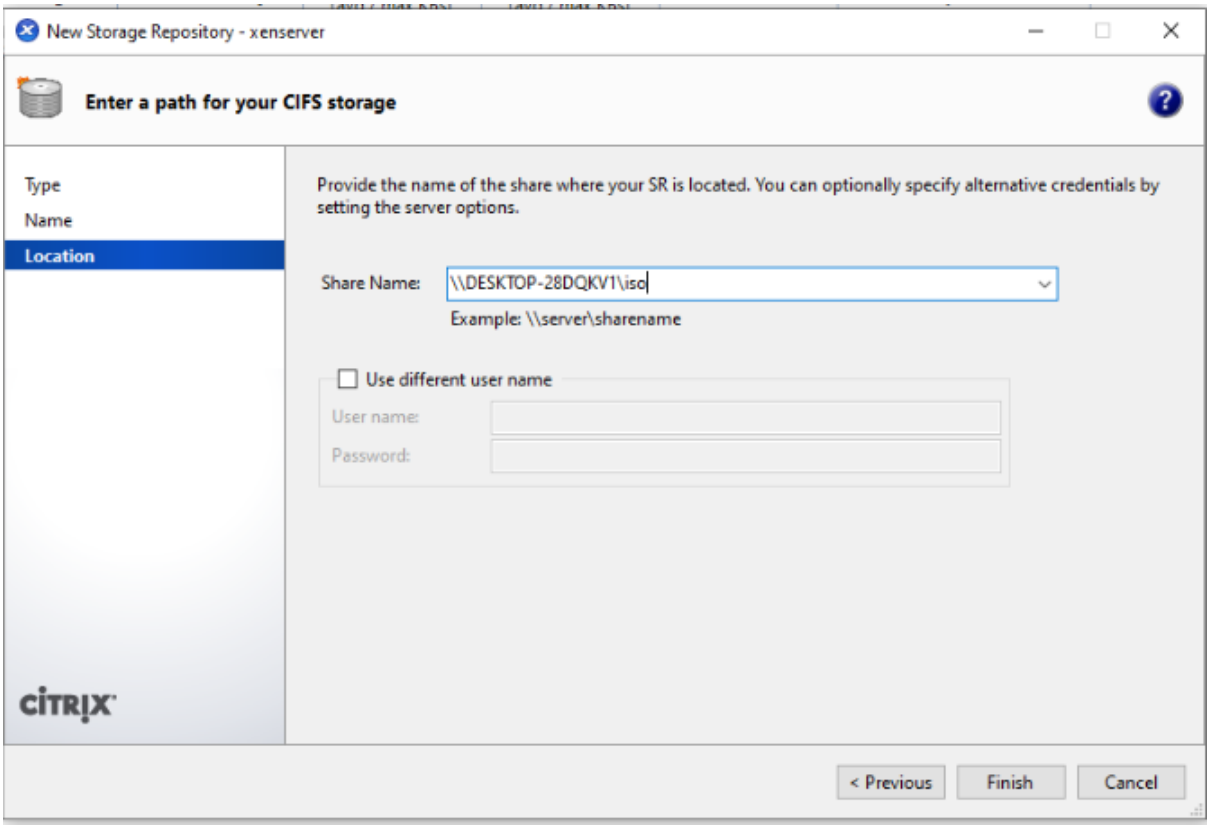

Network access
Choose people to share with
Type a name and then click Add, or click the arrow to find someone.
Add
Name
Permission Level
admin
Owner
Everyone
Read/Write
Read
Read/Write
Remove
I'm having trouble sharing
Share
Cancel

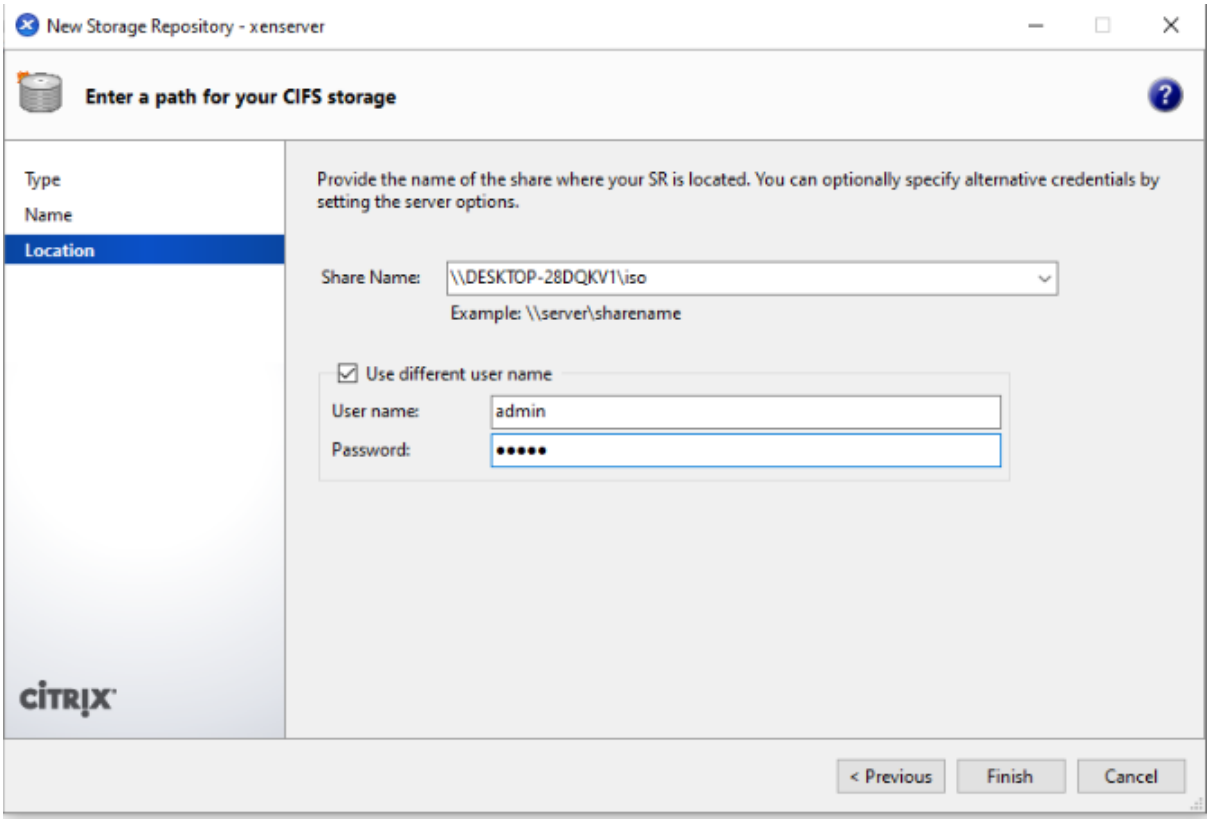

Network access
Your folder is shared.
You can e-mail someone links to these shared items, or copy and paste the links into another app.
Individual Items
iso
\\DESKTOP-28DQKV1\iso
Shared items aren't accessible when your computer is asleep.
Show me all the network shares on this computer.
Done

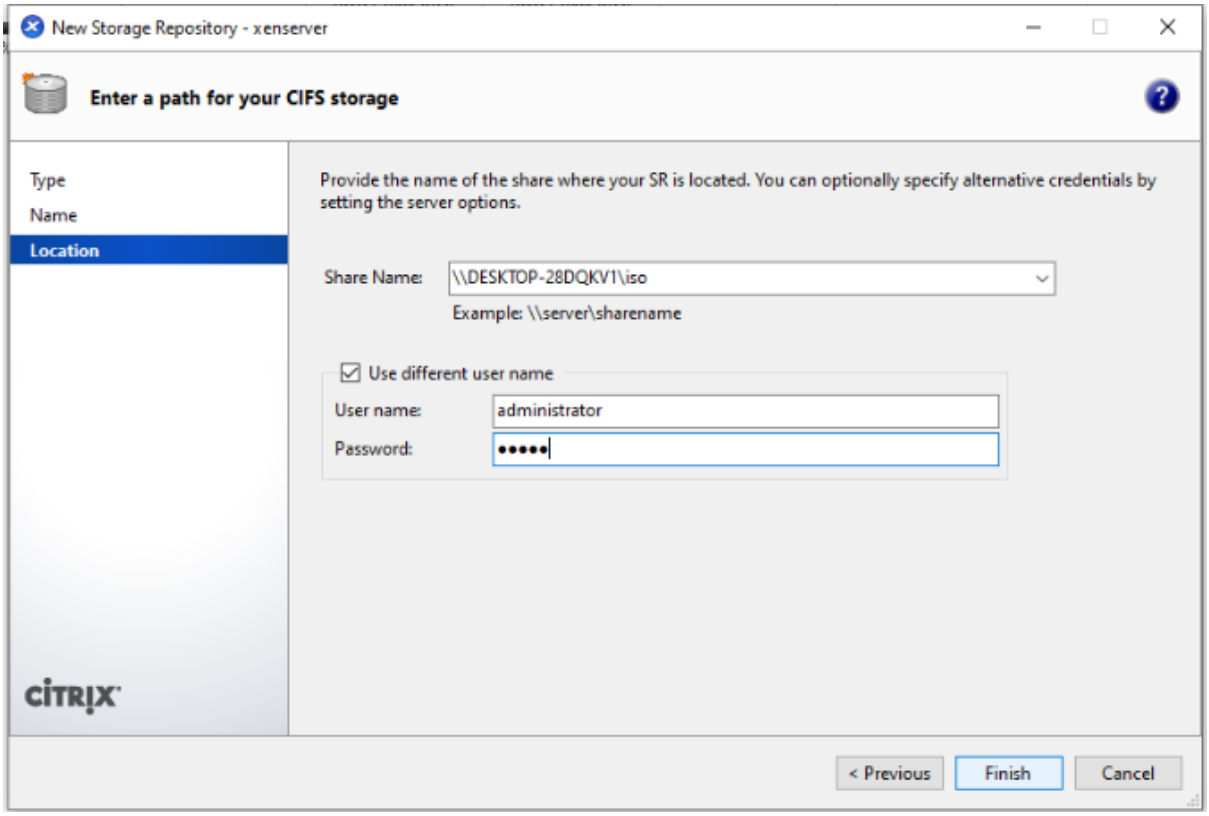

XenCenter
File View Pool Server VM Storage Templates Tools Window Help
Back Forward Add New Server New Pool New Storage New VM Shut Down Reboot Suspend
Views: Server View
xenserver
Search General Memory Storage Networking NICs Console Performance Users Logs
XenCenter
xenserver Overview
New VM...
New SR...
Import...
Add to Pool
Enter Maintenance Mode...
Reboot
Shut Down
Restart Toolstack
Disconnect
Reconnect As...
Properties
Name
CPU Usage
Used Memory
Disks (avg / max KBs)
Network (avg / max KBs)
Address
Uptime
xenserver
Default install of XenServer
1% of 1 CPU
865 of 4095 MB
0/0
192.168.48.133
11 minutes


New Storage Repository - xenserver
Choose the type of new storage
Type
Name
Location
Virtual disk storage
NFS VHD
Software iSCSI
Hardware HBA
StorageLink technology
ISO library
Windows File Sharing (CIFS)
NFS ISO
Select this option if you have a library of VM installation ISO images available as a Windows (CIFS) share that you wish to attach to your host or pool.
CITRIX
< Previous
Next >
Cancel

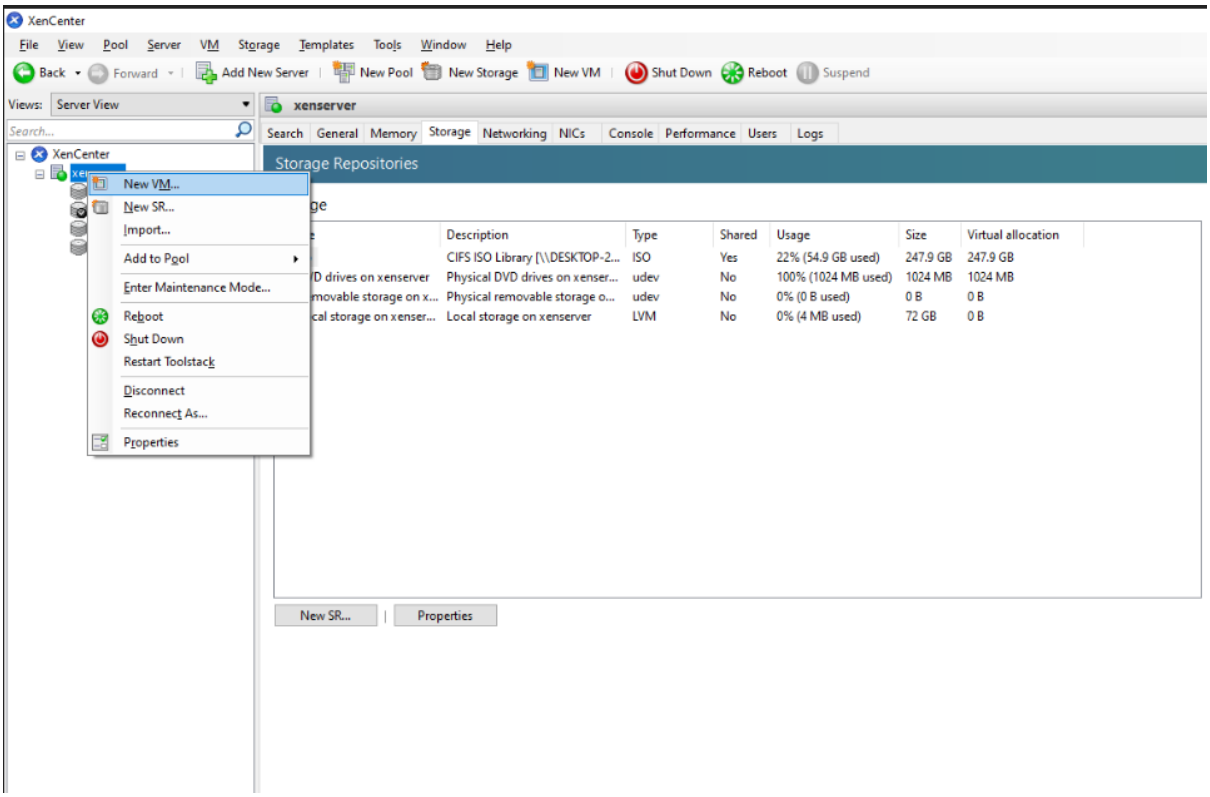

New Storage Repository - xenserver
What do you want to call this Storage Repository?
Type
Name
Location
Provide a name and a description (optional) for your SR.
Name:
xp
Autogenerate description based on SR settings (e.g., IP address, LUN etc.)
Description:
CITRIX
< Previous
Next >
Cancel


New Storage Repository - xenserver
Enter a path for your CIFS storage
Type
Name
Location
Provide the name of the share where your SR is located. You can optionally specify alternative credentials by setting the server options.
Share Name:
\\DESKTOP-28DQKV1\isc
Example: \\server\sharename
Use different user name
User name:
Password:
CITRIX
< Previous
Finish
Cancel

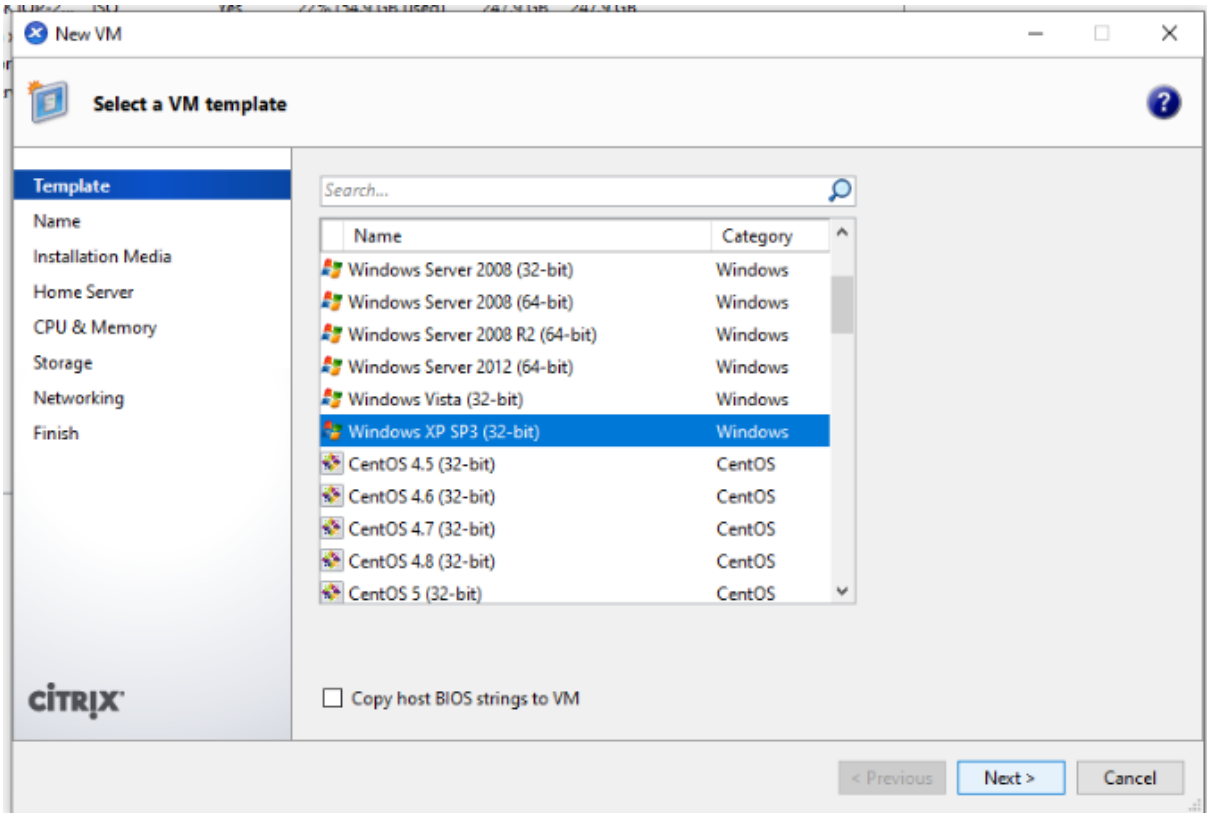

New Storage Repository - xenserver
Enter a path for your CIFS storage
Type
Name
Location
Provide the name of the share where your SR is located. You can optionally specify alternative credentials by setting the server options.
Share Name:
\\DESKTOP-28DQKV1\iso
Example: \\server\sharename
Use different user name
User name:
admin
Password:
CITRIX
< Previous
Finish
Cancel


New Storage Repository - xenserver
Enter a path for your CIFS storage
Type
Name
Location
Provide the name of the share where your SR is located. You can optionally specify alternative credentials by setting the server options.
Share Name:
\\DESKTOP-28DQKV1\iso
Example: \\server\sharename
Use different user name
User name:
administrator
Password:
CITRIX
< Previous
Finish
Cancel

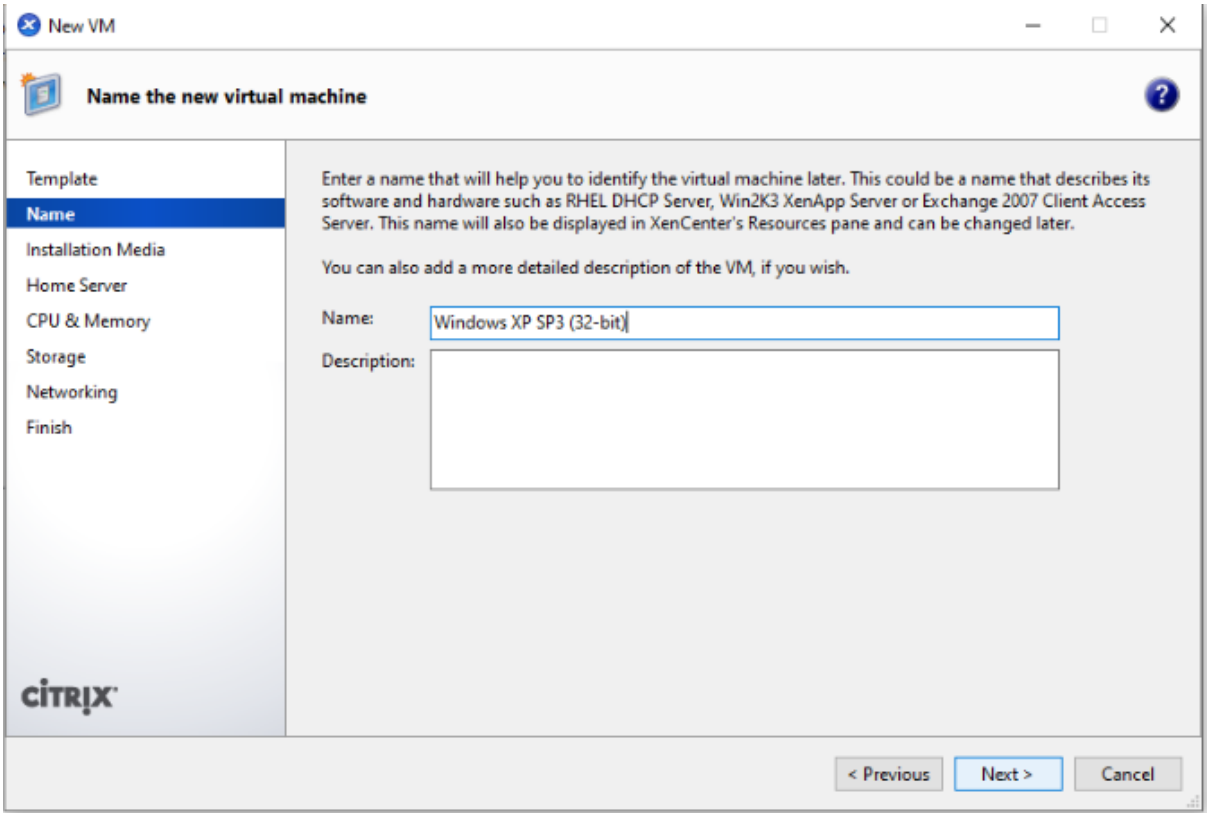
Start the new VM and click on create now

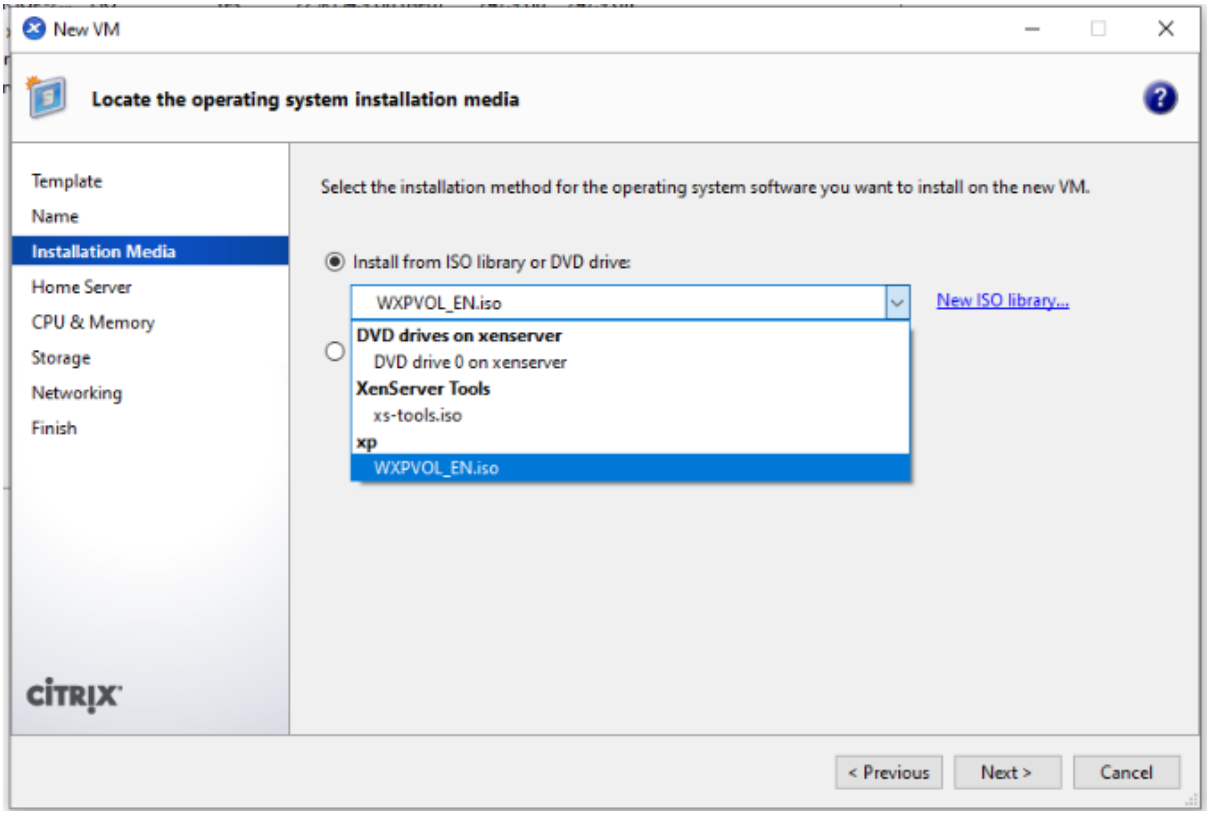


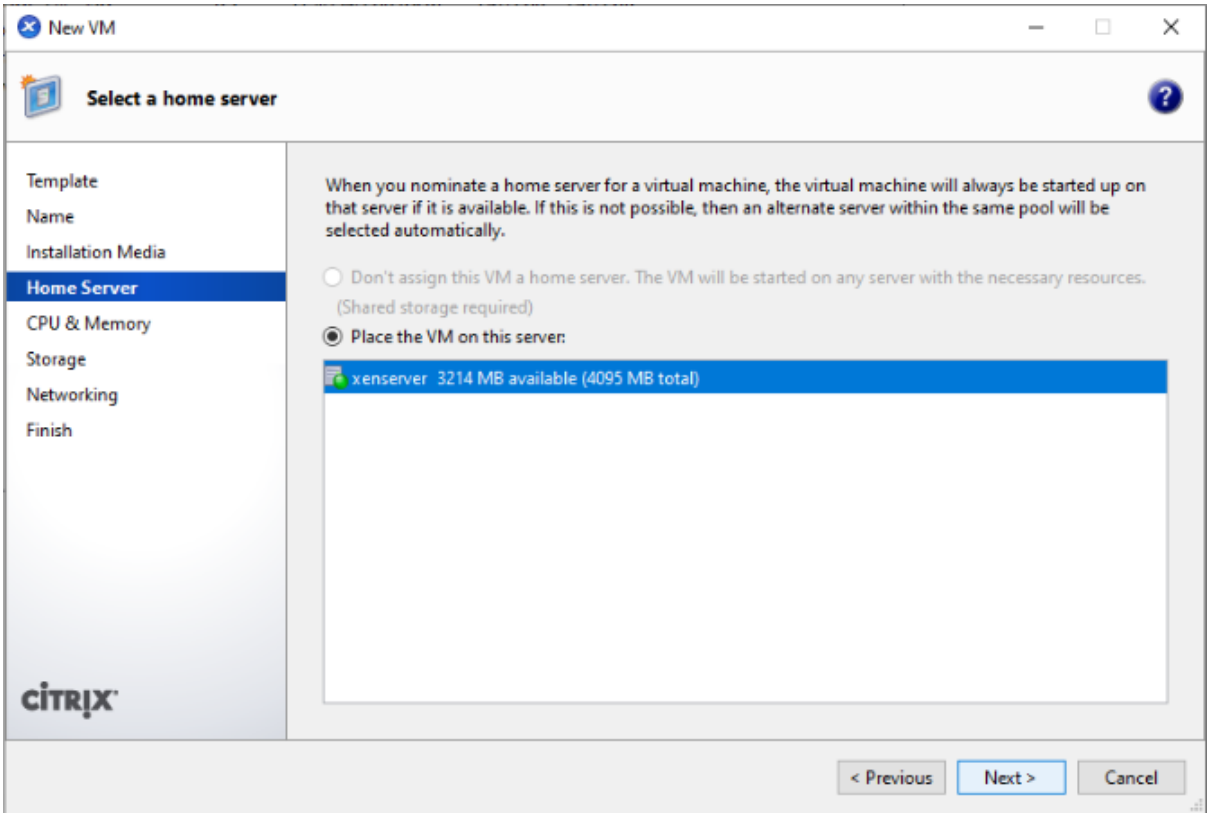
Select the Windows XP SP3 from tamplate

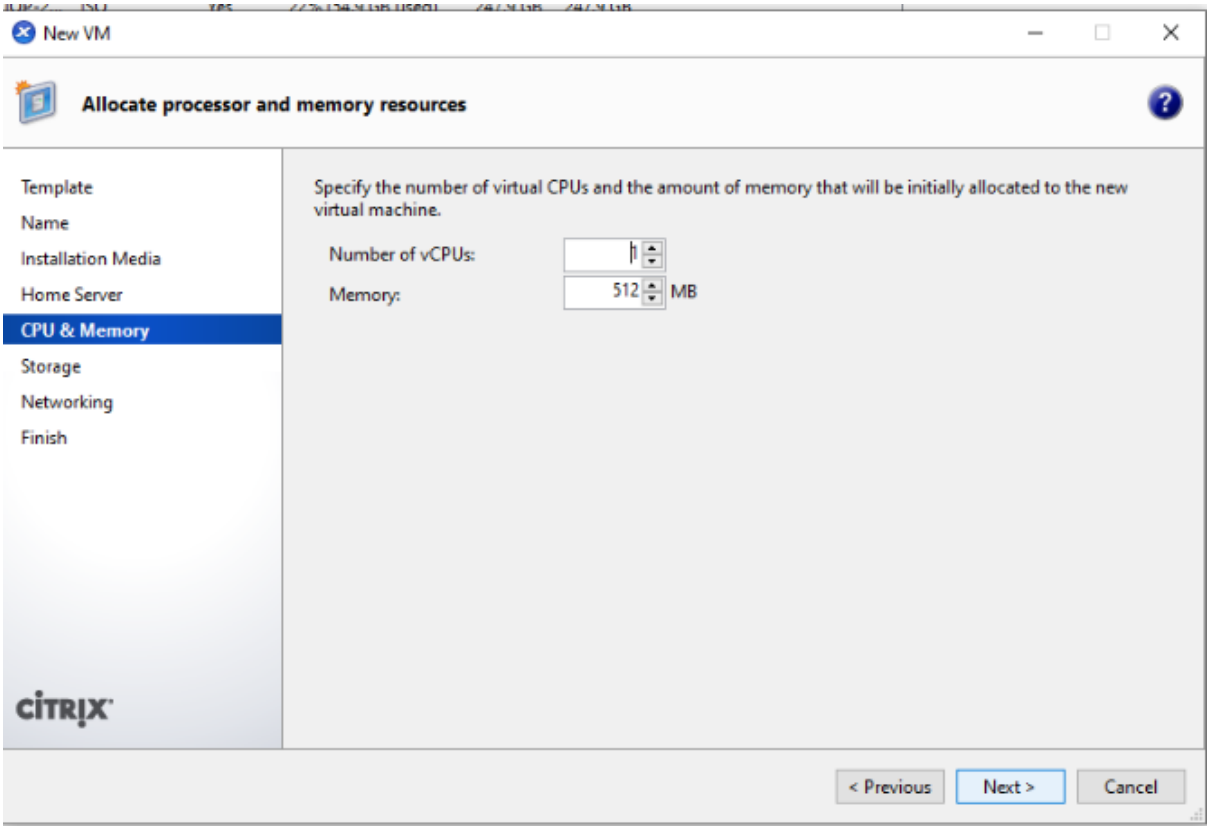


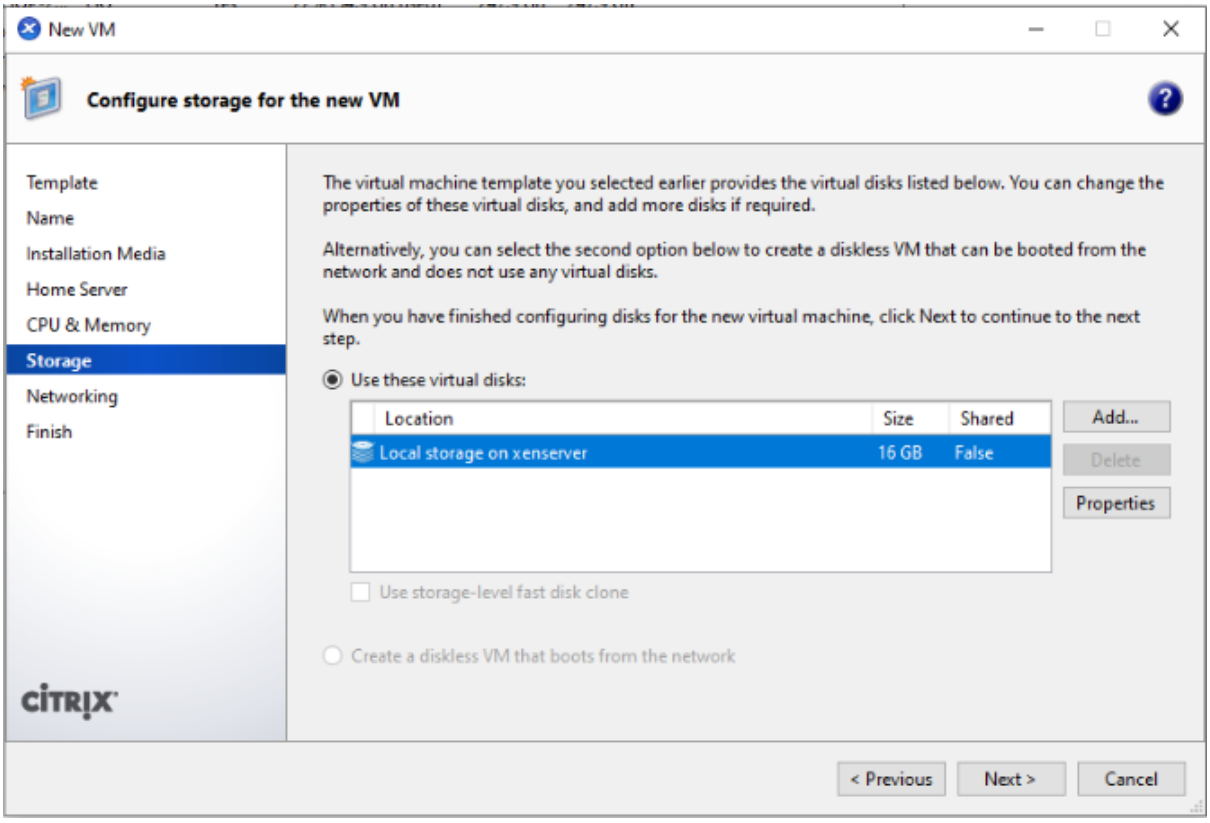
Give the name of VM

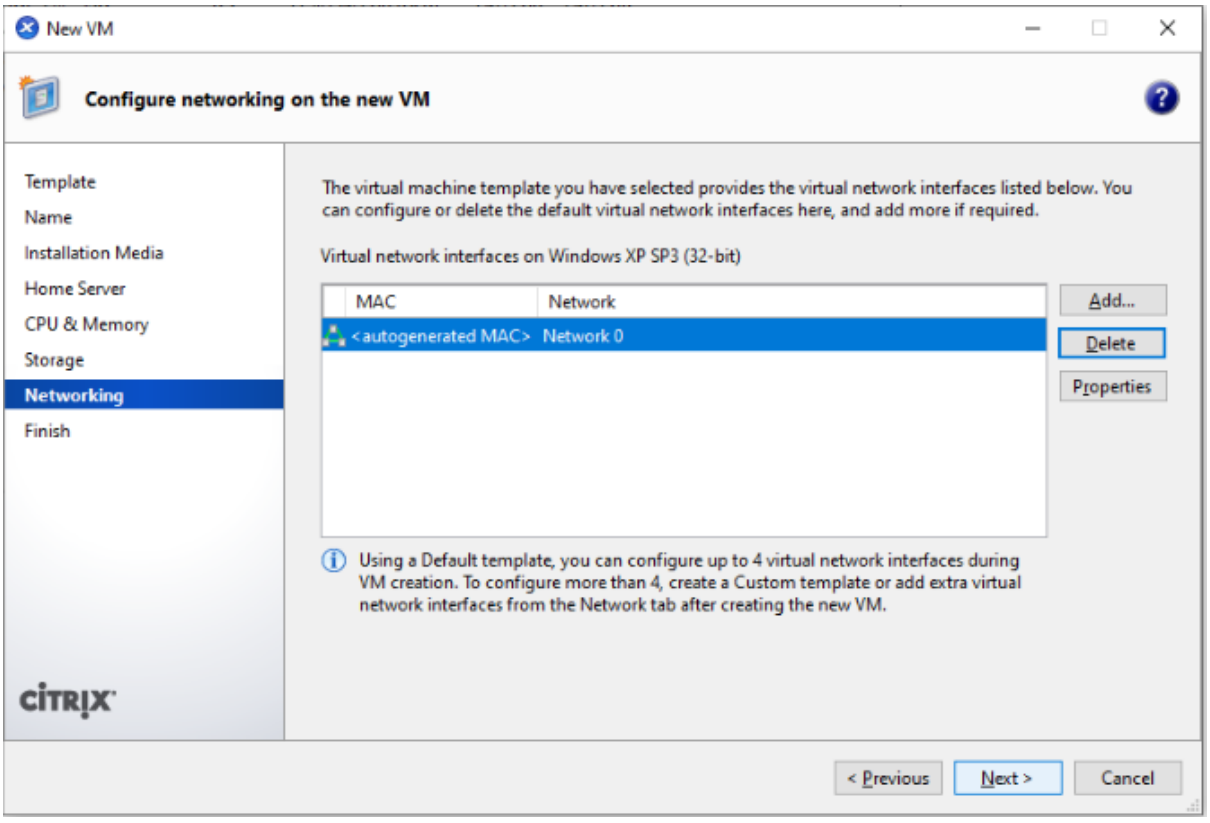


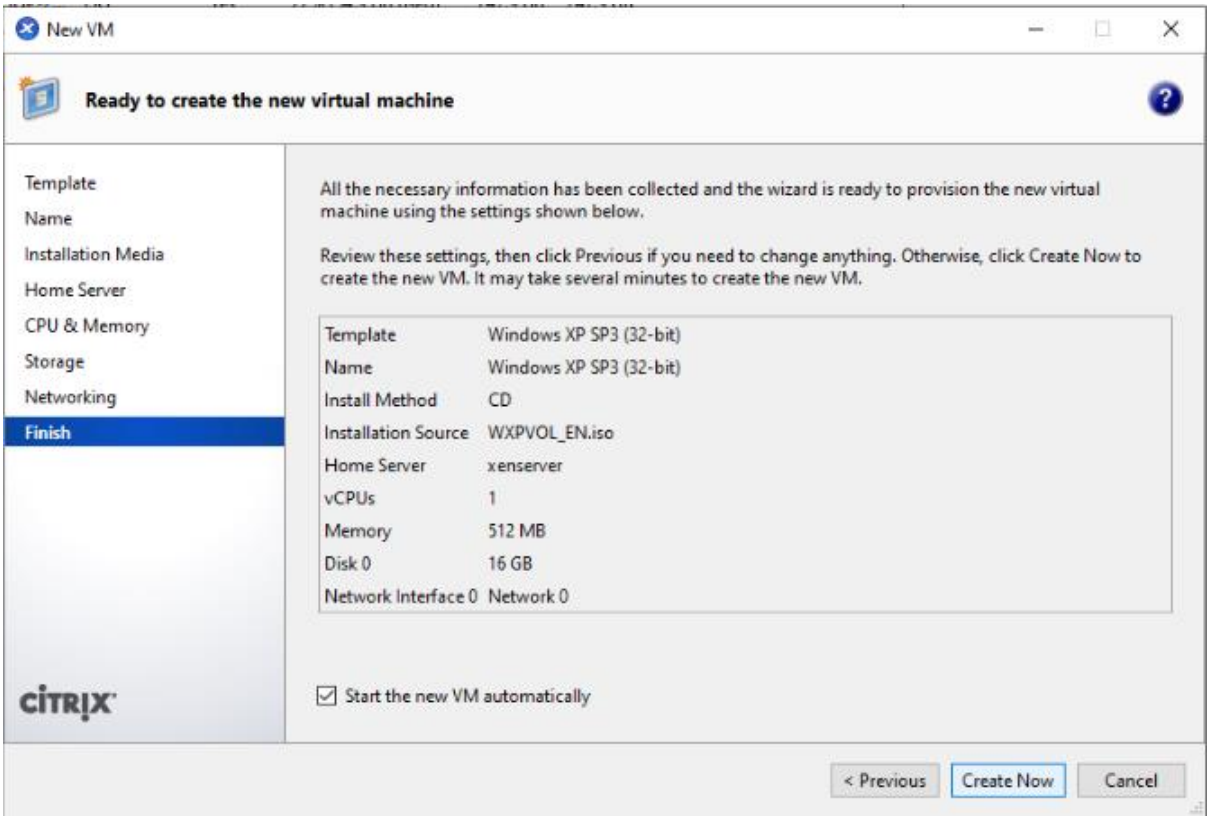



New VM
Select a home server
Template
Name
Installation Media
Home Server
CPU & Memory
Storage
Networking
Finish
When you nominate a home server for a virtual machine, the virtual machine will always be started up on that server if it is available. If this is not possible, then an alternate server within the same pool will be selected automatically.
Don't assign this VM a home server. The VM will be started on any server with the necessary resources. (Shared storage required)
Place the VM on this server:
xenserver 3214 MB available (4095 MB total)
CITRIX
< Previous
Next >
Cancel

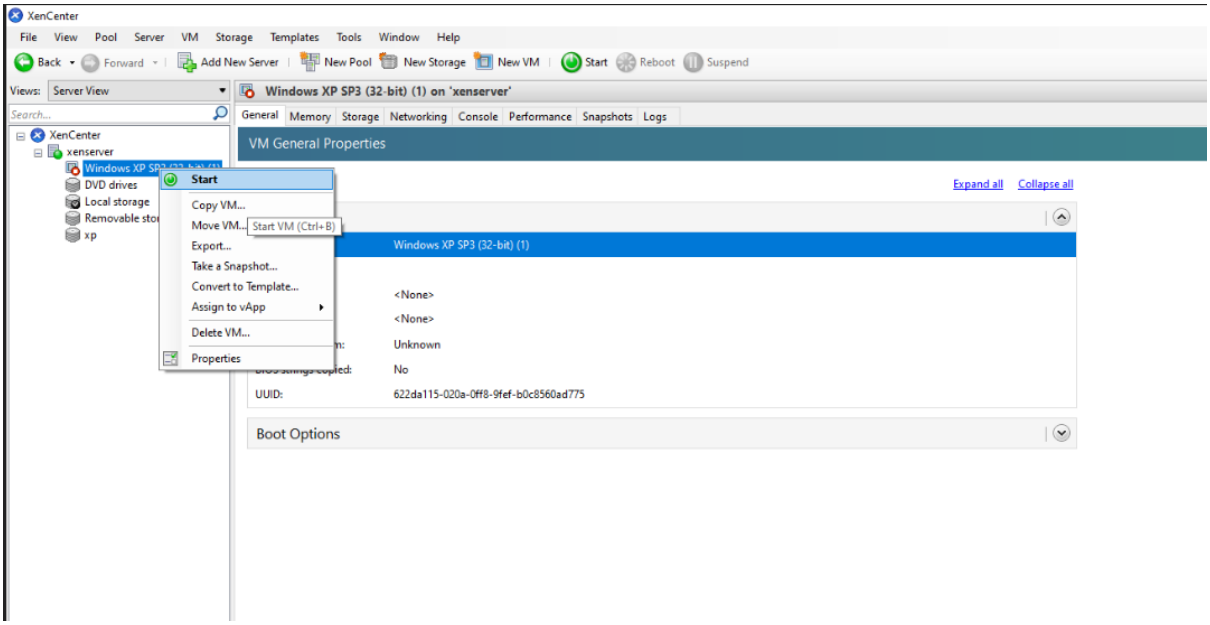

New VM
Allocate processor and memory resources
Template
Name
Installation Media
Home Server
CPU & Memory
Storage
Networking
Finish
Specify the number of virtual CPUs and the amount of memory that will be initially allocated to the new virtual machine.
Number of vCPUs:
1
Memory:
512
MB
CITRIX
< Previous
Next >
Cancel


New VM
Configure storage for the new VM
Template
Name
Installation Media
Home Server
CPU & Memory
Storage
Networking
Finish
The virtual machine template you selected earlier provides the virtual disks listed below. You can change the properties of these virtual disks, and add more disks if required.
Alternatively, you can select the second option below to create a diskless VM that can be booted from the network and does not use any virtual disks.
When you have finished configuring disks for the new virtual machine, click Next to continue to the next step.
Use these virtual disks:
Location
Size
Shared
Local storage on xenserver
16 GB
False
Add...
Delete
Properties
Use storage-level fast disk clone
Create a diskless VM that boots from the network
CITRIX
< Previous
Next >
Cancel

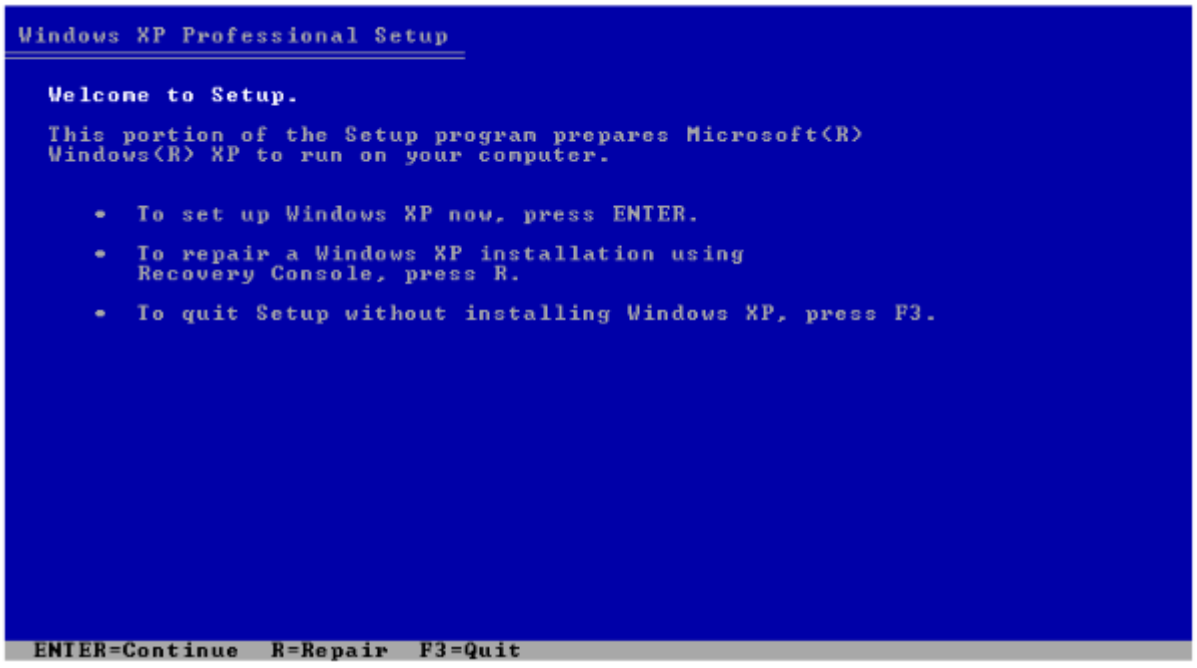

New VM
Configure networking on the new VM
Template
Name
Installation Media
Home Server
CPU & Memory
Storage
Networking
Finish
The virtual machine template you have selected provides the virtual network interfaces listed below. You can configure or delete the default virtual network interfaces here, and add more if required.
Virtual network interfaces on Windows XP SP3 (32-bit)
MAC
Network
<autogenerated MAC>
Network 0
Add...
Delete
Properties
Using a Default template, you can configure up to 4 virtual network interfaces during VM creation. To configure more than 4, create a Custom template or add extra virtual network interfaces from the Network tab after creating the new VM.
CITRIX
< Previous
Next >
Cancel

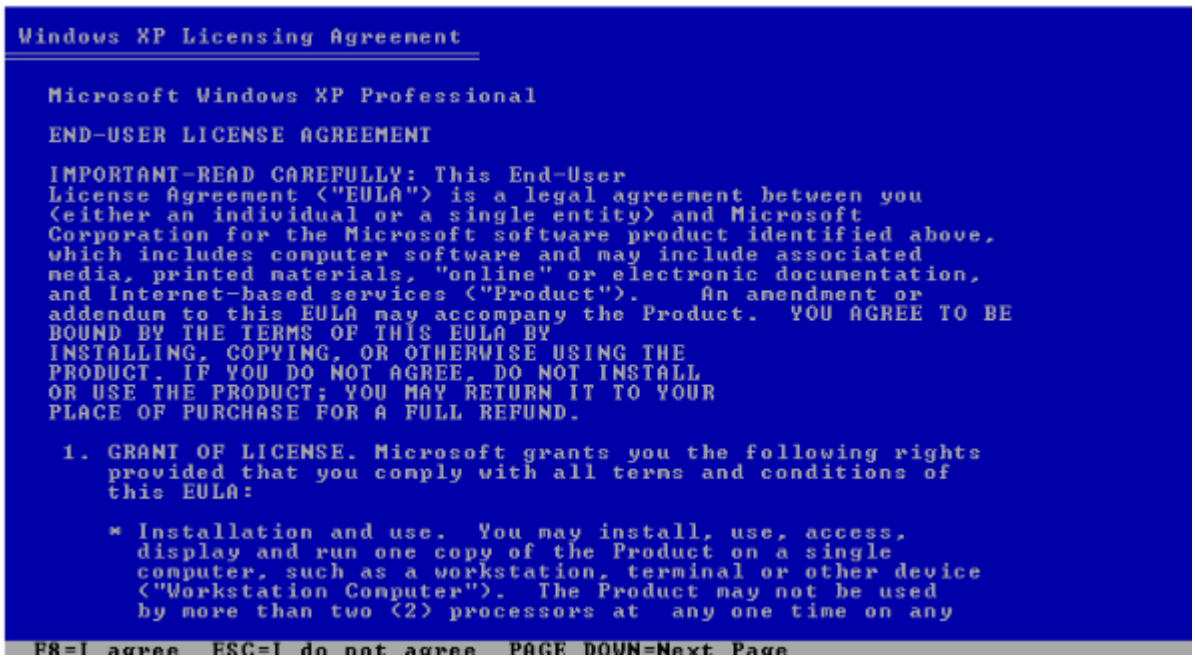


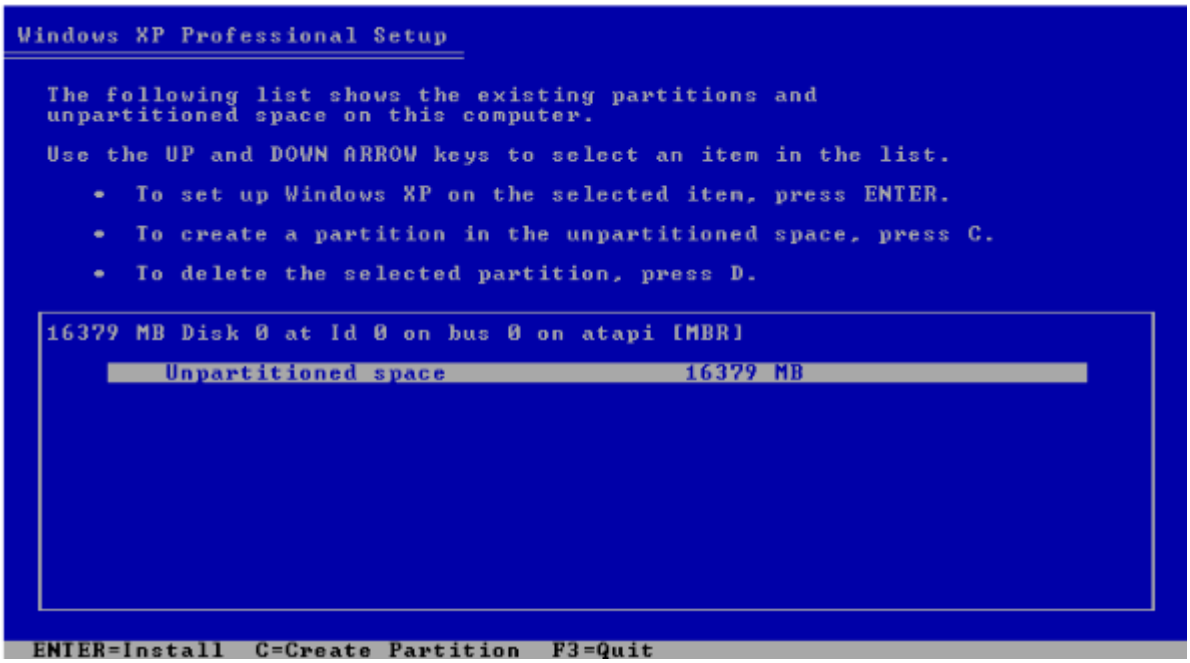
Now Right click on Windows XP and Start

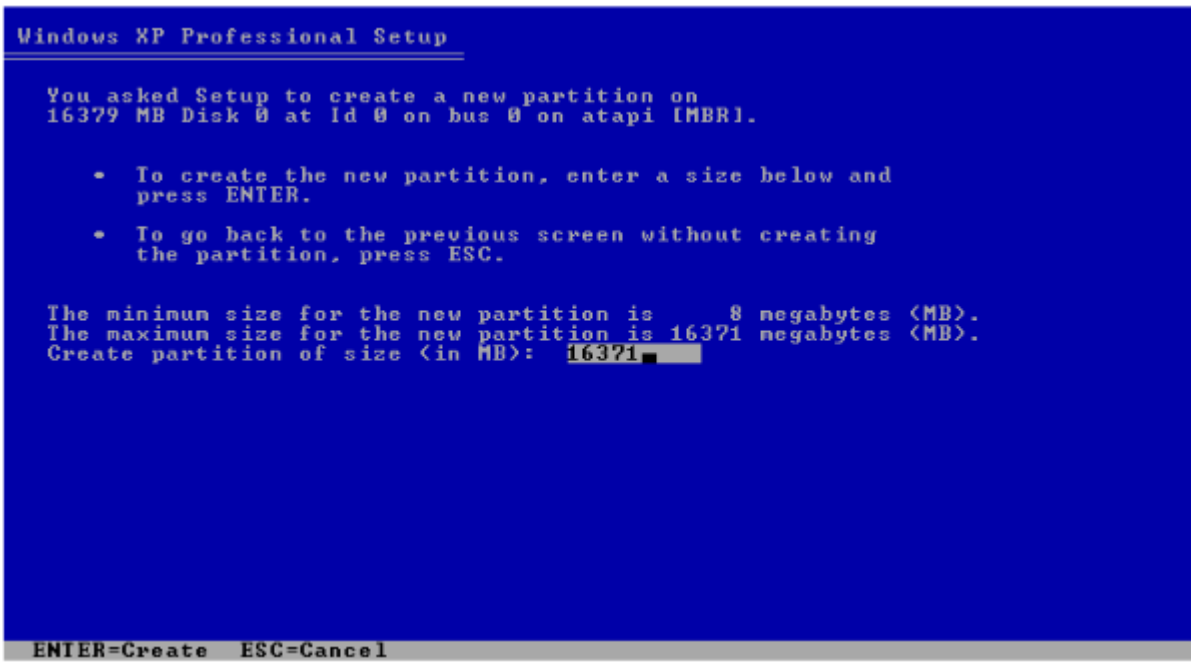


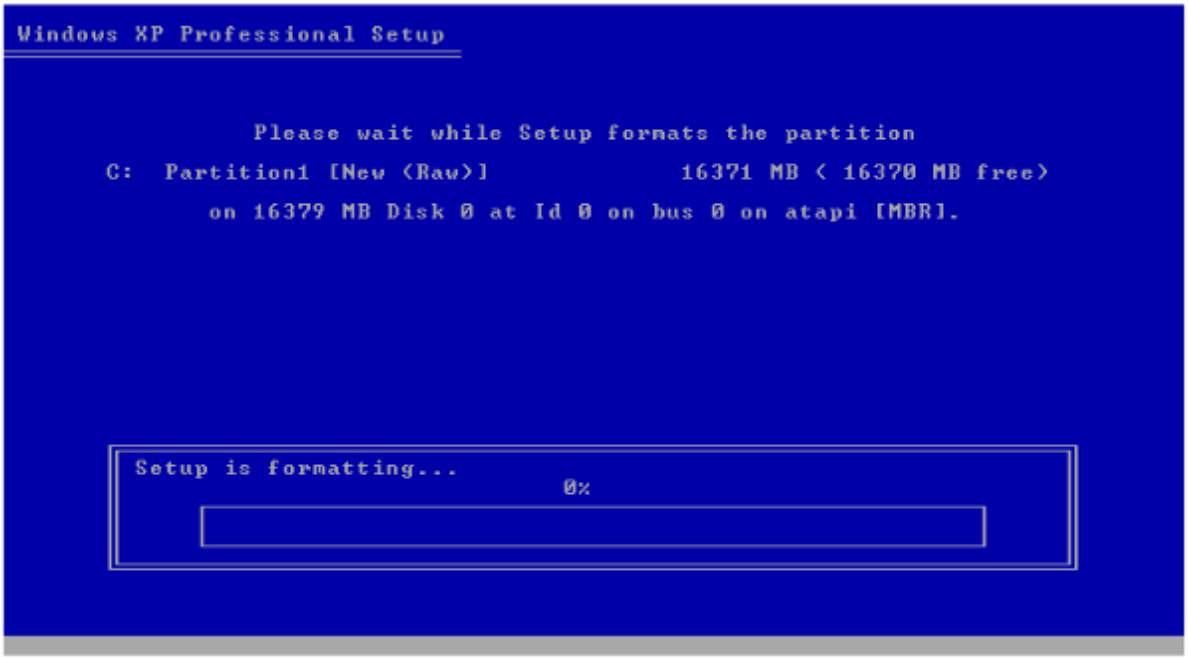

Windows Setup
Setup is loading files (Mount Point Manager)...

