SUNDE®

User's Manual
For vPoint2.2
&
Diana 2

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Thank you for purchasing Diana2 cloud terminal from SUNDE by Huiyuan Co., Ltd. Please refer to this manual for the installation of vPoint 2.2 software and setting-up of Diana2 terminal.

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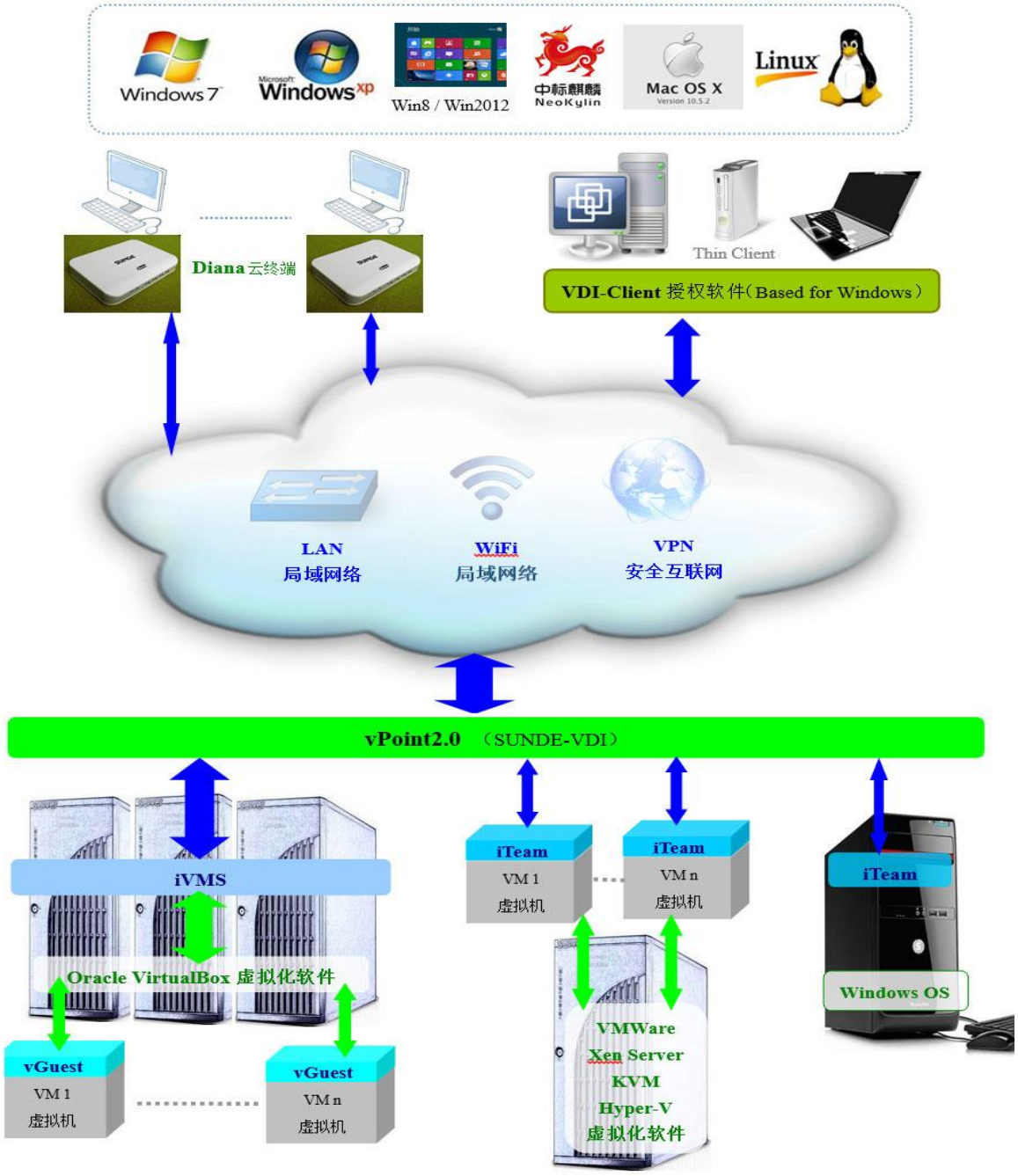
Chapter 1 What' New about vPoint2.2 and Requirements on Host Server Hardware

1.1 What's New about vPoint2.2?

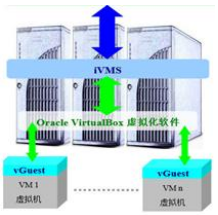
Compared to earlier vPoint1.0 (single host server version, using VirtualBox 4.2.8), vPoint2.2 Server supports multiple VM host servers, which means you do not need to install vPoint2.2 Server on each VM host server except one. And you can even install vPoint Server on a small server with no virtualization capability, running no virtual machines – in this configuration, a sudden shutdown of vPoint Server will not affect the working status of Diana devices which are connecting to host servers already.