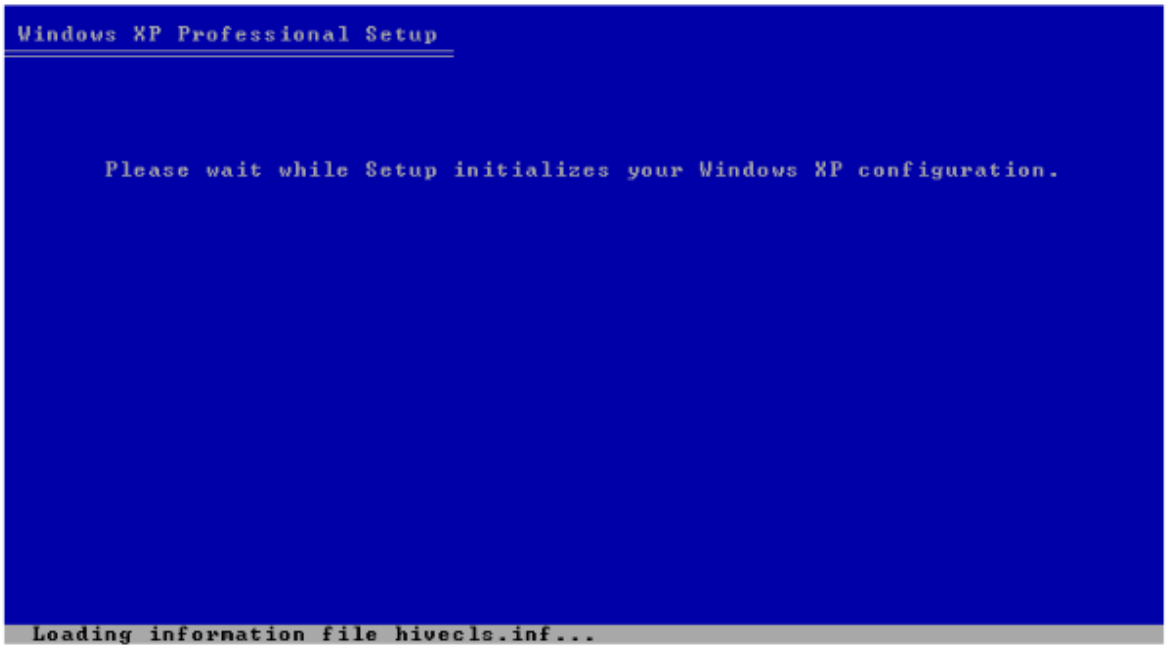

Windows XP Professional Setup
Welcome to Setup.
This portion of the Setup program prepares Microsoft(R)
Windows(R) XP to run on your computer.
• To set up Windows XP now, press ENTER.
• To repair a Windows XP installation using
Recovery Console, press R.
• To quit Setup without installing Windows XP, press F3.
ENTER=Continue R=Repair F3=Quit

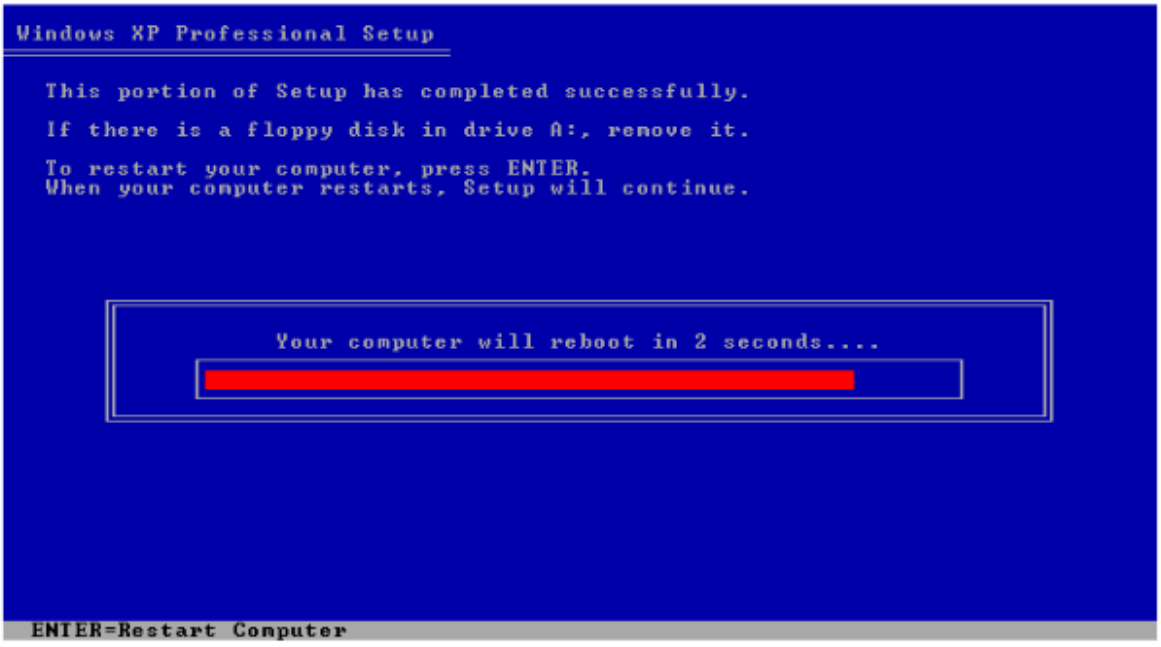

Windows XP Licensing Agreement
Microsoft Windows XP Professional
END-USER LICENSE AGREEMENT
IMPORTANT-READ CAREFULLY: This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and Microsoft Corporation for the Microsoft software product identified above, which includes computer software and may include associated media, printed materials, "online" or electronic documentation, and Internet-based services ("Product"). An amendment or addendum to this EULA may accompany the Product. YOU AGREE TO BE BOUND BY THE IERMS OF THIS EULA BY INSTALLING, COPYING, OR OTHERWISE USING THE PRODUCT. IF YOU DO NOT AGREE, DO NOT INSTALL OR USE THE PRODUCT; YOU MAY RETURN IT TO YOUR PLACE OF PURCHASE FOR A FULL REFUND.
1. GRANT OF LICENSE. Microsoft grants you the following rights provided that you comply with all terms and conditions of this EULA:
* Installation and use. You may install, use, access, display and run one copy of the Product on a single computer, such as a workstation, terminal or other device ("Workstation Computer"). The Product may not be used by more than two (2) processors at any one time on any
F8=I agree ESC=I do not agree PAGE DOWN=Next Page


Windows XP Professional Setup
The following list shows the existing partitions and unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows XP on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
16379 MB Disk 0 at Id 0 on bus 0 on atapi [MBR]
Unpartitioned space 16379 MB
ENTER=Install C=Create Partition F3=Quit


Windows XP Professional Setup
You asked Setup to create a new partition on
16379 MB Disk 0 at Id 0 on bus 0 on atapi [MBR].
• To create the new partition, enter a size below and press ENTER.
• To go back to the previous screen without creating the partition, press ESC.
The minimun size for the new partition is 8 megabytes (MB).
The maximum size for the new partition is 16371 megabytes (MB).
Create partition of size (in MB): 16371
ENTER=Create ESC=Cancel

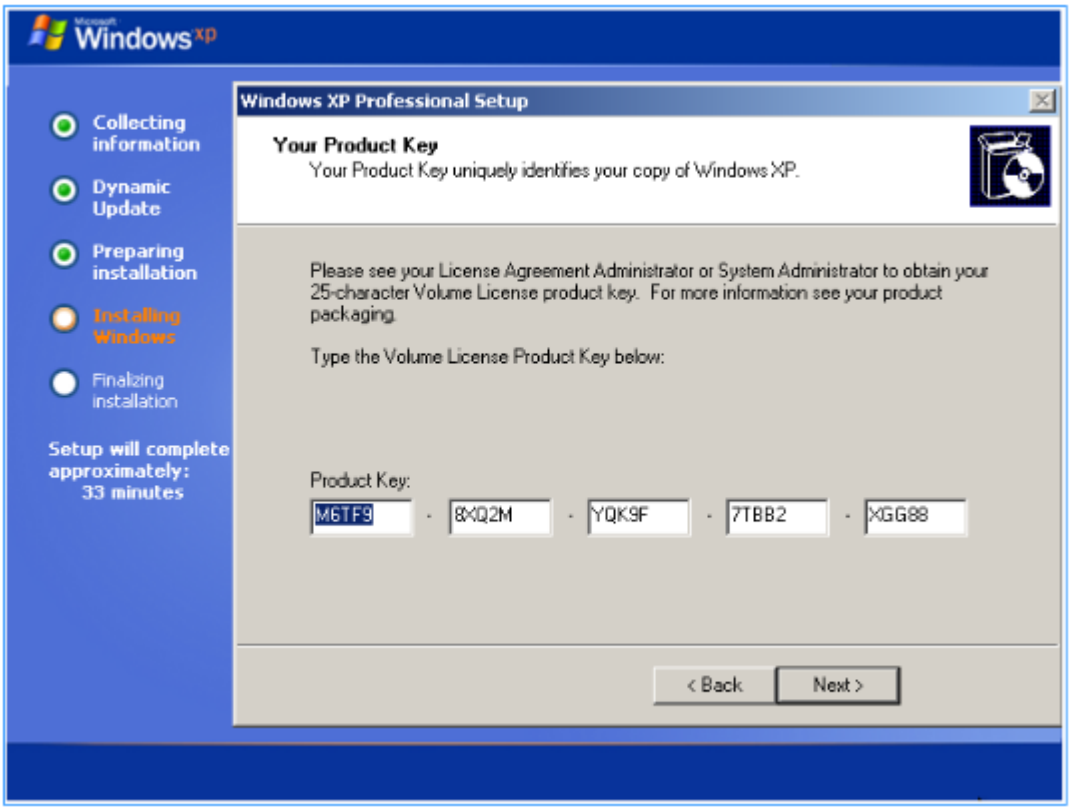

Windows XP Professional Setup
Please wait while Setup formats the partition
C: Partition1 [New (Raw)] 16371 MB (16370 MB free)
on 16379 MB Disk 0 at Id 0 on bus 0 on atapi [MBR].
Setup is formatting...
0%

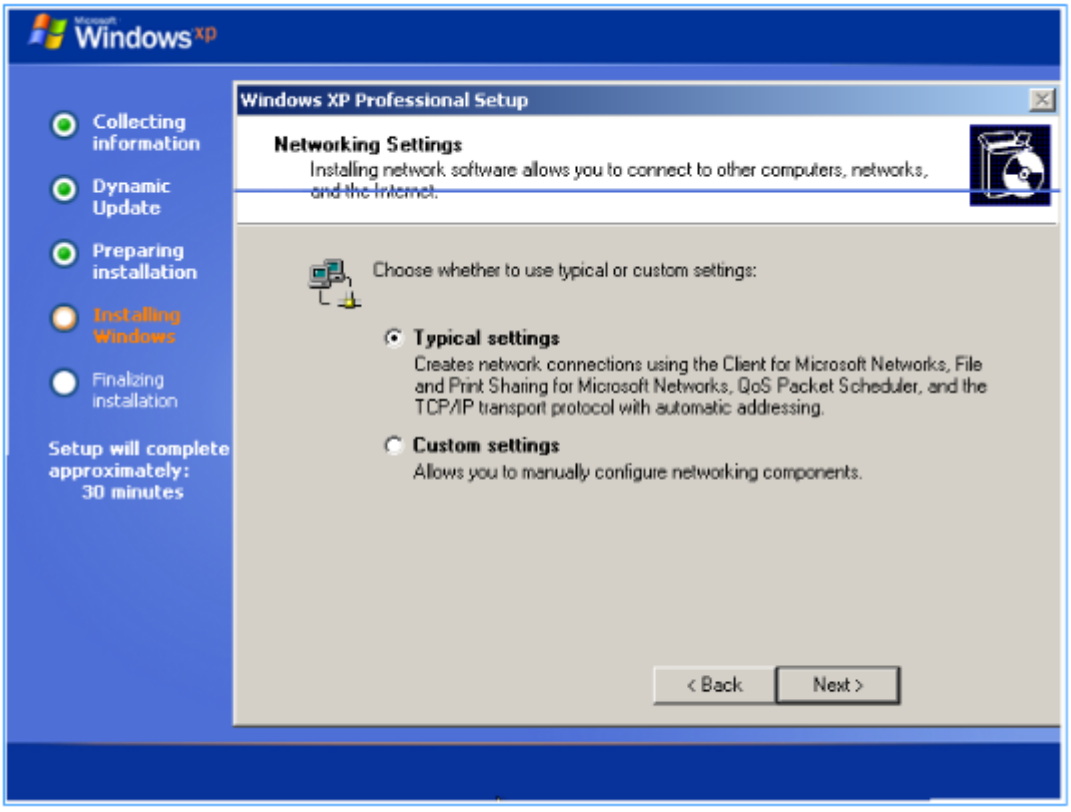

Windows XP Professional Setup
Please wait while Setup initializes your Windows XP configuration.
Loading information file hivecls.inf...

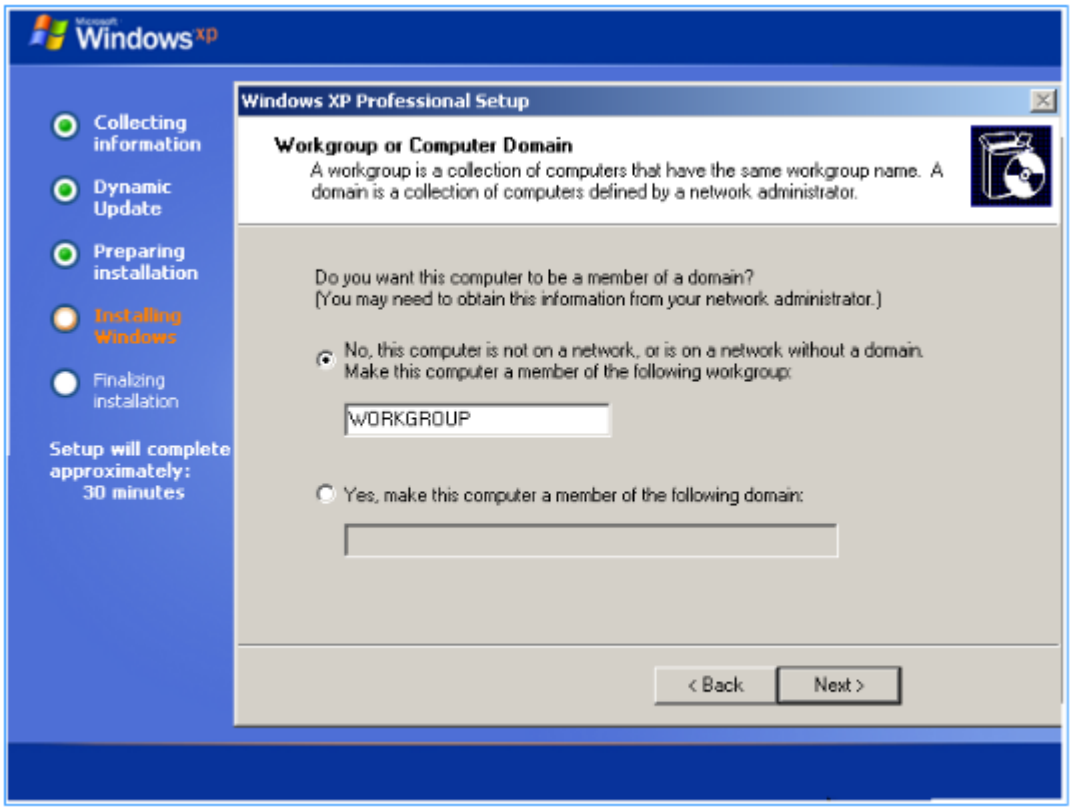

Windows XP Professional Setup
This portion of Setup has completed successfully.
If there is a floppy disk in drive A:, remove it.
To restart your computer, press ENTER.
When your computer restarts, Setup will continue.
Your computer will reboot in 2 seconds....
ENTER=Restart Computer

- ***Windows XP Professional 32-bit Edition***

SP3 VLK	TQMCY-42MBK-3R4YG-478KD-7FY3M
SP3 VOL	M6TF9-8XQ2M-YQK9F-7TBB2-XGG88
SP3 VOL	MRX3F-47B9T-2487J-KWKMF-RPWBY
SP3 VOL	QC986-27D34-6M3TY-JJXP9-TBGMD


Windows xp
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete approximately: 33 minutes
Windows XP Professional Setup
Your Product Key
Your Product Key uniquely identifies your copy of Windows XP.
Please see your License Agreement Administrator or System Administrator to obtain your 25-character Volume License product key. For more information see your product packaging.
Type the Volume License Product Key below:
Product Key:
M6TF9 - 8XQ2M - YQK9F - 7TBB2 - XGG88
< Back
Next >


Windows xp
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete approximately: 30 minutes
Windows XP Professional Setup
Networking Settings
Installing network software allows you to connect to other computers, networks, and the Internet.
Choose whether to use typical or custom settings:
Typical settings
Creates network connections using the Client for Microsoft Networks, File and Print Sharing for Microsoft Networks, QoS Packet Scheduler, and the TCP/IP transport protocol with automatic addressing.
Custom settings
Allows you to manually configure networking components.
< Back
Next >

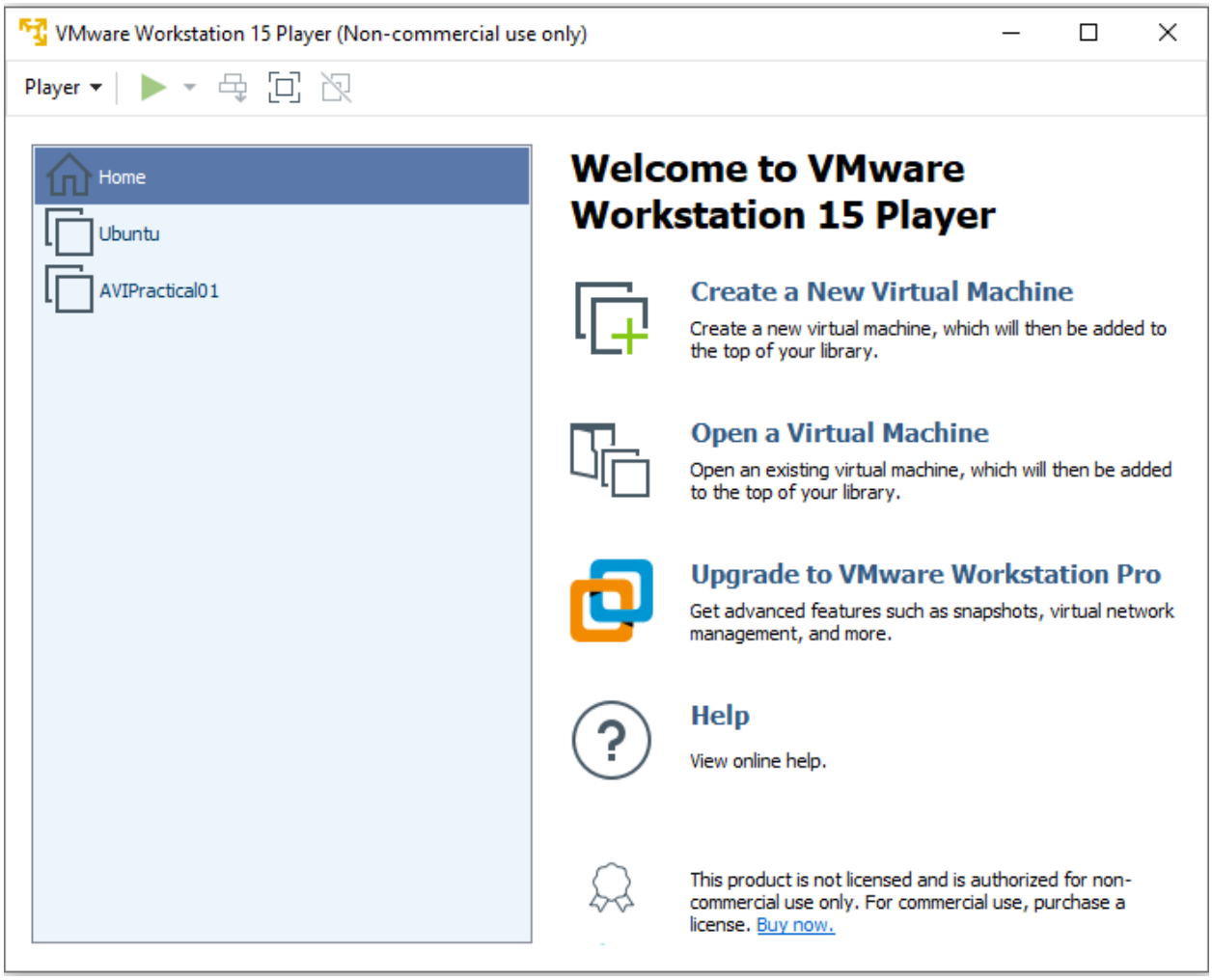

Windows xp
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete approximately:
30 minutes
Windows XP Professional Setup
Workgroup or Computer Domain
A workgroup is a collection of computers that have the same workgroup name. A domain is a collection of computers defined by a network administrator.
Do you want this computer to be a member of a domain?
(You may need to obtain this information from your network administrator.)
No, this computer is not on a network, or is on a network without a domain. Make this computer a member of the following workgroup:
WORKGROUP
Yes, make this computer a member of the following domain:
< Back
Next >


Windows xp
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete in approximately:
29 minutes
Preparing for installation...
Enjoy using Windows® XP!
If you would like more details on the new features built into Windows XP, the Windows Start menu can point you to several options. Click Help and Support to find articles, overviews, and tutorials on specific features.
Or click Help and Support and type "walkthroughs" into the Search box to find articles that help you explore. You can also take a Tour from the Start menu to enjoy a visual review of the next generation of Windows for home and business computing.
Thank you for purchasing Windows XP Professional. We hope that you enjoy the many new features of this Windows version.

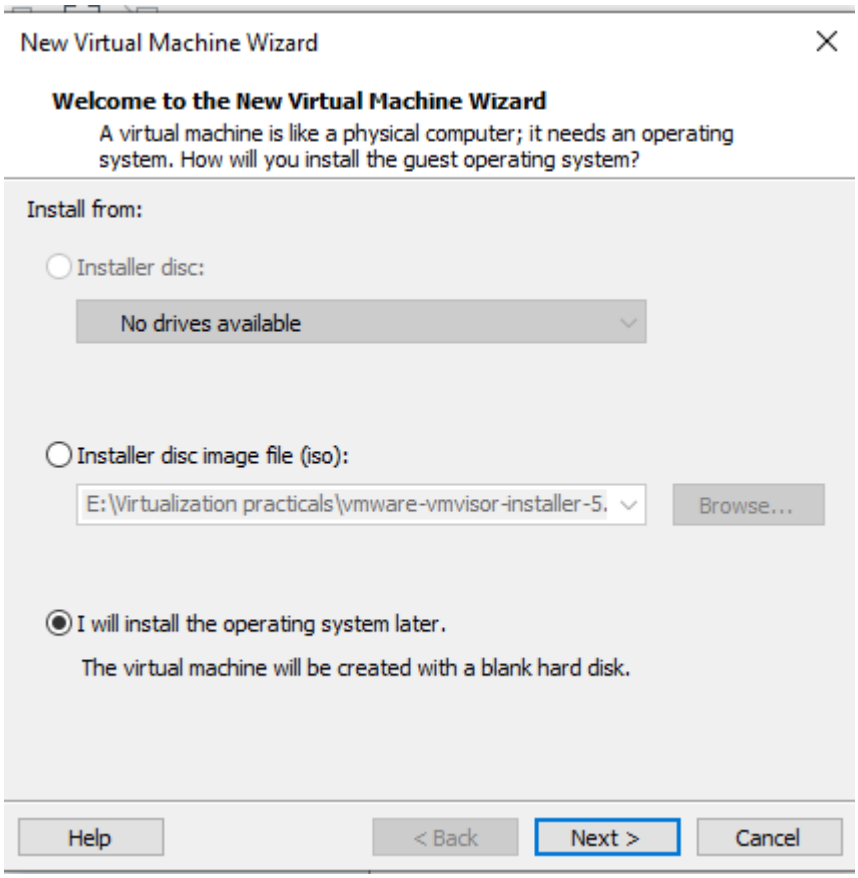
Practical: 07

Aim: Implement virtualization using VMWare ESXi Server and managing with vCenter

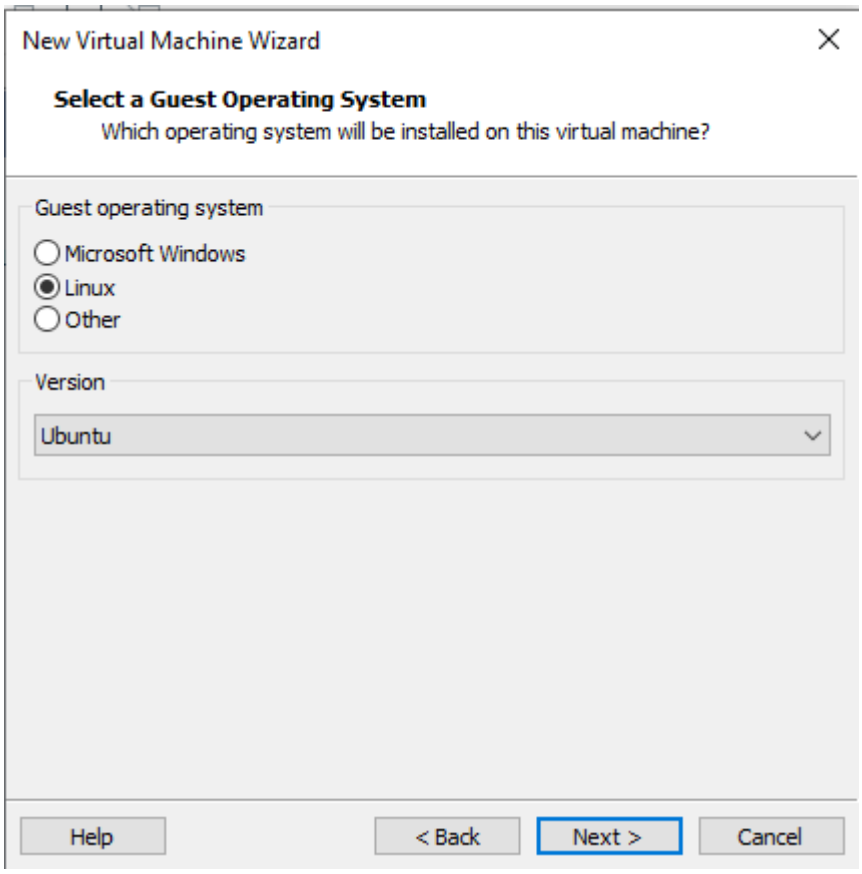
1. Click on create a new Virtual Machine



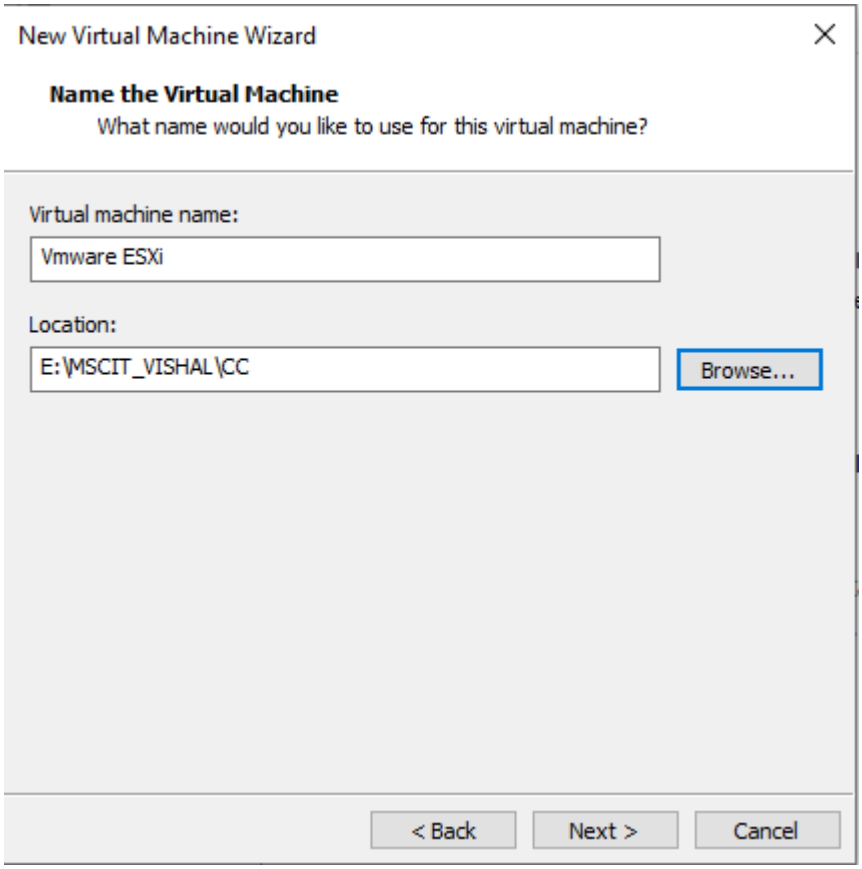
Select the option button “I will install the operating system later” & click on Next.



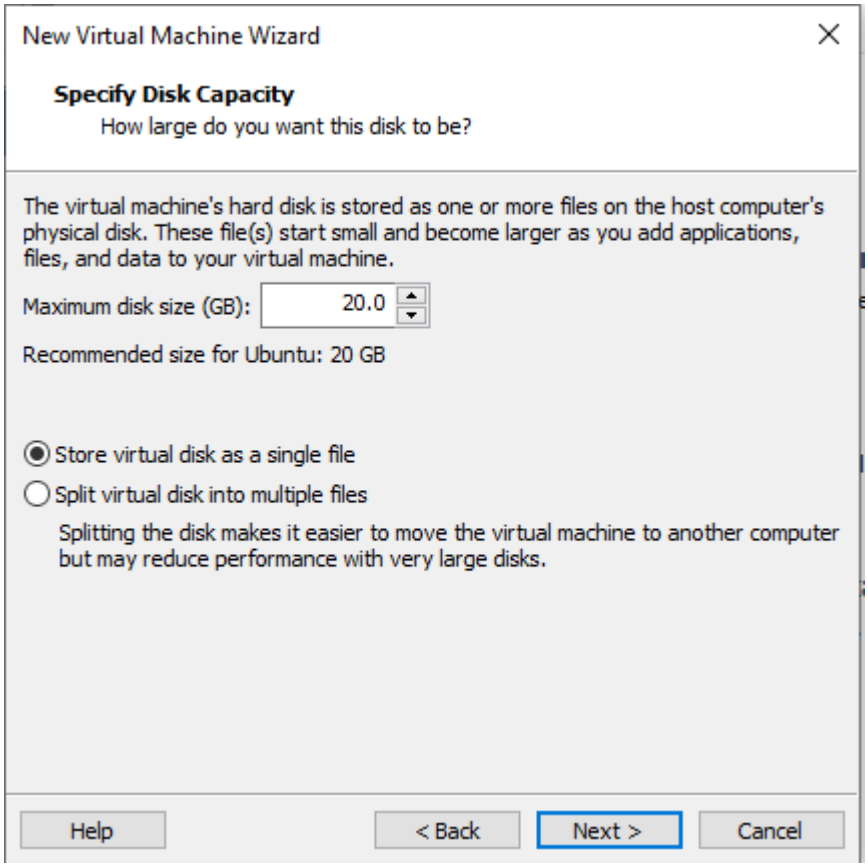
Select the Guest operating system as VMware ESXi & confirm the version should be VMware ESXi 5.



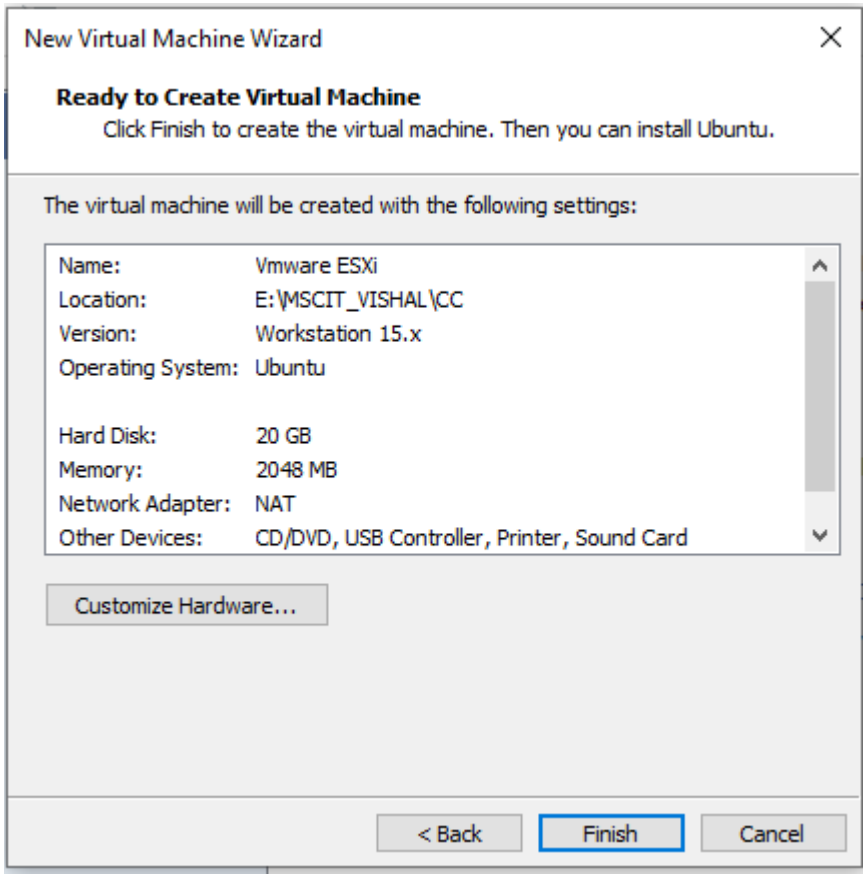
Give the Virtual machine name as VMware ESXi 5(5) & click on the browse for the location & create one separate directory for ESXi server in your folder & specify the path over here. Then click on Next.



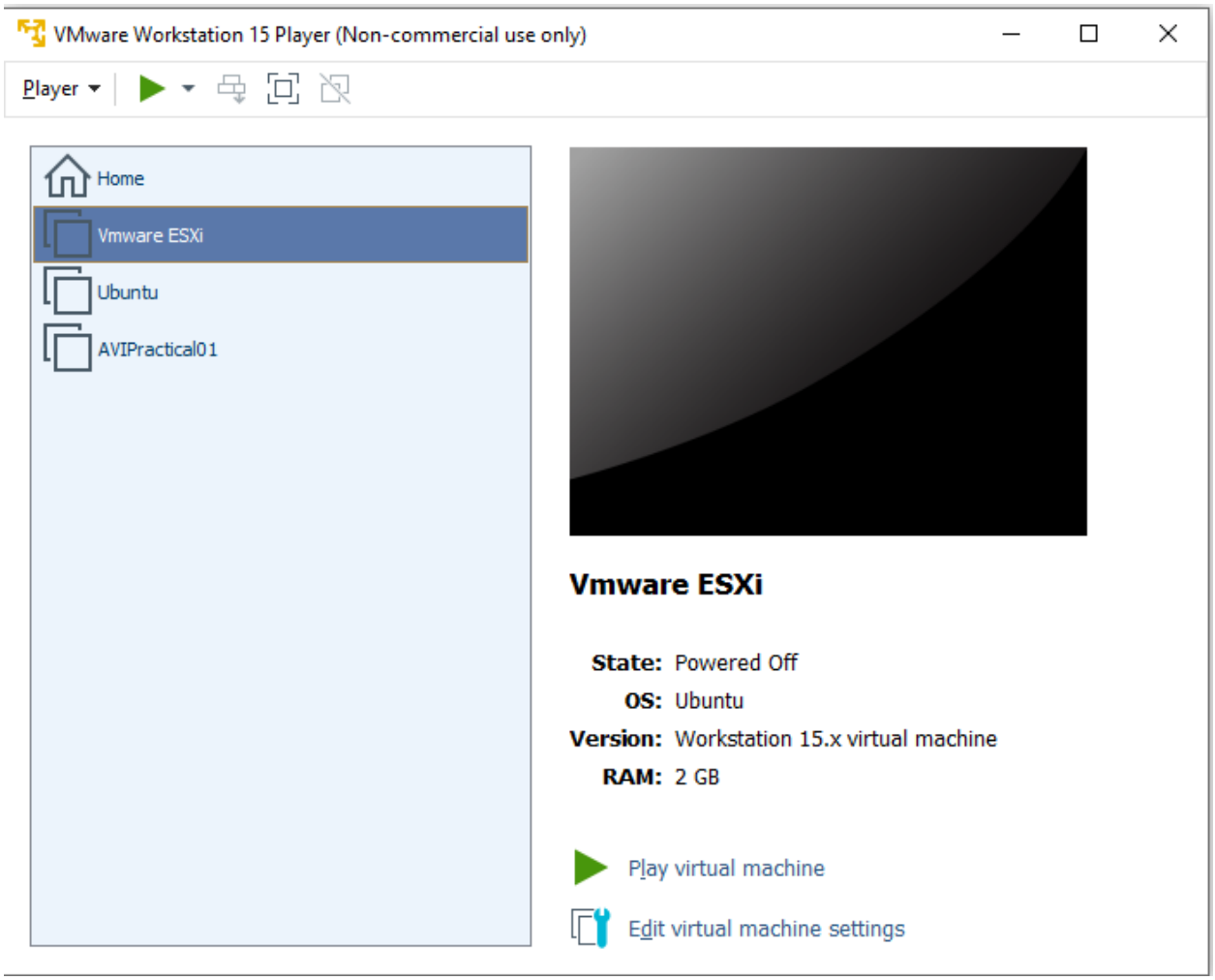
You have to specify the size of virtual hard-disk used for ESXi. By default it is 20 GB. Click on Next.



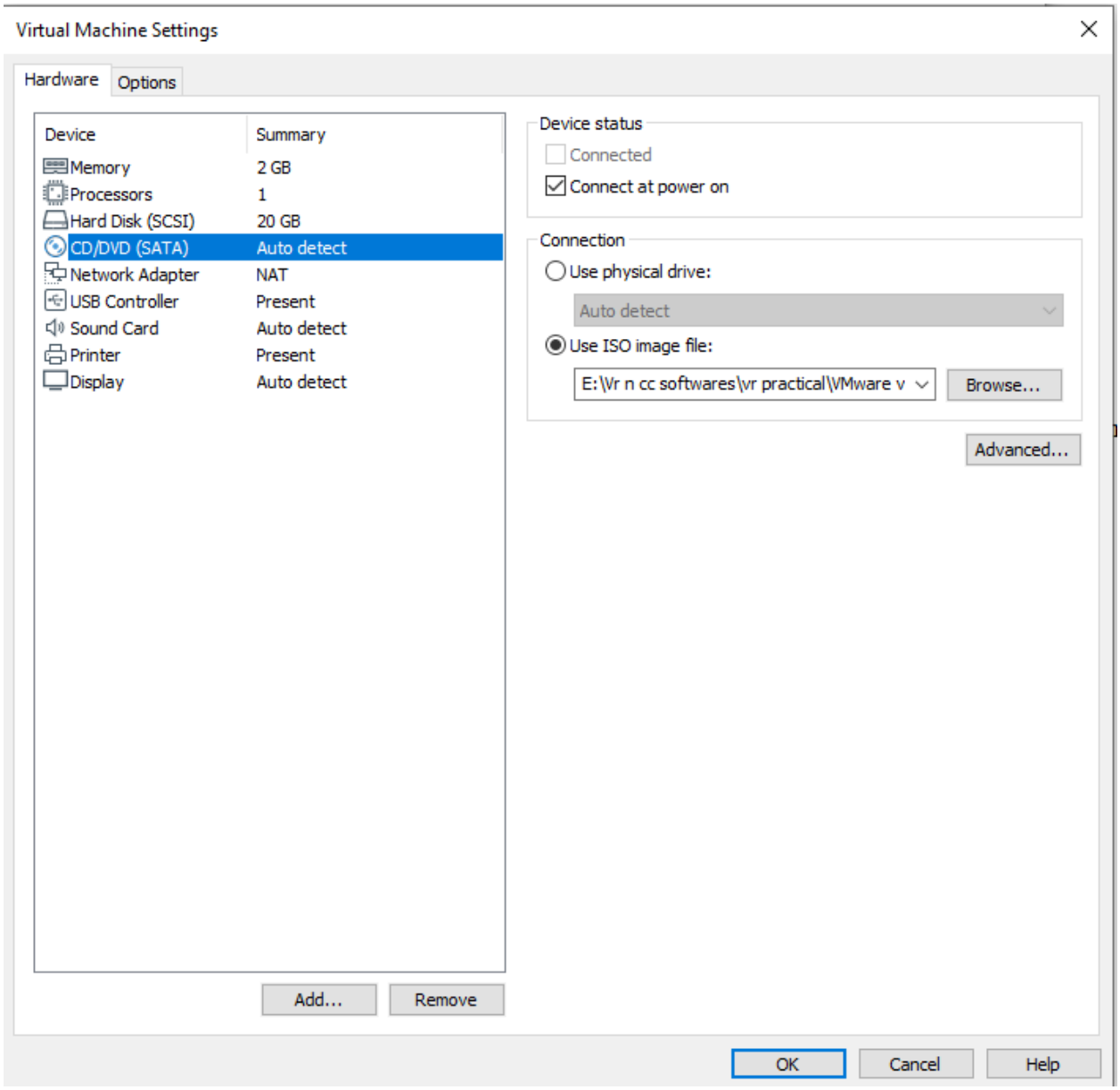
Then it will display the whole hardware information for VMware ESXi 5(5). Just click on Finish.



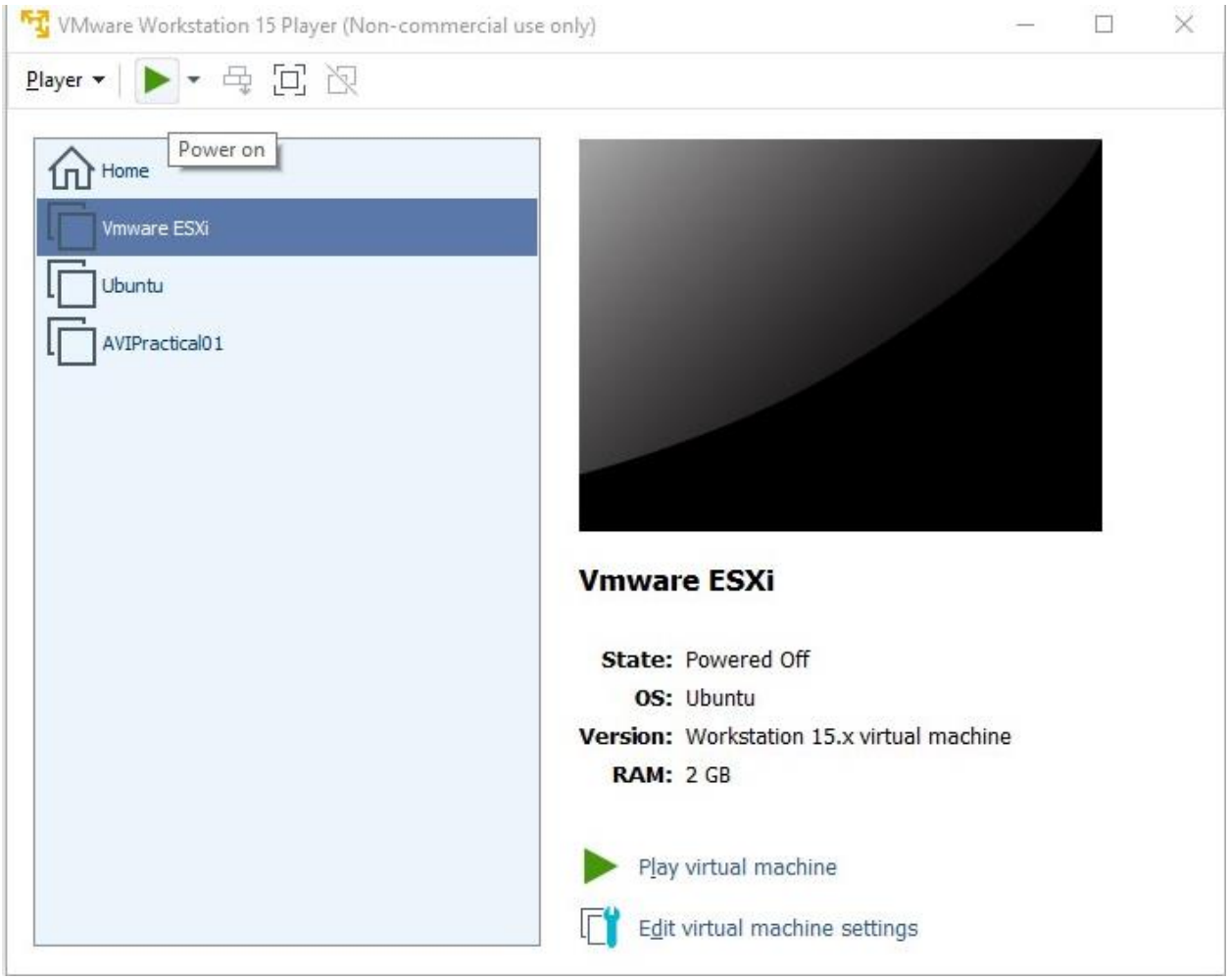
Click on Edit virtual Machine Settings.



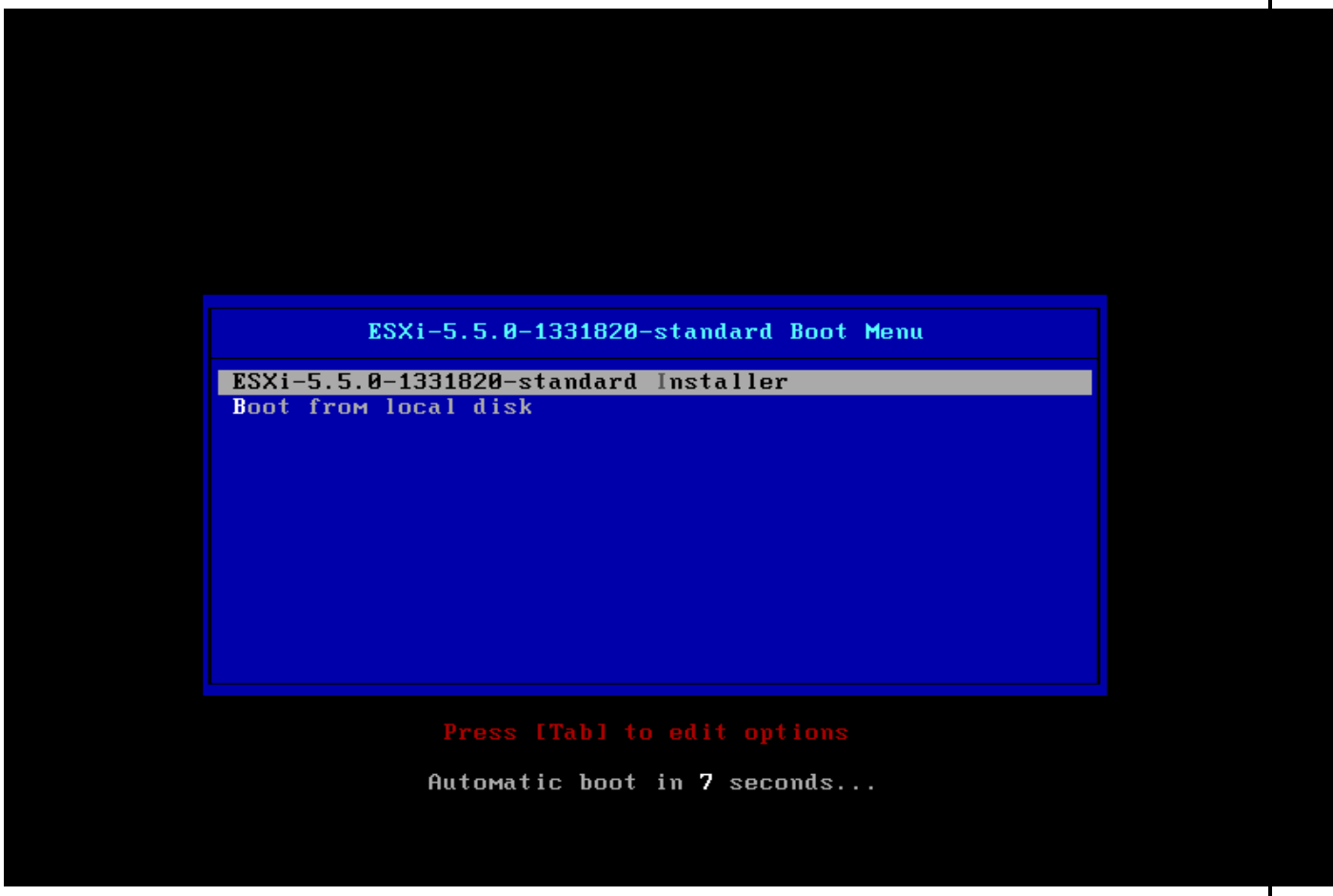
Click on CD/DVD SATA option & click on the option button “Use ISO image file” & then click on browse button & just select the ISO image of ESXi server “VMware-VMvisor-Installer-5.5.0-1331820.x86_64”. Then click on OK.

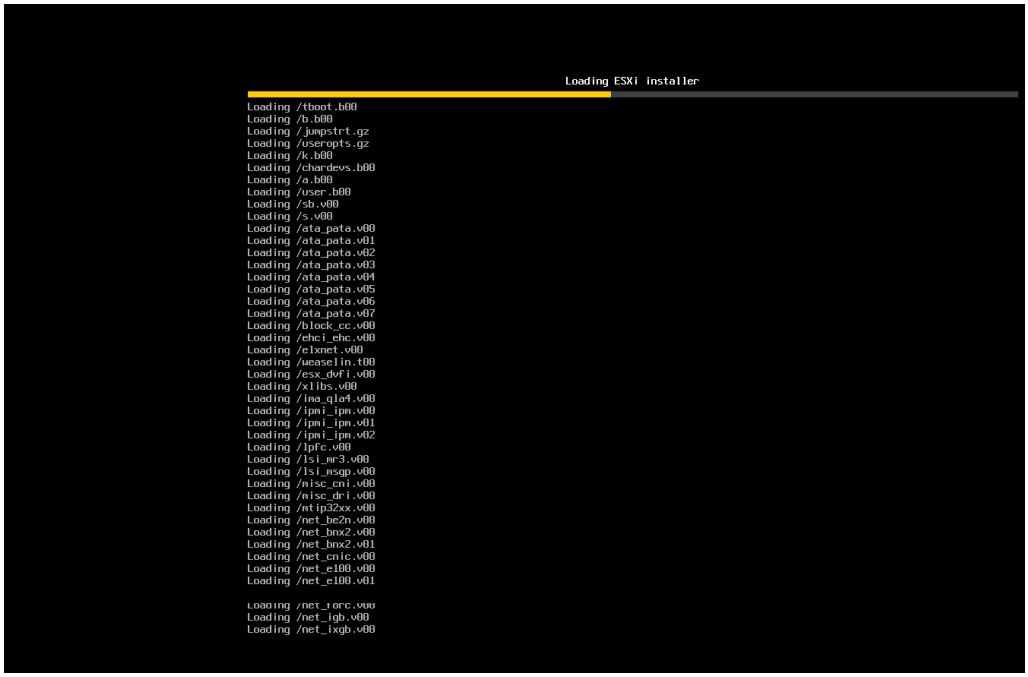


Click On Power On button to sitch on the virtual machine



Boot your Host from the CD, and then select the standard installer option.

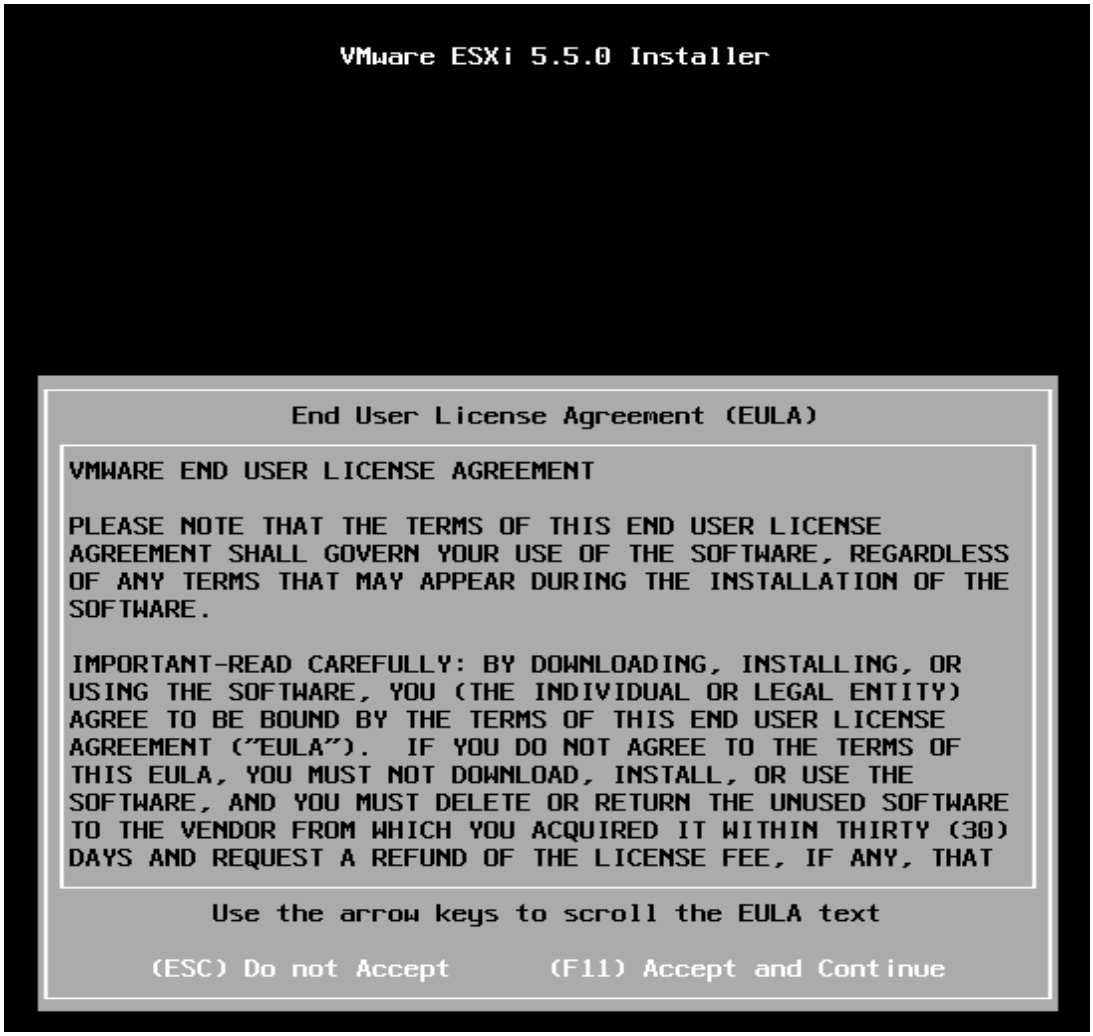




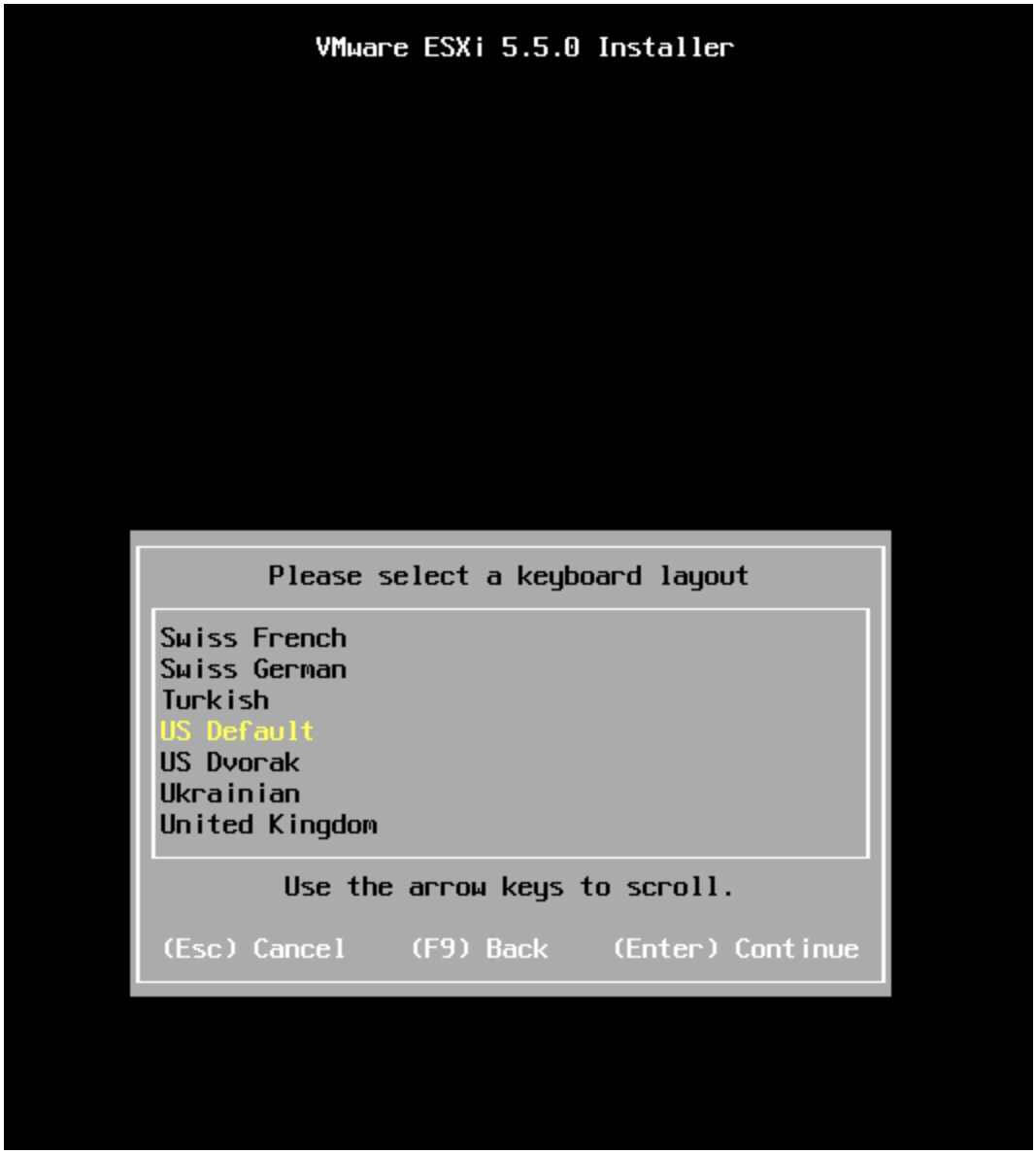
You will see the following screen’s as it goes through its boot process

Once done we get to the installation, select enter to continue and then follow the next step


VMware ESXi 5.5.0 Installer
Welcome to the VMware ESXi 5.5.0 Installation
VMware ESXi 5.5.0 installs on most systems but only
systems on VMware's Compatibility Guide are supported.
Consult the VMware Compatibility Guide at:
http://www.vmware.com/resources/compatibility
Select the operation to perform.
(Esc) Cancel
(Enter) Continue

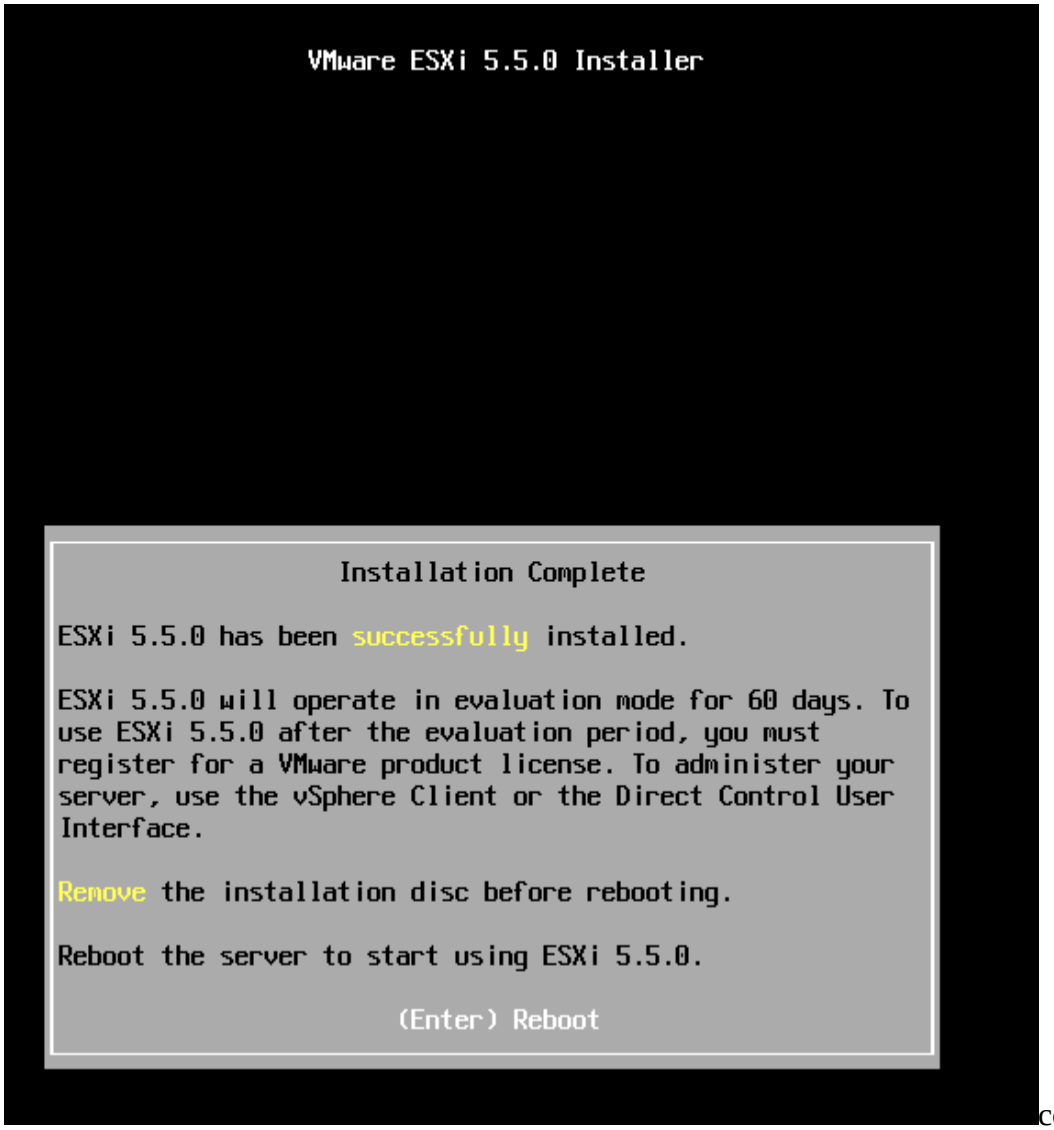

VMware ESXi 5.5.0 Installer
End User License Agreement (EULA)
VMWARE END USER LICENSE AGREEMENT
PLEASE NOTE THAT THE TERMS OF THIS END USER LICENSE AGREEMENT SHALL GOVERN YOUR USE OF THE SOFTWARE, REGARDLESS OF ANY TERMS THAT MAY APPEAR DURING THE INSTALLATION OF THE SOFTWARE.
IMPORTANT-READ CAREFULLY: BY DOWNLOADING, INSTALLING, OR USING THE SOFTWARE, YOU (THE INDIVIDUAL OR LEGAL ENTITY) AGREE TO BE BOUND BY THE TERMS OF THIS END USER LICENSE AGREEMENT ("EULA"). IF YOU DO NOT AGREE TO THE TERMS OF THIS EULA, YOU MUST NOT DOWNLOAD, INSTALL, OR USE THE SOFTWARE, AND YOU MUST DELETE OR RETURN THE UNUSED SOFTWARE TO THE VENDOR FROM WHICH YOU ACQUIRED IT WITHIN THIRTY (30) DAYS AND REQUEST A REFUND OF THE LICENSE FEE, IF ANY, THAT
Use the arrow keys to scroll the EULA text
(ESC) Do not Accept
(F11) Accept and Continue


VMware ESXi 5.5.0 Installer
Scanning...
Scanning for available devices. This may take a few seconds.

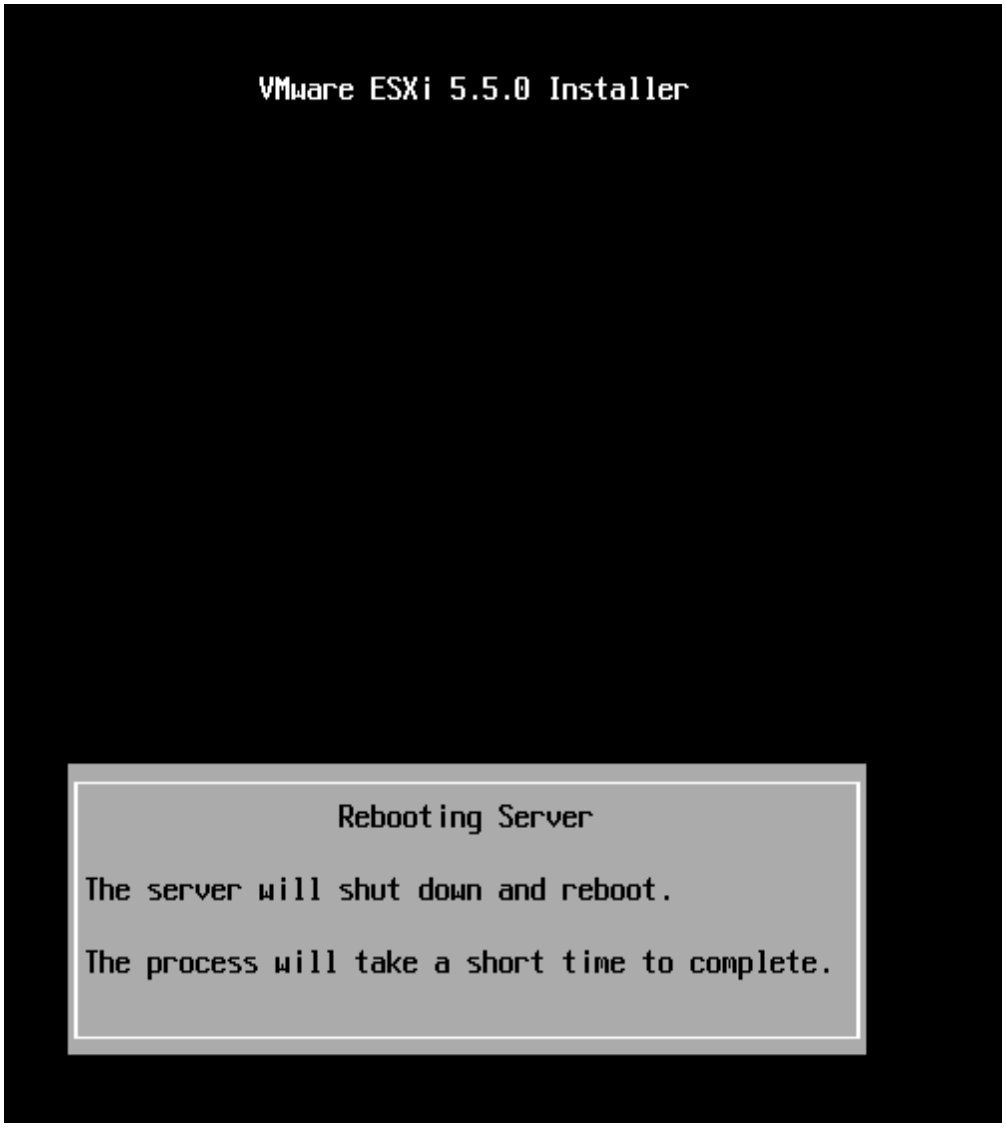

VMware ESXi 5.5.0 Installer
Please select a keyboard layout
Swiss French
Swiss German
Turkish
US Default
US Dvorak
Ukrainian
United Kingdom
Use the arrow keys to scroll.
(Esc) Cancel
(F9) Back
(Enter) Continue


VMware ESXi 5.5.0 Installer
Enter a root password
Root password: *******
Confirm password: *******
Passwords match.
(Esc) Cancel
(F9) Back
(Enter) Continue


VMware ESXi 5.5.0 Installer
Installing ESXi 5.5.0
5 %

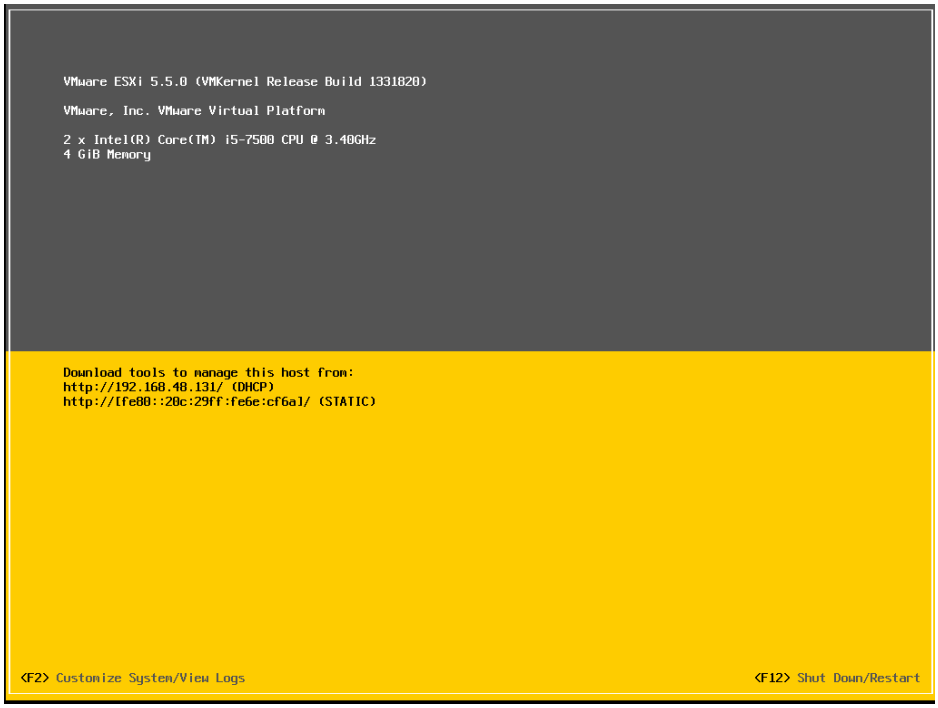

VMware ESXi 5.5.0 Installer
Installation Complete
ESXi 5.5.0 has been successfully installed.
ESXi 5.5.0 will operate in evaluation mode for 60 days. To use ESXi 5.5.0 after the evaluation period, you must register for a VMware product license. To administer your server, use the vSphere Client or the Direct Control User Interface.
Remove the installation disc before rebooting.
Reboot the server to start using ESXi 5.5.0.
(Enter) Reboot
cc

Now we have installed ESXi , if we reboot the host will then come up and load the ESXi OS.

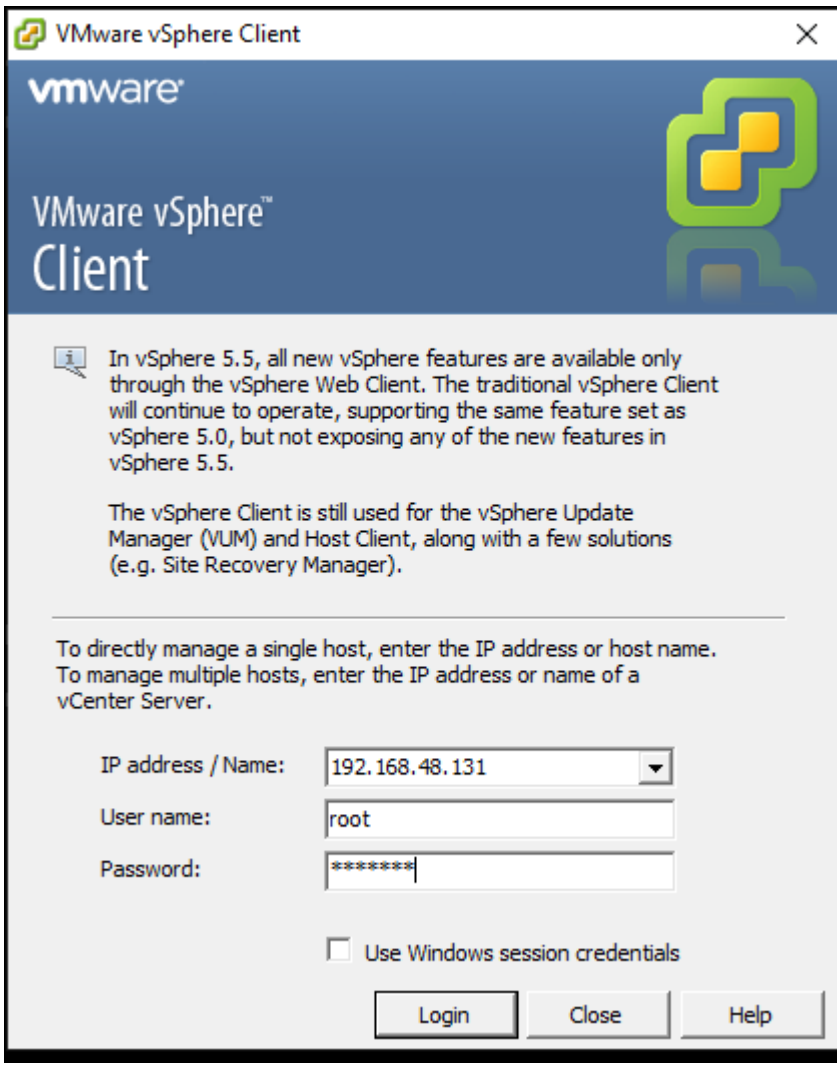



VMware ESXi 5.5.0 (VMKernel Release Build 1331820)
VMware, Inc. VMware Virtual Platform
2 x Intel(R) Core(TM) i5-7500 CPU @ 3.40GHz
4 GiB Memory
user loaded successfully.

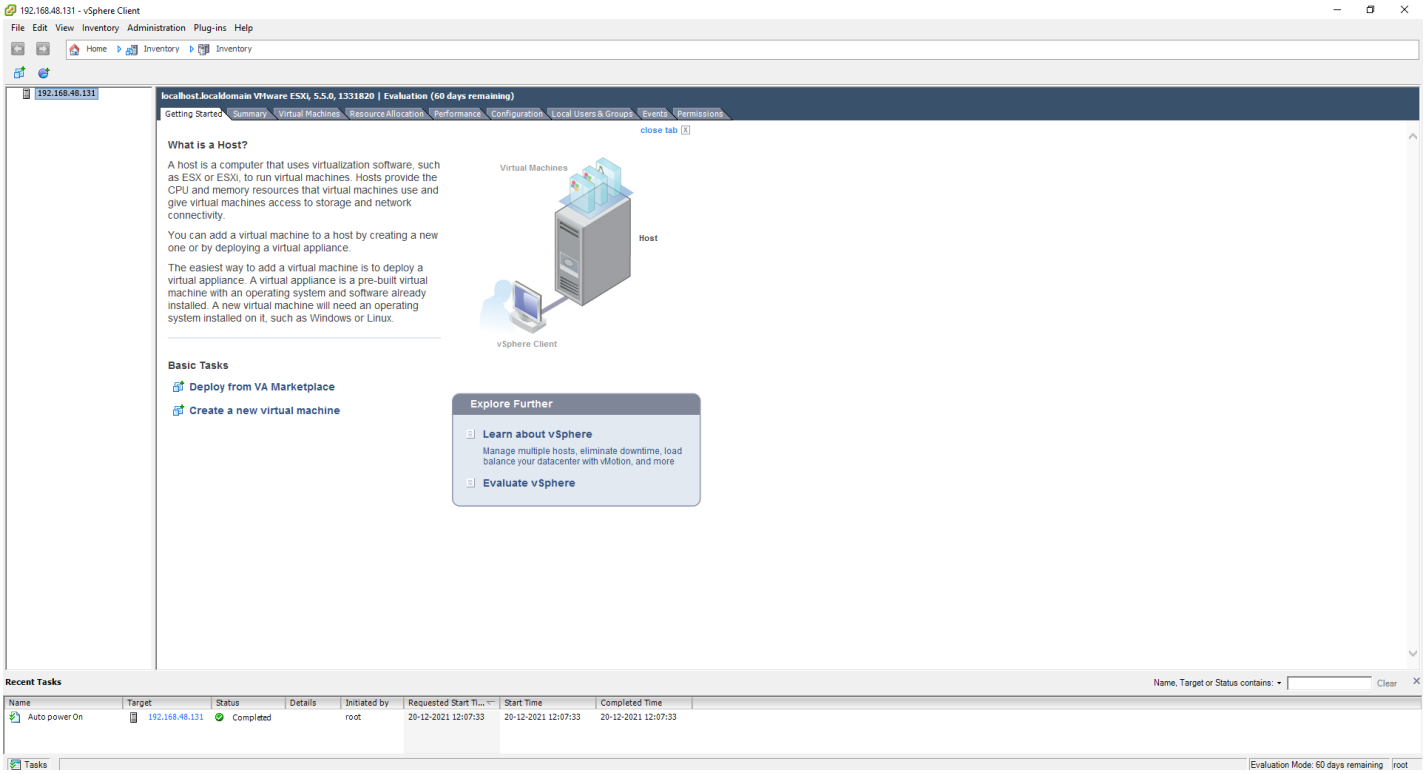

VMware ESXi 5.5.0 (VMKernel Release Build 1331820)
VMware, Inc. VMware Virtual Platform
2 x Intel(R) Core(TM) i5-7500 CPU @ 3.40GHz
4 GiB Memory
user loaded successfully.

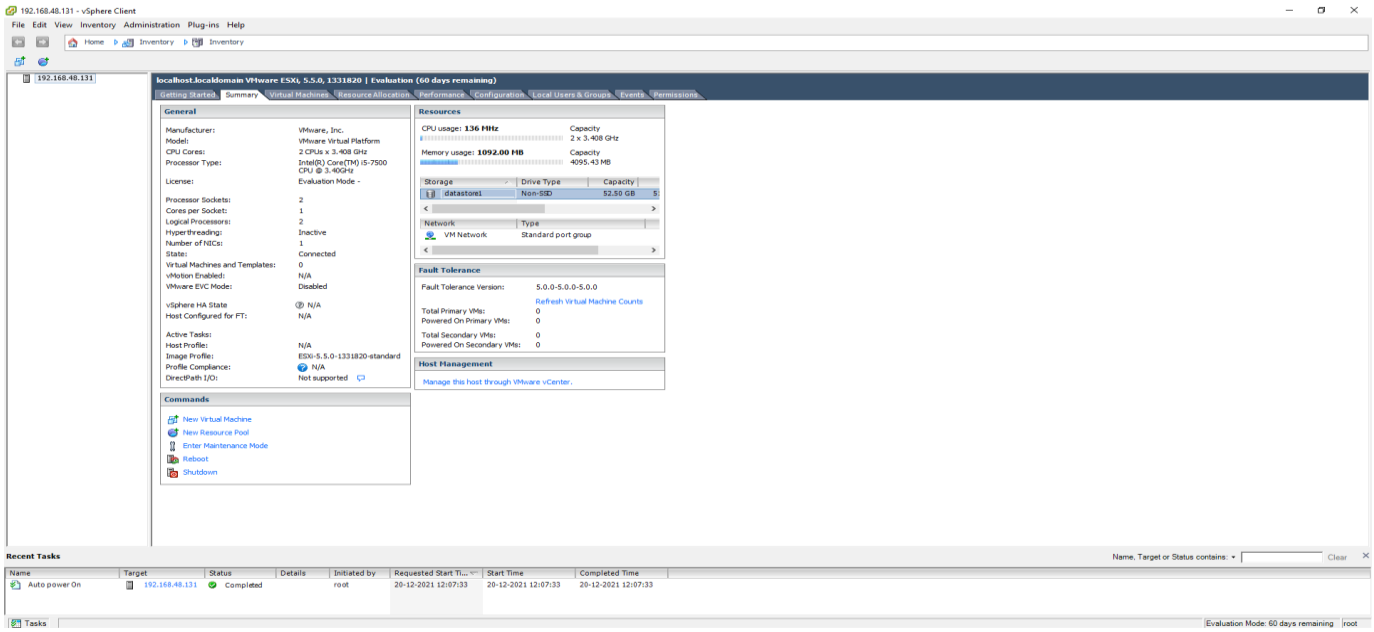

VMware ESXi 5.5.0 (VMKernel Release Build 1331820)
VMware, Inc. VMware Virtual Platform
2 x Intel(R) Core(TM) i5-7500 CPU @ 3.40GHz
4 GiB Memory
Download tools to manage this host from:
http://192.168.48.131/ (DHCP)
http://[fe80::20c:29ff:fe6e:cf6a]/ (STATIC)
<F2> Customize System/View Logs
<F12> Shut Down/Restart

Open VMware vSphere Client. Put the IP address ,User name and Password.

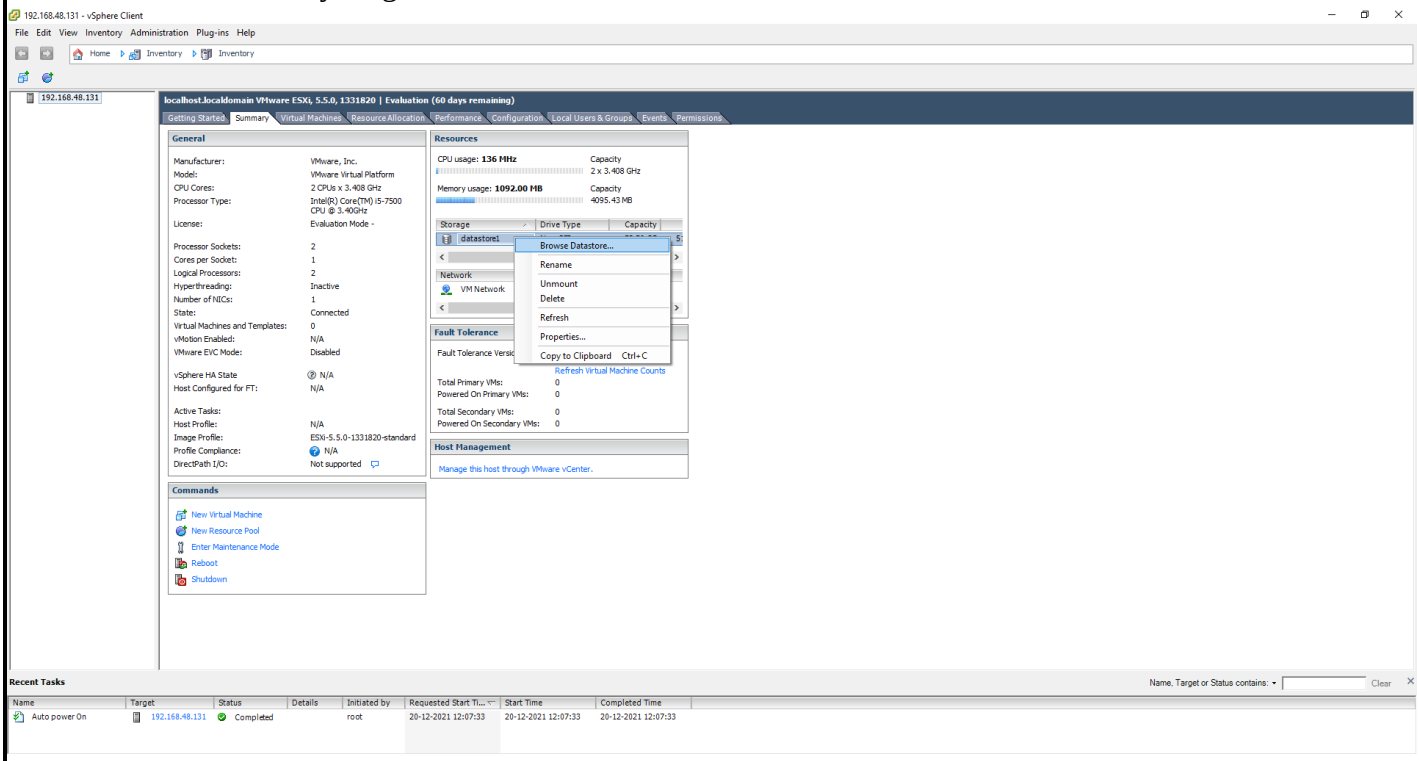


Go to Summary .Right click on datastore1 and Browse Datastore

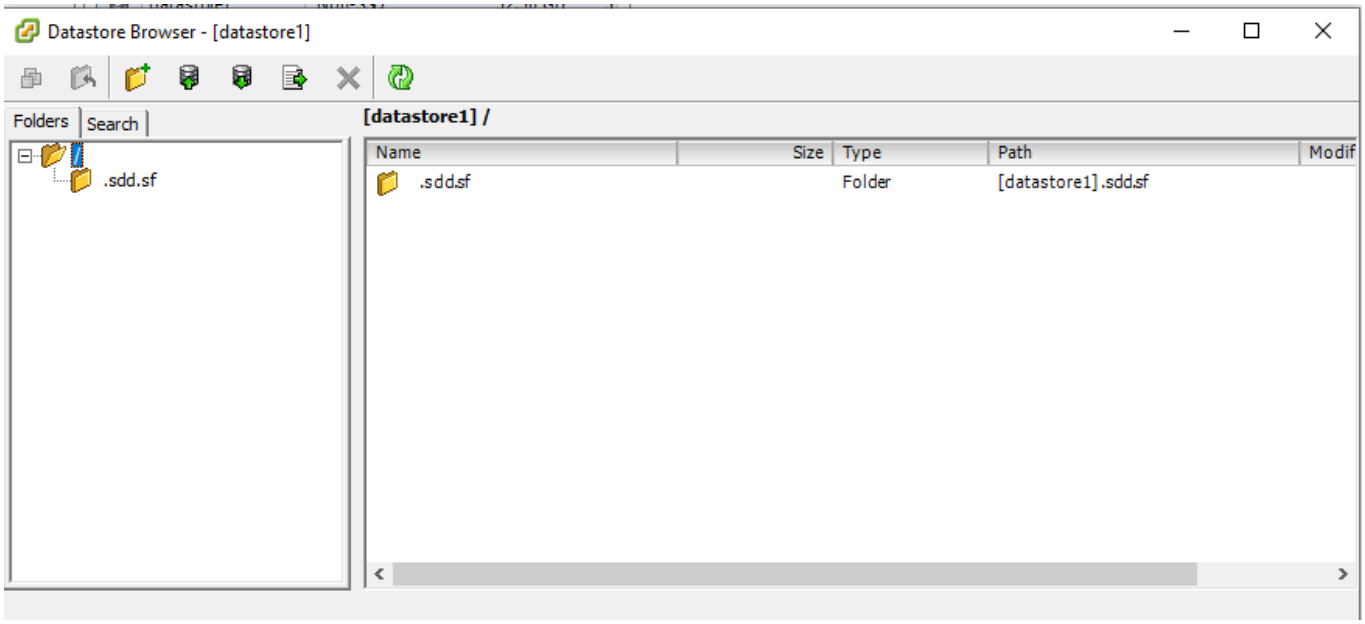


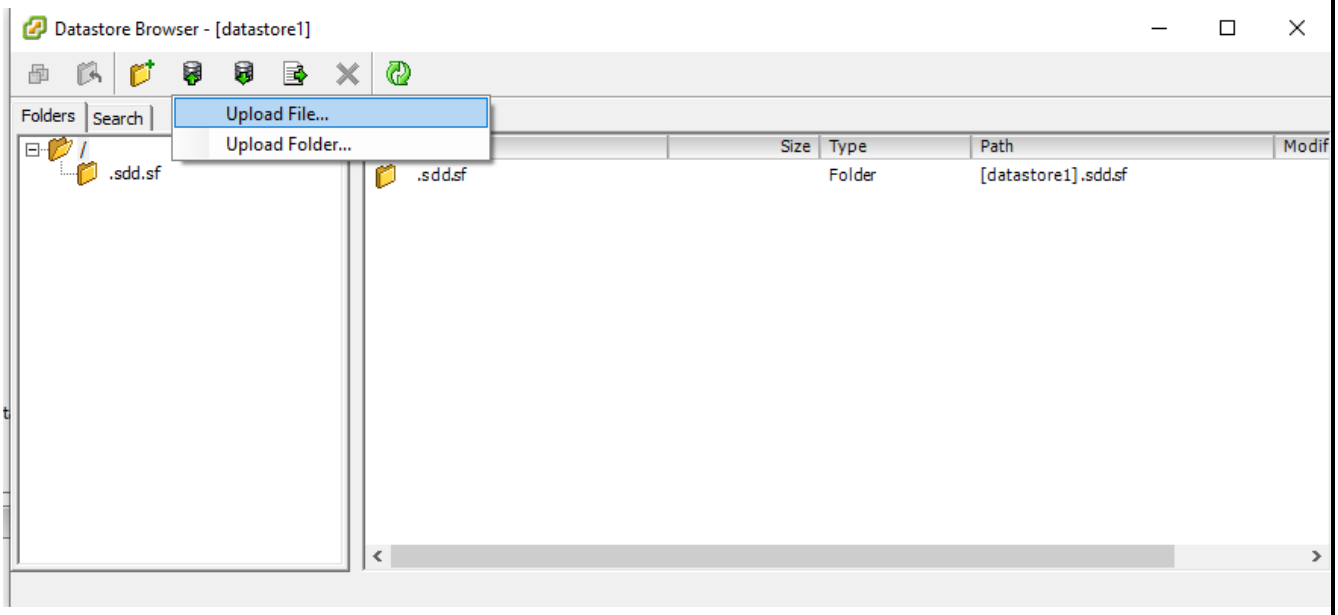


Go to Summary .Right click on datastore1 and Browse Datastore

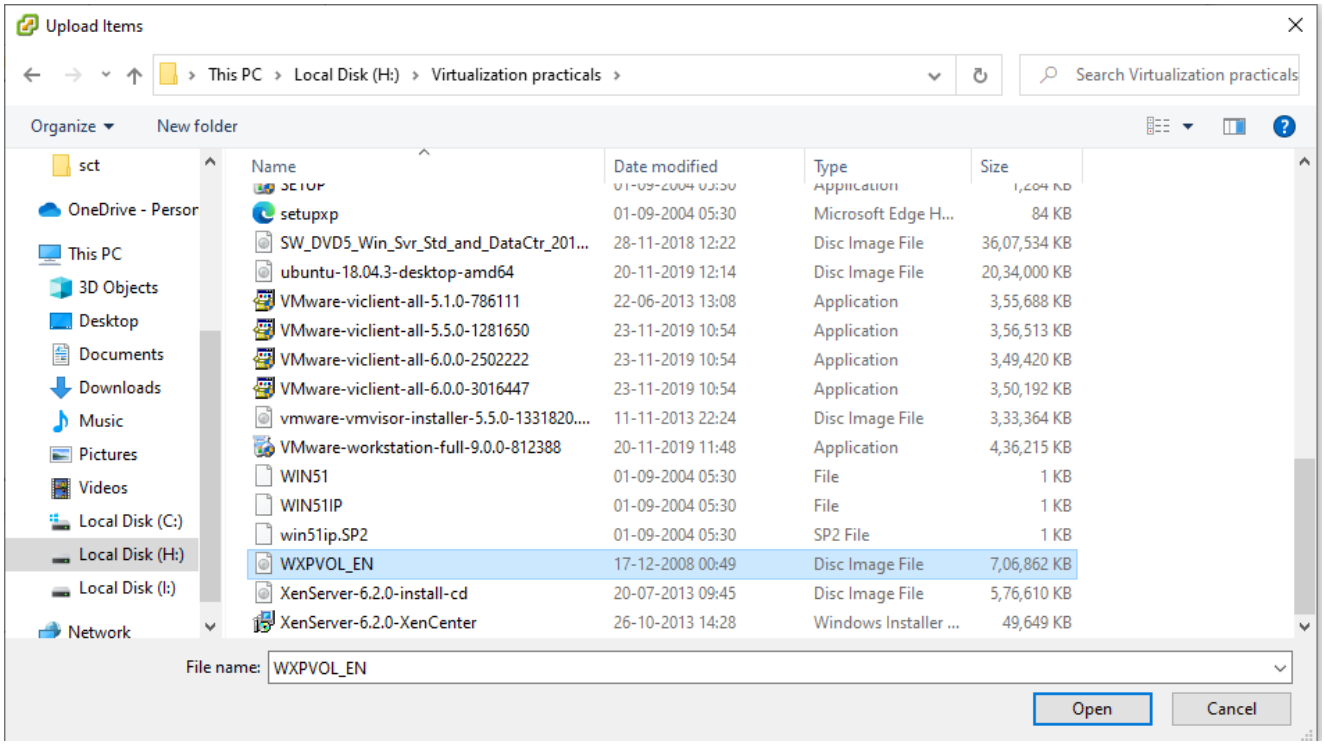


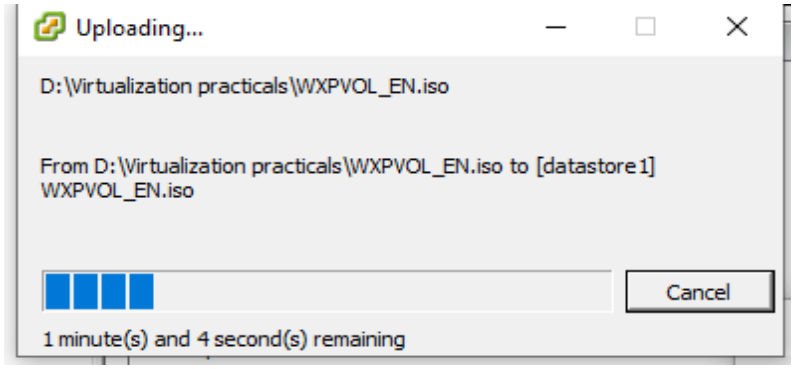
Right click on folder icon and select upload file and click on Open.

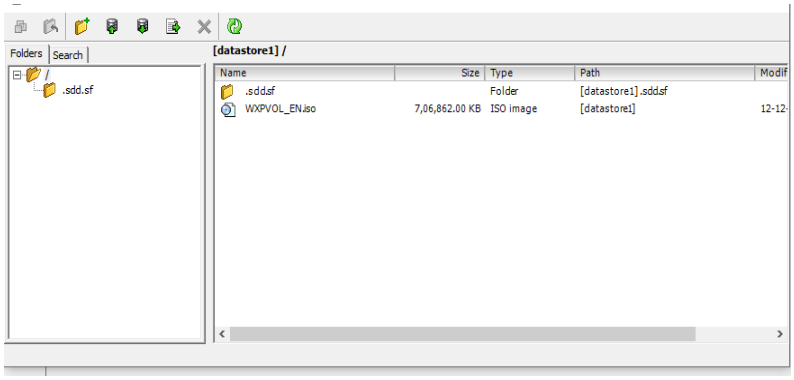




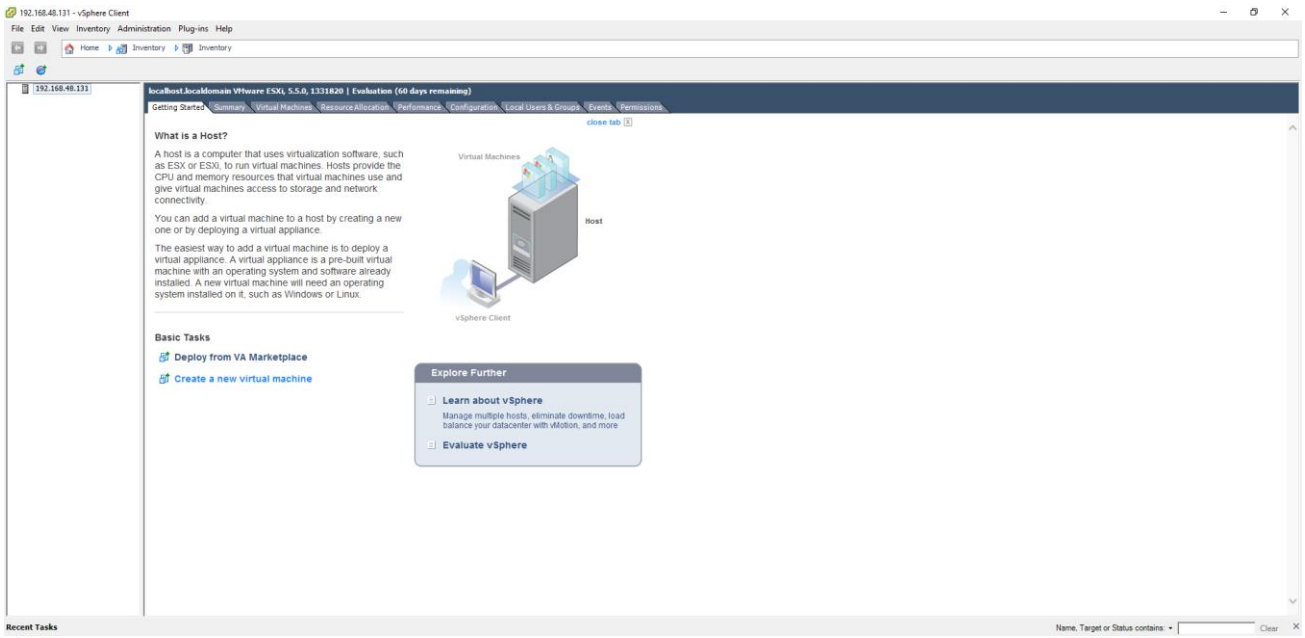
Add iso image of winxp in datastore first.