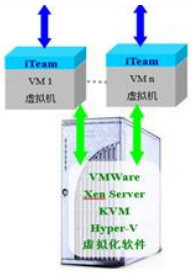
As compared to earlier vPoint 2.0 & vPoint 2.1, vPoint2.2 can set up more than one iServer connection broker server to handle the authentication and the connection between Diana and VMs. And these multiple iServers can be configured to share the work load and back up for one another. One iServer down will not affect other iServer, so the whole system can still work properly.

1.2 Typical Network Construction of vPoint2.2



Picture 1

As shown in Picture 1,  part indicates using VirtualBox as the virtualization software. In the server group, there should be at least on vPoint Server installed to take care of connection broker and accounts management job.



part indicates how iTeam works with VMs created by other virtualiztion software like VMware, XenServer, KVM, Hyper-V, etc.. Users only need to install iTeam into the Windows OS of the VMs. Nothing need to be changed to their virtualization platforms. See iTeam User Manual for more details.



part indicates how iTeam turns a PC/workstation/notebook and similar products into virtual desktops that can be used by Diana users. This is very useful for some art design companies who what to have better security on their design works. For example, the CAD workstation can be locked in the computer lab (or datacenter), designers connected to the workstation with Diana devices. The system can prevent Diana users to copy any data from the workstation.

The VDI-Client as shown in Picture 1 is another new product by SUNDE. VDI-Client is the software version of Diana. A PC/Notebook installed with VDI-Client can connect to a virtual desktop provided by vPoint2.2 same as a Diana device. VDI-Client is not a free software. Users need to pay for it.

1.3 Requirements on Host Server Hardware Configuration

The Host server shall be able to run 64bit version Windows 2008 and its CPU shall support virtualization (VT for INTEL, AMD-V for AMD). The size of RAM is decided by the numbers of virtual machines to be created on the Host PC (Server). For a 10 virtual machines host, If 512Mb to 1024Mb memory is going to be assigned for each virtual machine, an amount of 8Gb to 12Gb RAM in total shall be installed on the Host PC (Server). SSD (Solid State Drive) is recommended for faster storage if the number of virtual machines to be created is above 5. SSD (Solid State Drive) is a perfect choice for housing virtual machines for higher performance.

Chapter 2 Install vPoint2.2 on Host Servers

Before installing vPoint2.2, 64bit operation system (namely 64bit version of Windows 7, Windows 8, Windows 2008R2 or Windows 2012) shall have been already installed on the Host Server. For host server OS, Windows 2008R2 64 bit version is highly recommended.

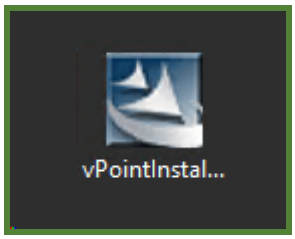
OS supported by Diana

Host Server OS	VM OS
Windows 7 all 64bit version	All Windows OS Supported by VirtualBox
Windows 2008R2 all 64bit version	All Linux OS Supported by VirtualBox
Windows 8 all 64bit version	All other (MAC, Android) OS by VirtualBox
Windows 2012 all 64bit version	

There are 3 types of installation of vPoint2.2 to meet various actual users situation. Now we will introduce them one by one.