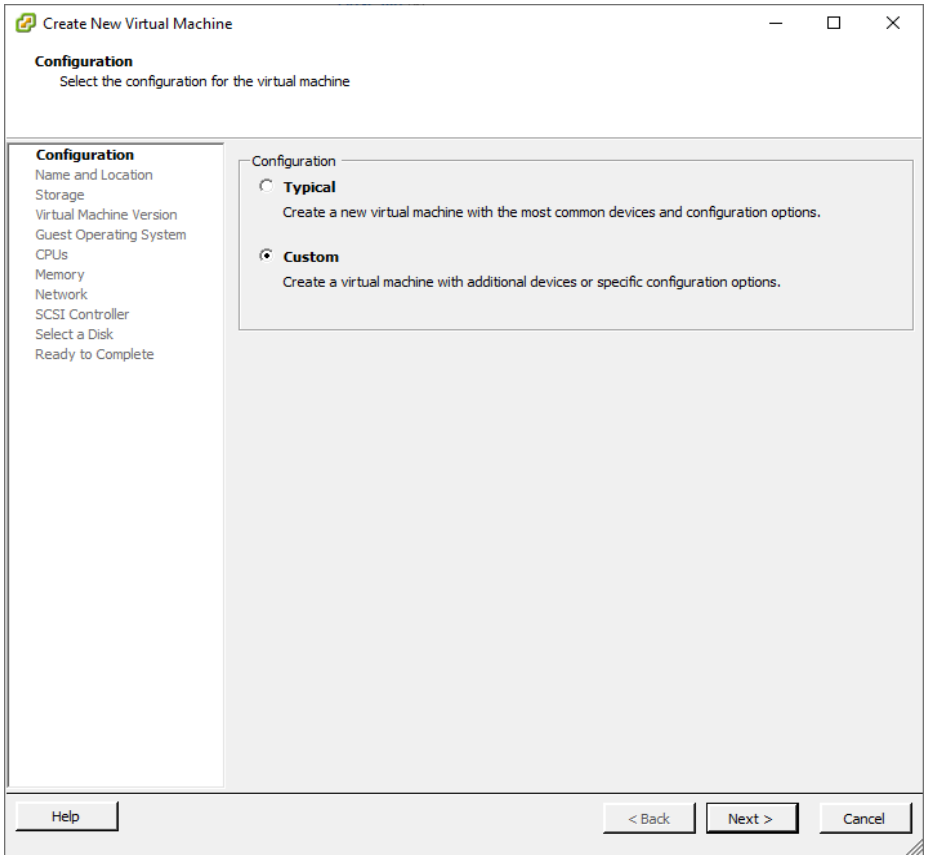




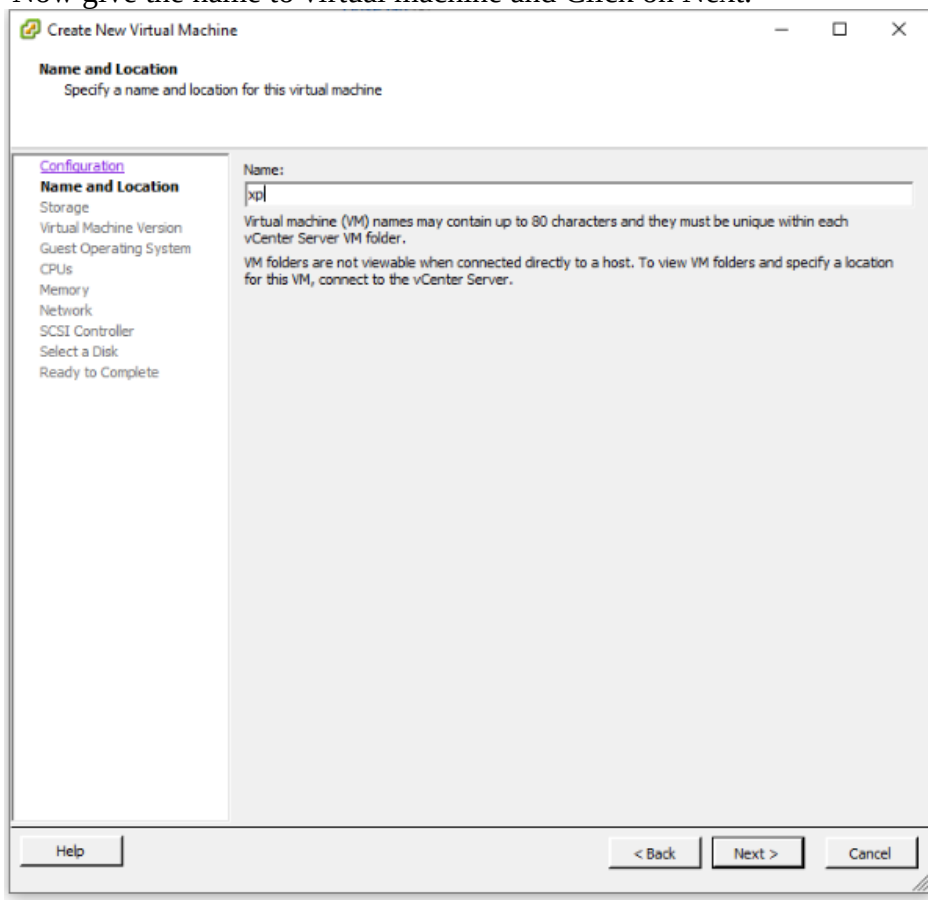
Go to File → New → Virtual Machine.

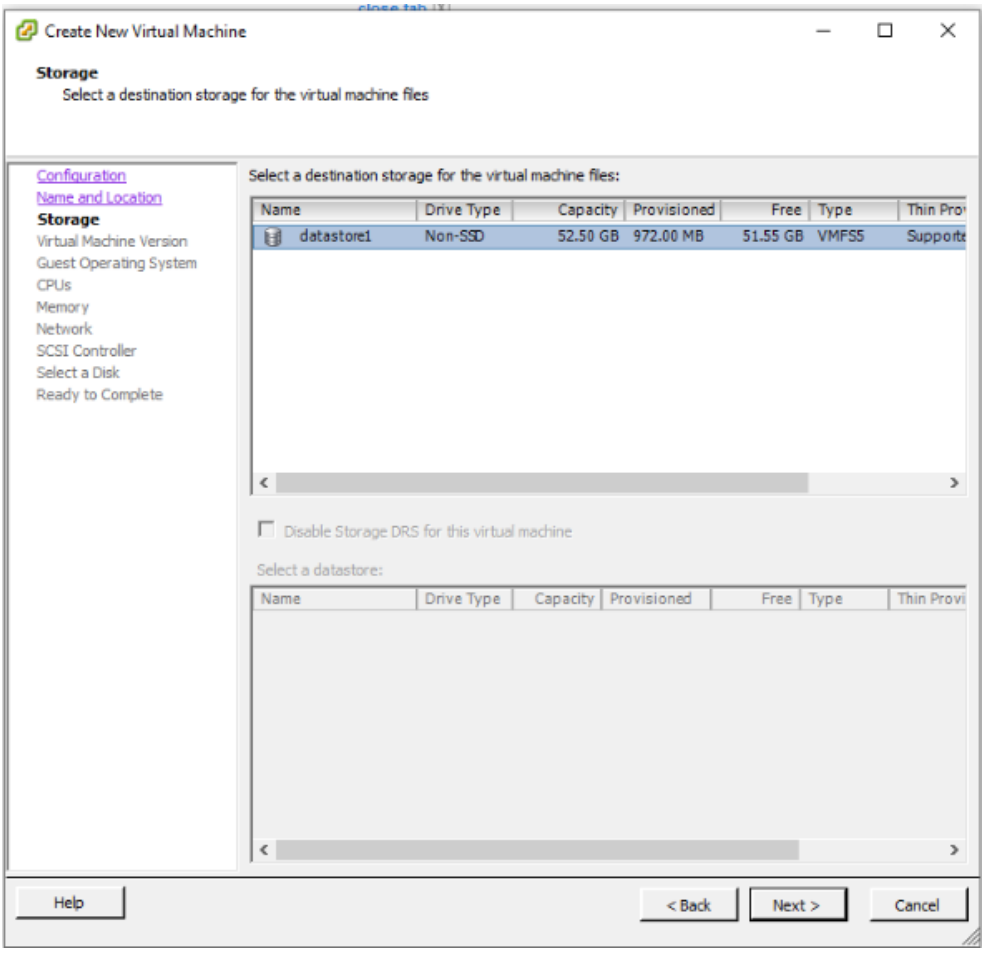


Select Custom and Next.

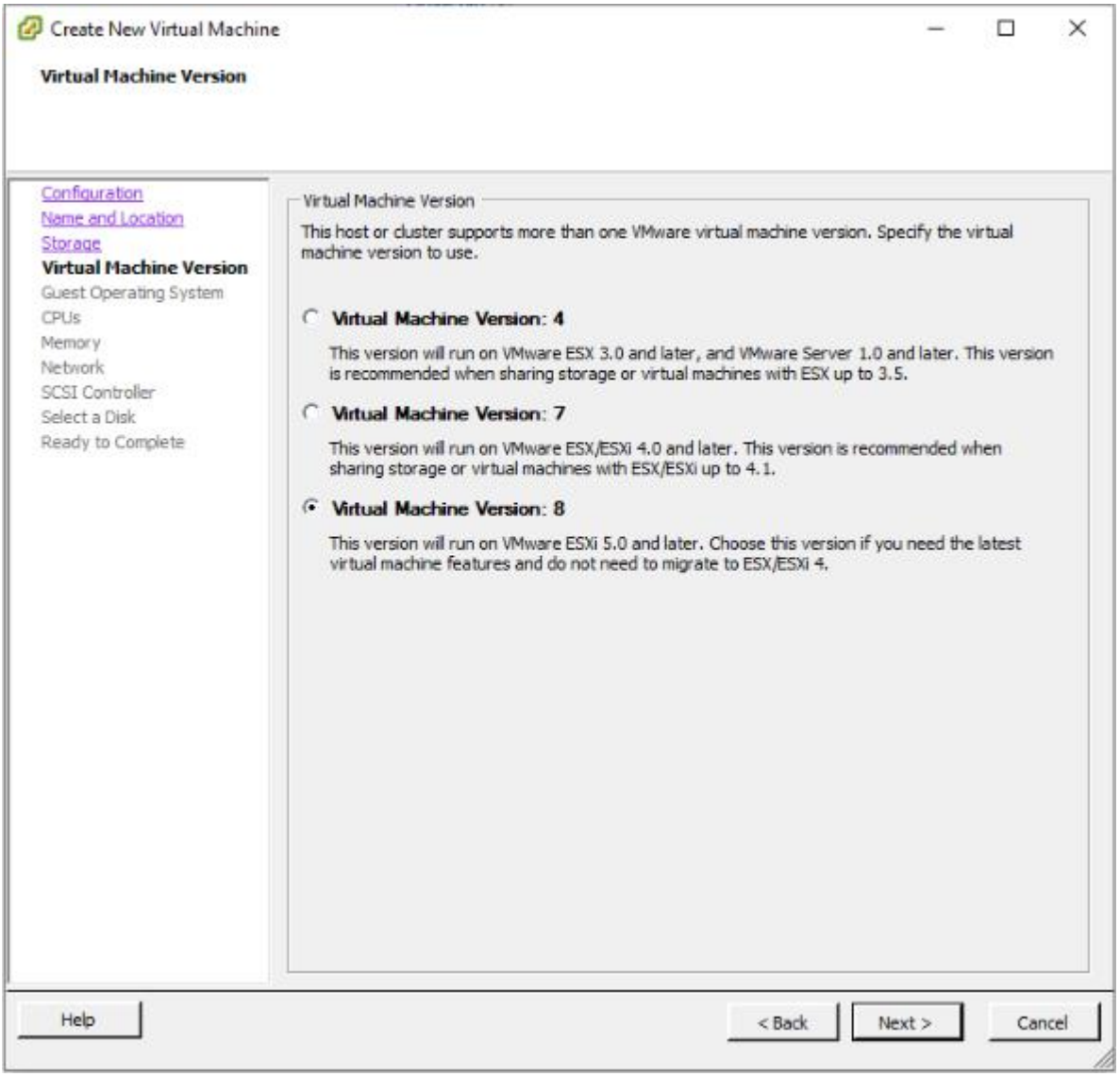


Now give the name to virtual machine and Click on Next.

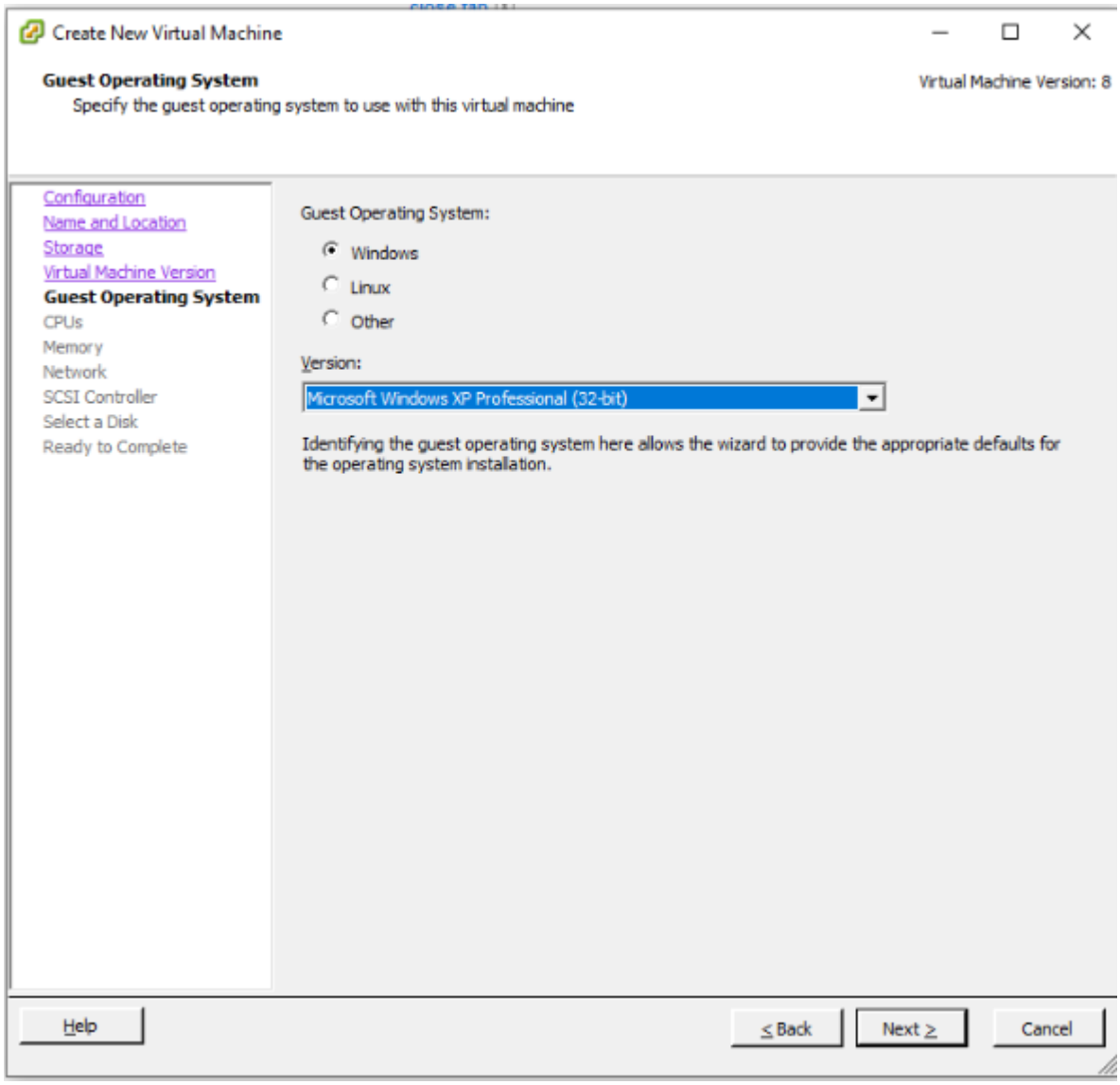


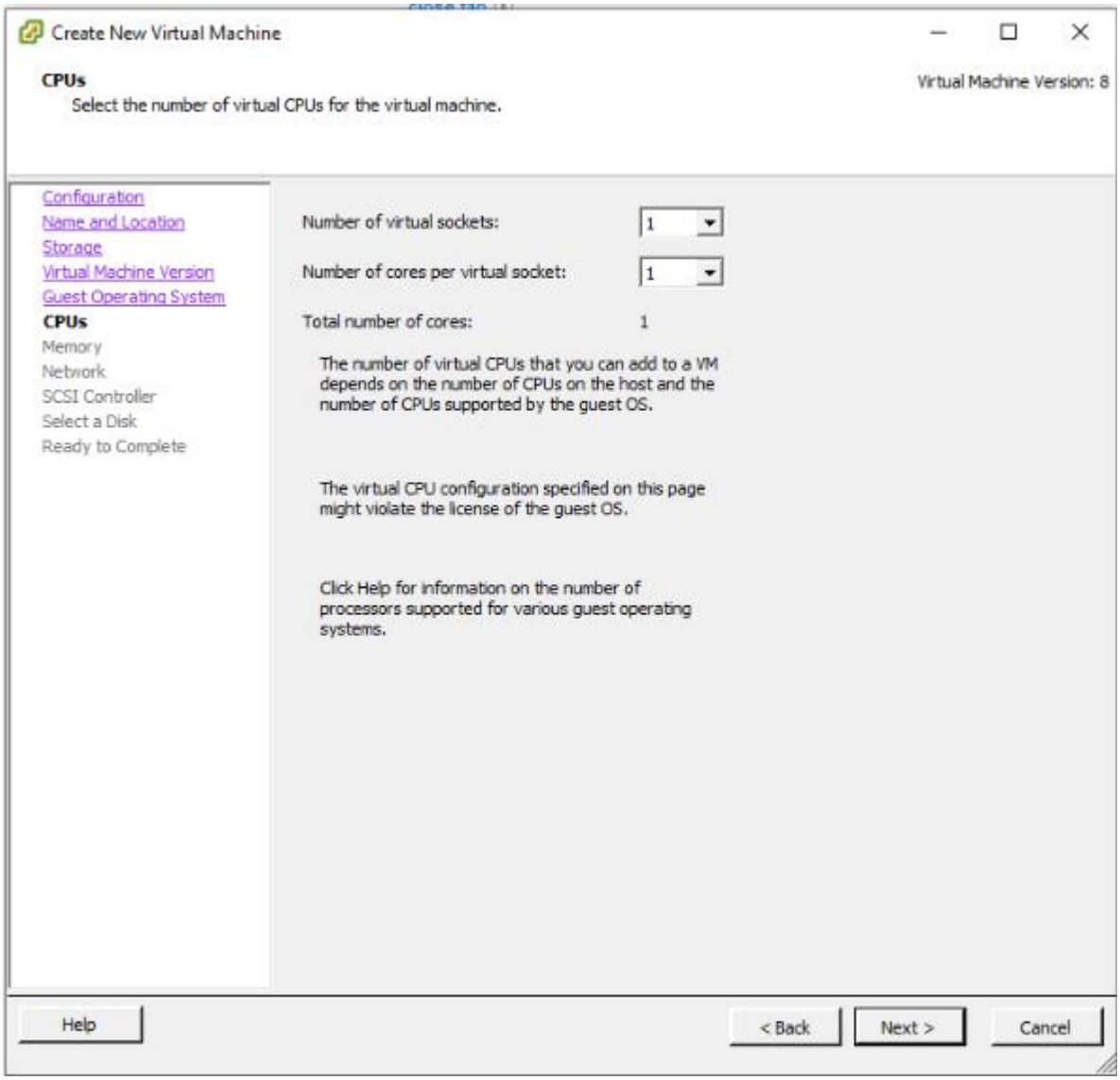

Create New Virtual Machine
Storage
Select a destination storage for the virtual machine files
Configuration
Name and Location
Storage
Virtual Machine Version
Guest Operating System
CPUs
Memory
Network
SCSI Controller
Select a Disk
Ready to Complete
Select a destination storage for the virtual machine files:
Name
Drive Type
Capacity
Provisioned
Free
Type
Thin Pro
datastore1
Non-SSD
52.50 GB
972.00 MB
51.55 GB
VMFS5
Supports
Disable Storage DRS for this virtual machine
Select a datastore:
Name
Drive Type
Capacity
Provisioned
Free
Type
Thin Provi
Help
< Back
Next >
Cancel

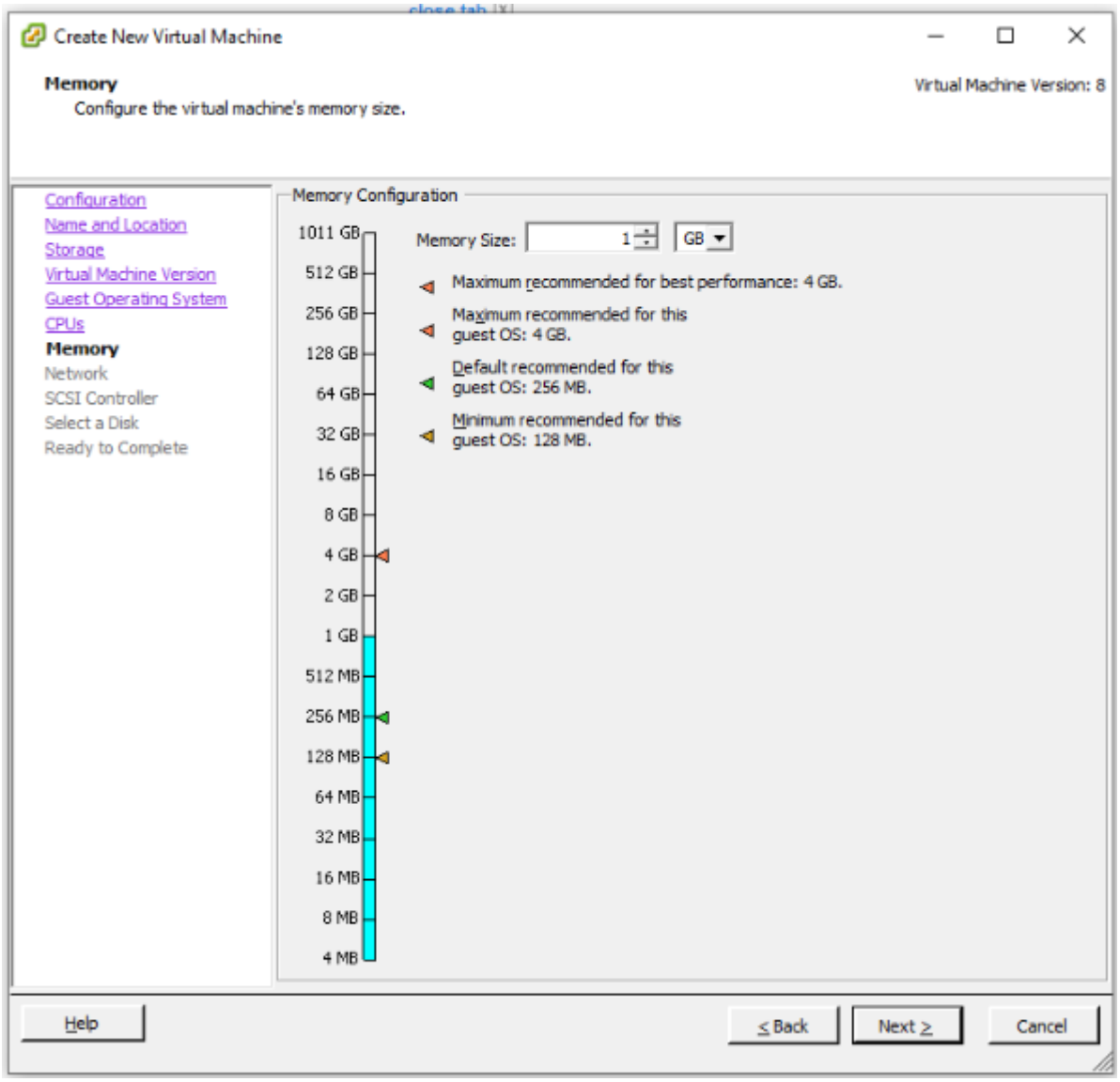
In Virtual Machine Version Select the Version 8 and click Next.

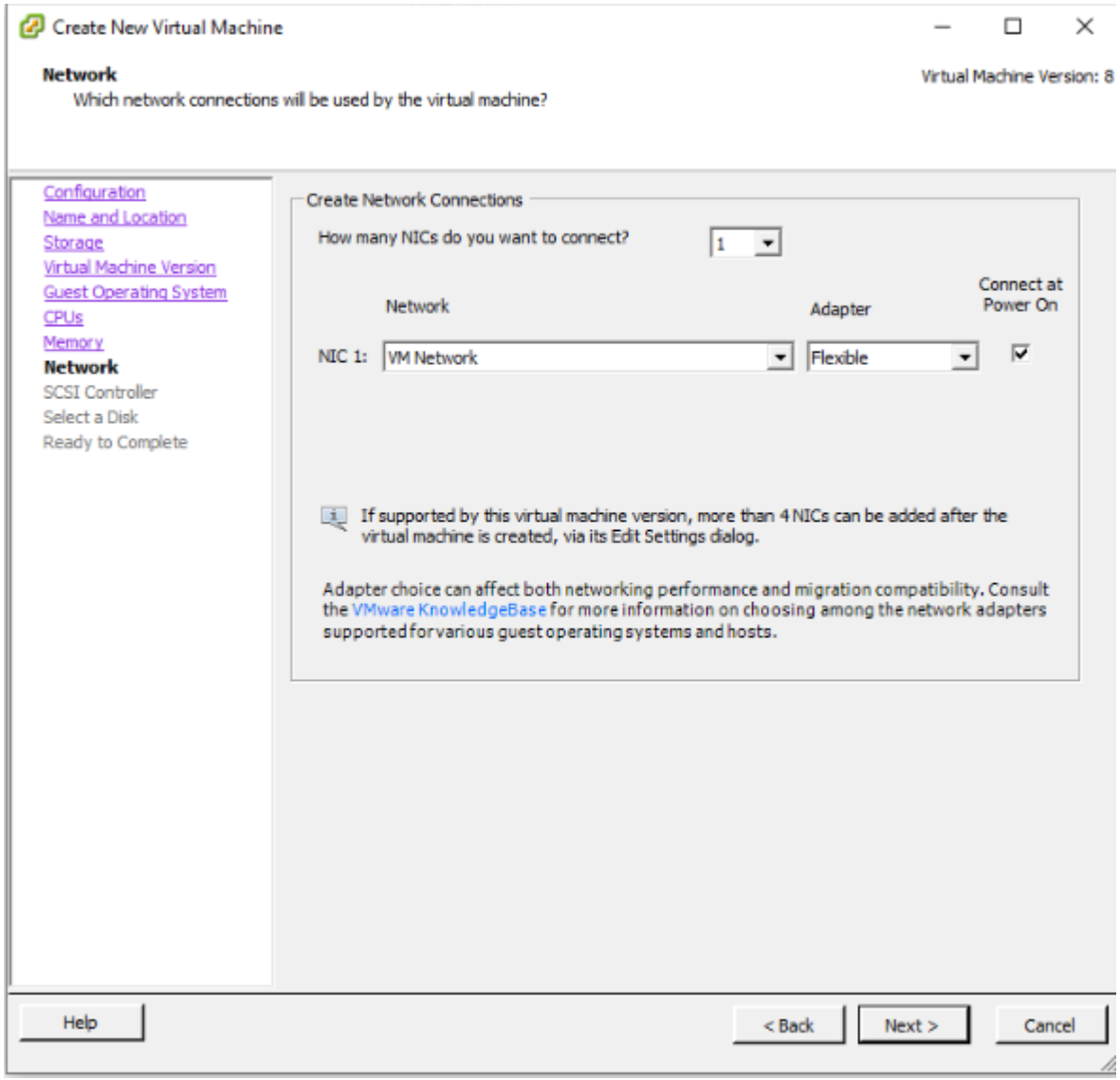


Select Windows in guest OS and MS Windows XP 32 bits for version and Click Next.

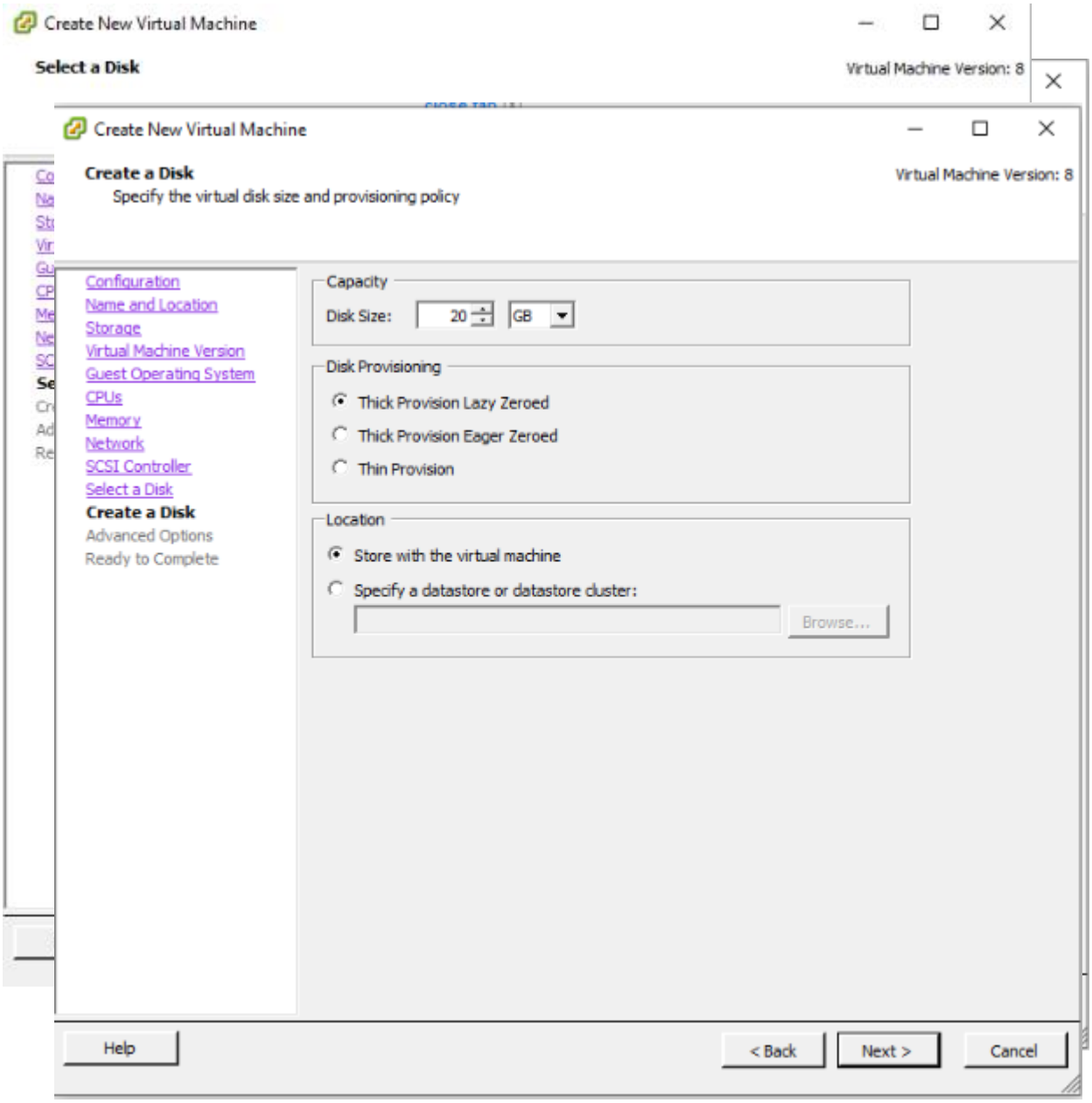



Create New Virtual Machine
CPUs
Select the number of virtual CPUs for the virtual machine.
Virtual Machine Version: 8
Configuration
Name and Location
Storage
Virtual Machine Version
Guest Operating System
CPUs
Memory
Network
SCSI Controller
Select a Disk
Ready to Complete
Number of virtual sockets:
1
Number of cores per virtual socket:
1
Total number of cores:
1
The number of virtual CPUs that you can add to a VM depends on the number of CPUs on the host and the number of CPUs supported by the guest OS.
The virtual CPU configuration specified on this page might violate the license of the guest OS.
Click Help for information on the number of processors supported for various guest operating systems.
Help
< Back
Next >
Cancel

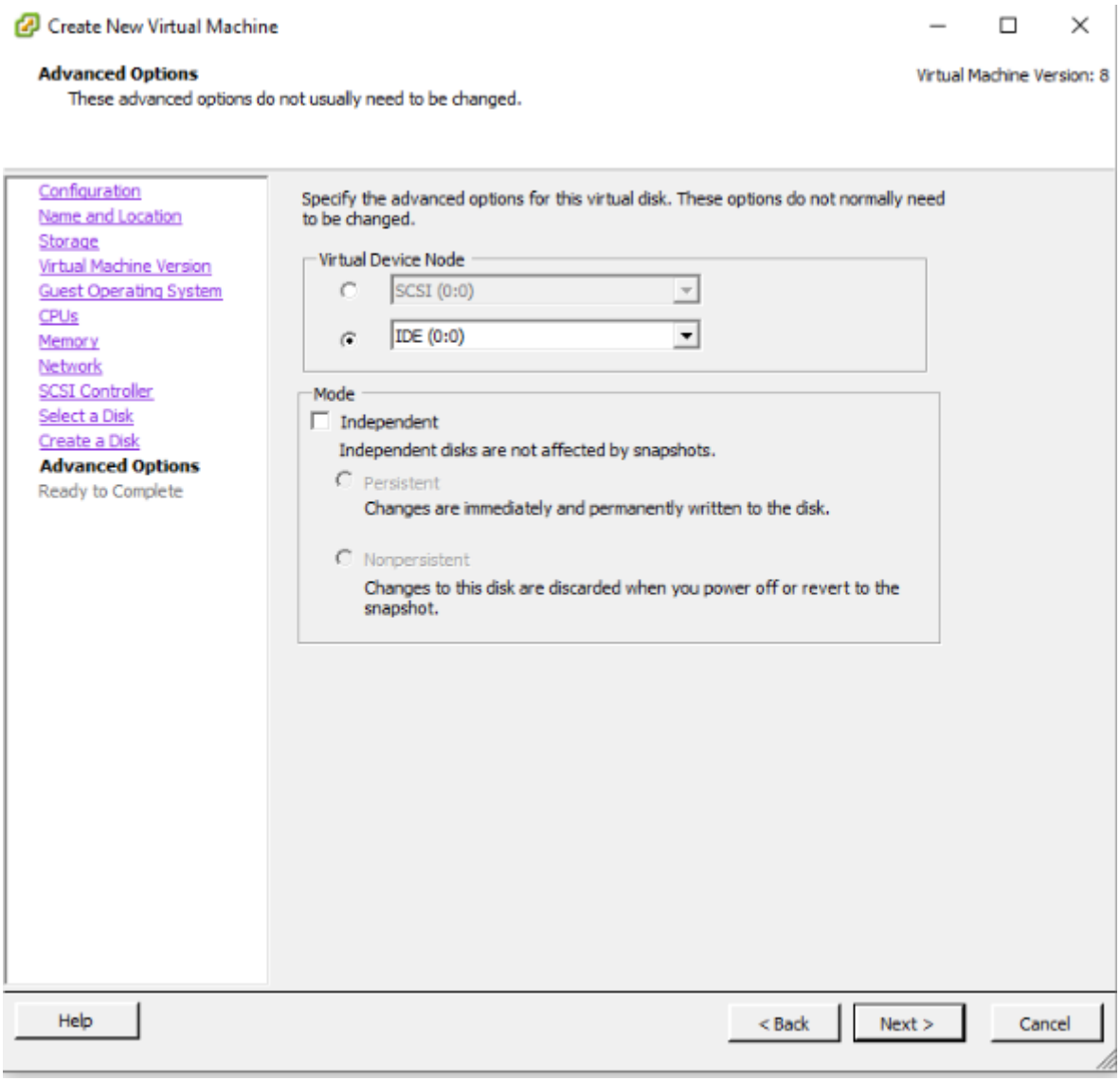

Create New Virtual Machine
Memory
Configure the virtual machine's memory size.
Virtual Machine Version: 8
Configuration
Name and Location
Storage
Virtual Machine Version
Guest Operating System
CPUs
Memory
Network
SCSI Controller
Select a Disk
Ready to Complete
Memory Configuration
1011 GB
512 GB
256 GB
128 GB
64 GB
32 GB
16 GB
8 GB
4 GB
2 GB
1 GB
512 MB
256 MB
128 MB
64 MB
32 MB
16 MB
8 MB
4 MB
Memory Size:
1
GB
Maximum recommended for best performance: 4 GB.
Maximum recommended for this guest OS: 4 GB.
Default recommended for this guest OS: 256 MB.
Minimum recommended for this guest OS: 128 MB.
Help
< Back
Next >
Cancel


Create New Virtual Machine
Network
Which network connections will be used by the virtual machine?
Virtual Machine Version: 8
Configuration
Name and Location
Storage
Virtual Machine Version
Guest Operating System
CPUs
Memory
Network
SCSI Controller
Select a Disk
Ready to Complete
Create Network Connections
How many NICs do you want to connect?
1
Network
Adapter
Connect at Power On
NIC 1:
VM Network
Flexible
If supported by this virtual machine version, more than 4 NICs can be added after the virtual machine is created, via its Edit Settings dialog.
Adapter choice can affect both networking performance and migration compatibility. Consult the VMware KnowledgeBase for more information on choosing among the network adapters supported for various guest operating systems and hosts.
Help
< Back
Next >
Cancel

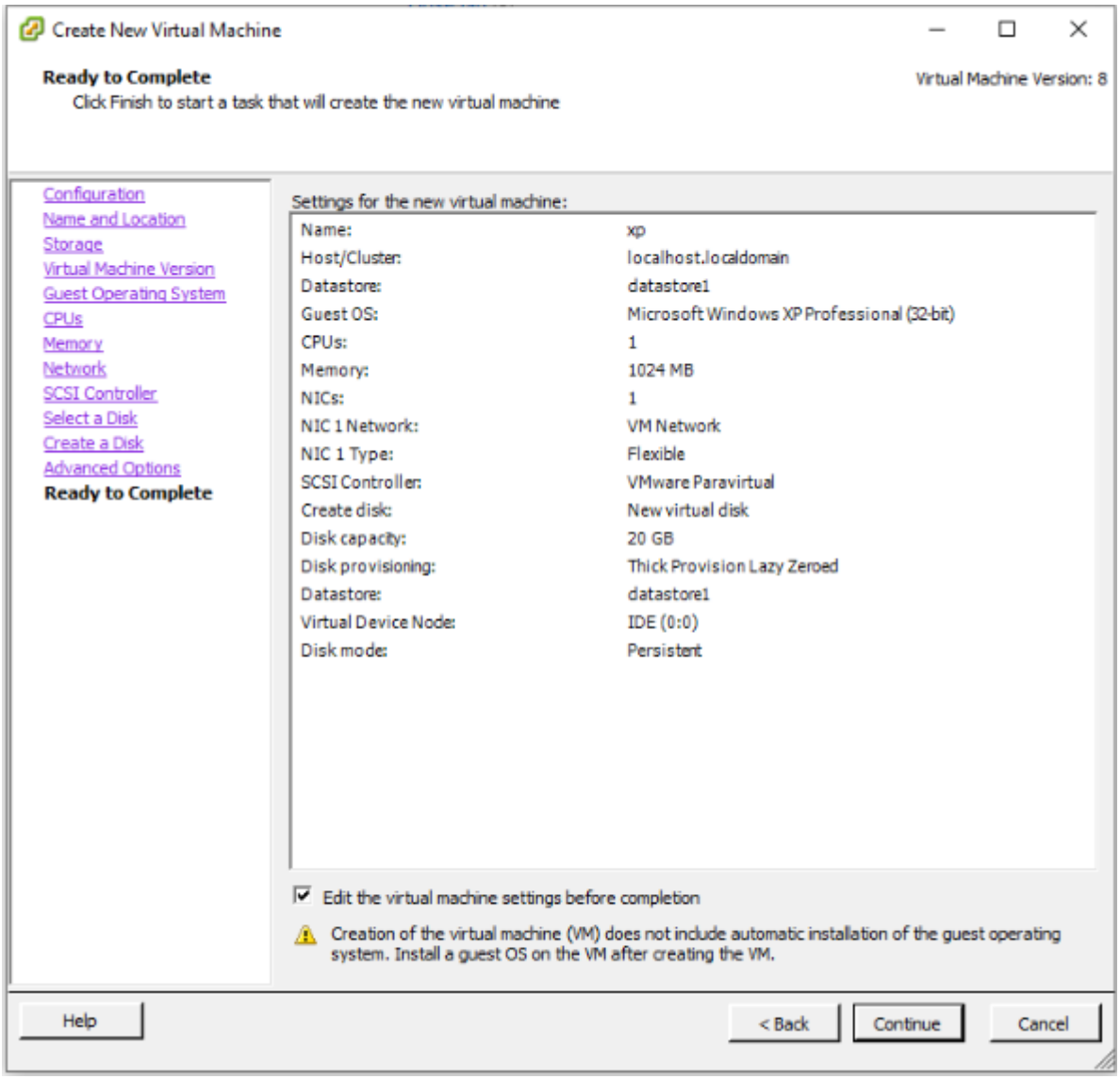
Select VMware Paravirtual & Next.



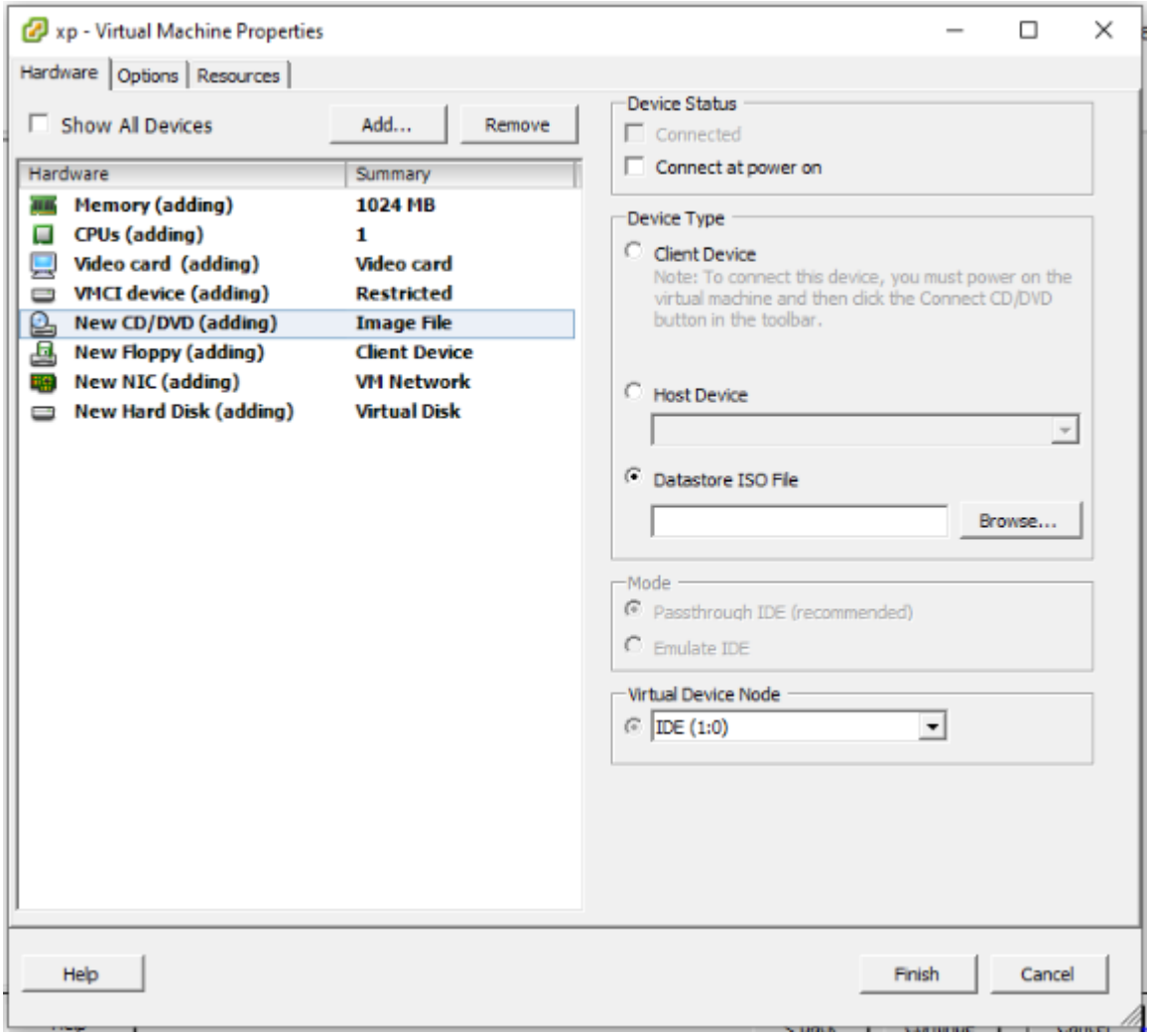
Select IDE(0:0) And next.

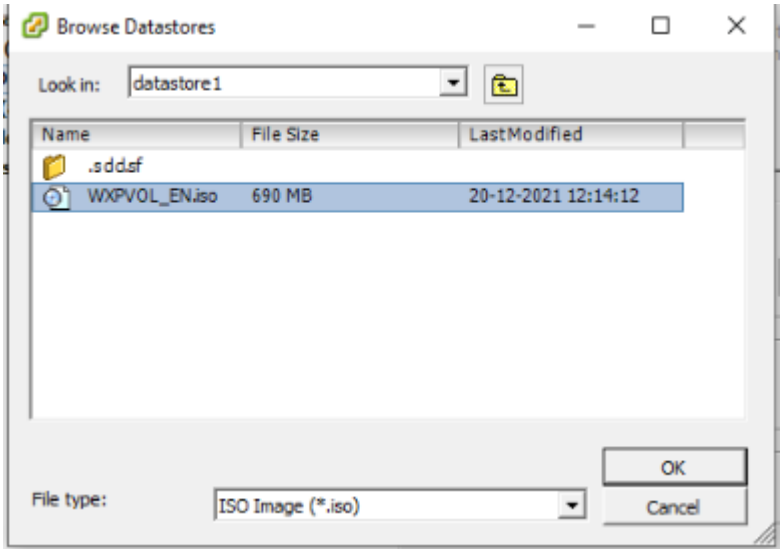


Check Edit the Virtual machine settings before completion.



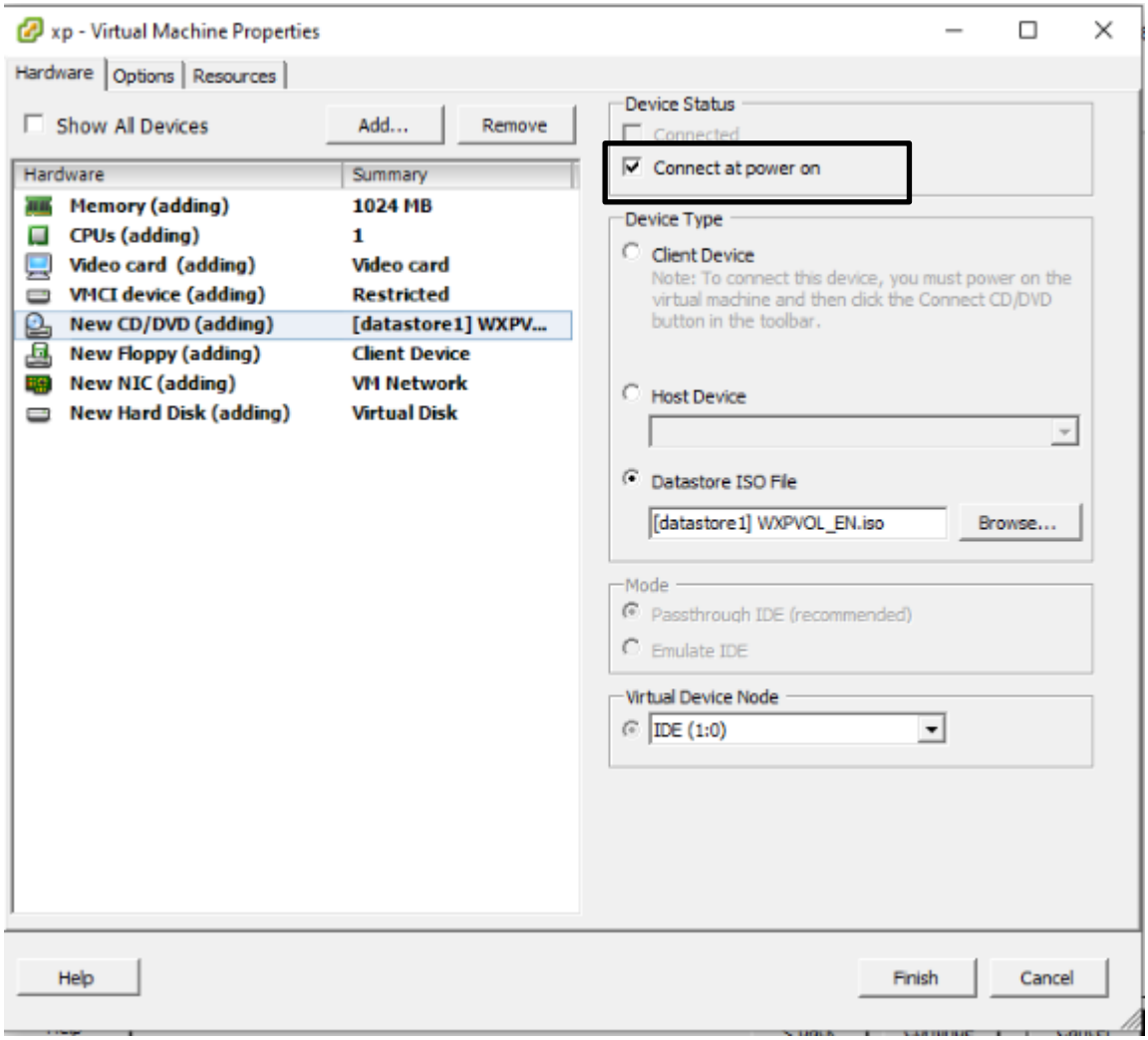
Edit Virtual machine settings click on New CD/DVD drive and click on Datastore ISO File And brower the iso file.

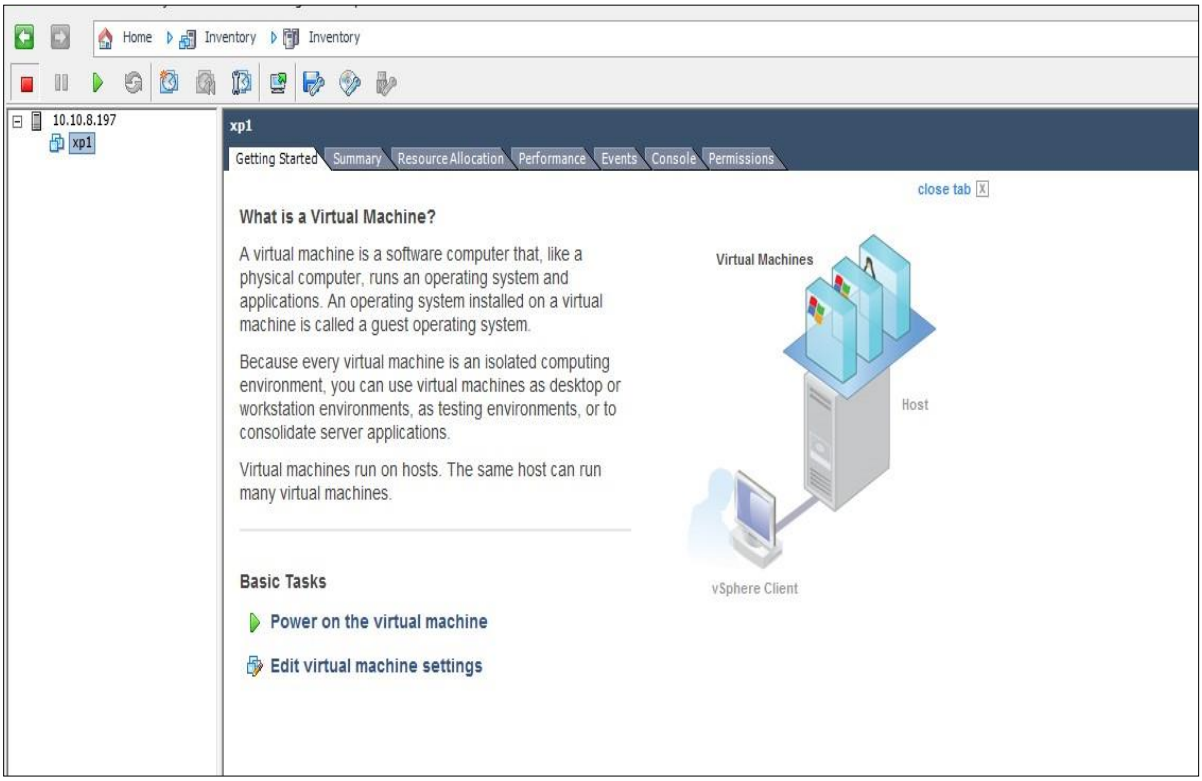




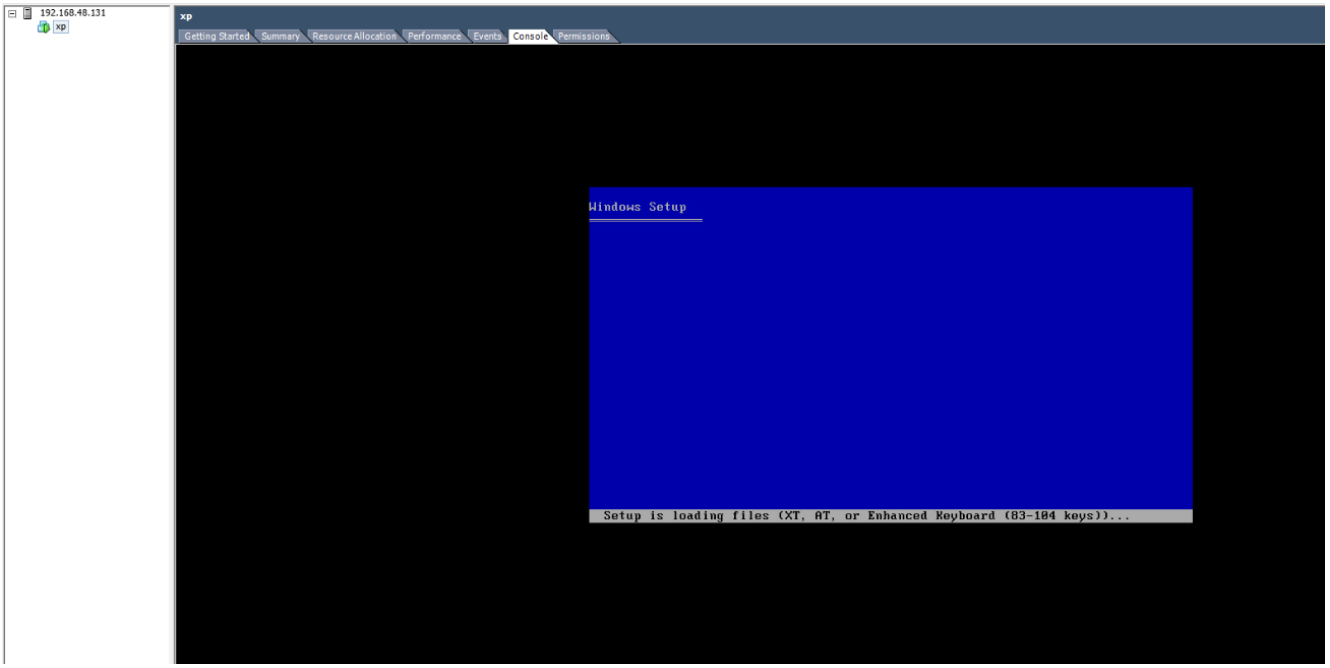
b Click on Connect at Power on at Devices Status .

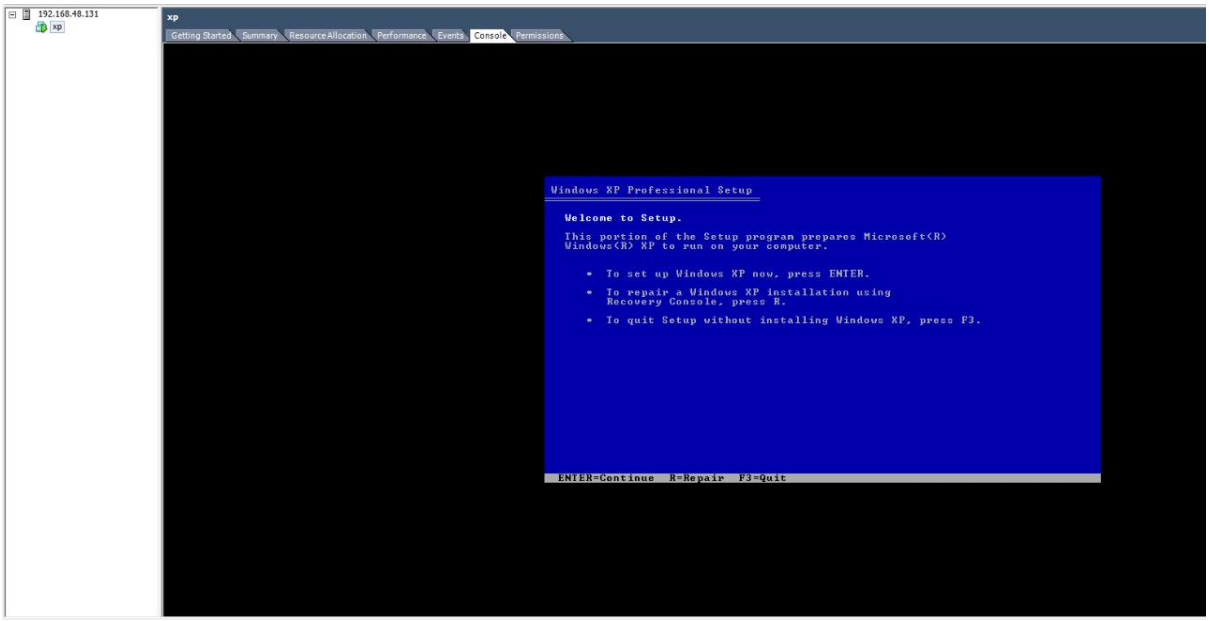
Click on Connect at Power on at Devices Status and Finish.

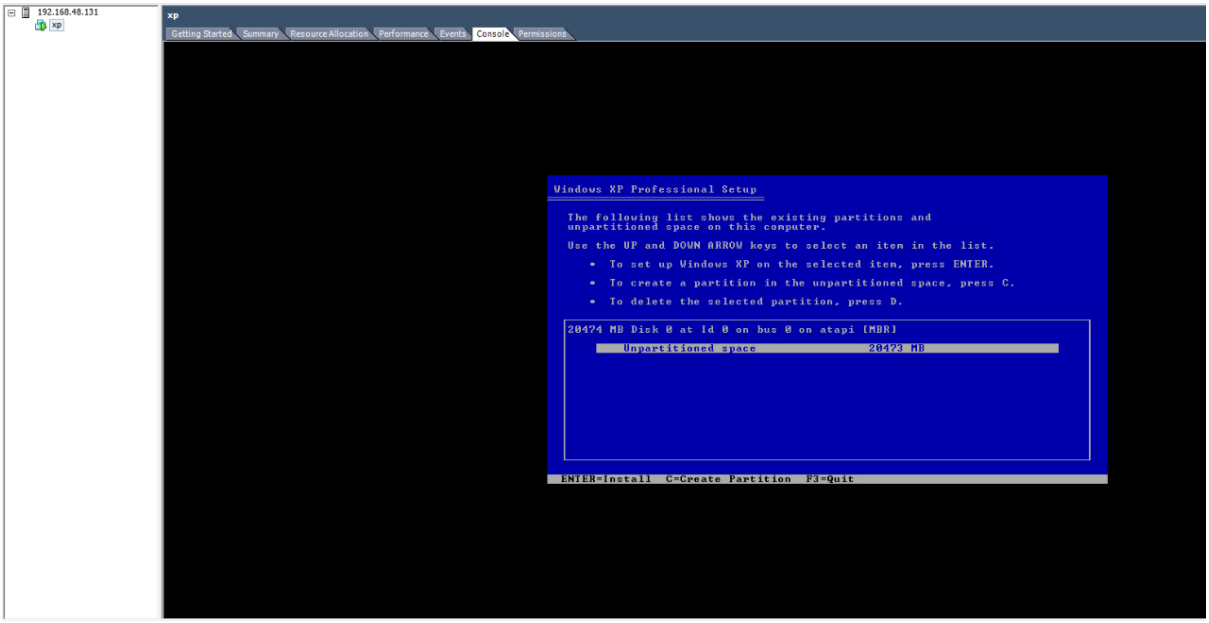


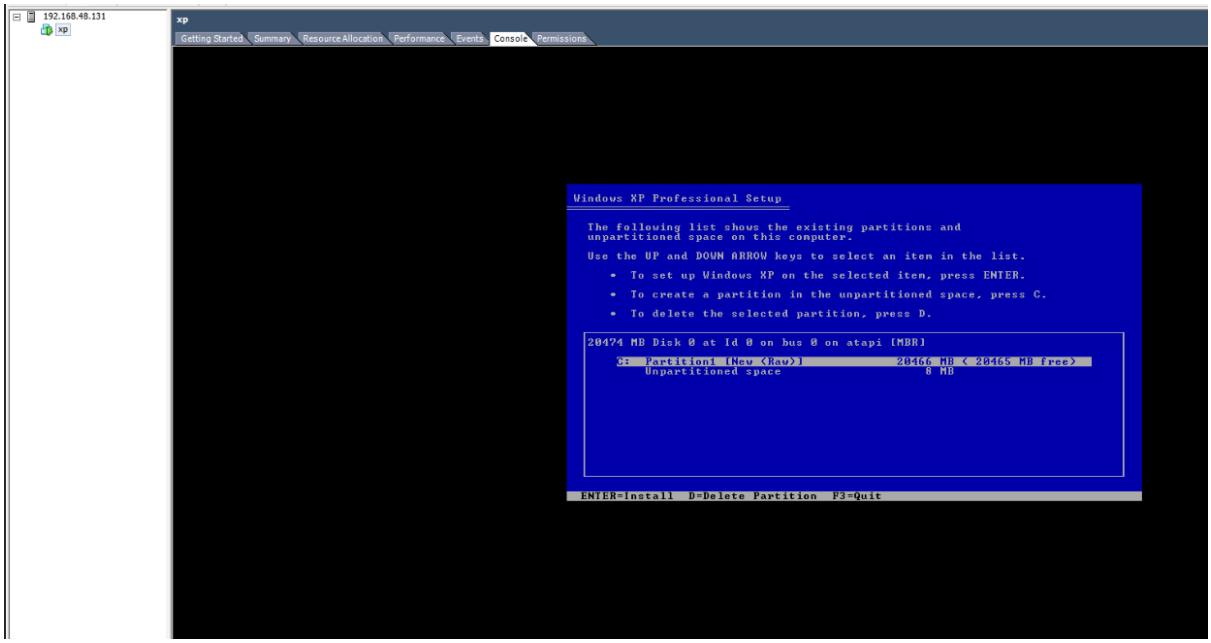


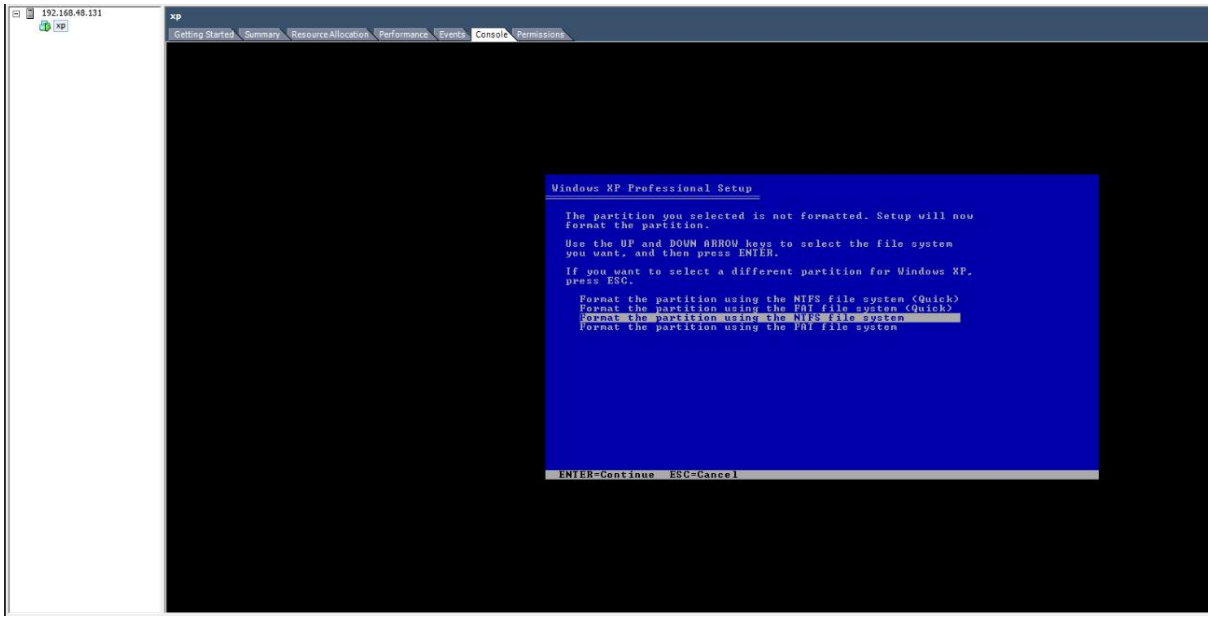
Go to Console and Power on Virtual Machine

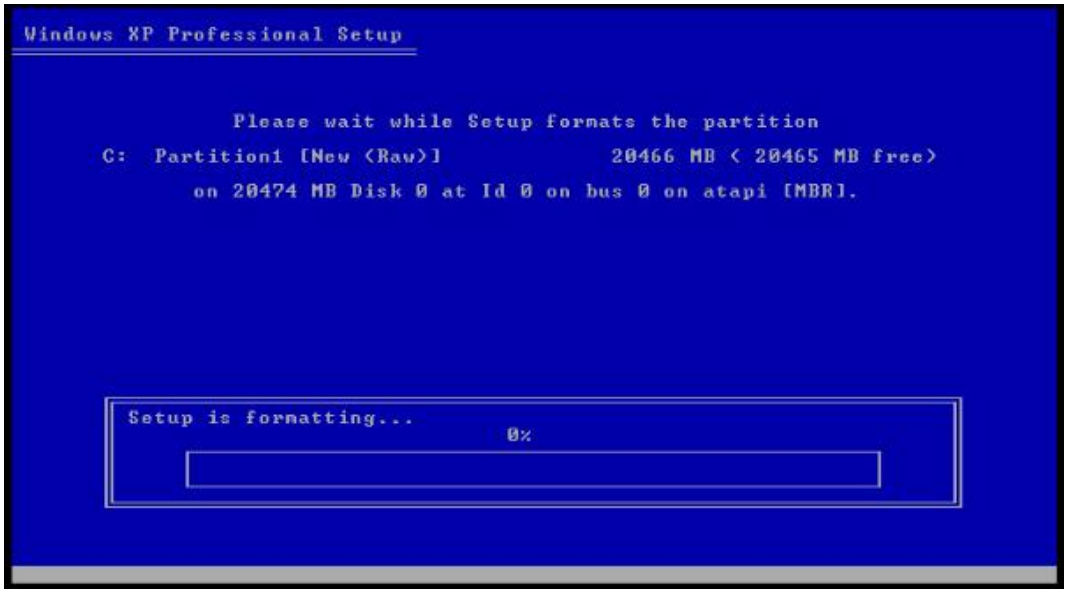


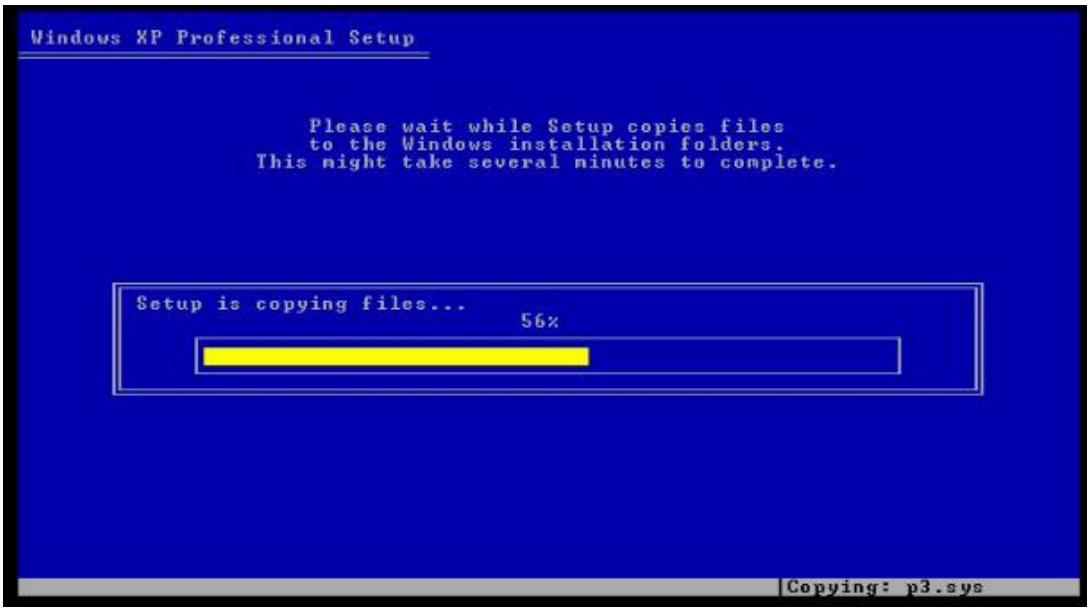

192.168.48.131
xp
xp
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
Windows XP Professional Setup
Welcome to Setup.
This portion of the Setup program prepares Microsoft(R)
Windows(R) XP to run on your computer.
• To set up Windows XP now, press ENTER.
• To repair a Windows XP installation using
Recovery Console, press R.
• To quit Setup without installing Windows XP, press F3.
ENTER=Continue R=Repair F3=Quit

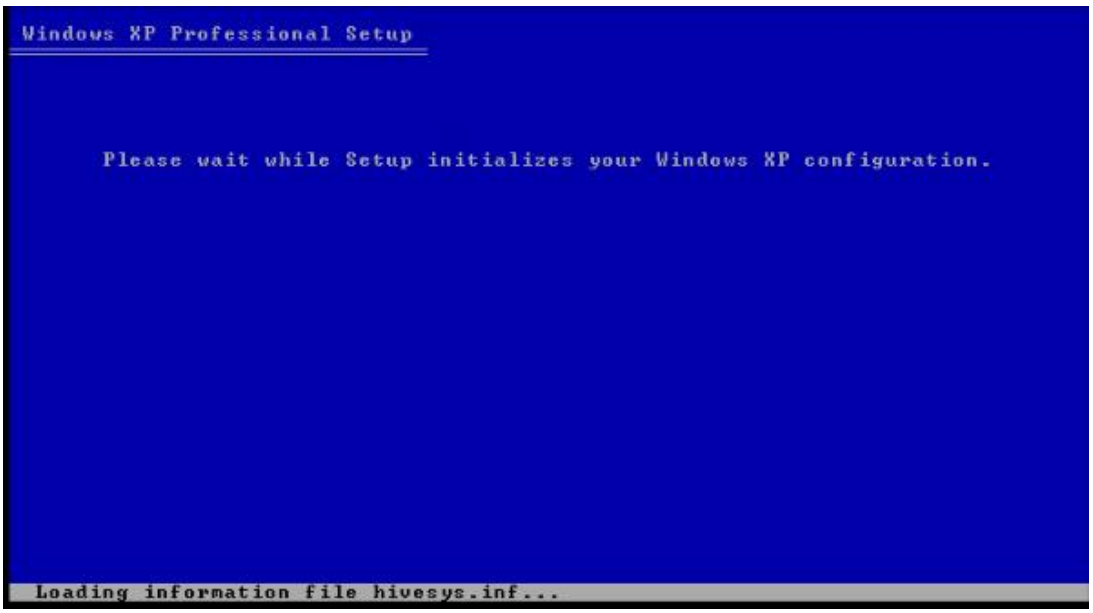

192.168.48.131
xp
xp
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
Windows XP Professional Setup
The following list shows the existing partitions and
unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows XP on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
20474 MB Disk 0 at Id 0 on bus 0 on atapi [MBR]
Unpartitioned space 20473 MB
ENTER=Install C=Create Partition F3=Quit

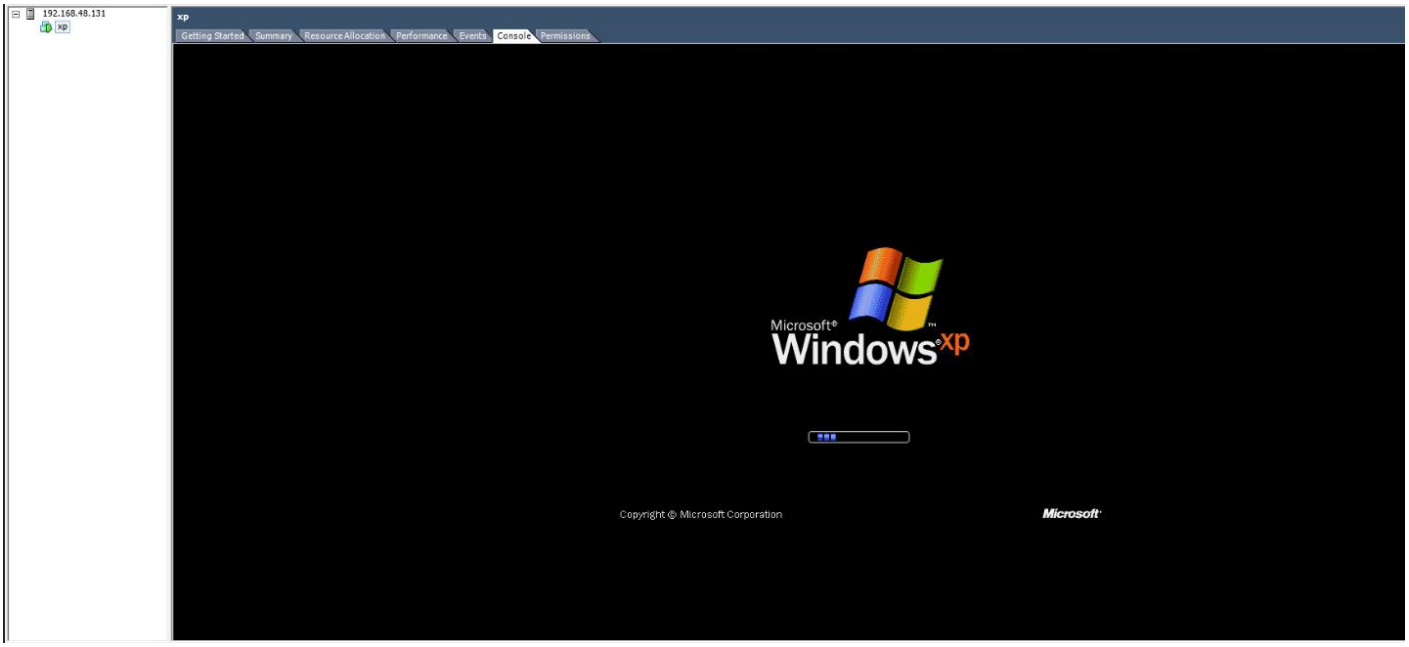

192.168.48.131
xp
xp
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
Windows XP Professional Setup
The following list shows the existing partitions and
unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows XP on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
20474 MB Disk 0 at Id 0 on bus 0 on atapi [MBR]
C: Partition1 [New (Raw)] 20466 MB (20465 MB free)
Unpartitioned space 8 MB
ENTER=Install D=Delete Partition F3=Quit


192.168.48.131
xp
xp
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
Windows XP Professional Setup
The partition you selected is not formatted. Setup will now
format the partition.
Use the UP and DOWN ARROW keys to select the file system
you want, and then press ENTER.
If you want to select a different partition for Windows XP,
press ESC.
Format the partition using the NTFS file system (Quick)
Format the partition using the FAT file system (Quick)
Format the partition using the NTFS file system
Format the partition using the FAT file system
ENTER=Continue ESC=Cancel


Windows XP Professional Setup
Please wait while Setup formats the partition
C: Partition1 [New (Raw)] 20466 MB (20465 MB free)
on 20474 MB Disk 0 at Id 0 on bus 0 on atapi [MBR].
Setup is formatting...
0%


Windows XP Professional Setup
Please wait while Setup copies files
to the Windows installation folders.
This might take several minutes to complete.
Setup is copying files...
56%
Copying: p3.sys

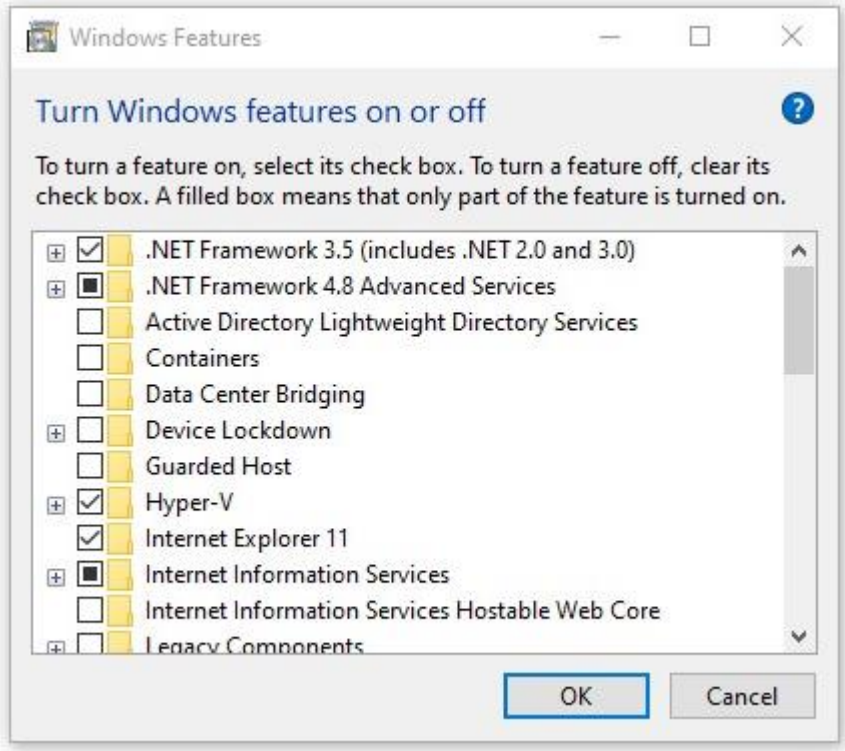

Windows XP Professional Setup
Please wait while Setup initializes your Windows XP configuration.
Loading information file hivesys.inf...


192.168.48.131
xp
xp
Getting Started
Summary
Resource Allocation
Performance
Events
Console
Permissions
Microsoft®
Windows xp
Copyright © Microsoft Corporation
Microsoft

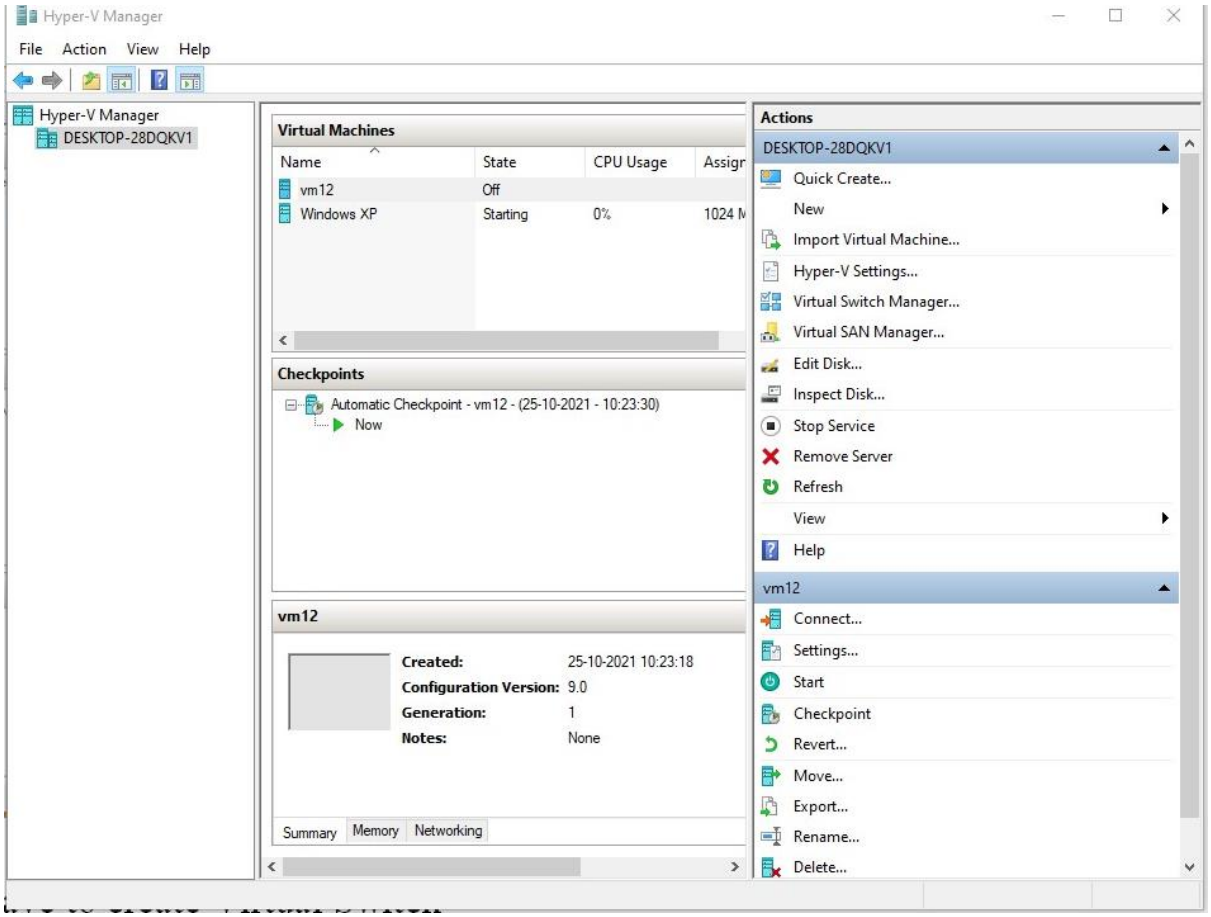
Practical No 8

Aim: Implement Windows Hyper V virtualization

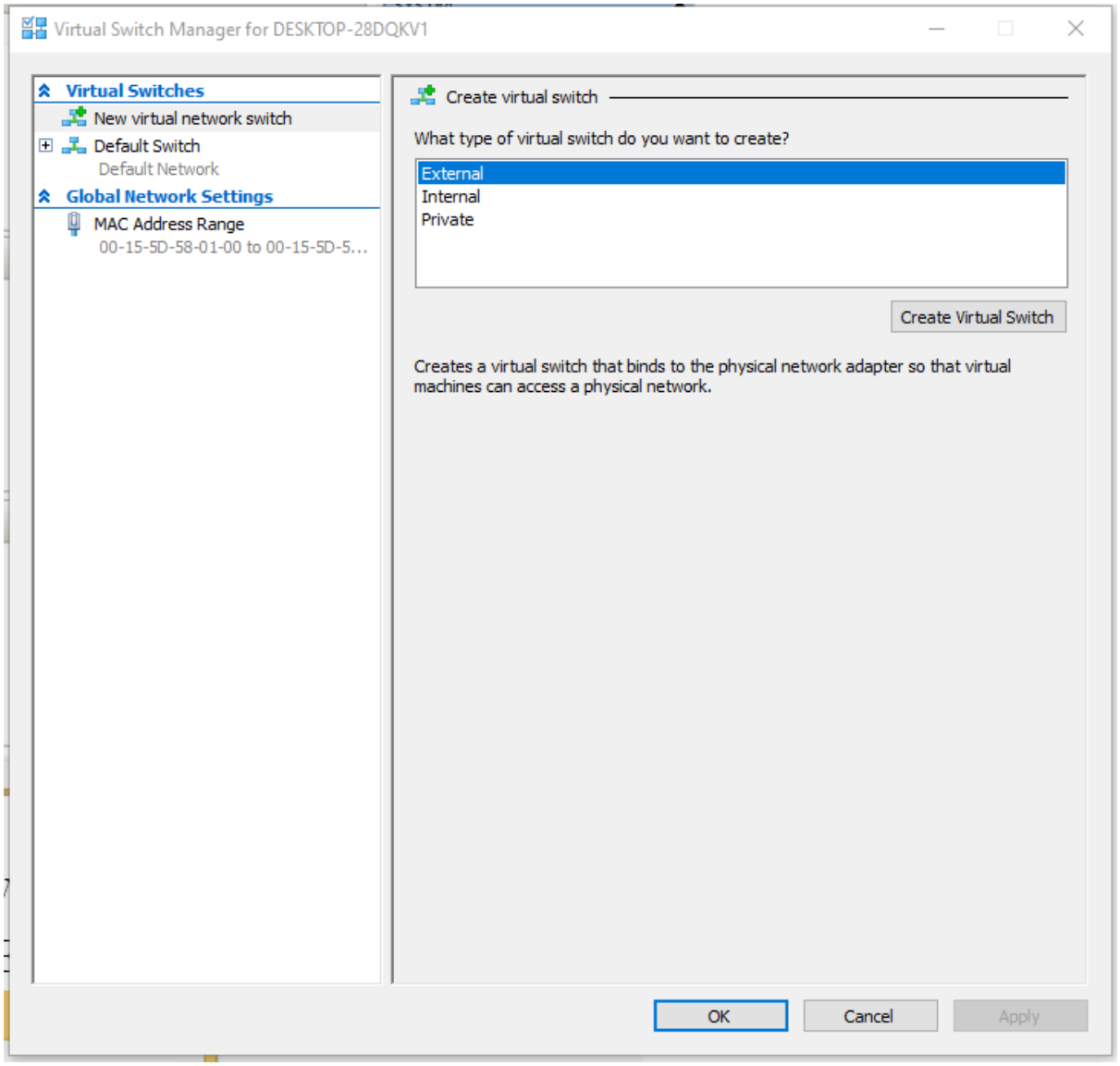
Go to Turn Windows Features on or off
Now in windows features Check on Hyper-V option→ Ok



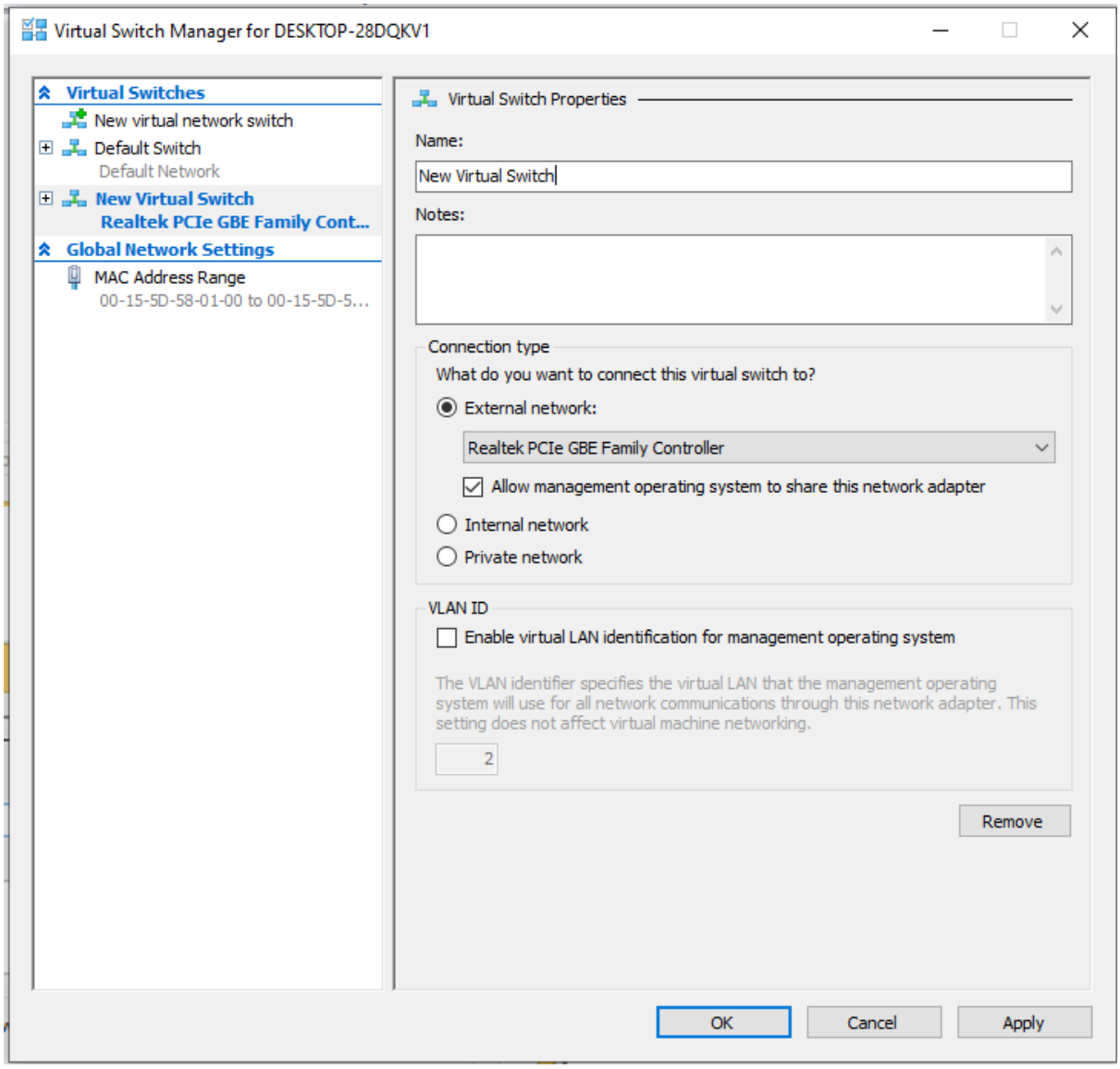
Open Hyper-V Manager


Hyper-V Manager
File Action View Help
Hyper-V Manager
DESKTOP-28DQKV1
Virtual Machines
Name State CPU Usage Assigr
vm12 Off
Windows XP Starting 0% 1024 M
Checkpoints
Automatic Checkpoint - vm12 - (25-10-2021 - 10:23:30)
Now
vm12
Created: 25-10-2021 10:23:18
Configuration Version: 9.0
Generation: 1
Notes: None
Summary Memory Networking
Actions
DESKTOP-28DQKV1
Quick Create...
New
Import Virtual Machine...
Hyper-V Settings...
Virtual Switch Manager...
Virtual SAN Manager...
Edit Disk...
Inspect Disk...
Stop Service
Remove Server
Refresh
View
Help
vm12
Connect...
Settings...
Start
Checkpoint
Revert...
Move...
Export...
Rename...
Delete...

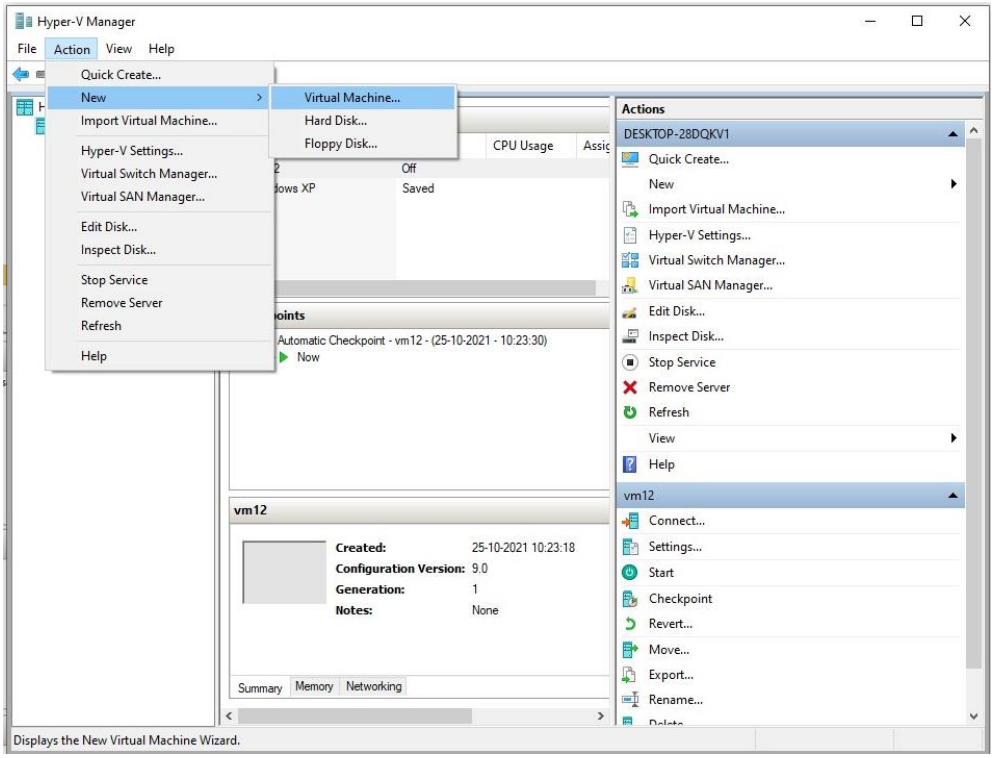
For creating virtual machine first we have to create Virtual Switch
Click on Virtual Switch Manager option and Select External as connection type

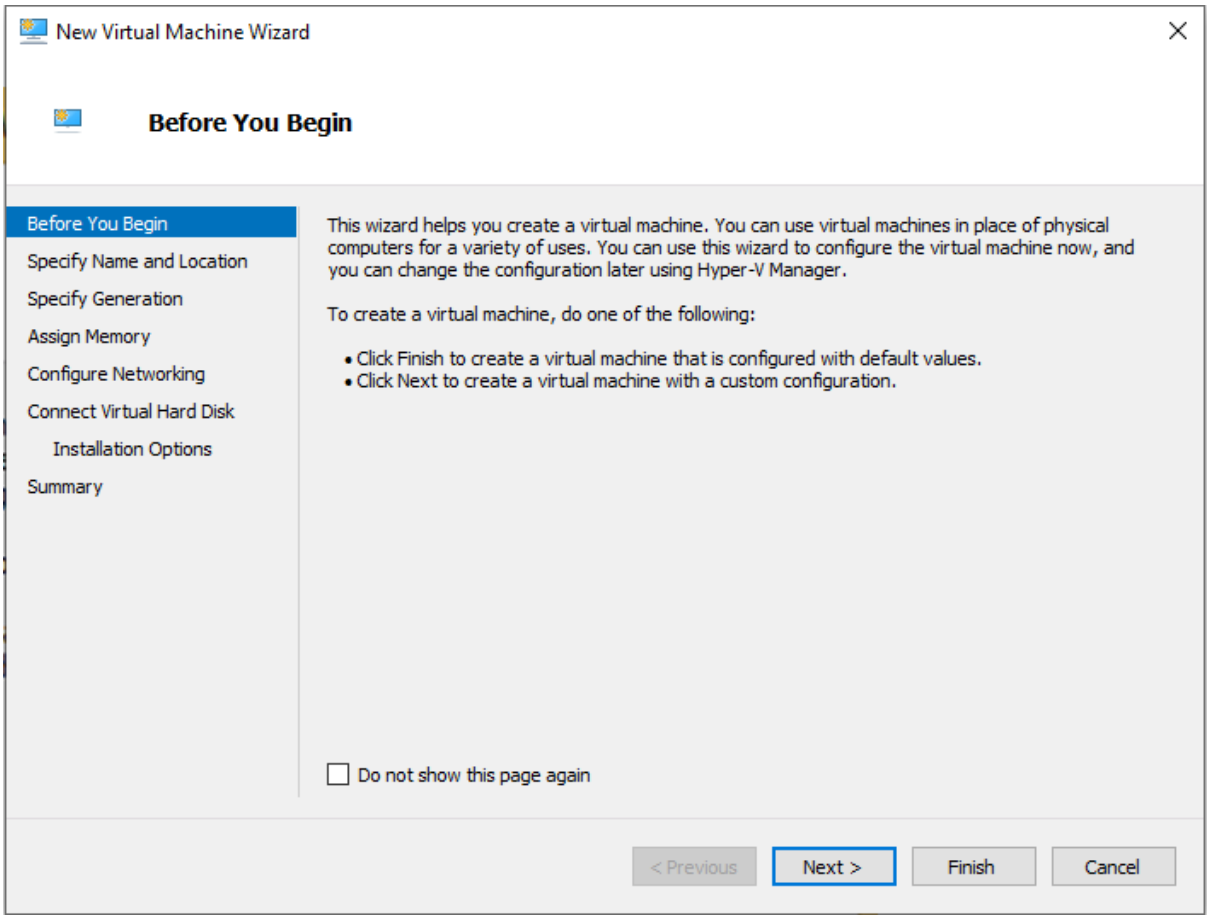


Create Virtual Switch → Click on Apply and then Ok

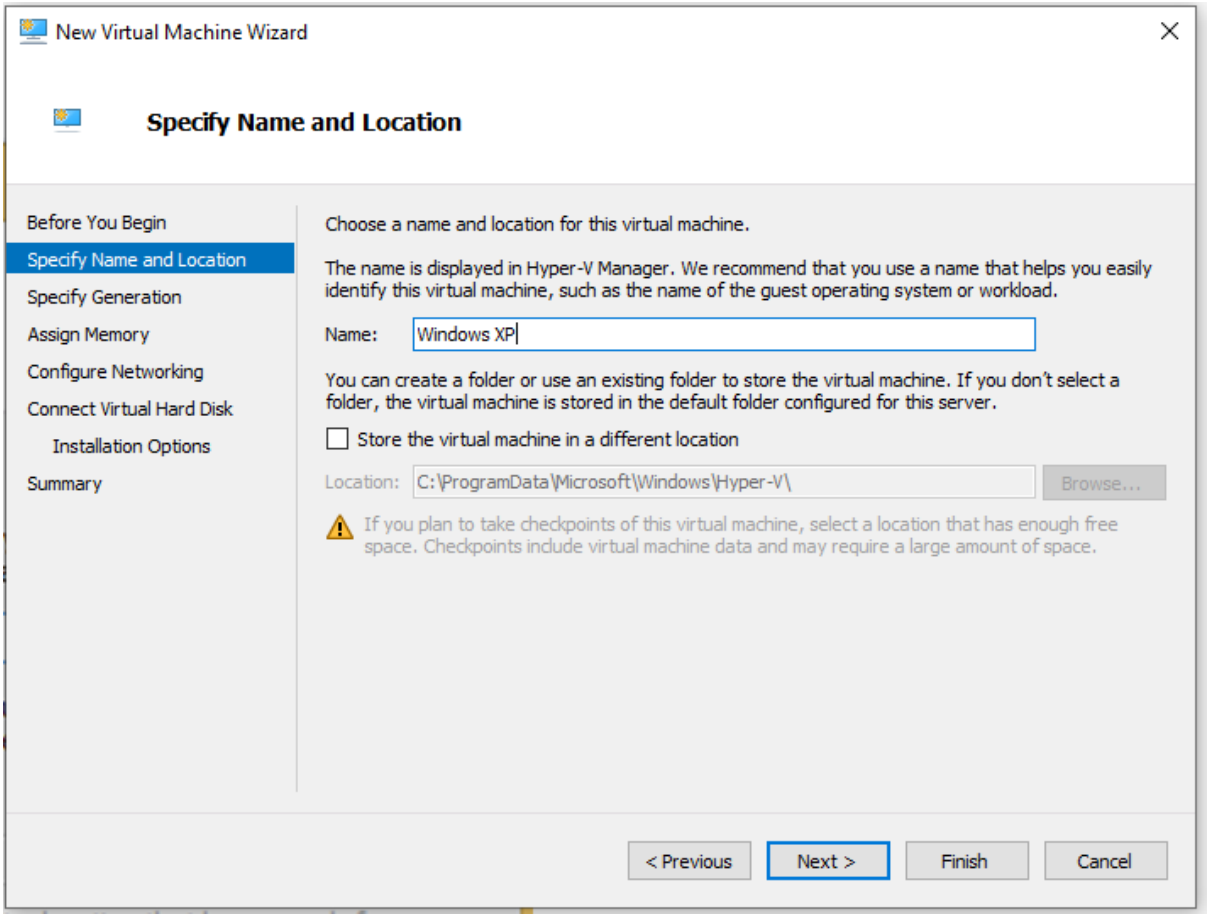

Virtual Switch Manager for DESKTOP-28DQKV1
Virtual Switches
New virtual network switch
Default Switch
Default Network
New Virtual Switch
Realtek PCIe GBE Family Cont...
Global Network Settings
MAC Address Range
00-15-5D-58-01-00 to 00-15-5D-5...
Virtual Switch Properties
Name:
New Virtual Switch
Notes:
Connection type
What do you want to connect this virtual switch to?
External network:
Realtek PCIe GBE Family Controller
Allow management operating system to share this network adapter
Internal network
Private network
VLAN ID
Enable virtual LAN identification for management operating system
The VLAN identifier specifies the virtual LAN that the management operating system will use for all network communications through this network adapter. This setting does not affect virtual machine networking.
2
Remove
OK
Cancel
Apply

Create New Virtual Machine.

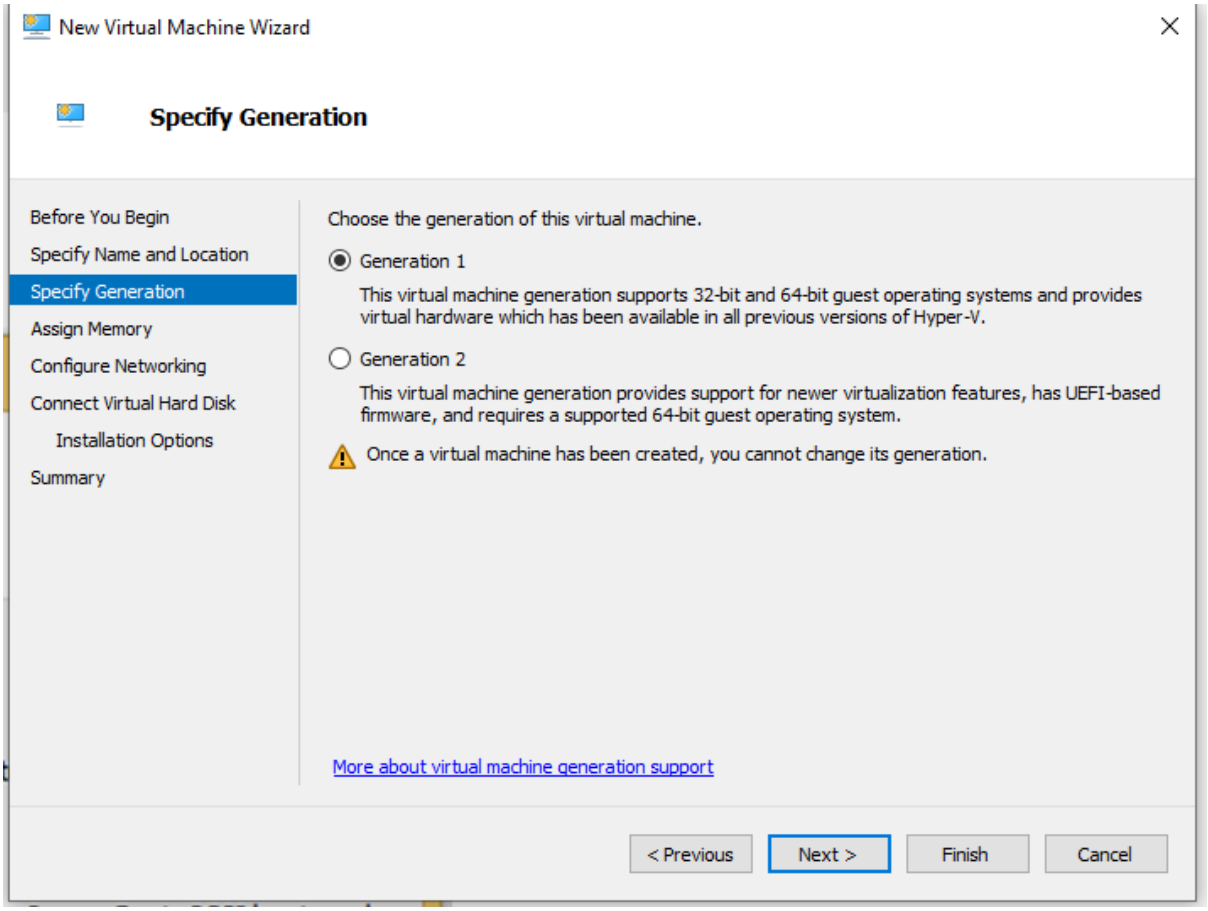


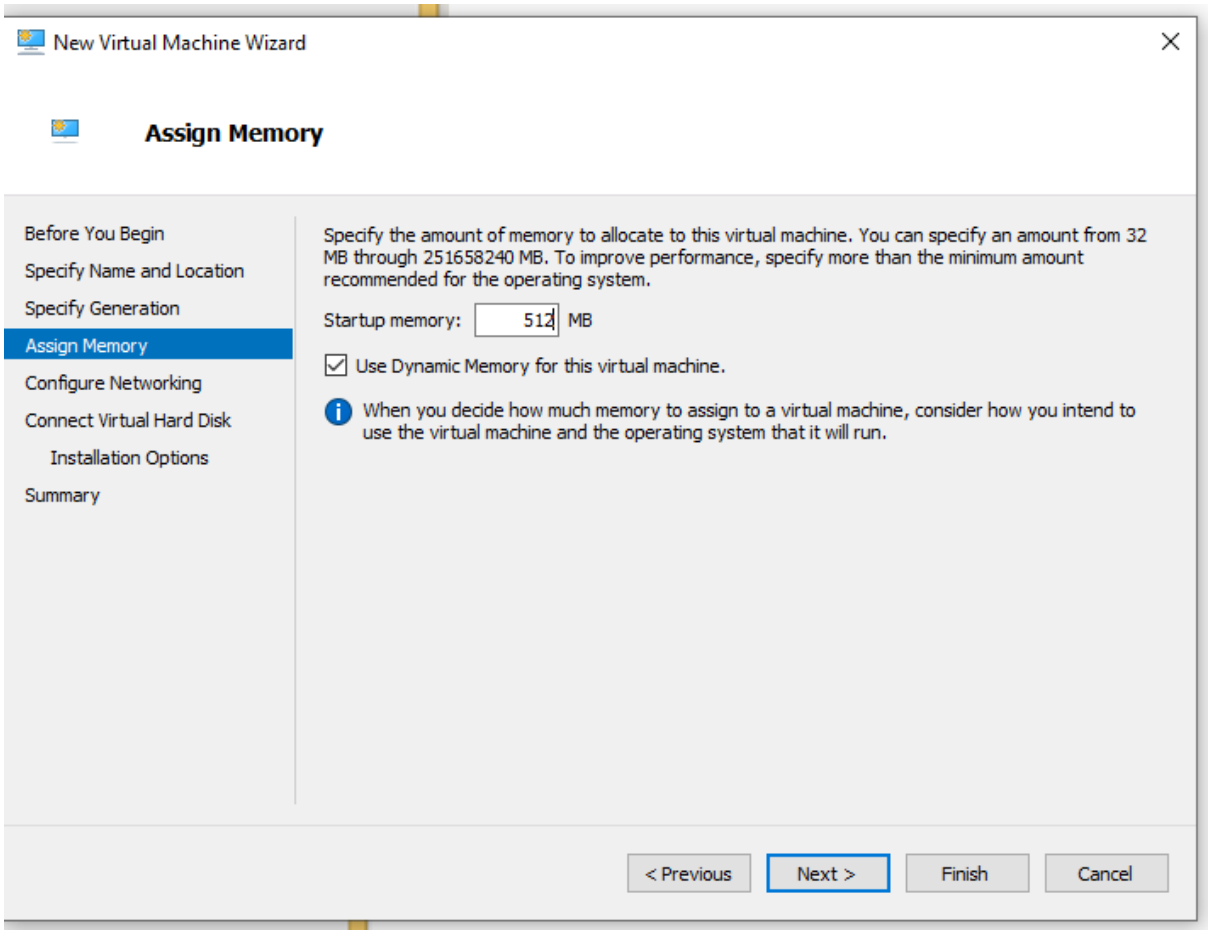


Give the name Windows XP → Next

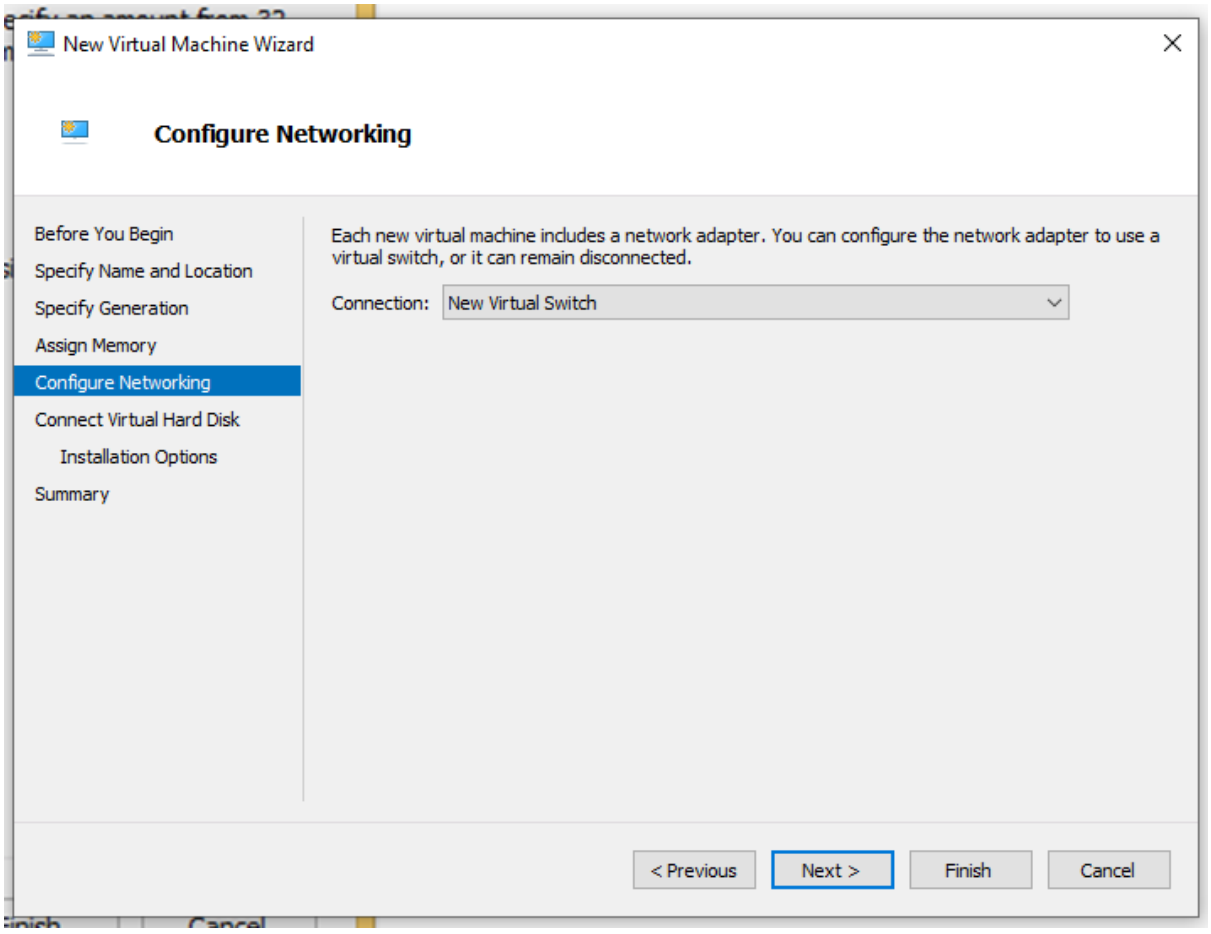


Select the Generation 1 → Click on Next

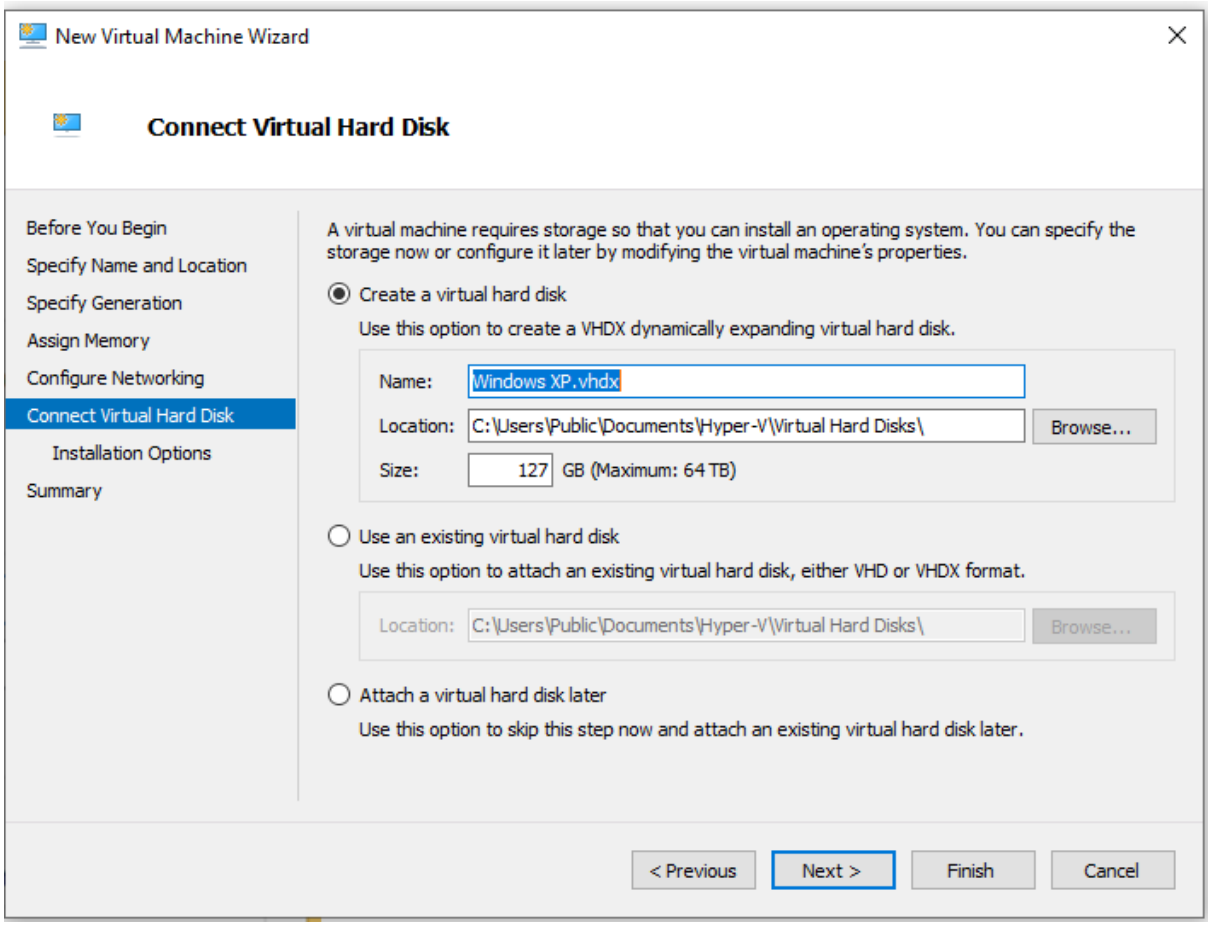



New Virtual Machine Wizard
Assign Memory
Before You Begin
Specify Name and Location
Specify Generation
Assign Memory
Configure Networking
Connect Virtual Hard Disk
Installation Options
Summary
Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 32 MB through 251658240 MB. To improve performance, specify more than the minimum amount recommended for the operating system.
Startup memory: 512 MB
Use Dynamic Memory for this virtual machine.
When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run.
< Previous
Next >
Finish
Cancel

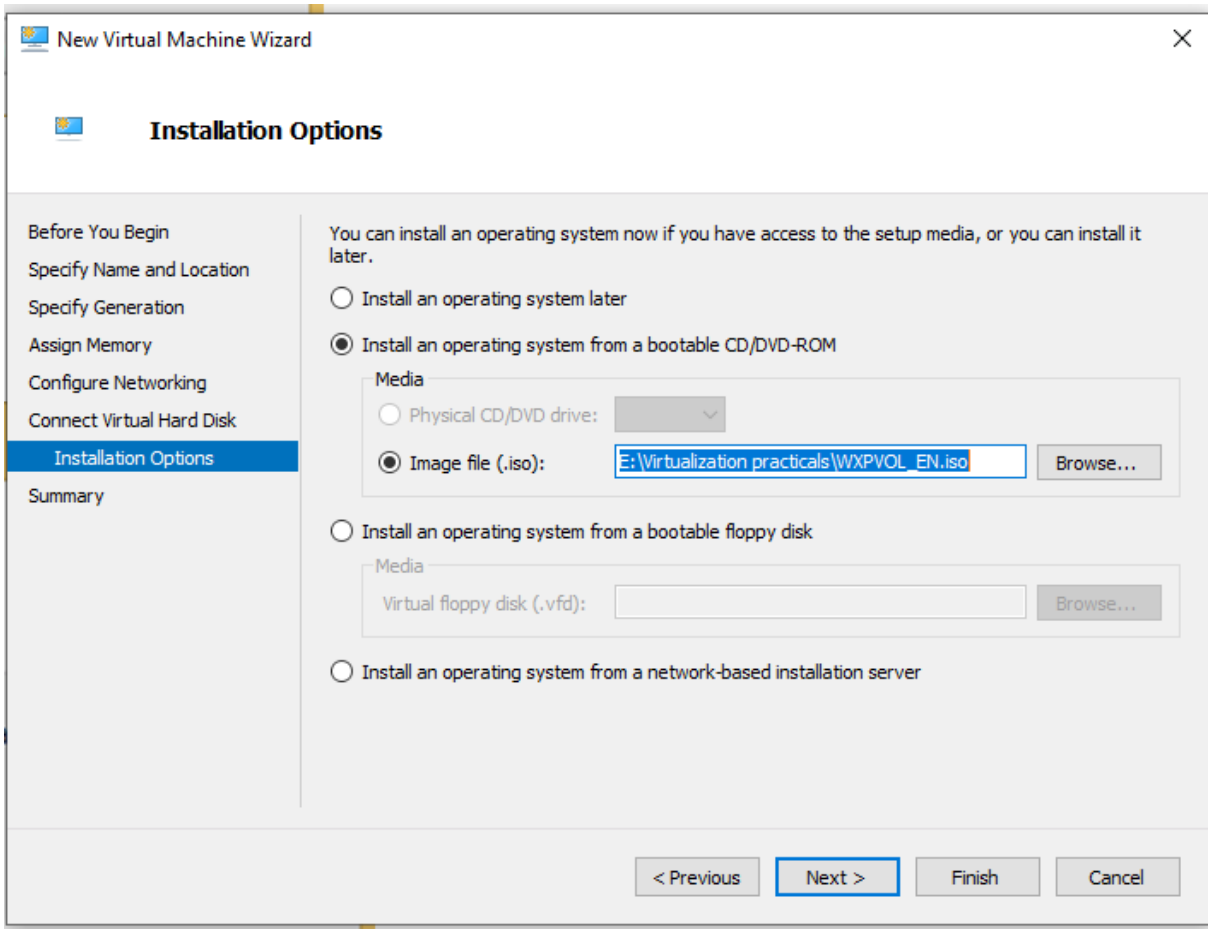
In Connection→ Select Virtual Switch → Next



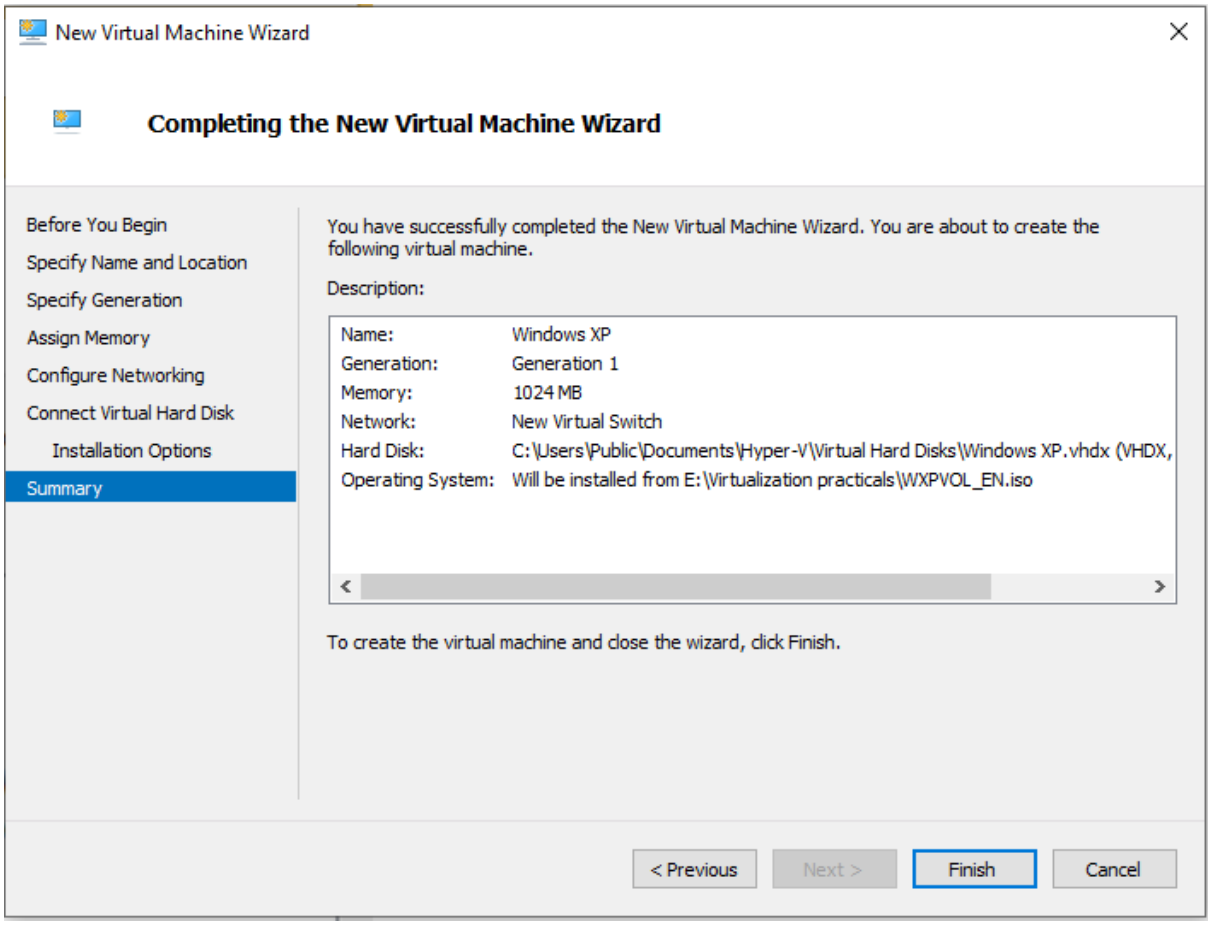
Click on Create a virtual hard disk → Next

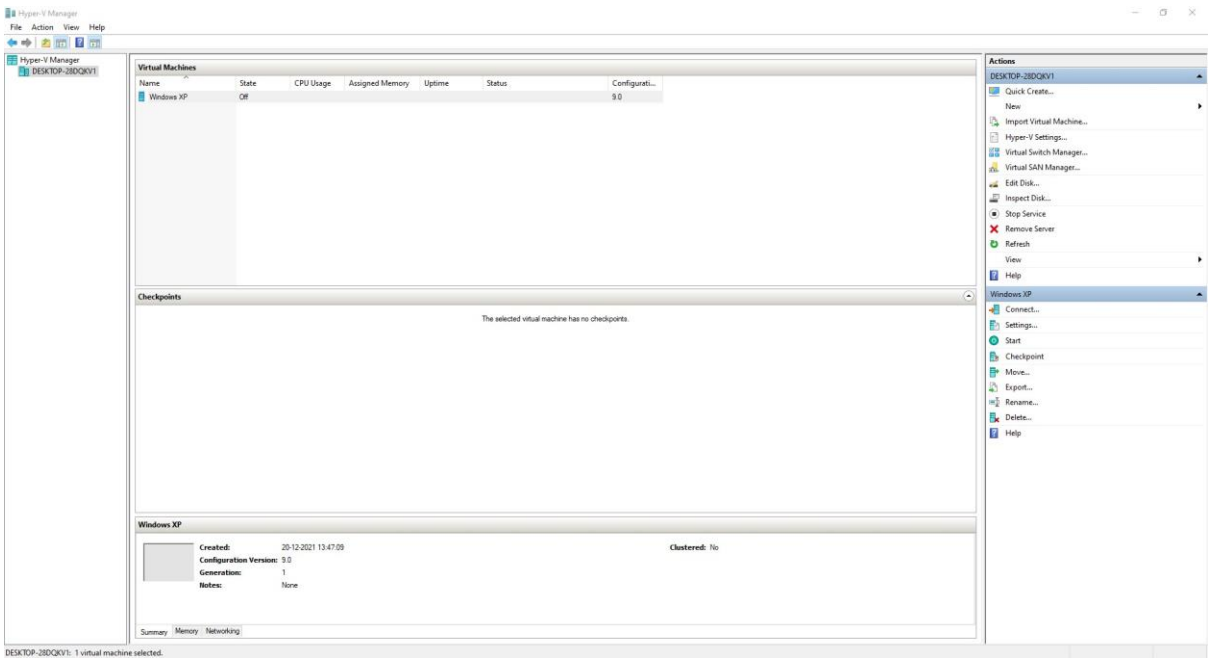


Select install an operating System from a bootable CD/DVD-ROM
Browse → Select Windows XP ISO File → Next

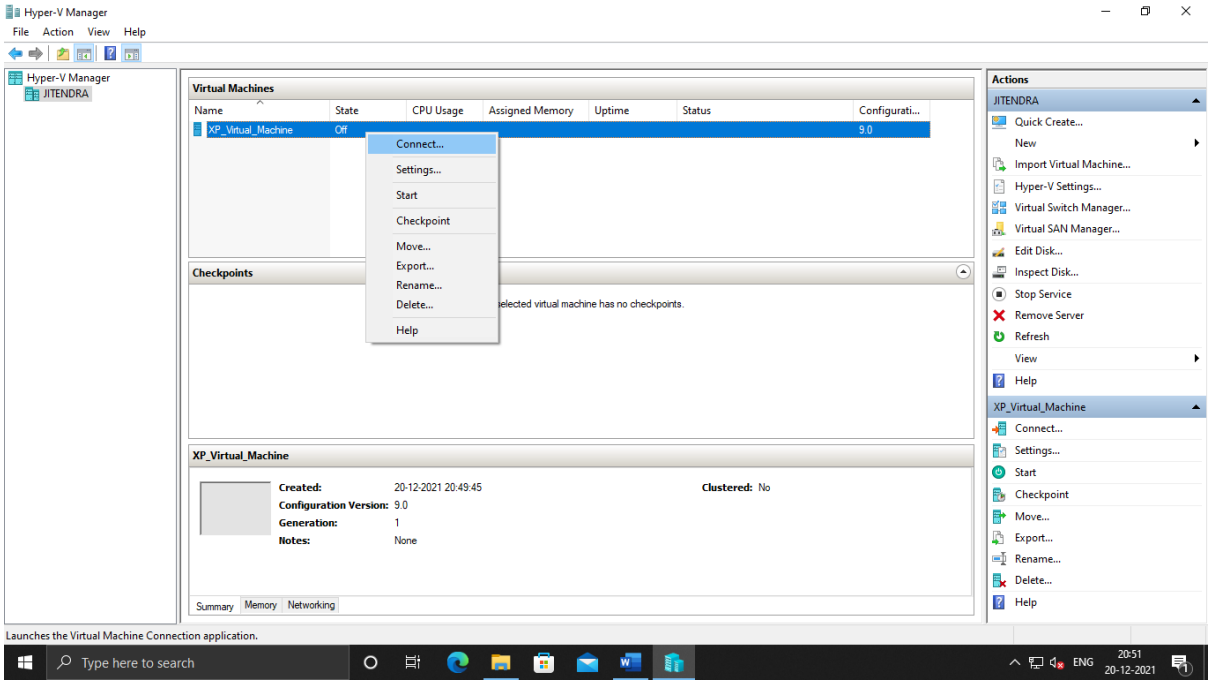


Click on Finish.

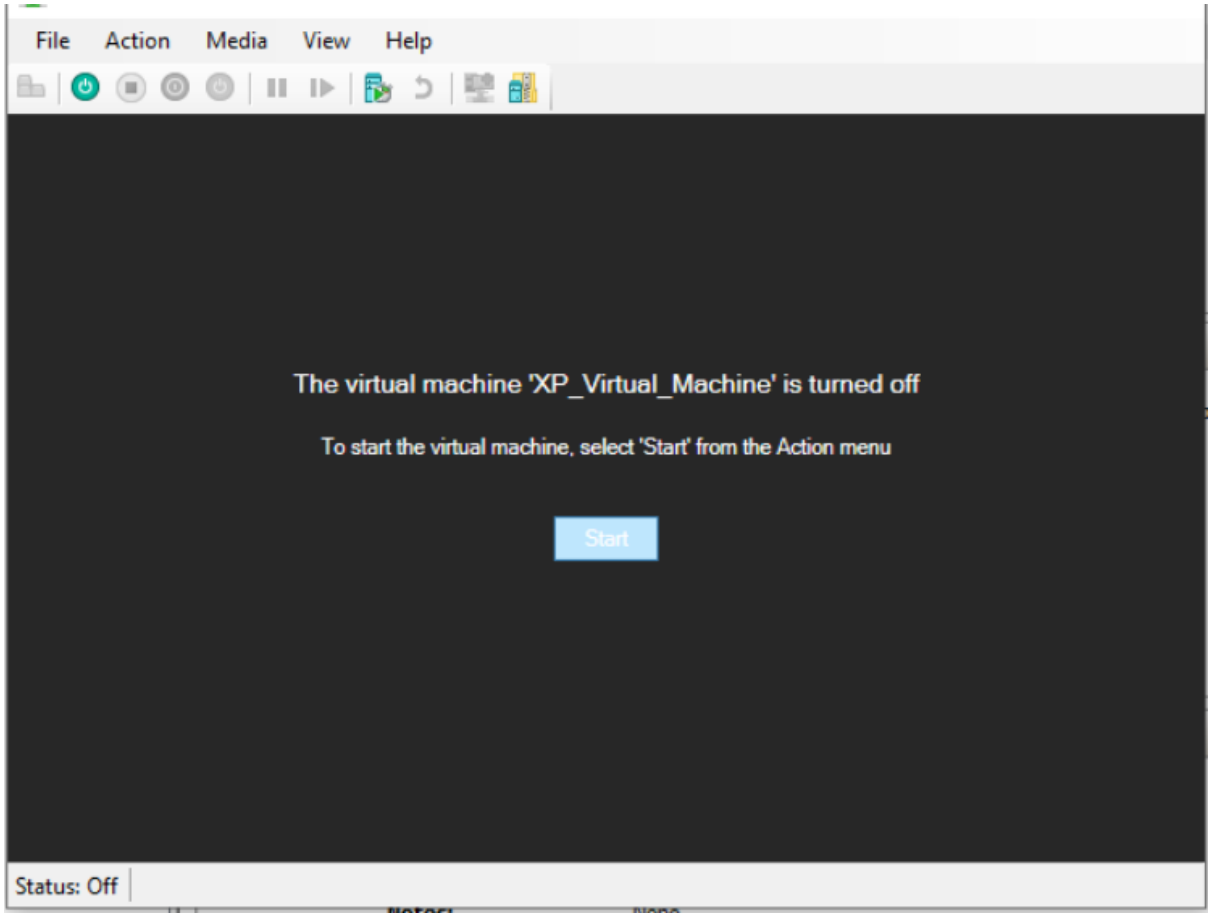


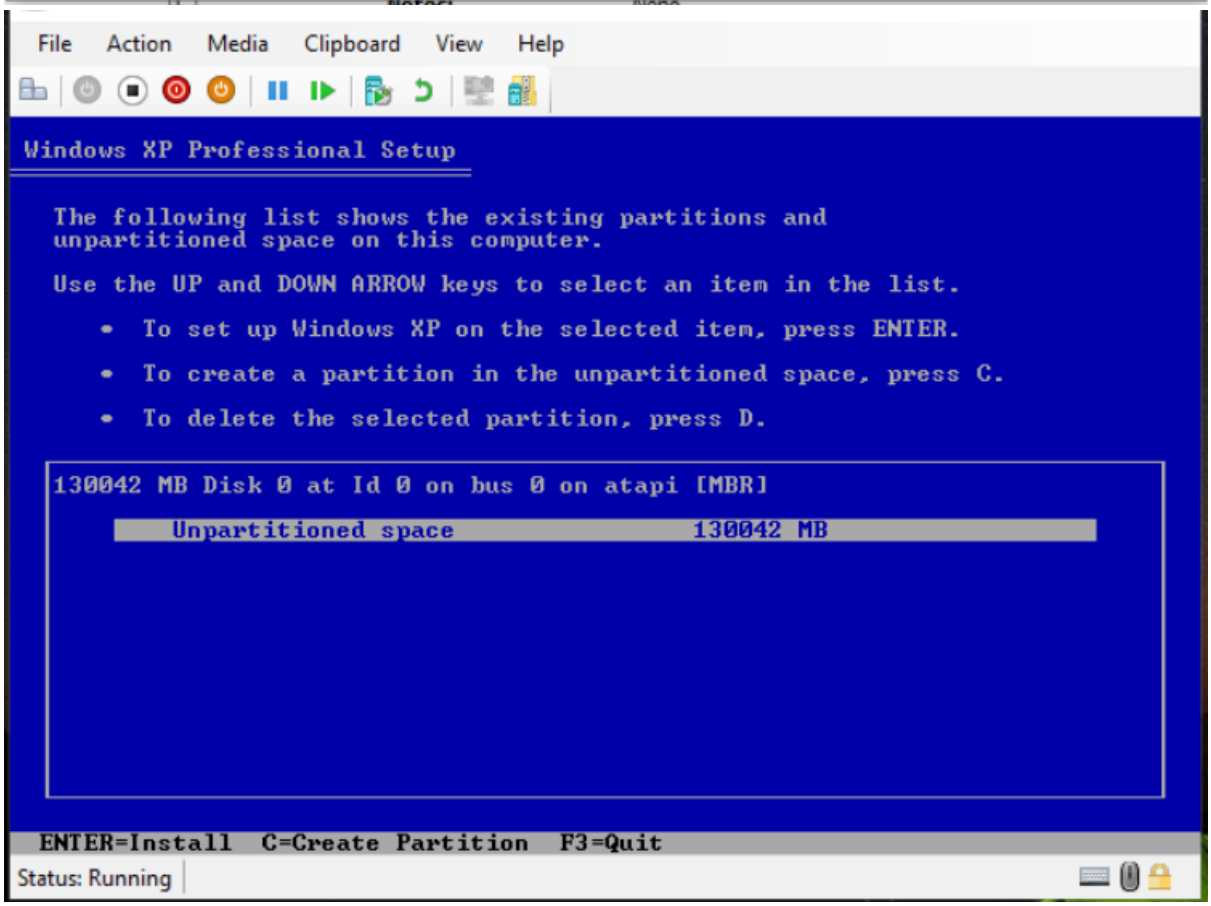


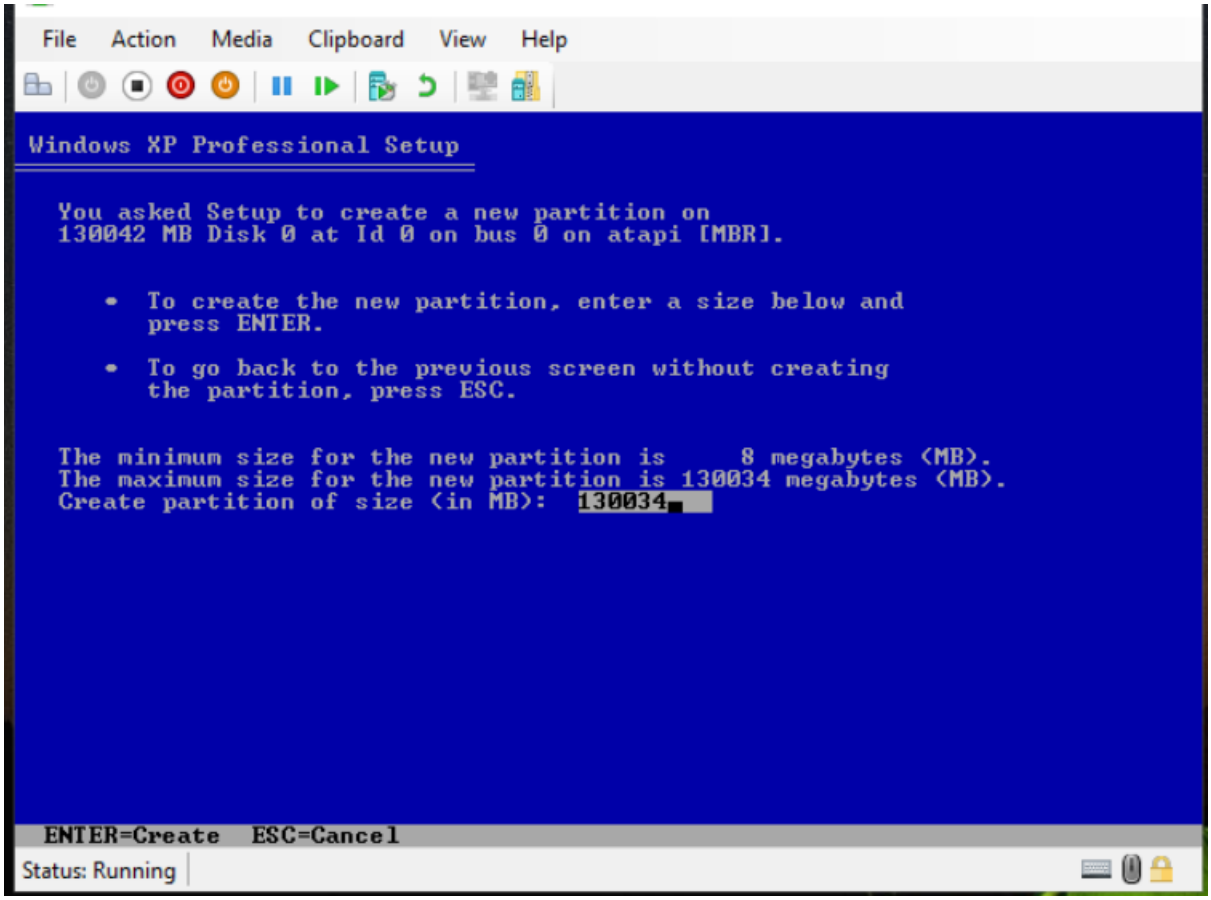
Right Click on virtual machine and Select Connect

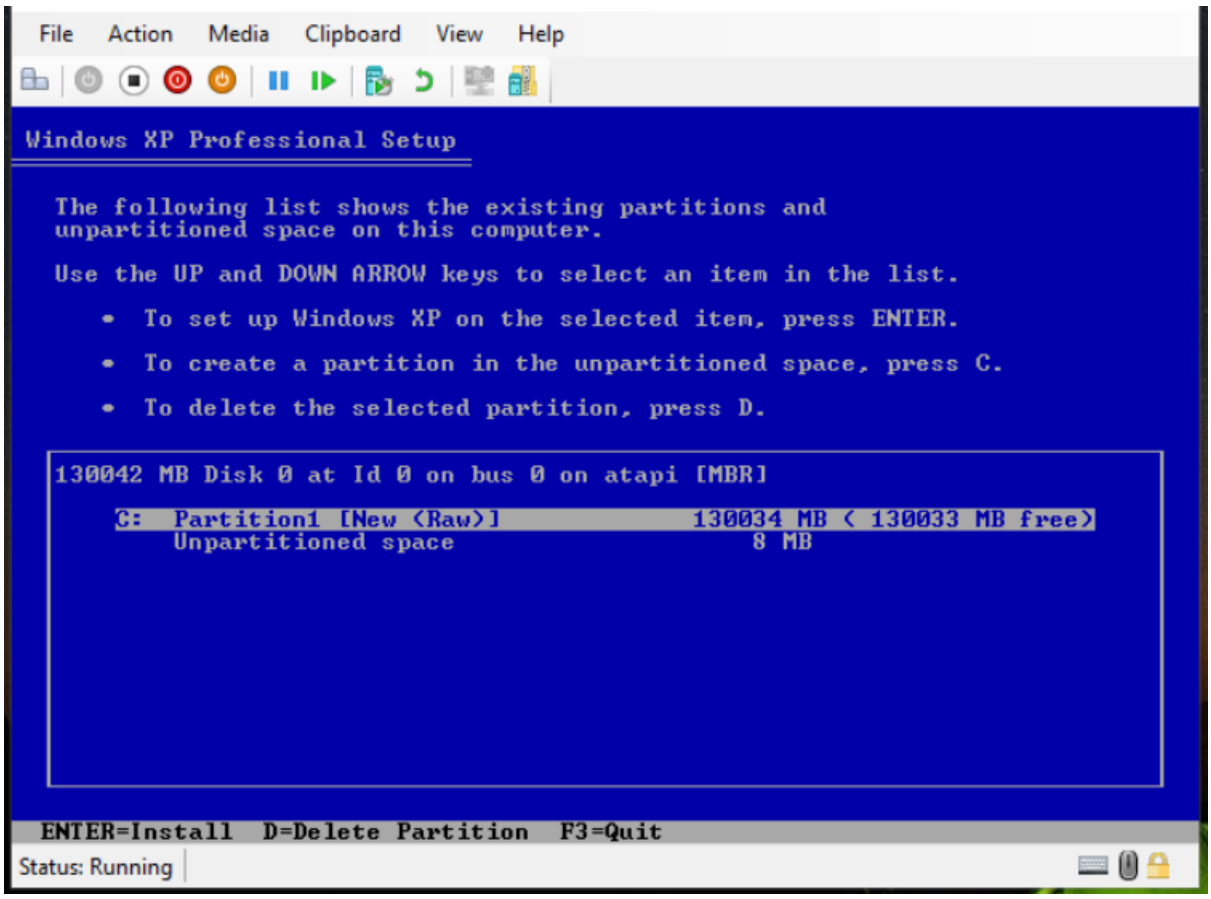


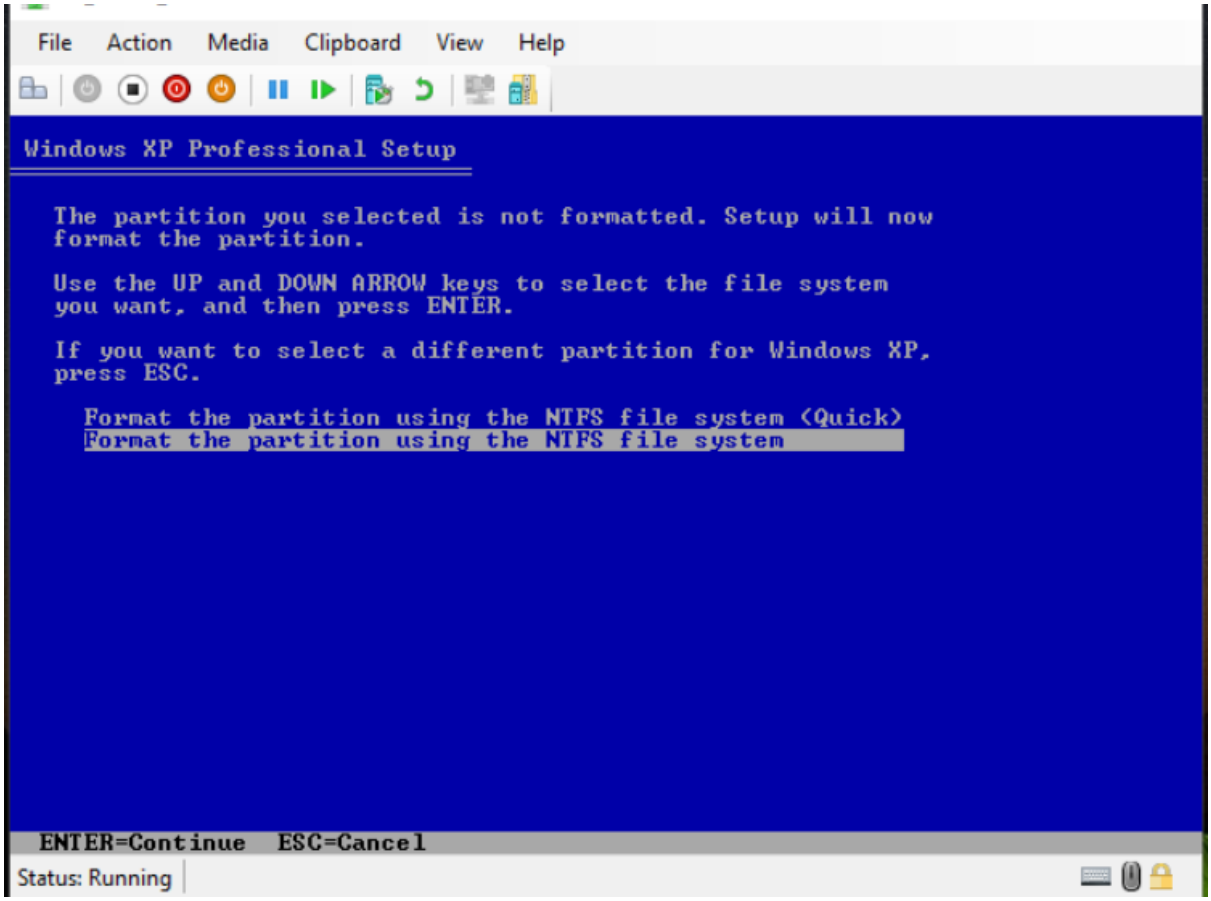
Power on Virtual Machine.

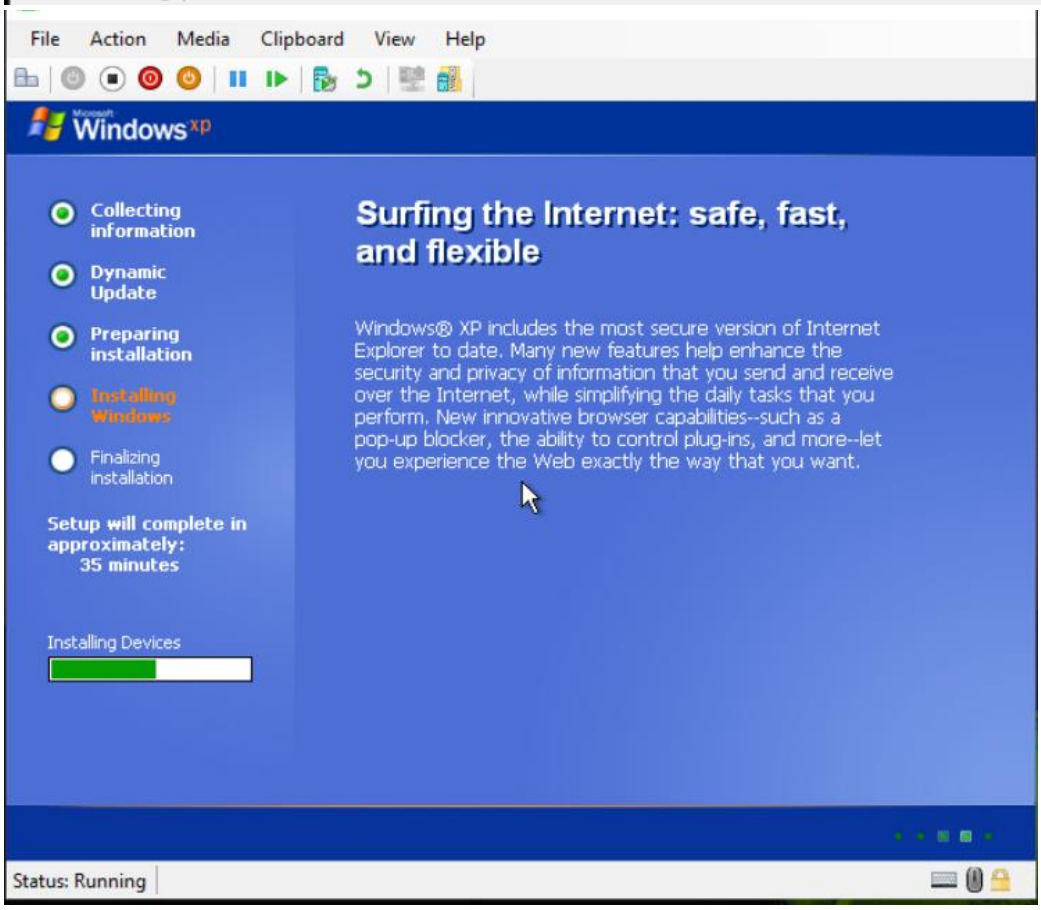

File
Action
Media
View
Help
The virtual machine 'XP_Virtual_Machine' is turned off
To start the virtual machine, select 'Start' from the Action menu
Start
Status: Off

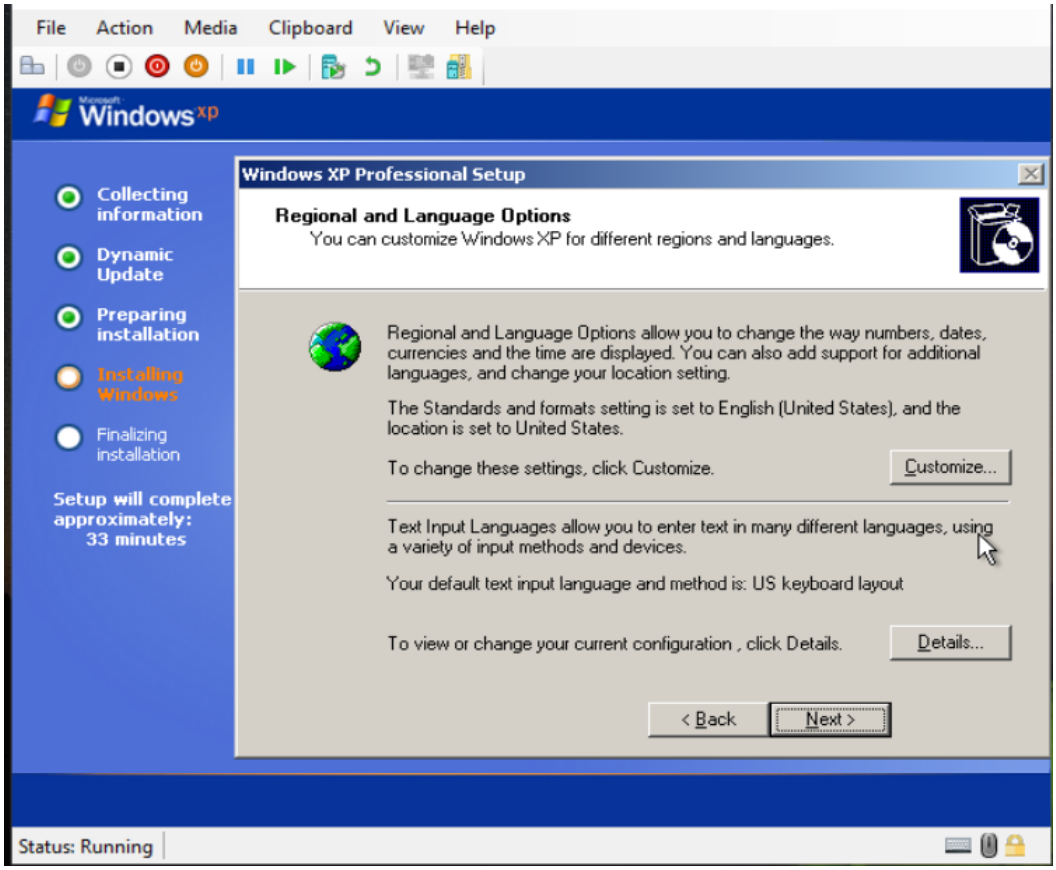

File
Action
Media
Clipboard
View
Help
Windows XP Professional Setup
The following list shows the existing partitions and
unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows XP on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
130042 MB Disk 0 at Id 0 on bus 0 on atapi [MBR]
Unpartitioned space 130042 MB
ENTER=Install C=Create Partition F3=Quit
Status: Running

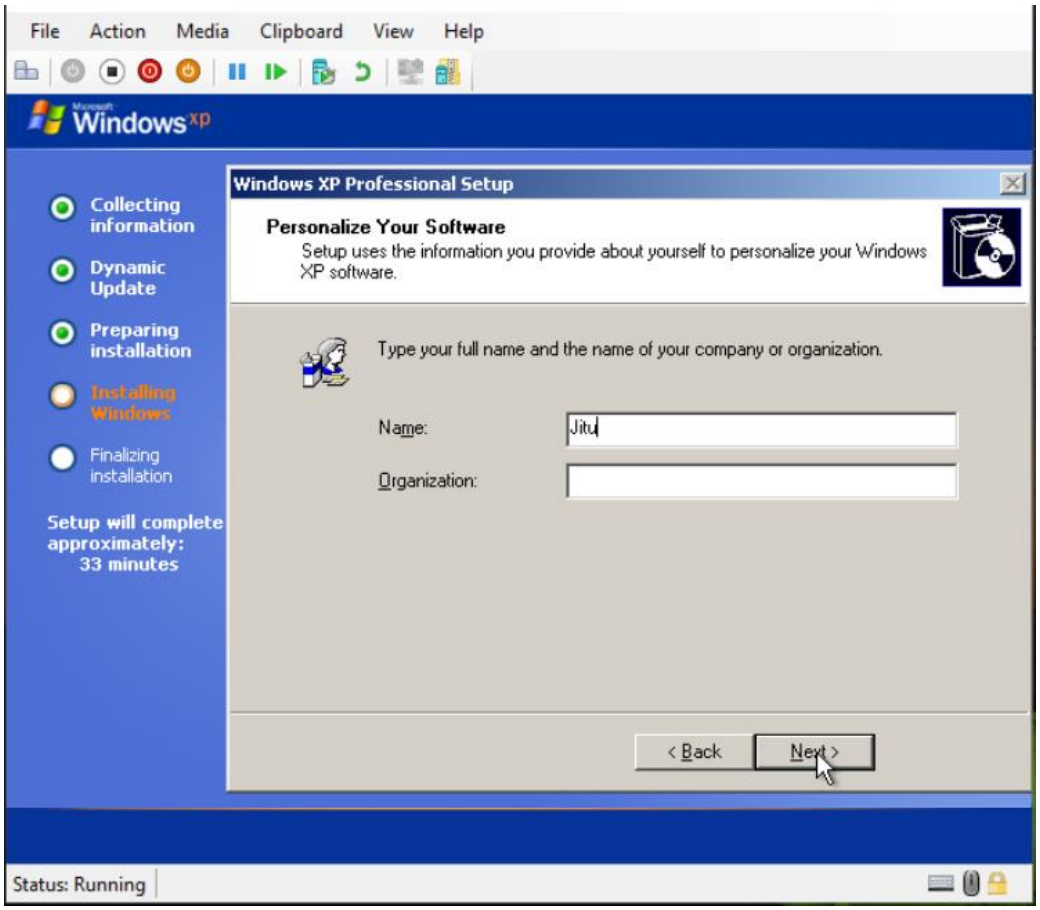

File Action Media Clipboard View Help
Windows XP Professional Setup
You asked Setup to create a new partition on
130042 MB Disk 0 at Id 0 on bus 0 on atapi [MBR].
• To create the new partition, enter a size below and press ENTER.
• To go back to the previous screen without creating the partition, press ESC.
The minimum size for the new partition is 8 megabytes (MB).
The maximum size for the new partition is 130034 megabytes (MB).
Create partition of size (in MB): 130034
ENTER=Create ESC=Cancel
Status: Running

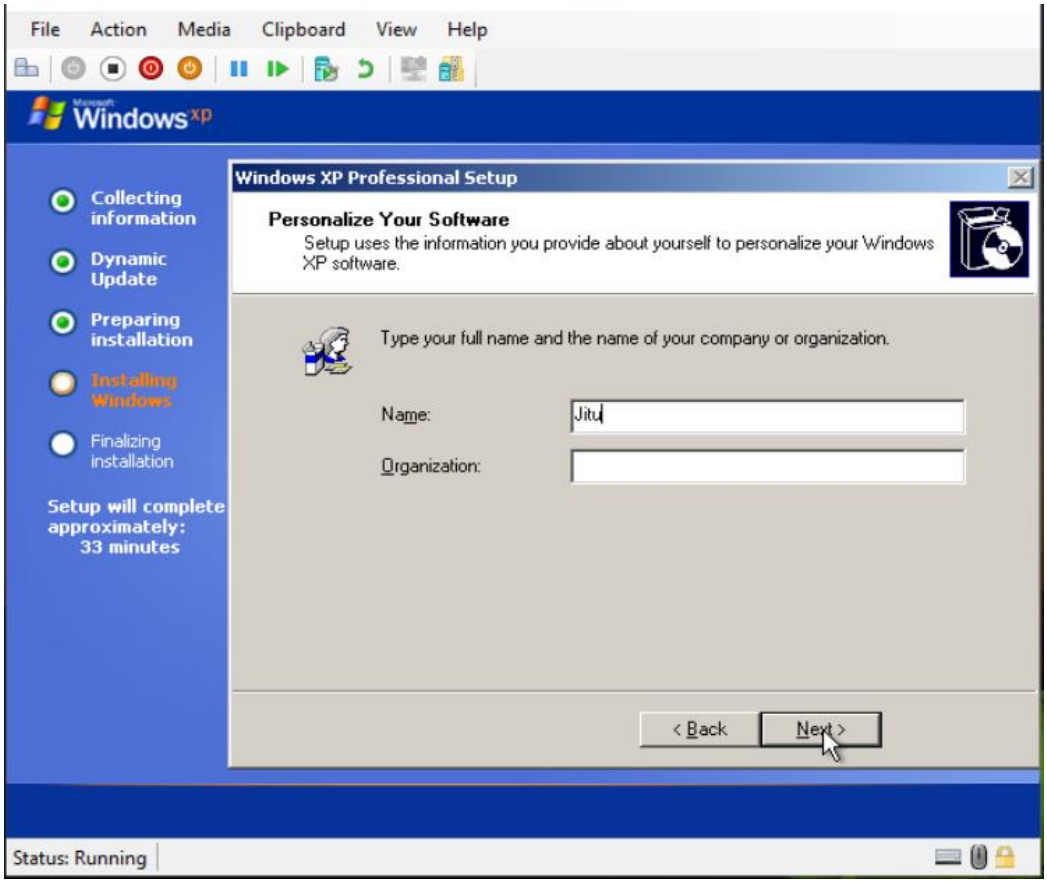

File Action Media Clipboard View Help
Windows XP Professional Setup
The following list shows the existing partitions and unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows XP on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
130042 MB Disk 0 at Id 0 on bus 0 on atapi [MBR]
C: Partition1 [New (Raw)] 130034 MB (130033 MB free)
Unpartitioned space 8 MB
ENTER=Install D=Delete Partition F3=Quit
Status: Running

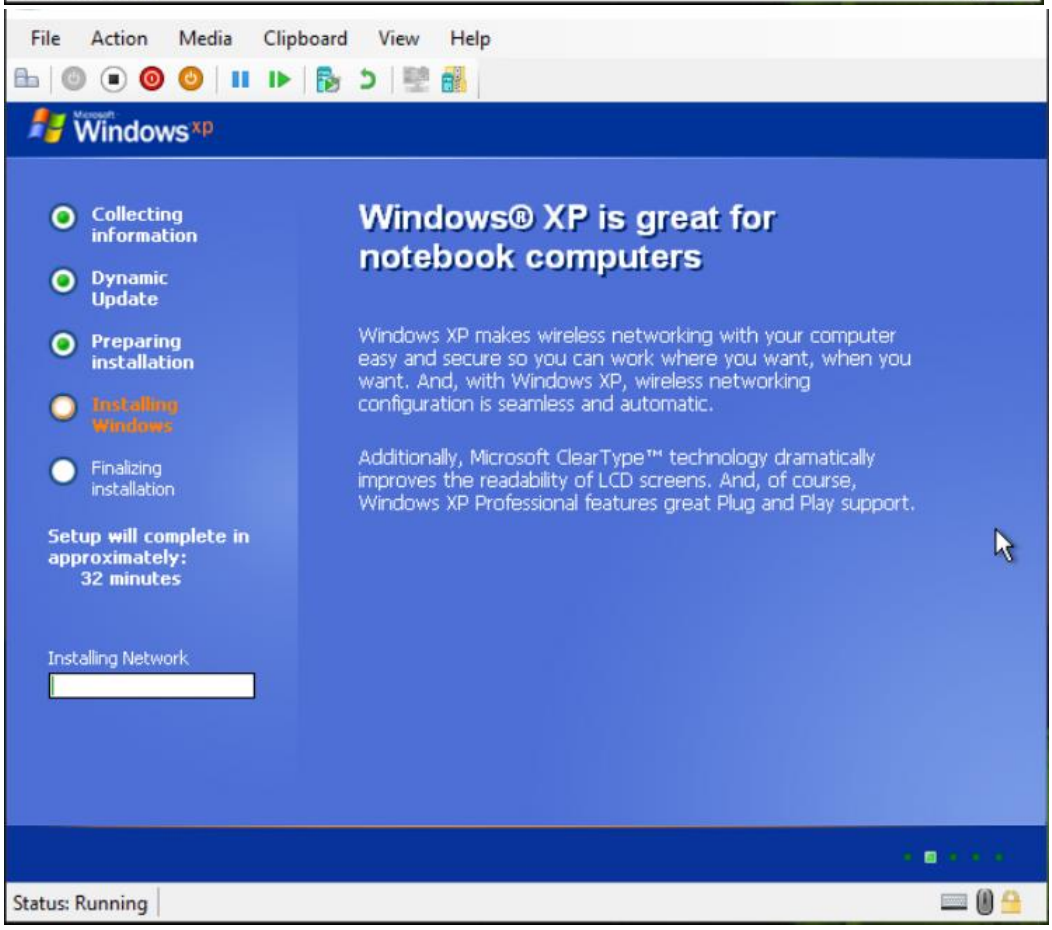

File Action Media Clipboard View Help
Windows XP Professional Setup
The partition you selected is not formatted. Setup will now format the partition.
Use the UP and DOWN ARROW keys to select the file system you want, and then press ENTER.
If you want to select a different partition for Windows XP, press ESC.
Format the partition using the NTFS file system (Quick)
Format the partition using the NTFS file system
ENTER=Continue ESC=Cancel
Status: Running

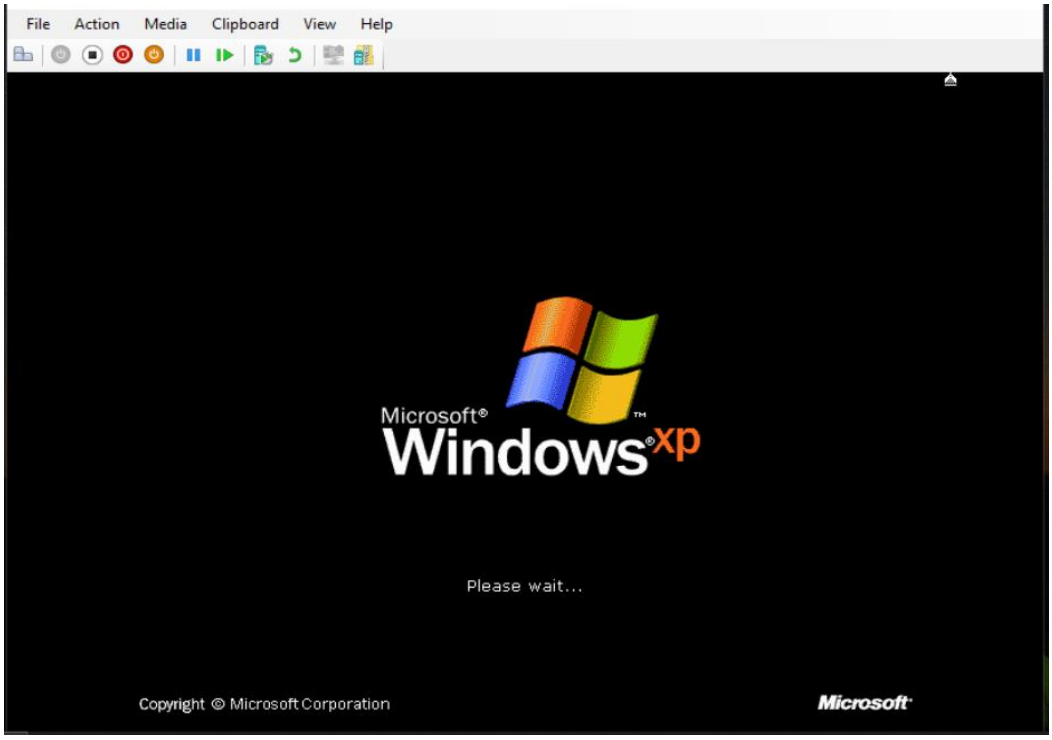

File Action Media Clipboard View Help
Windows xp
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete in approximately: 35 minutes
Installing Devices
Surfing the Internet: safe, fast, and flexible
Windows® XP includes the most secure version of Internet Explorer to date. Many new features help enhance the security and privacy of information that you send and receive over the Internet, while simplifying the daily tasks that you perform. New innovative browser capabilities--such as a pop-up blocker, the ability to control plug-ins, and more--let you experience the Web exactly the way that you want.
Status: Running

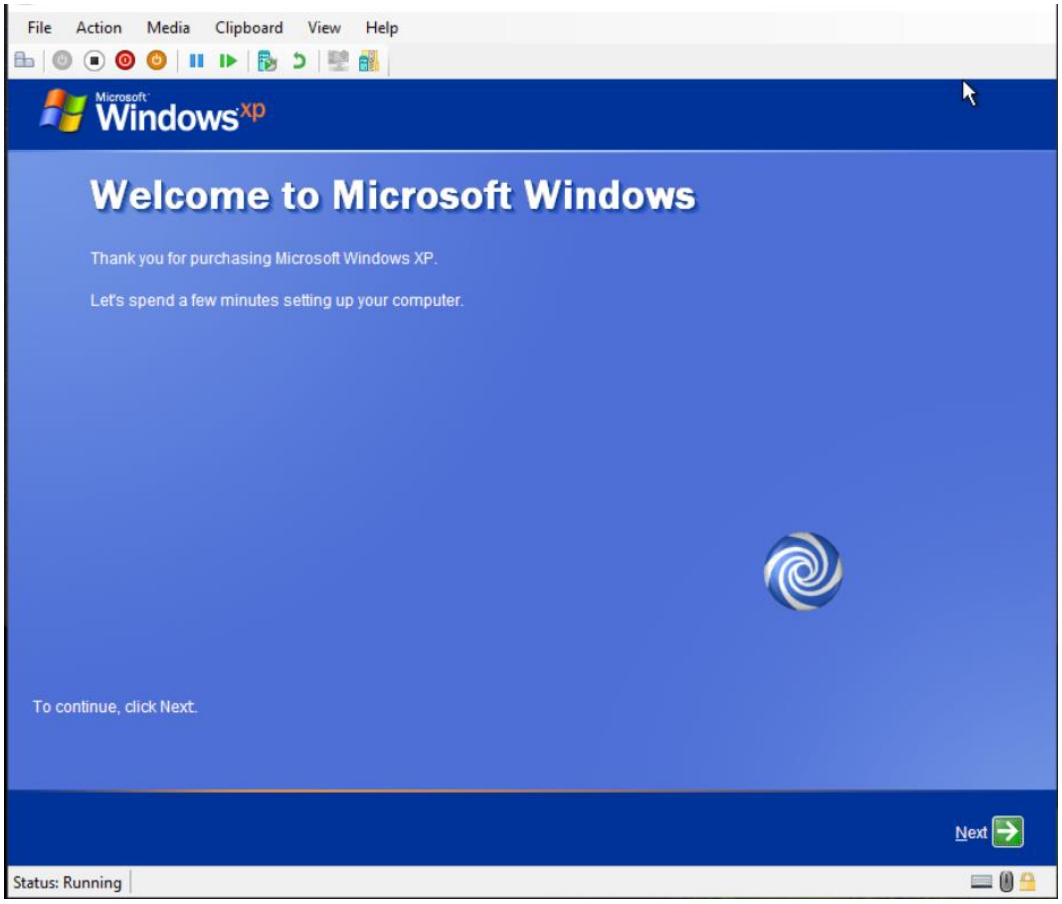

File Action Media Clipboard View Help
Windows xp
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete approximately: 33 minutes
Windows XP Professional Setup
Regional and Language Options
You can customize Windows XP for different regions and languages.
Regional and Language Options allow you to change the way numbers, dates, currencies and the time are displayed. You can also add support for additional languages, and change your location setting.
The Standards and formats setting is set to English (United States), and the location is set to United States.
To change these settings, click Customize.
Customize...
Text Input Languages allow you to enter text in many different languages, using a variety of input methods and devices.
Your default text input language and method is: US keyboard layout
To view or change your current configuration , click Details.
Details...
< Back
Next >
Status: Running

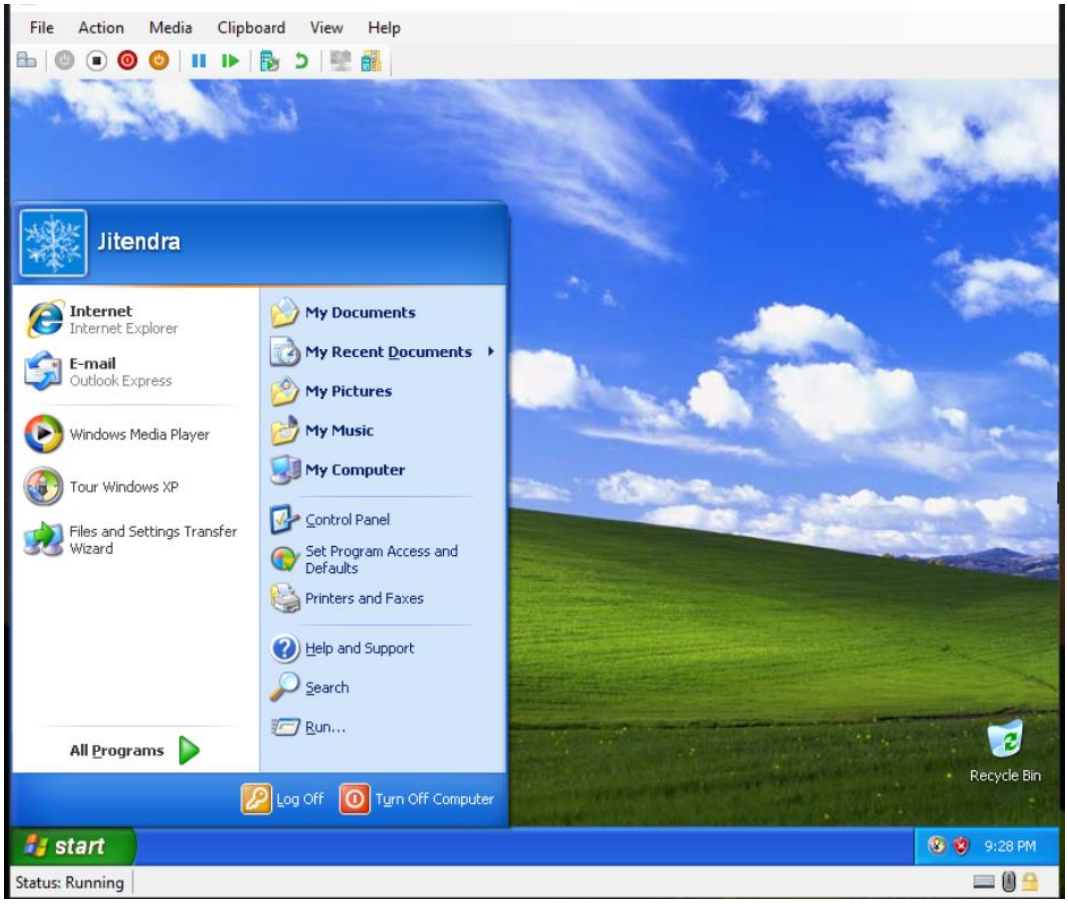

File Action Media Clipboard View Help
Windows xp
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete approximately: 33 minutes
Windows XP Professional Setup
Personalize Your Software
Setup uses the information you provide about yourself to personalize your Windows XP software.
Type your full name and the name of your company or organization.
Name:
Jitu
Organization:
< Back
Next >
Status: Running


File Action Media Clipboard View Help
Windows XP
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete approximately: 33 minutes
Windows XP Professional Setup
Personalize Your Software
Setup uses the information you provide about yourself to personalize your Windows XP software.
Type your full name and the name of your company or organization.
Name:
Jitu
Organization:
< Back
Next >
Status: Running


File Action Media Clipboard View Help
Windows XP
Collecting information
Dynamic Update
Preparing installation
Installing Windows
Finalizing installation
Setup will complete in approximately: 32 minutes
Installing Network
Windows® XP is great for notebook computers
Windows XP makes wireless networking with your computer easy and secure so you can work where you want, when you want. And, with Windows XP, wireless networking configuration is seamless and automatic.
Additionally, Microsoft ClearType™ technology dramatically improves the readability of LCD screens. And, of course, Windows XP Professional features great Plug and Play support.
Status: Running


File Action Media Clipboard View Help
Microsoft®
Windows®xp
Please wait...
Copyright © Microsoft Corporation
Microsoft


File Action Media Clipboard View Help
Microsoft
Windows xp
Welcome to Microsoft Windows
Thank you for purchasing Microsoft Windows XP.
Let's spend a few minutes setting up your computer.
To continue, click Next.
Next
Status: Running


File Action Media Clipboard View Help
Jitendra
Internet
Internet Explorer
E-mail
Outlook Express
Windows Media Player
Tour Windows XP
Files and Settings Transfer Wizard
All Programs
My Documents
My Recent Documents
My Pictures
My Music
My Computer
Control Panel
Set Program Access and Defaults
Printers and Faxes
Help and Support
Search
Run...
Log Off
Turn Off Computer
Recycle Bin
start
9:28 PM
Status: Running

Practical No 9

Aim: Develop application for Microsoft Azure.

Step 1:

To develop an application for Windows Azure on Visual Studio install the **"Microsoft Azure SDK for .NET (VS2010)– 2.8.2.1"**

Step2:

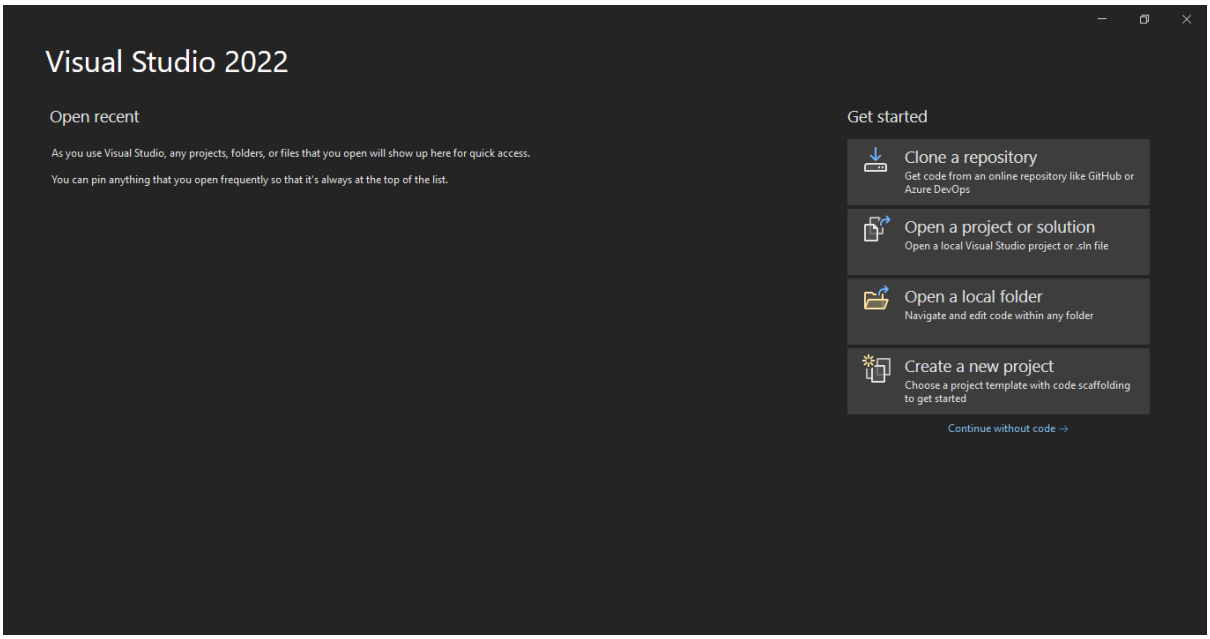
Turn windows Features ON or OFF:

Go to Control panel and click on programs.

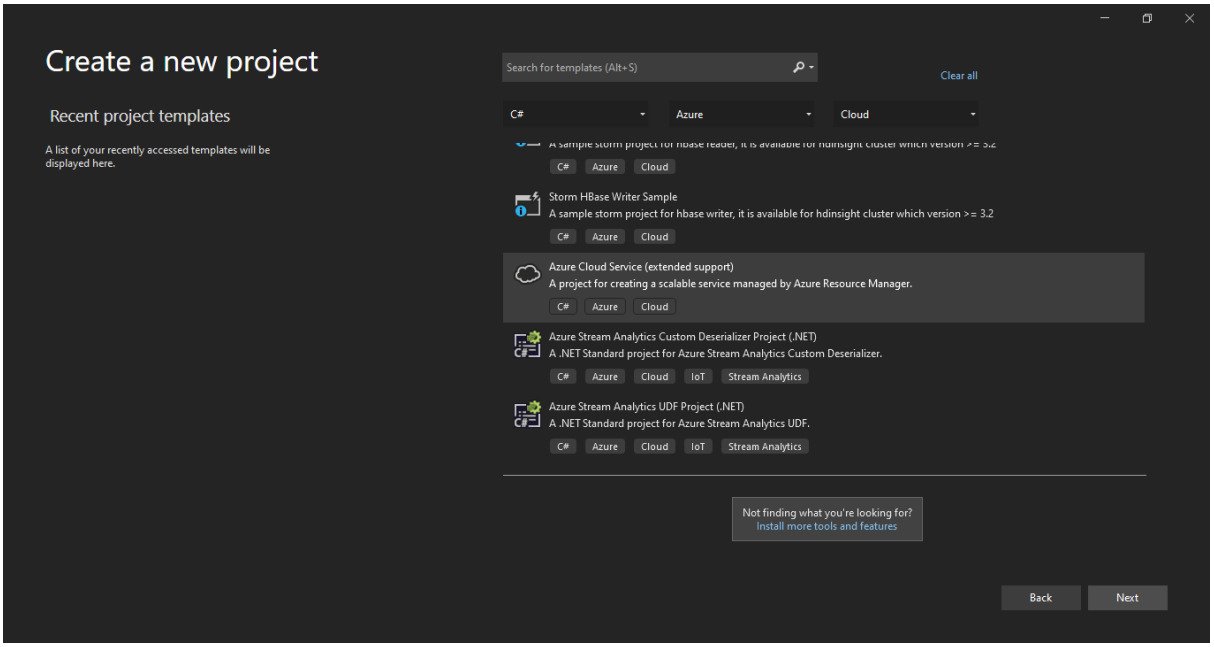
Turn Windows features on or off.

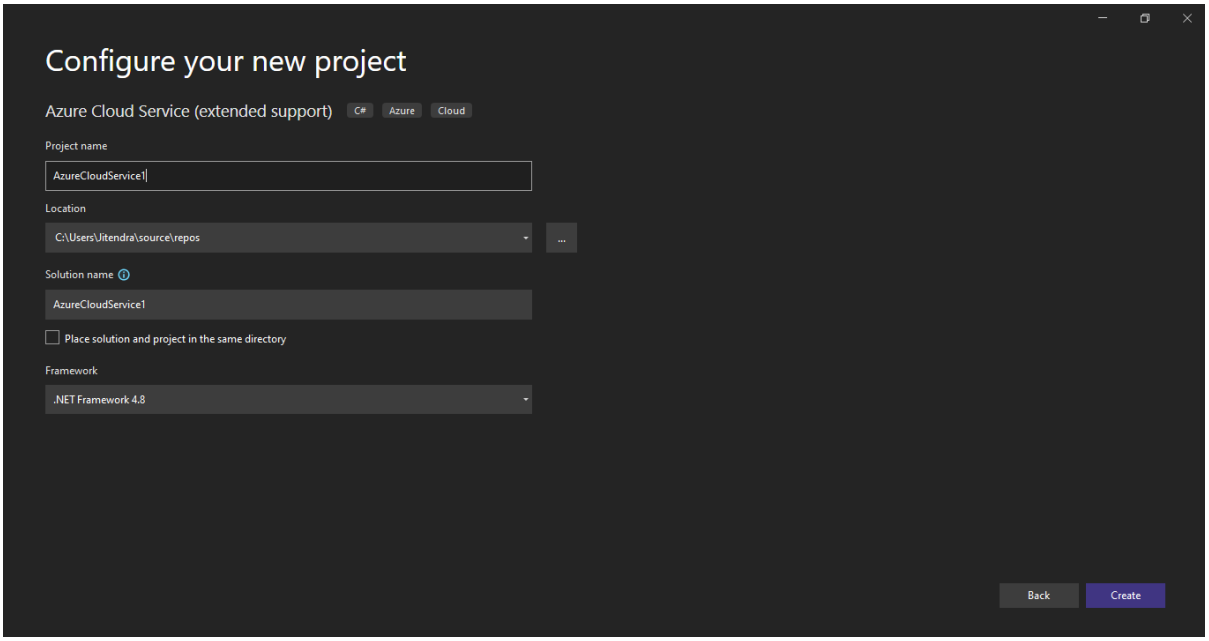
Step3 :

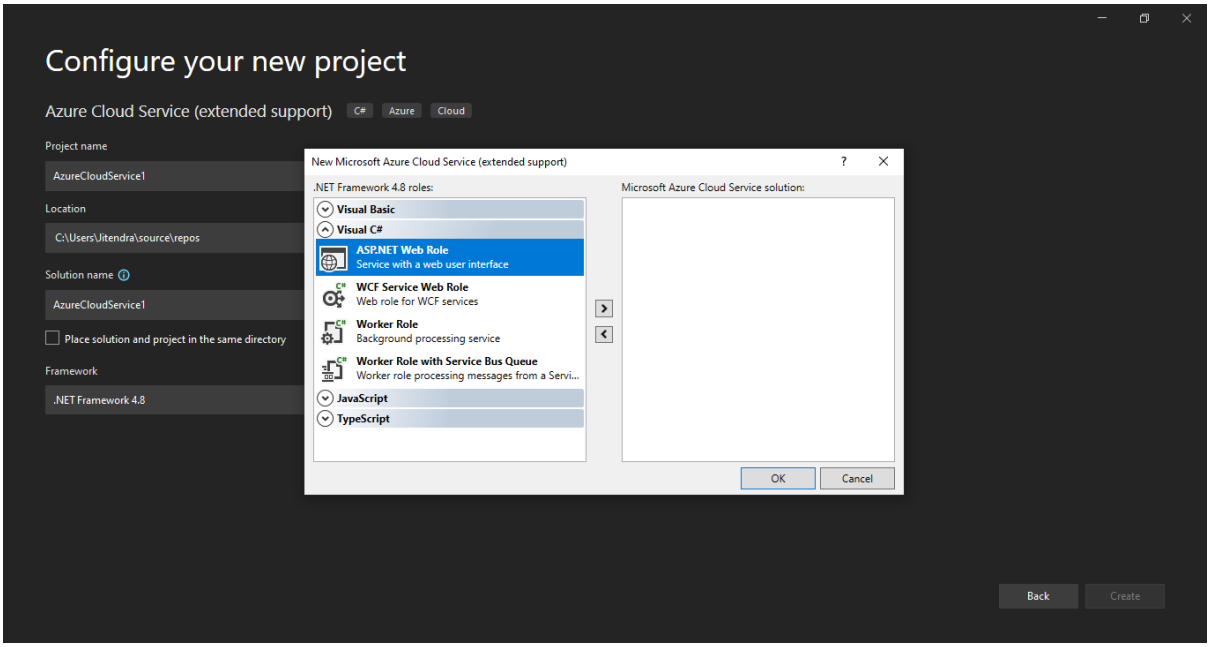
Now, Start the visual studio Project



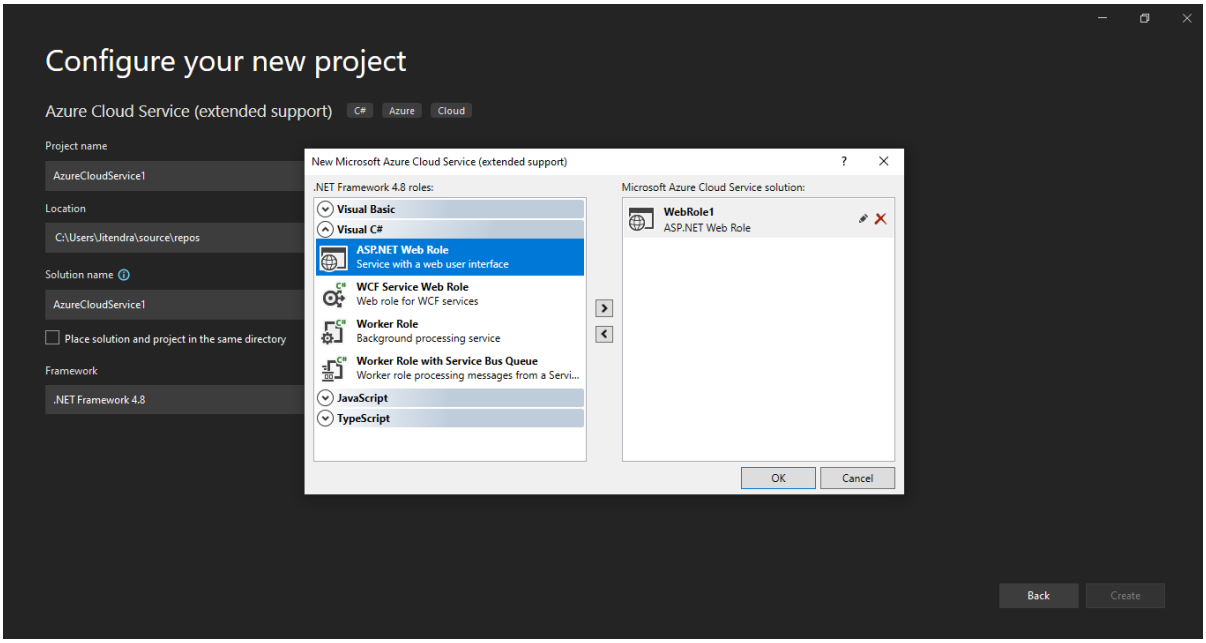
Go To File->New->Project

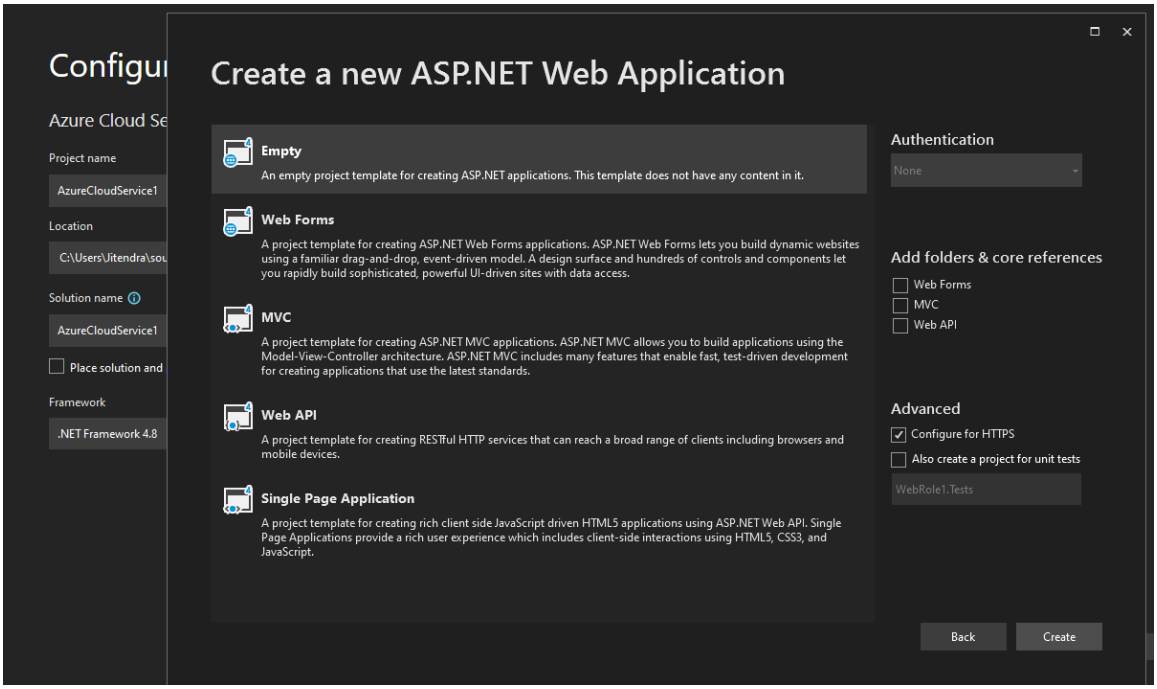




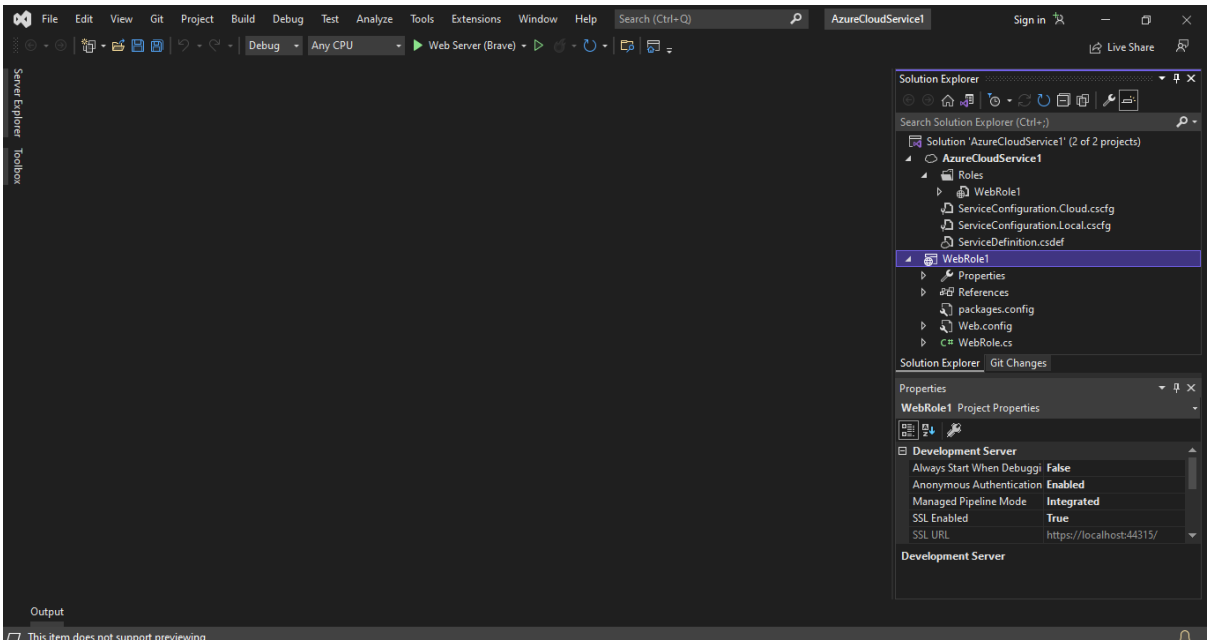


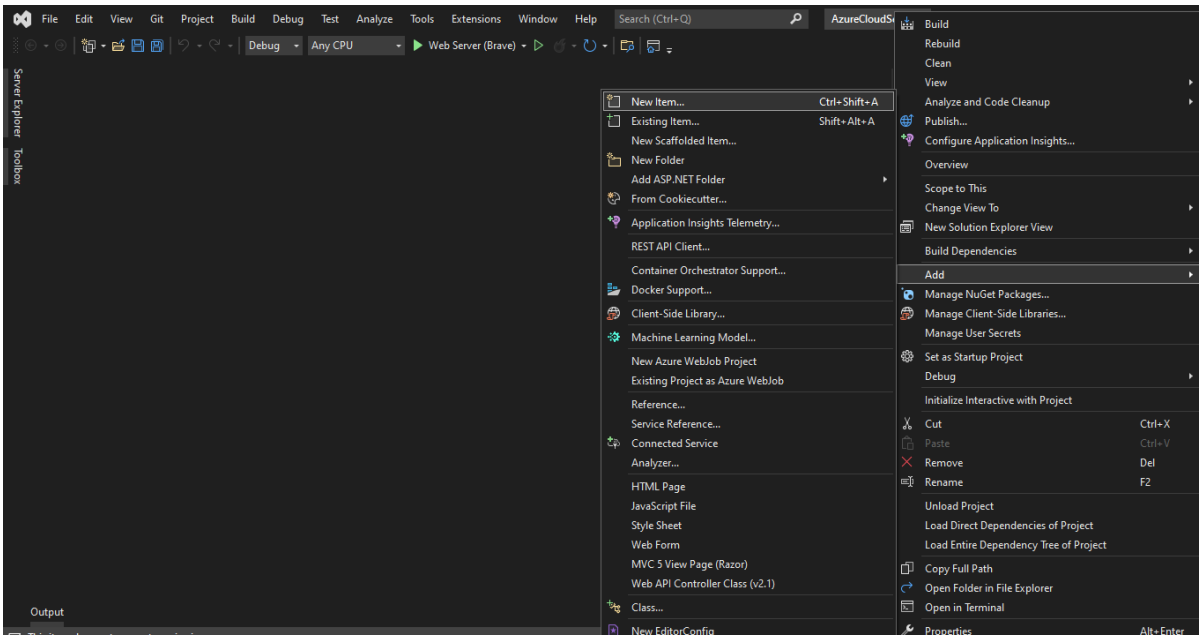
Configure your project


Configure your new project
Azure Cloud Service (extended support)
C#
Azure
Cloud
Project name
AzureCloudService1
Location
C:\Users\Jitendra\source\repos
Solution name
AzureCloudService1
Place solution and project in the same directory
Framework
.NET Framework 4.8
New Microsoft Azure Cloud Service (extended support)
.NET Framework 4.8 roles:
Visual Basic
Visual C#
ASP.NET Web Role
Service with a web user interface
WCF Service Web Role
Web role for WCF services
Worker Role
Background processing service
Worker Role with Service Bus Queue
Worker role processing messages from a Servi...
JavaScript
TypeScript
Microsoft Azure Cloud Service solution:
WebRole1
ASP.NET Web Role
OK
Cancel
Back
Create

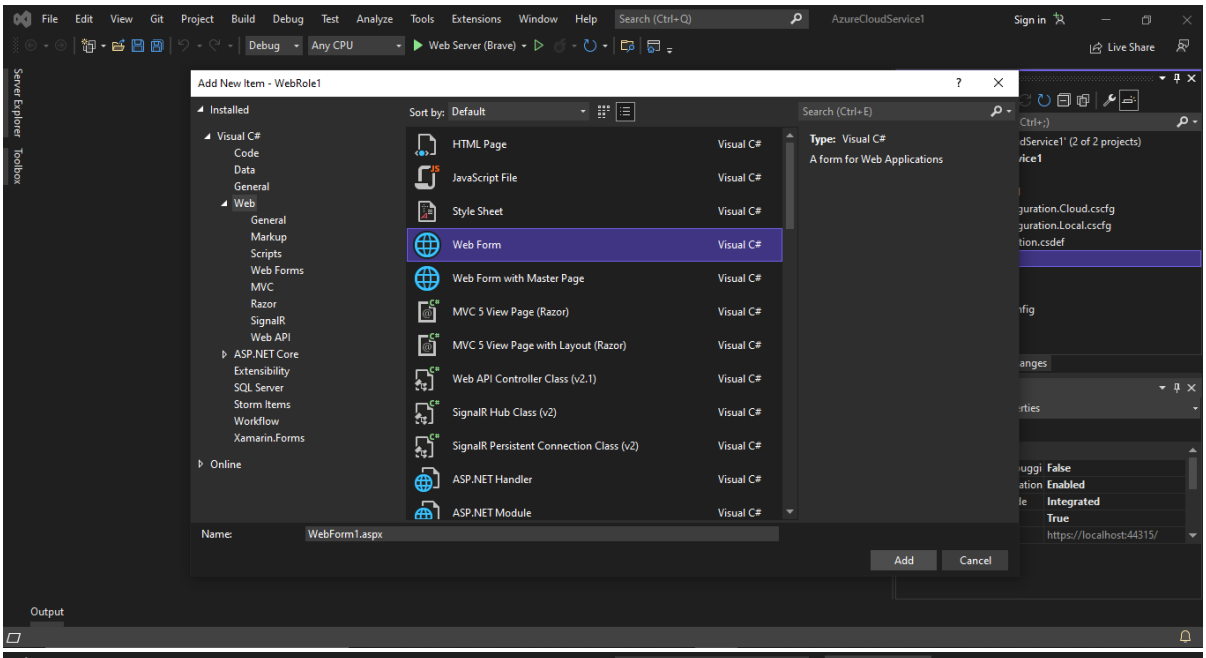

Create a new ASP.NET Web Application
Empty
An empty project template for creating ASP.NET applications. This template does not have any content in it.
Web Forms
A project template for creating ASP.NET Web Forms applications. ASP.NET Web Forms lets you build dynamic websites using a familiar drag-and-drop, event-driven model. A design surface and hundreds of controls and components let you rapidly build sophisticated, powerful UI-driven sites with data access.
MVC
A project template for creating ASP.NET MVC applications. ASP.NET MVC allows you to build applications using the Model-View-Controller architecture. ASP.NET MVC includes many features that enable fast, test-driven development for creating applications that use the latest standards.
Web API
A project template for creating RESTful HTTP services that can reach a broad range of clients including browsers and mobile devices.
Single Page Application
A project template for creating rich client side JavaScript driven HTML5 applications using ASP.NET Web API. Single Page Applications provide a rich user experience which includes client-side interactions using HTML5, CSS3, and JavaScript.
Authentication
None
Add folders & core references
Web Forms
MVC
Web API
Advanced
Configure for HTTPS
Also create a project for unit tests
WebRole1.Tests
Back
Create

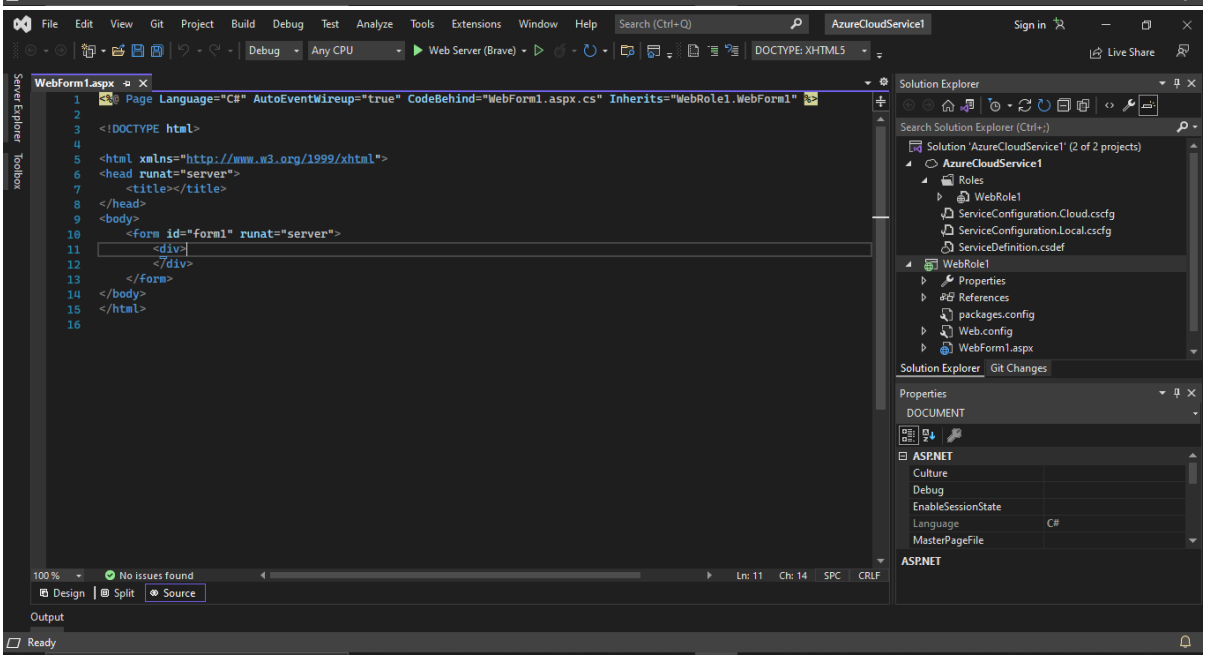
Right Click on WebRole1>>ADD>>New Item



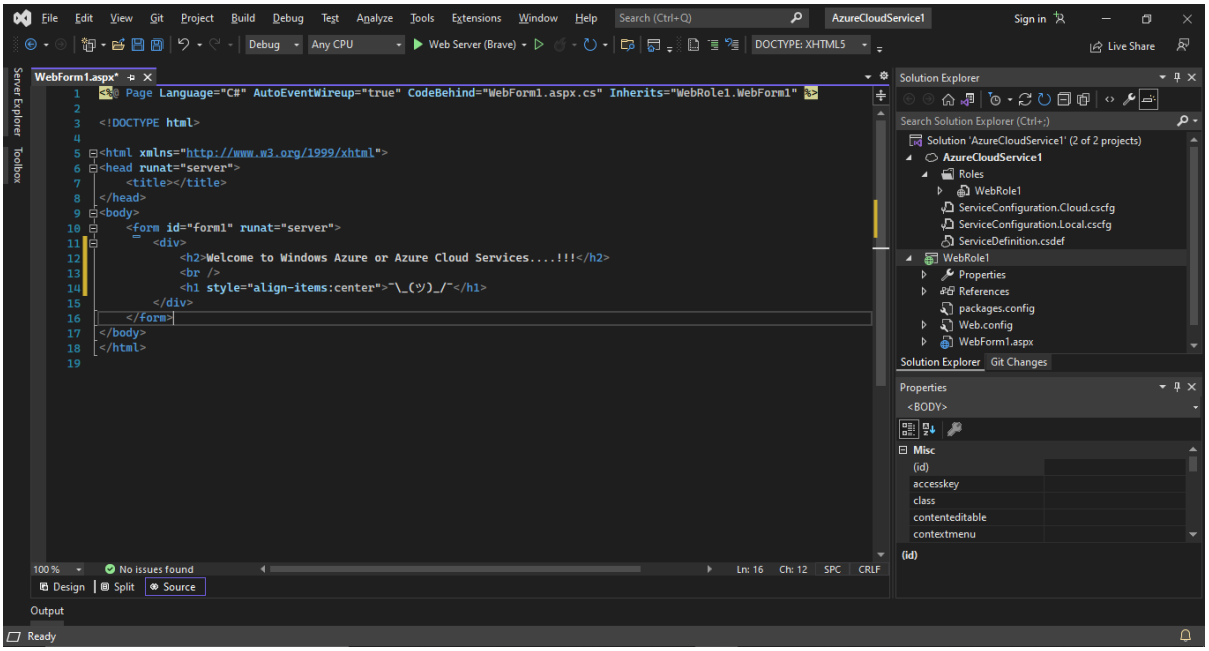


Add a New web Form. Give it a name. Click Add

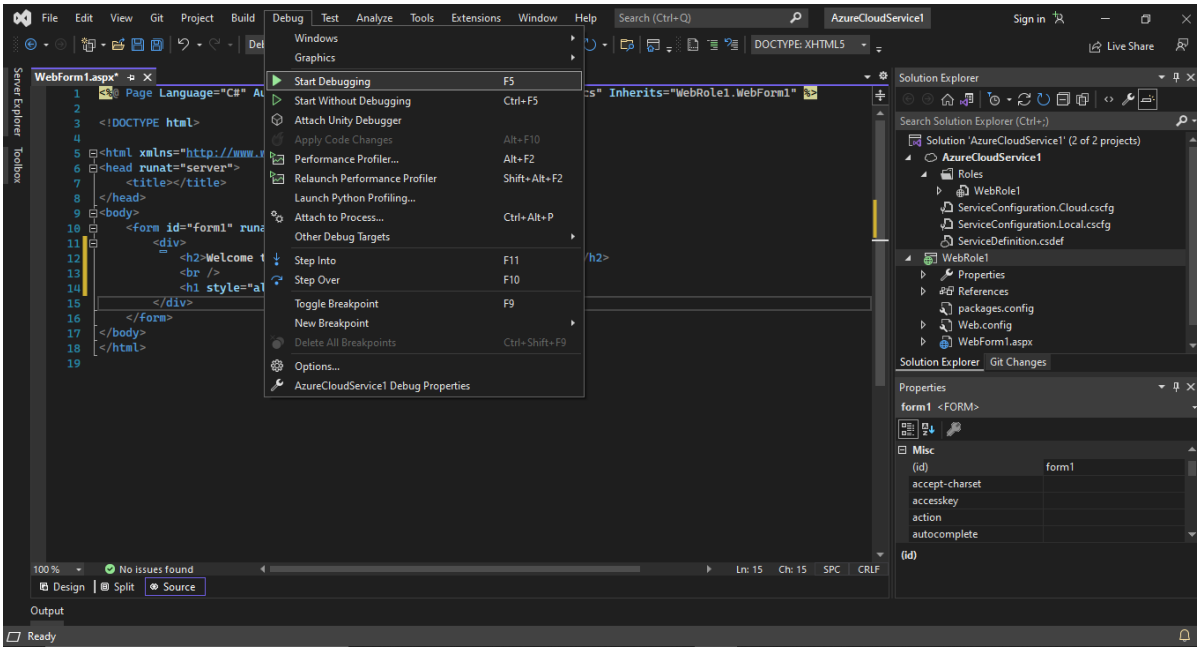

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
AzureCloudService1
Sign in
Debug
Any CPU
Web Server (Brave)
Live Share
Add New Item - WebRole1
Installed
Visual C#
Code
Data
General
Web
General
Markup
Scripts
Web Forms
MVC
Razor
SignalR
Web API
ASP.NET Core
Extensibility
SQL Server
Storm Items
Workflow
Xamarin.Forms
Online
Sort by: Default
HTML Page
JavaScript File
Style Sheet
Web Form
Web Form with Master Page
MVC 5 View Page (Razor)
MVC 5 View Page with Layout (Razor)
Web API Controller Class (v2.1)
SignalR Hub Class (v2)
SignalR Persistent Connection Class (v2)
ASP.NET Handler
ASP.NET Module
Type: Visual C#
A form for Web Applications
Name: WebForm1.aspx
Add
Cancel
Output

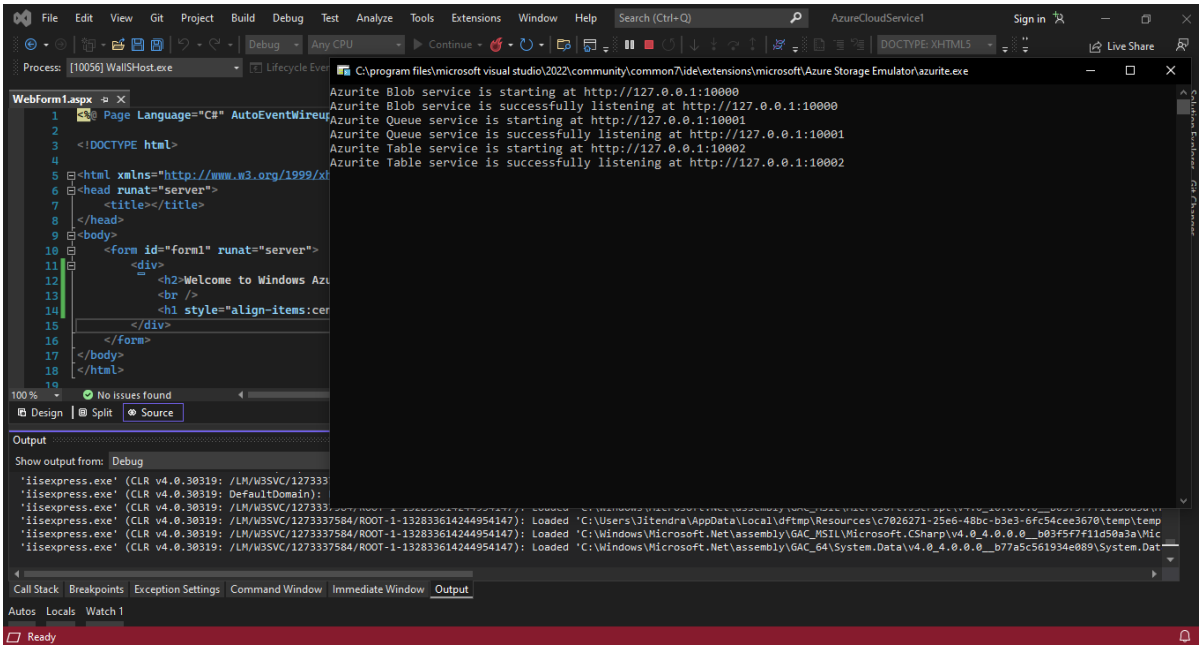

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
AzureCloudService1
Sign in
Debug
Any CPU
Web Server (Brave)
DOCTYPE: XHTML5
Live Share
WebForm1.aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs" Inherits="WebRole1.WebForm1" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
<title></title>
</head>
<body>
<form id="form1" runat="server">

</form>
</body>
</html>
100 %
No issues found
Ln: 11
Ch: 14
SPC
CRLF
Design
Split
Source
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'AzureCloudService1' (2 of 2 projects)
AzureCloudService1
Roles
WebRole1
ServiceConfiguration.Cloud.cscfg
ServiceConfiguration.Local.cscfg
ServiceDefinition.csdef
WebRole1
Properties
References
packages.config
Web.config
WebForm1.aspx
Solution Explorer
Git Changes
Properties
DOCUMENT
ASP.NET
Culture
Debug
EnableSessionState
Language
C#
MasterPageFile
ASP.NET
Output
Ready

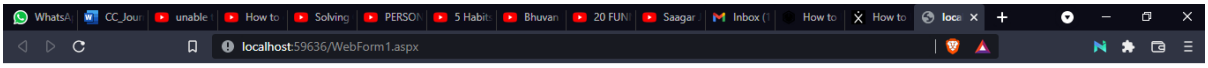


Deploy the project: -





Run Project



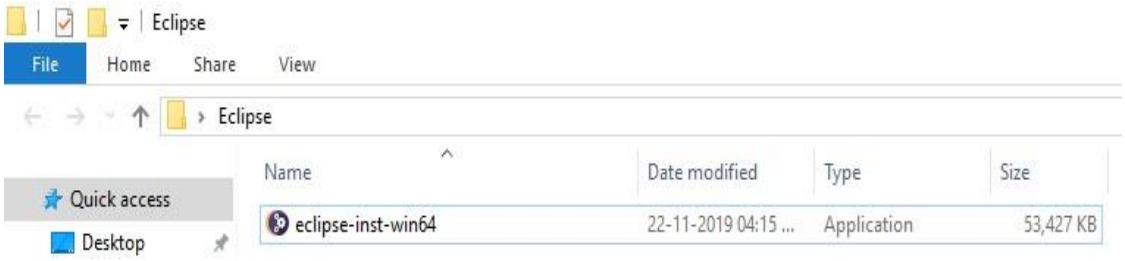
Welcome to Windows Azure or Azure Cloud Services....!!!

¯_(ツ)_/¯

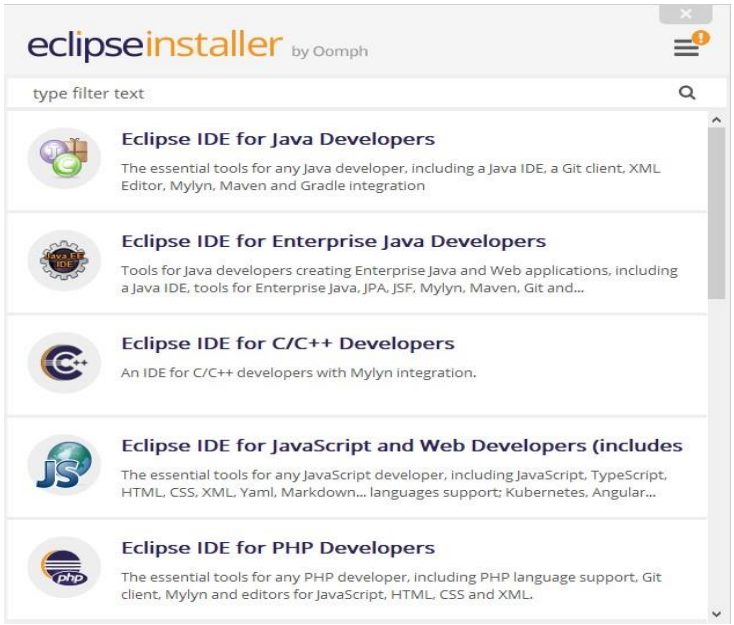
Practical No: 10

Aim: Develop application for Google App Engine

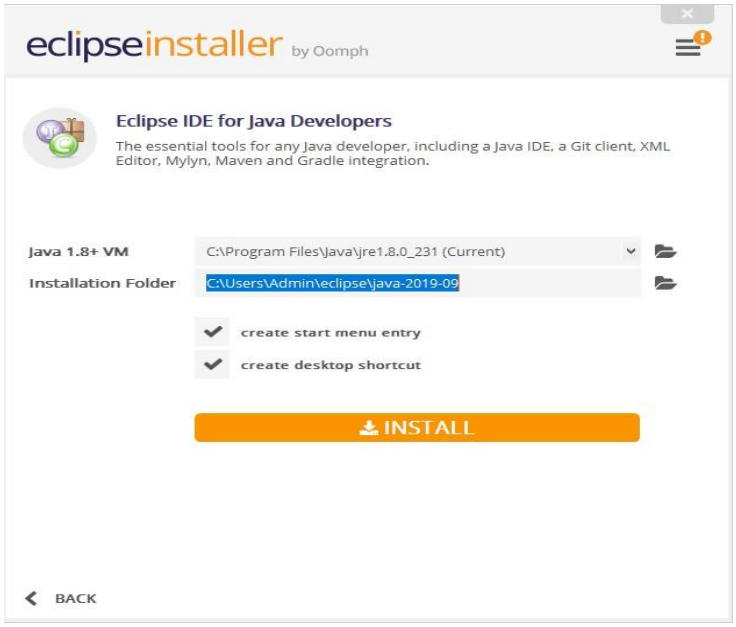
Step 1: Download **"Eclipse-inst-win64"** and run the application setup file.



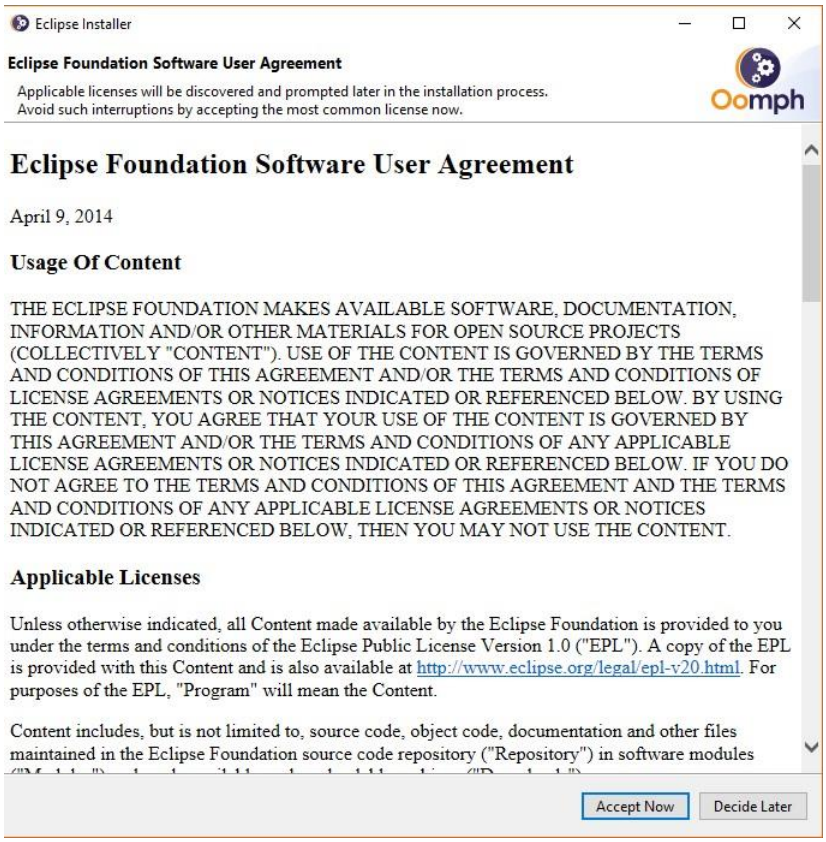
Step 2: Click on **"Eclipse IDE for Java Developers"** to install it in eclipse.



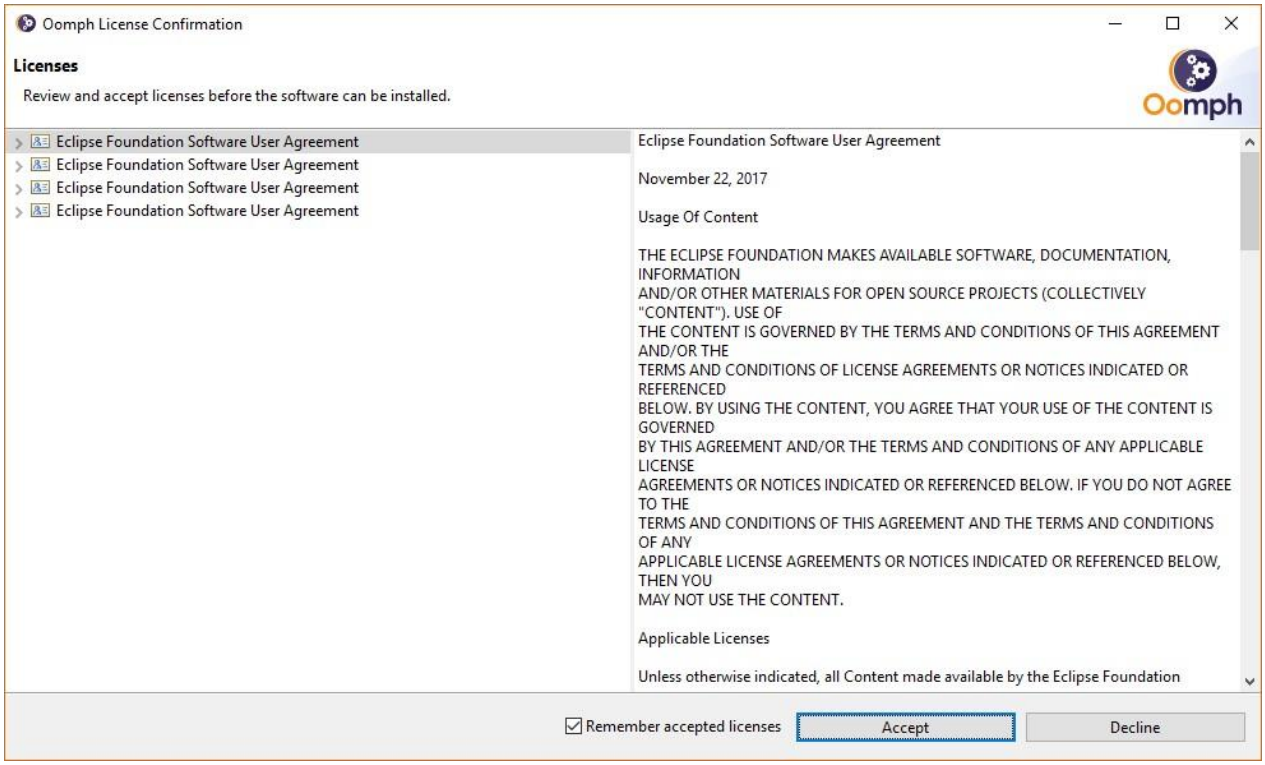
Step 3: Click on **"INSTALL"** after ensuring that all the checkbox are checked'



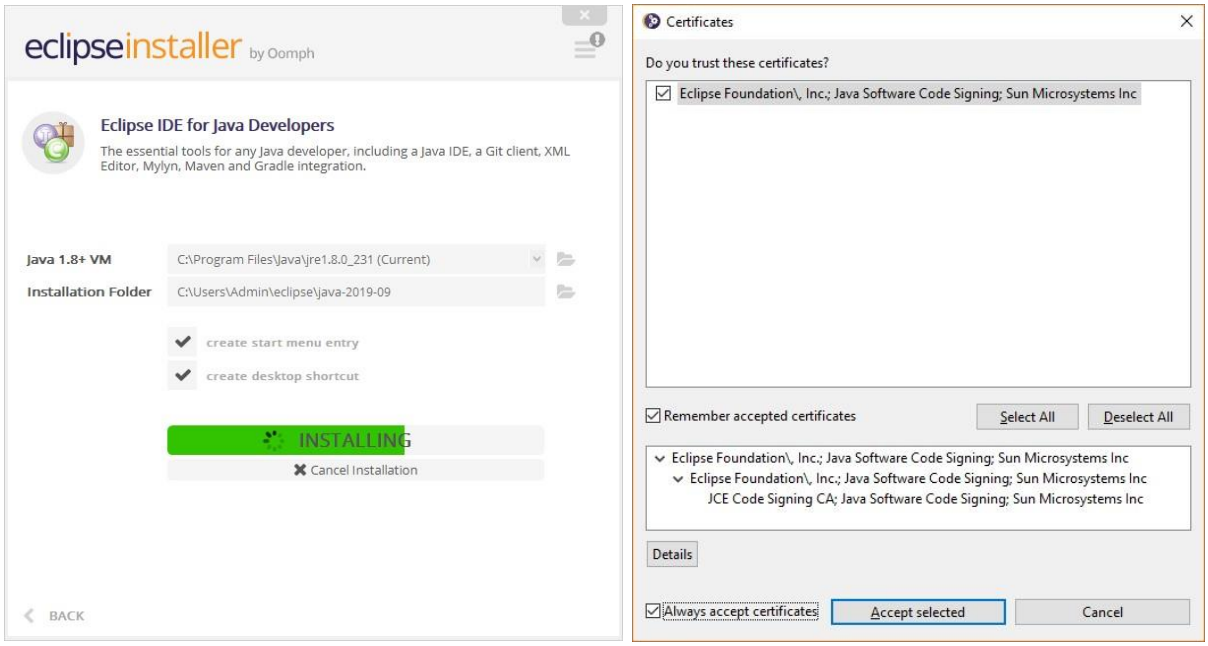
Step 4: Click on “Accept Now”



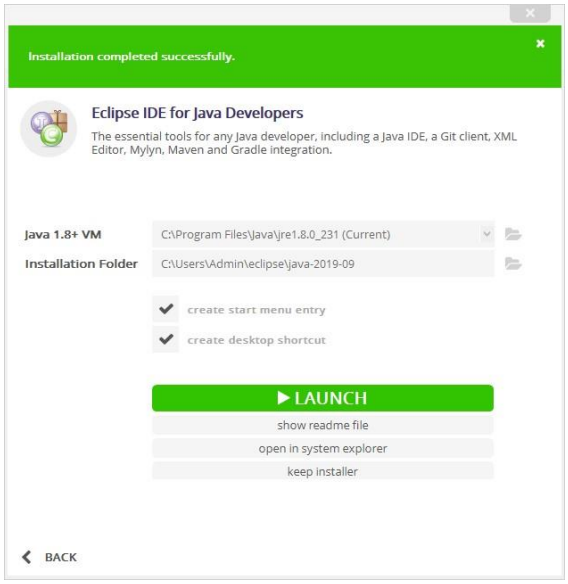
Step 5: Check the checkbox “Remember accepted licenses” and click on “Accept



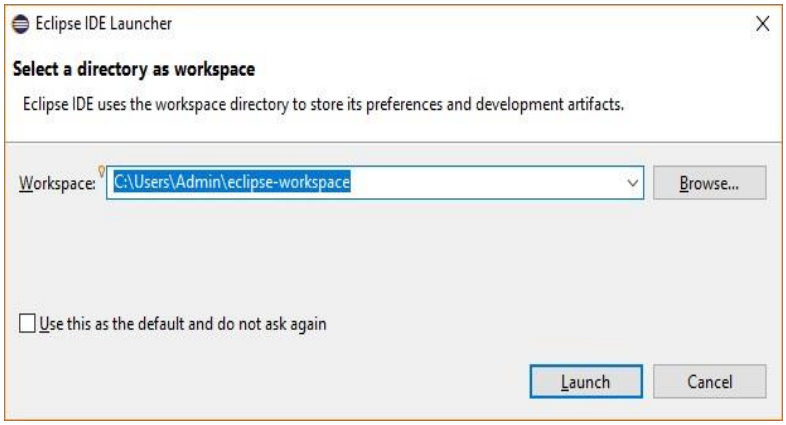
Step6: Wait till the installation is completing when **"Certificates"** box is displayed check all the check box as shown below and then click on **"Accept Selected".**



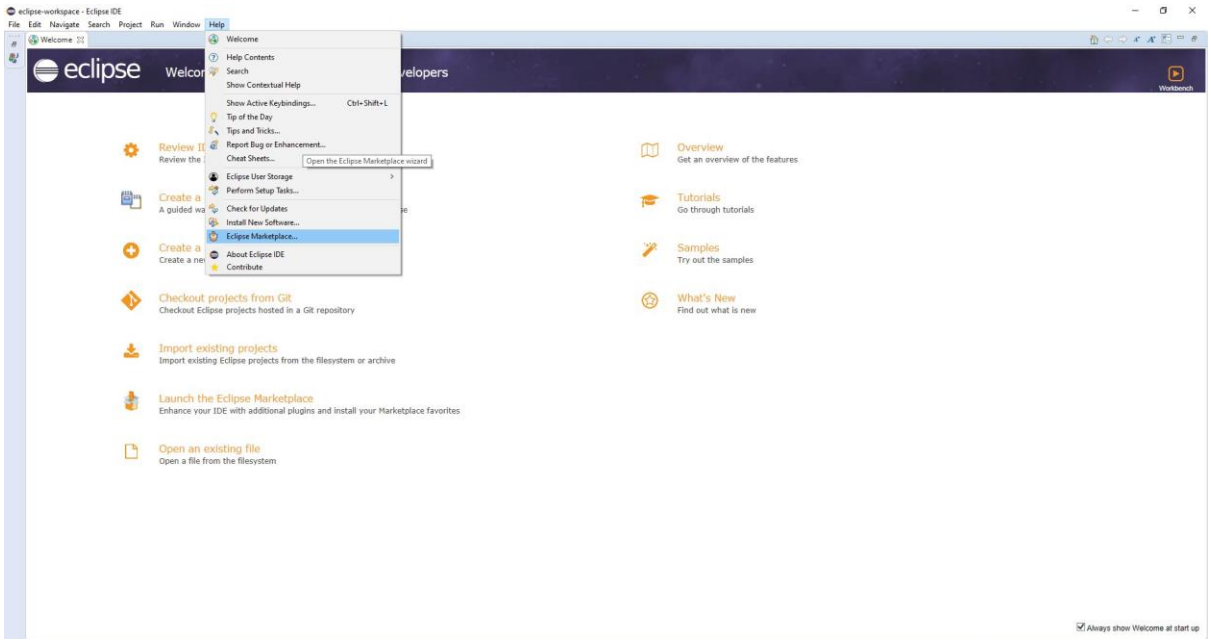
Step 7: When installation completes successfully Click on **"LAUNCH"** Eclipse will launch.



Step 8: Click on **"Launch".**

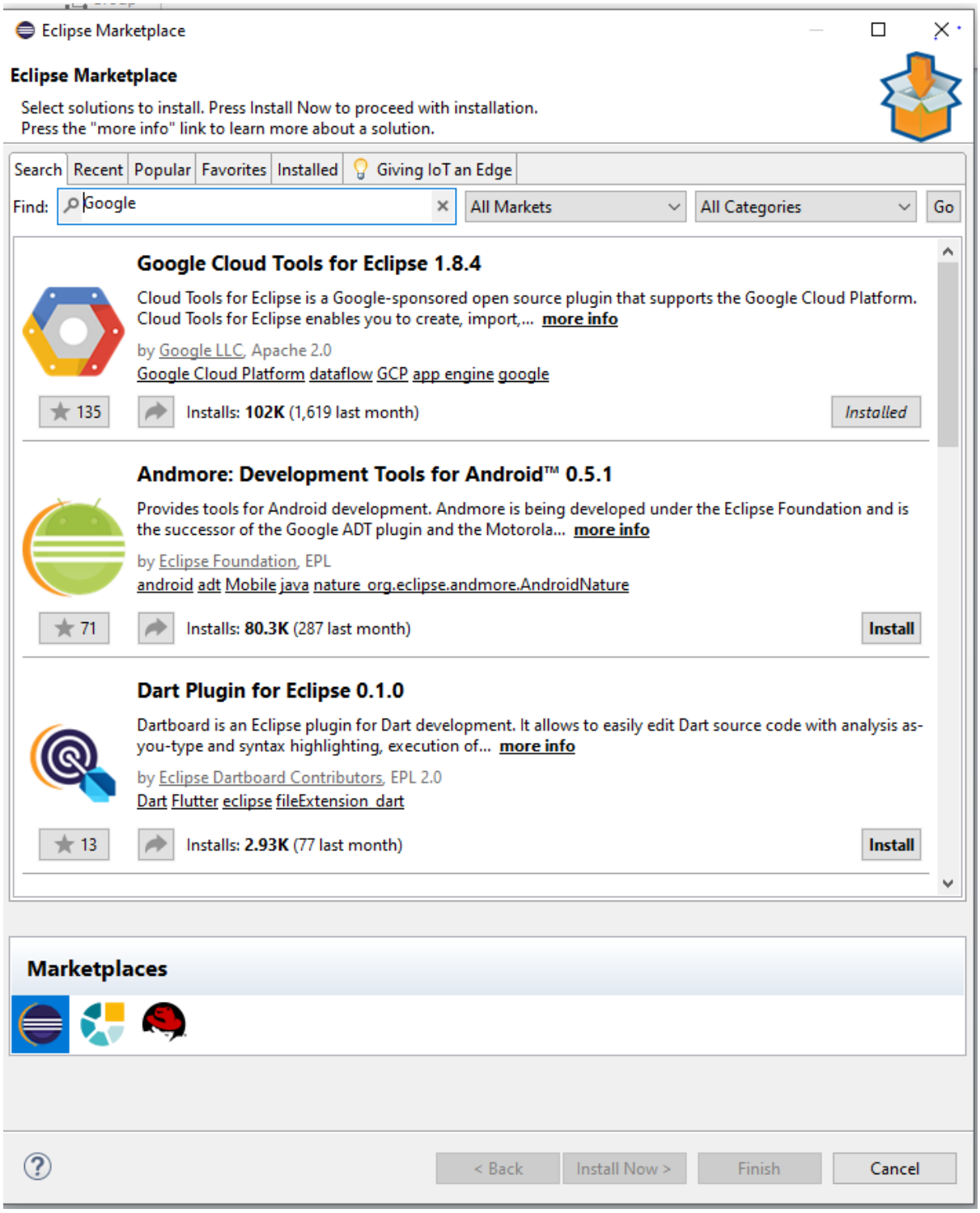


Step 9: Click on **"Help"** and then **select "Eclipse Marketplace..."**

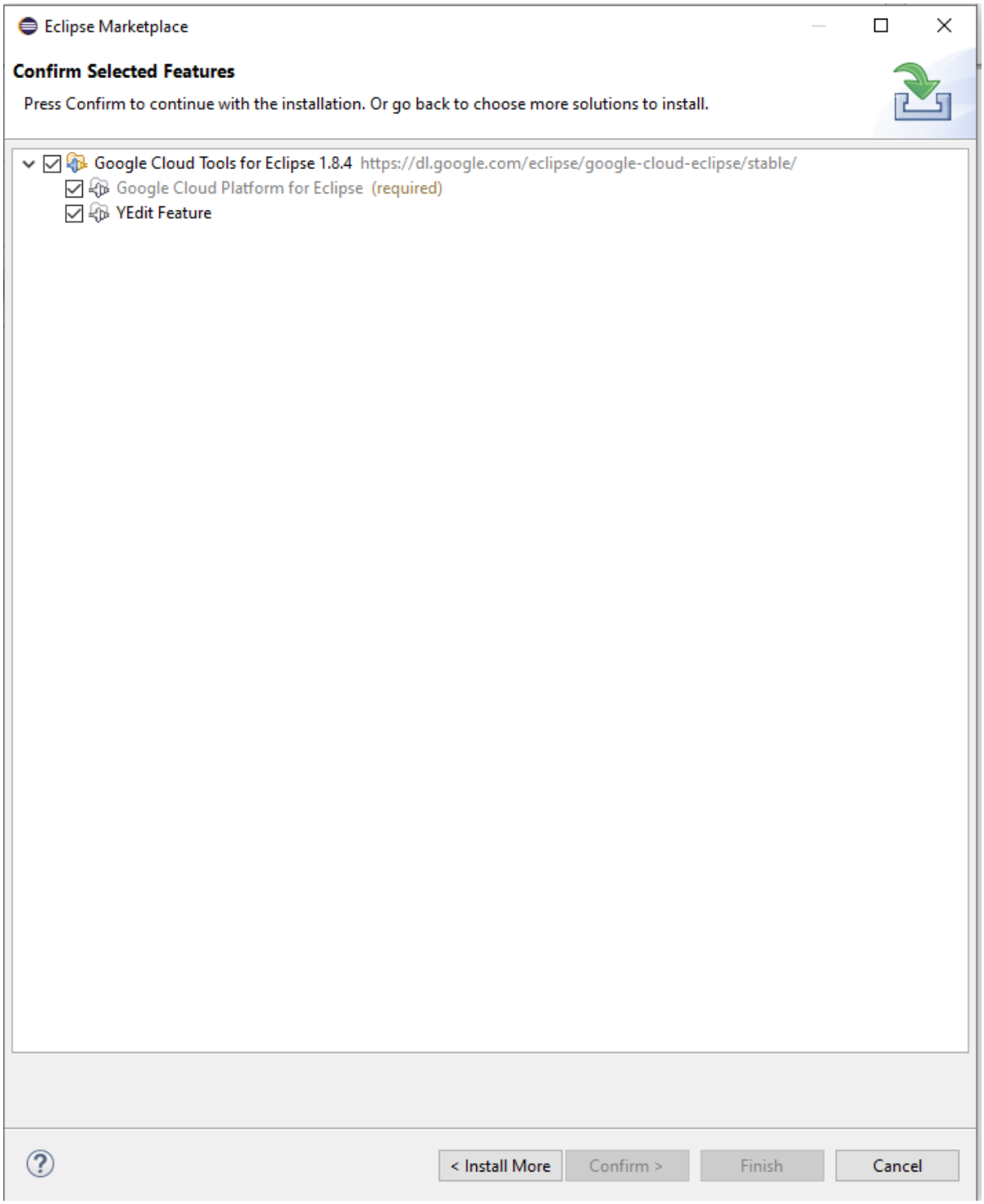


Step 10: Eclipse Marketplace will be displayed on screen Enter **"Google"** in Find Bar and press Enter.

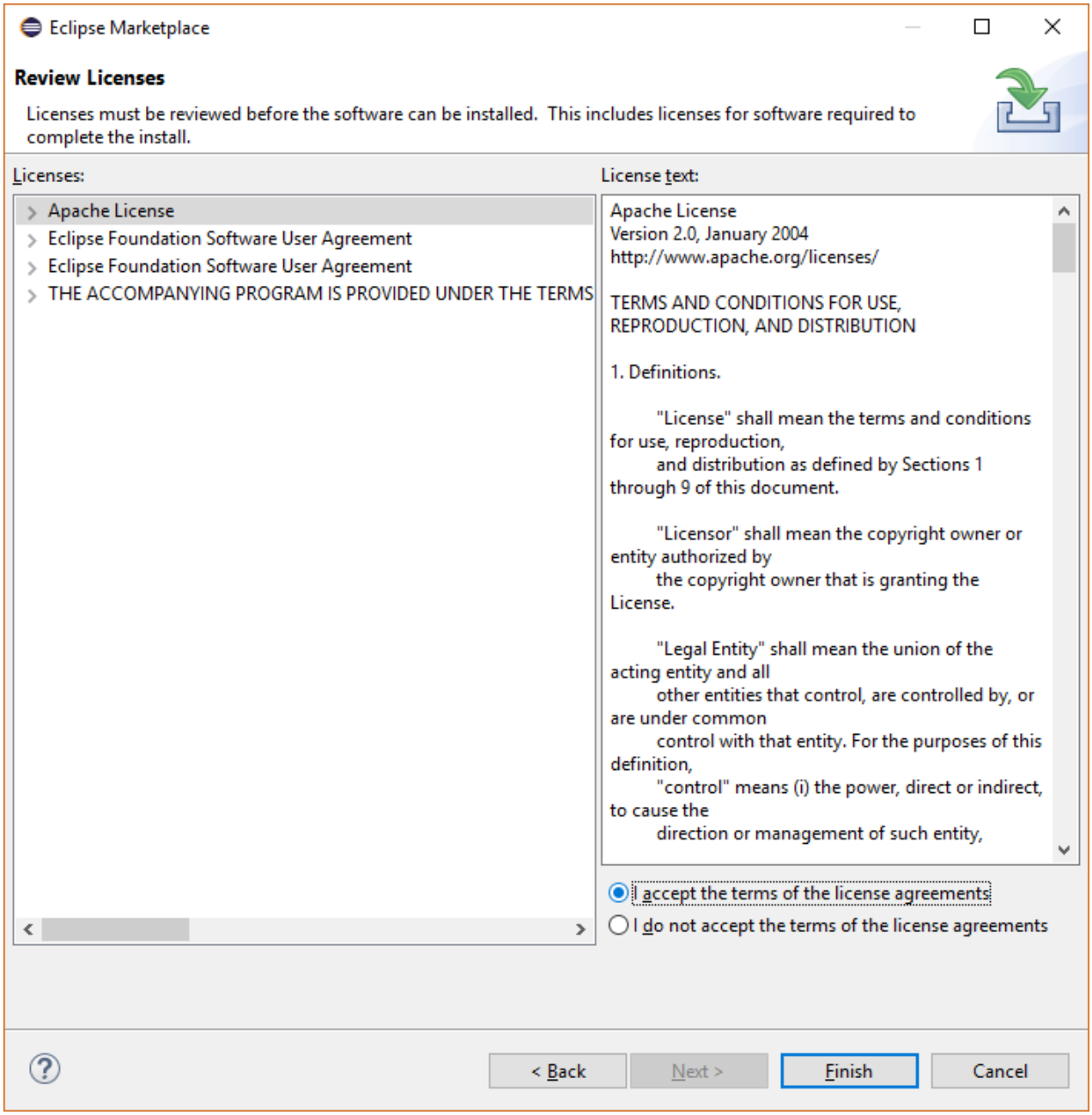
Step 11: Select **"Google Cloud Tools for Eclipse 1.8.2"** and click on install.


Eclipse Marketplace
Eclipse Marketplace
Select solutions to install. Press Install Now to proceed with installation.
Press the "more info" link to learn more about a solution.
Search
Recent
Popular
Favorites
Installed
Giving IoT an Edge
Find:
Google
All Markets
All Categories
Go
Google Cloud Tools for Eclipse 1.8.4
Cloud Tools for Eclipse is a Google-sponsored open source plugin that supports the Google Cloud Platform. Cloud Tools for Eclipse enables you to create, import,... more info
by Google LLC, Apache 2.0
Google Cloud Platform dataflow GCP app engine google
135
Installs: 102K (1,619 last month)
Installed
Andmore: Development Tools for Android™ 0.5.1
Provides tools for Android development. Andmore is being developed under the Eclipse Foundation and is the successor of the Google ADT plugin and the Motorola... more info
by Eclipse Foundation, EPL
android adt Mobile java nature_org.eclipse.andmore.AndroidNature
71
Installs: 80.3K (287 last month)
Install
Dart Plugin for Eclipse 0.1.0
Dartboard is an Eclipse plugin for Dart development. It allows to easily edit Dart source code with analysis as-you-type and syntax highlighting, execution of... more info
by Eclipse Dartboard Contributors, EPL 2.0
Dart Flutter eclipse fileExtension_dart
13
Installs: 2.93K (77 last month)
Install
Marketplaces
< Back
Install Now >
Finish
Cancel

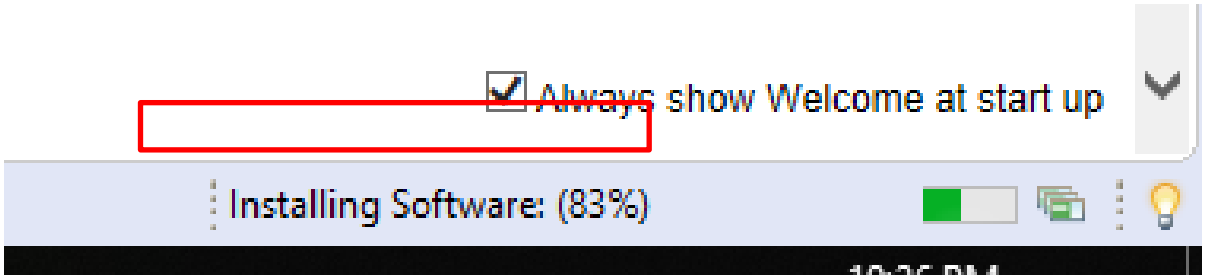
Step 12: Select all check boxes Click on **"Confirm"**.



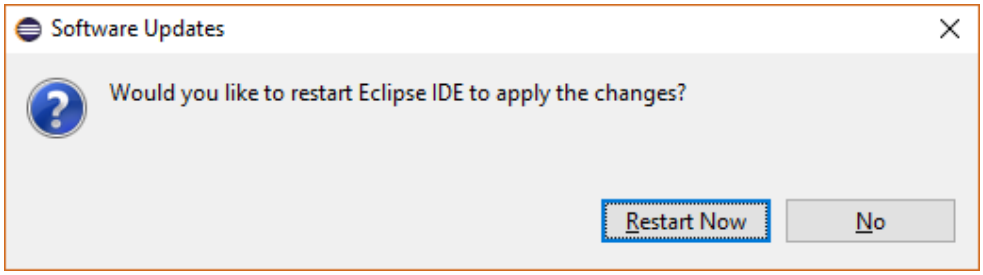
Step 13: Select **"I accept"** radio button and then click on **"Finish".**



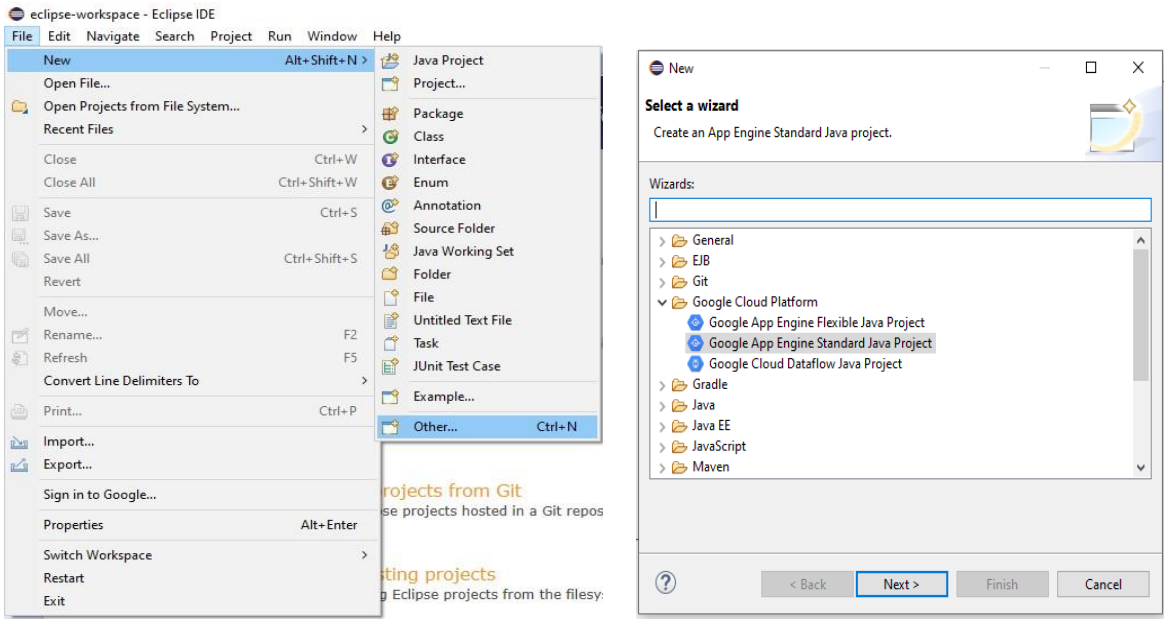
#let the installation of "**google app engine"** get successfully installed



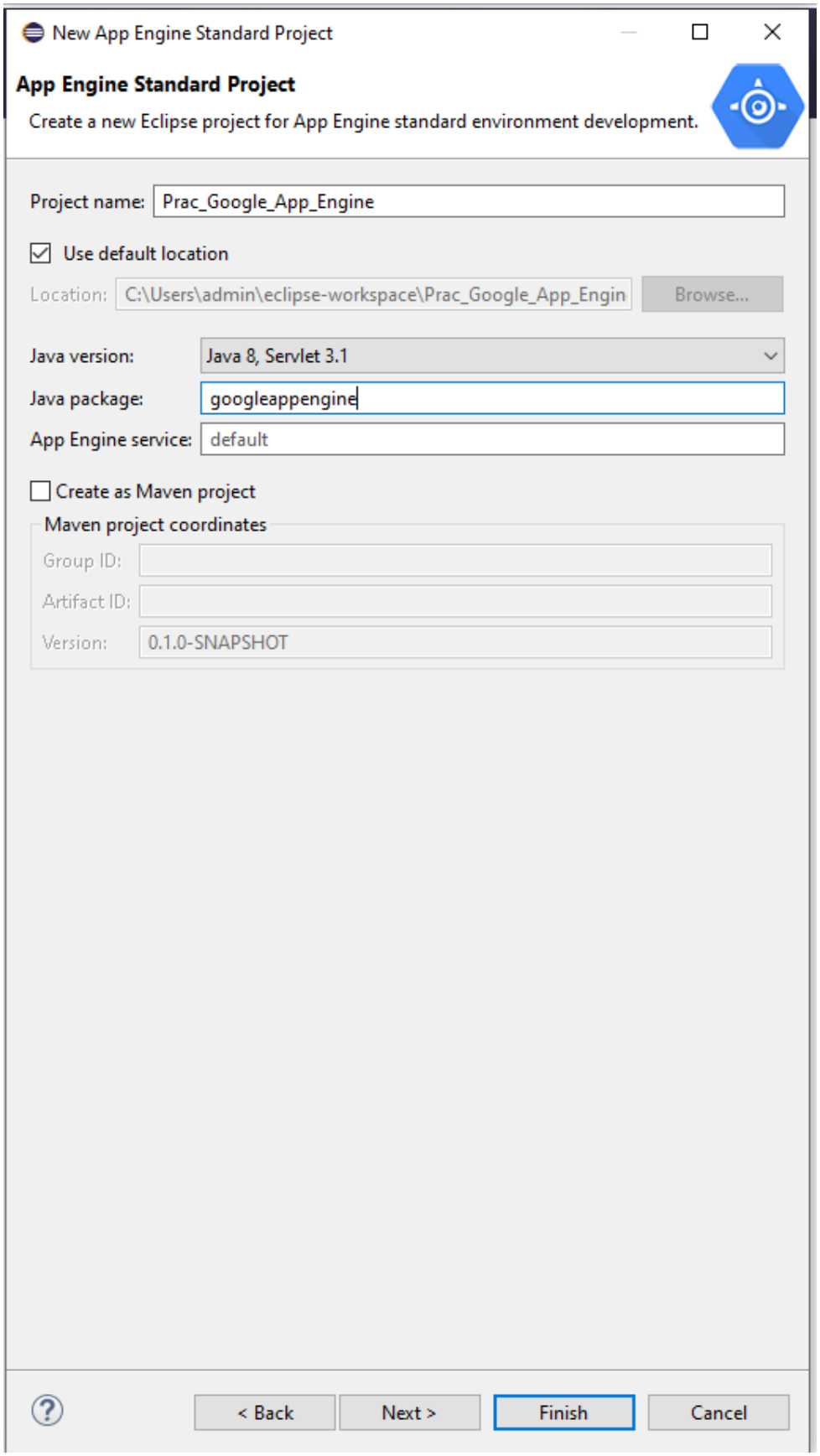
Step 13: After successful installation Popup will appear click on **"Restart Now"** it's compulsory to restart the application.



Step 13: Now we need to create a web application for google app engine to do so for following steps:
Select: File -> Other.
Select **"Google App Engine Standard Java Project"** and then click on **"Next".**



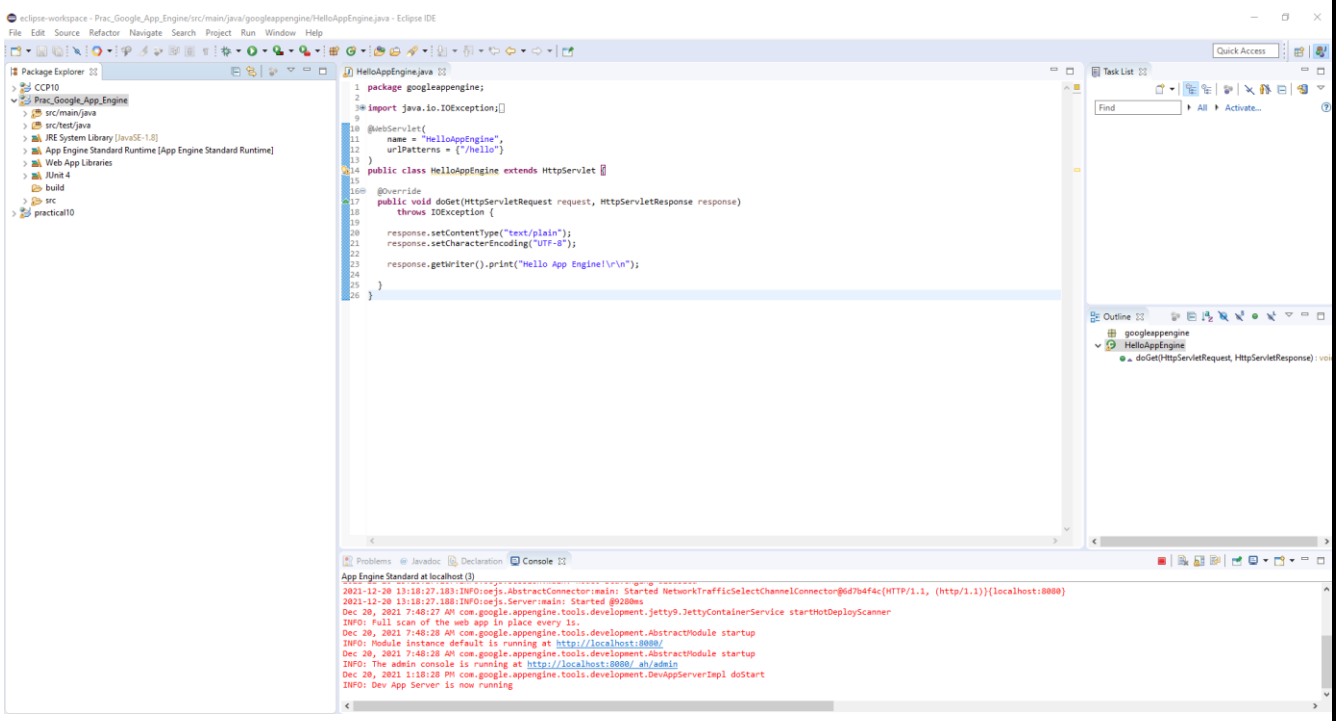
Step 14: Enter Project Name **"Pract_Google_App_Engine"** and Java Package Name **"googleappengine"** then click on finish.



Step 15: open your project and open File **"HelloAppEngine.java"** under package.

Step 16: #design your web page

Replace : **“response.getWriter().print("Hello App Engine!\r\n");”**
With: “**response.getWriter().print(“This is my Practical no 10 Of Google App Engine!\r\n”);**”

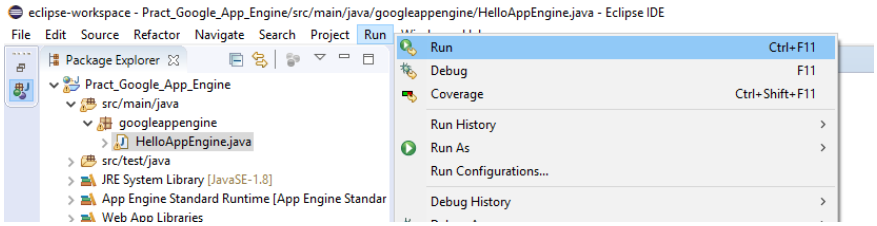


Code:

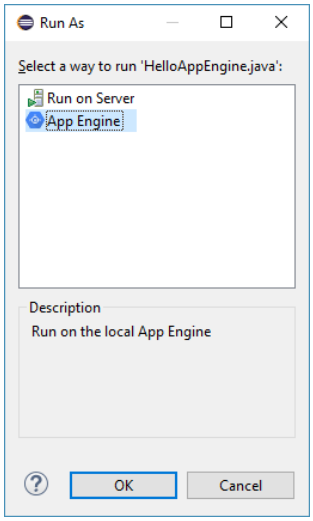
```
package googleappengine;
import java.io.IOException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
@WebServlet(
    name = "HelloAppEngine",
    urlPatterns = {"/hello"}
)
public class HelloAppEngine extends HttpServlet {
  @Override
  public void doGet(HttpServletRequest request, HttpServletResponse response)
      throws IOException {
    response.setContentType("text/plain");
    response.setCharacterEncoding("UTF-8");
    response.getWriter().print("This is my Practical no 10 Of Google App Engine!\r\n");
  }
}
```

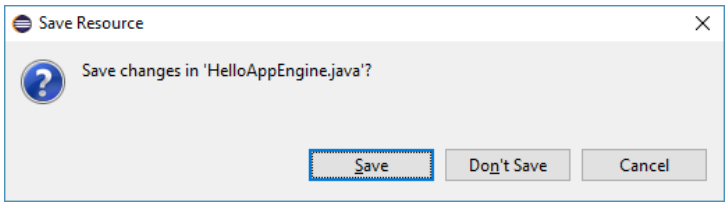
Step 17:

Select: **Run -> Run**

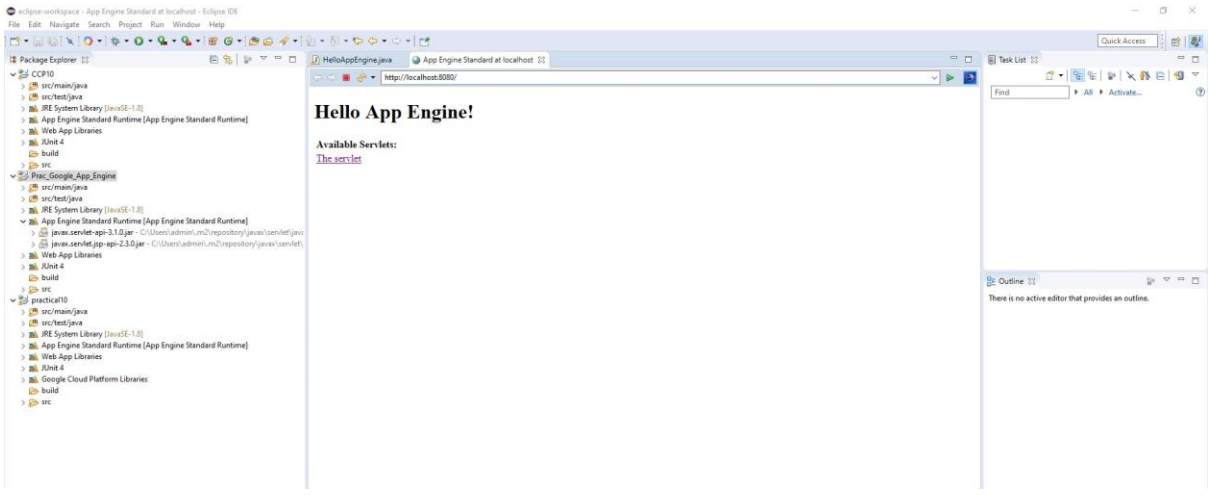


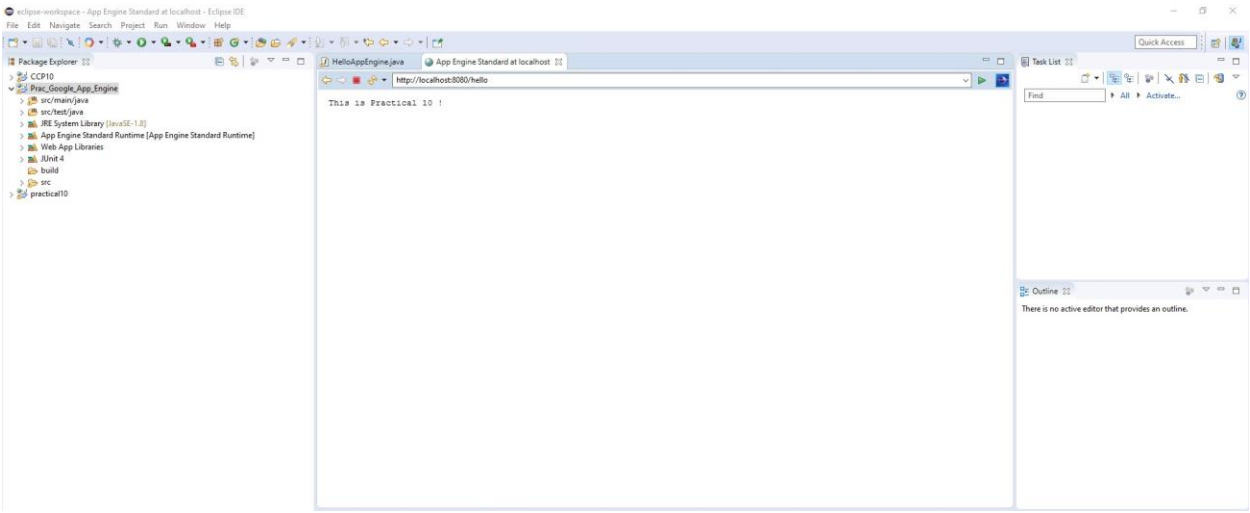
Step 18:
Click on **"App Engine"** and then click on **"OK"**
#Make sure file is **"save"**





Step 19: Localhost will start and the **"localhost:8080"** will display Available Servlets.





Now go to Your Local Browser

Output:

Click on your servlet **"The servlet"** and then Output will displayed