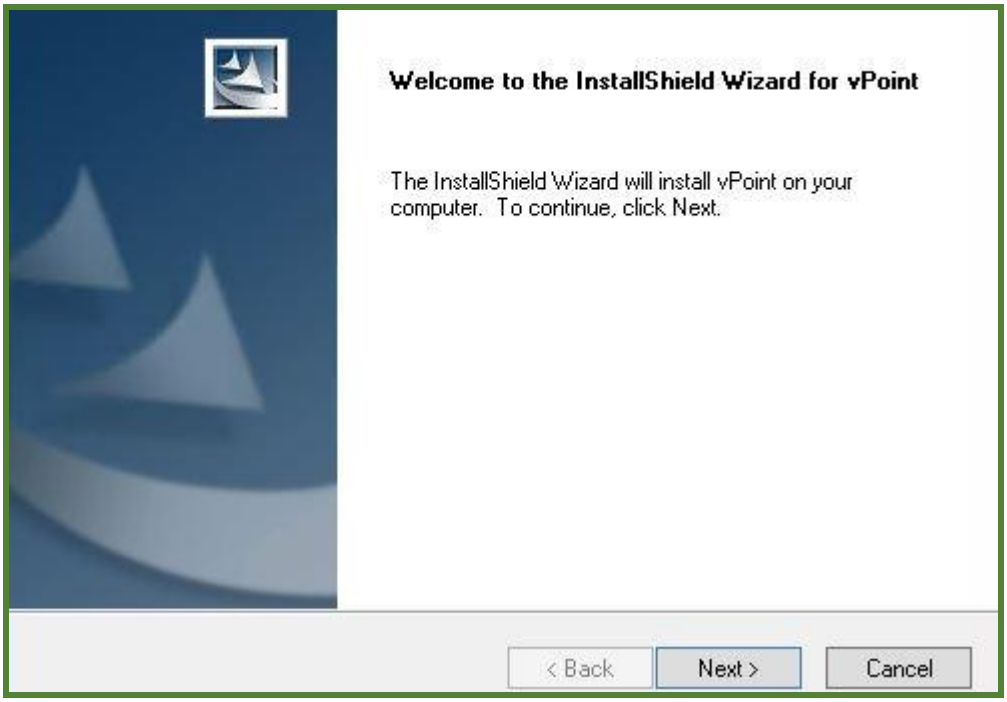
2.1 Only install the Server part (the WebConsole and Connection broker) – for server not to be used as VM host. Here are the steps:

Double click on “vPointInstaller”. See Picture 2:



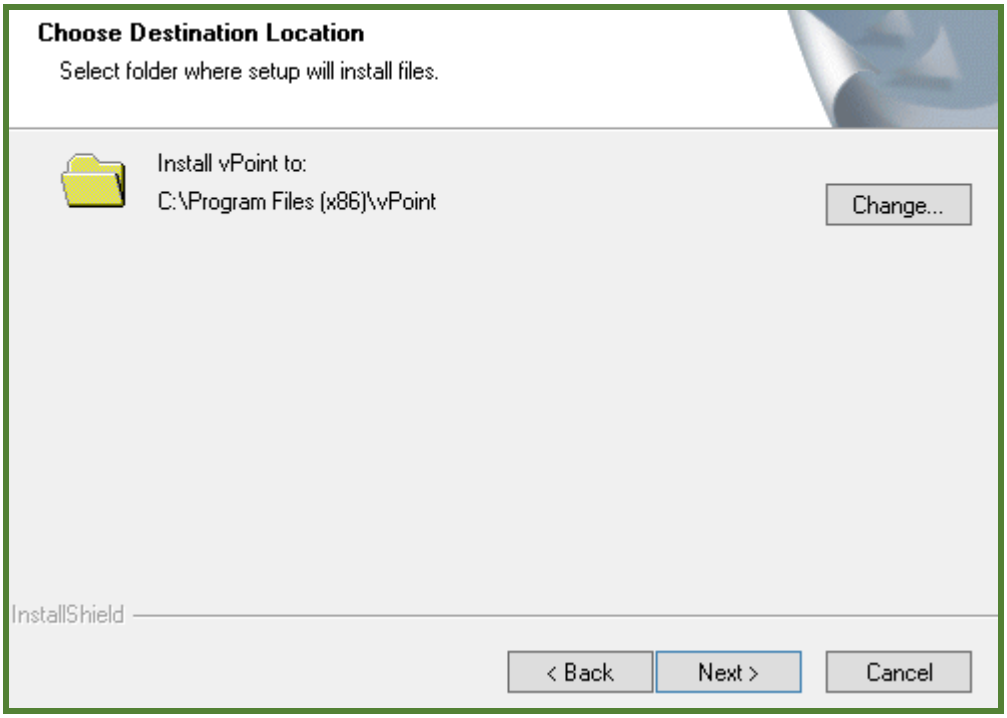
Picture 2

Click on “Next” to continue. Picture 3:



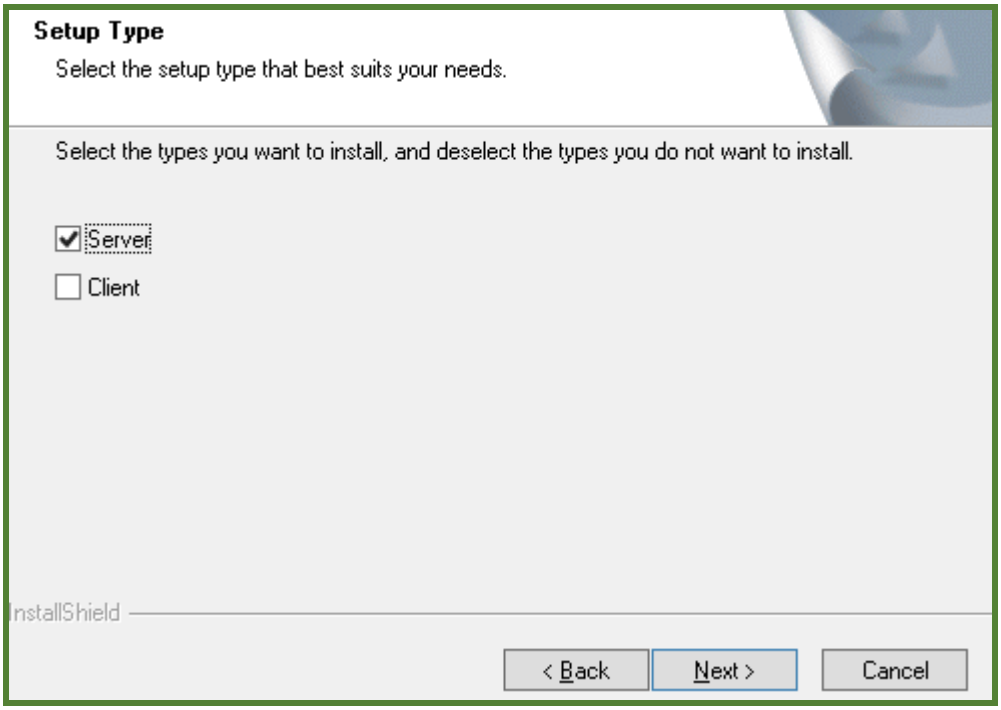
Picture 3

Choose “Destination Location”. We can use the default. Picture 4:



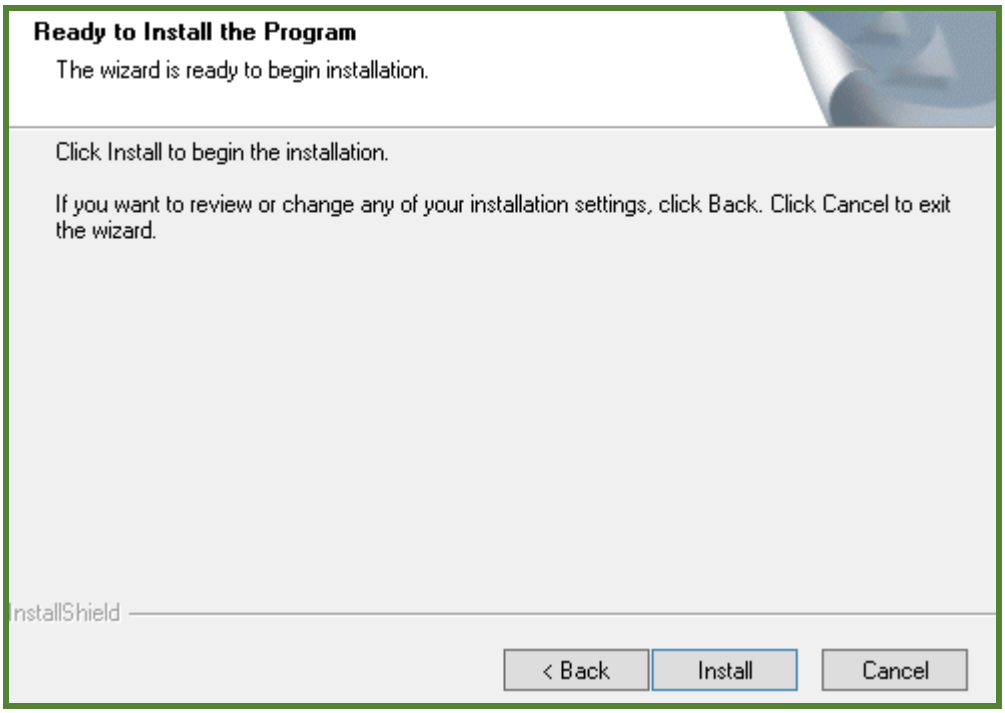
Picture 4

Select “Server” only. Then continue with “Next” . Picture 5:



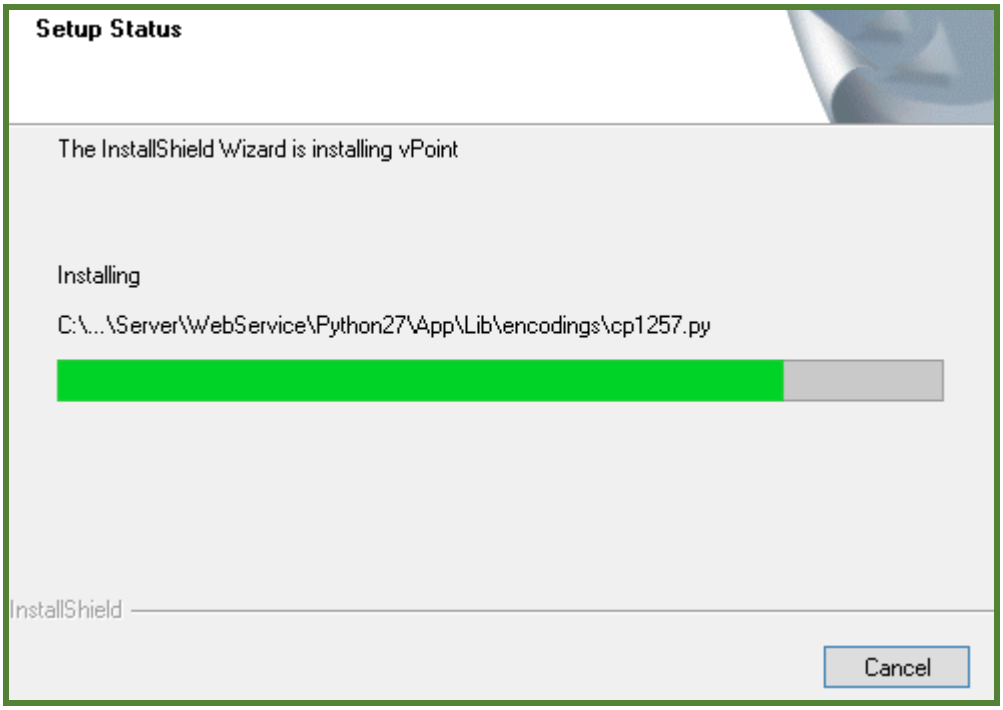
Picture 5

Click on “Install” to start the installation. Picture 6:



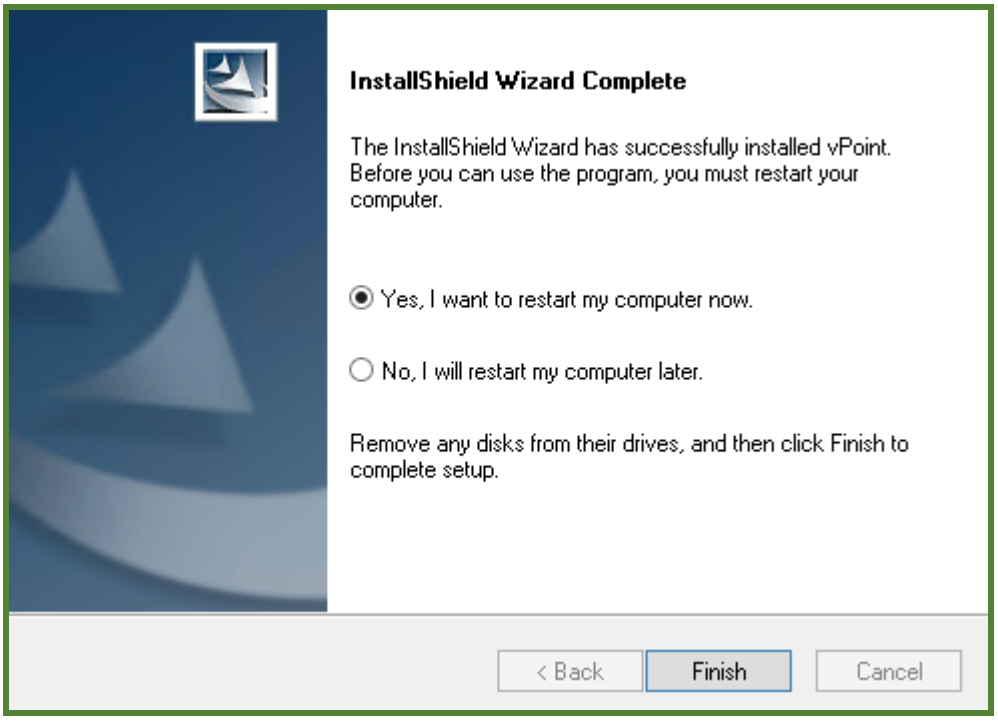
Picture 6

Installing:



Picture 7

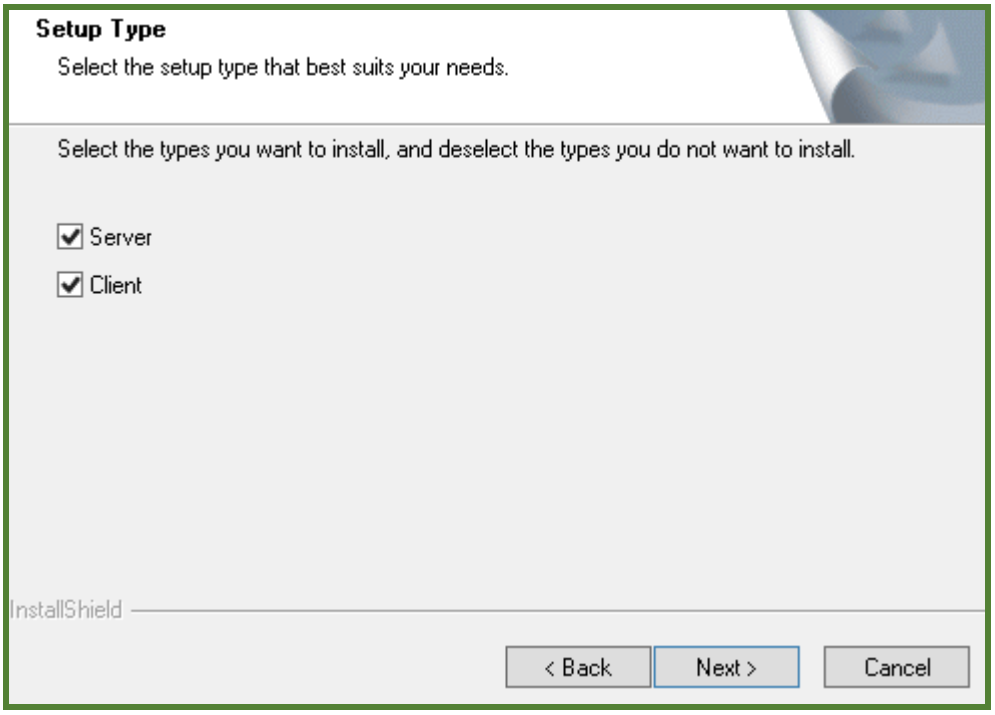
When it finishes, click on “Finish” to restart the server:



Picture 8

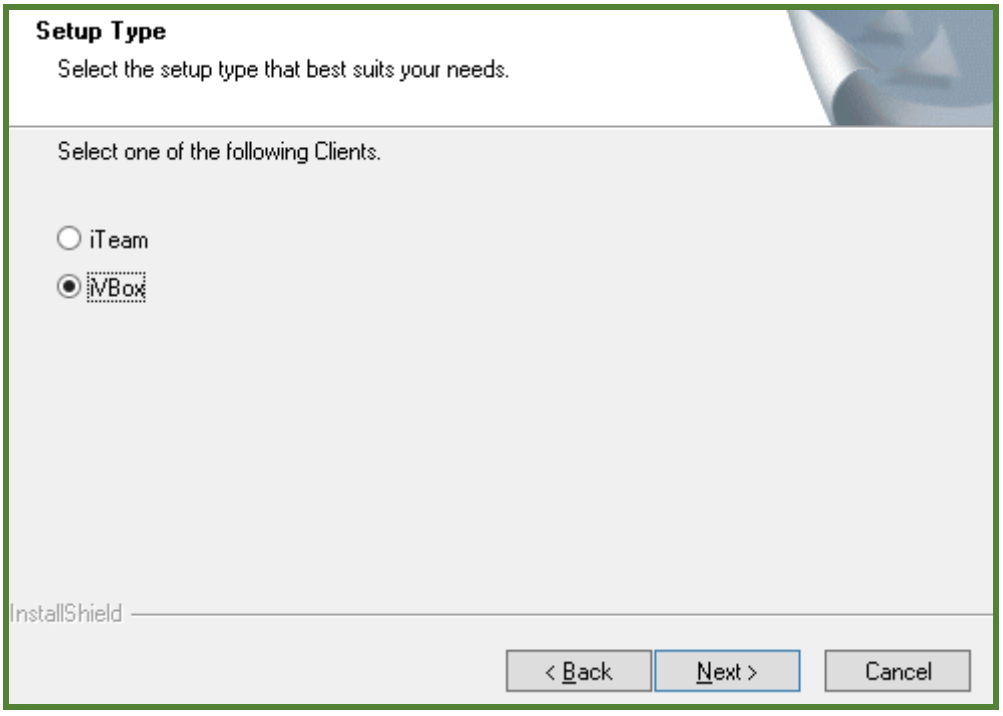
2.2 Install both the Server and the Client. This is for server that is intended for both vPoint Server and VM host. Here are the steps:

Run the installation with initial steps same as 2.1 till this windows comes up. Choose both "Server" and "Client":



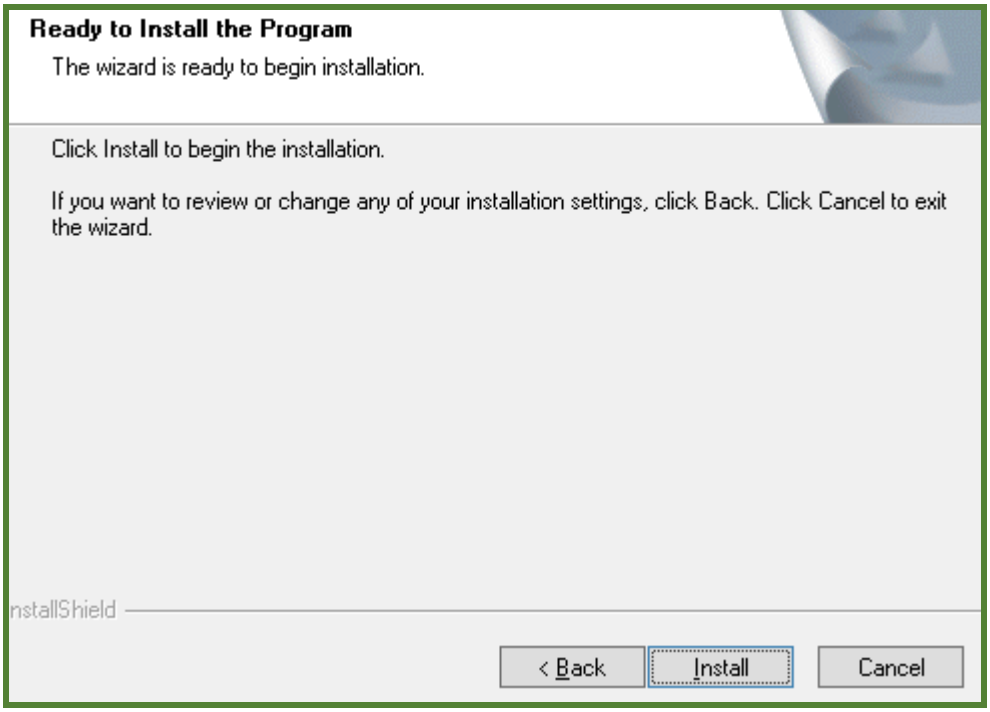
Picture 9

As for the clients, we choose "iVBox". This will install VirtualBox software on this server. Lateron, we can user VirtualBox to create virtual machines. Picture 10:



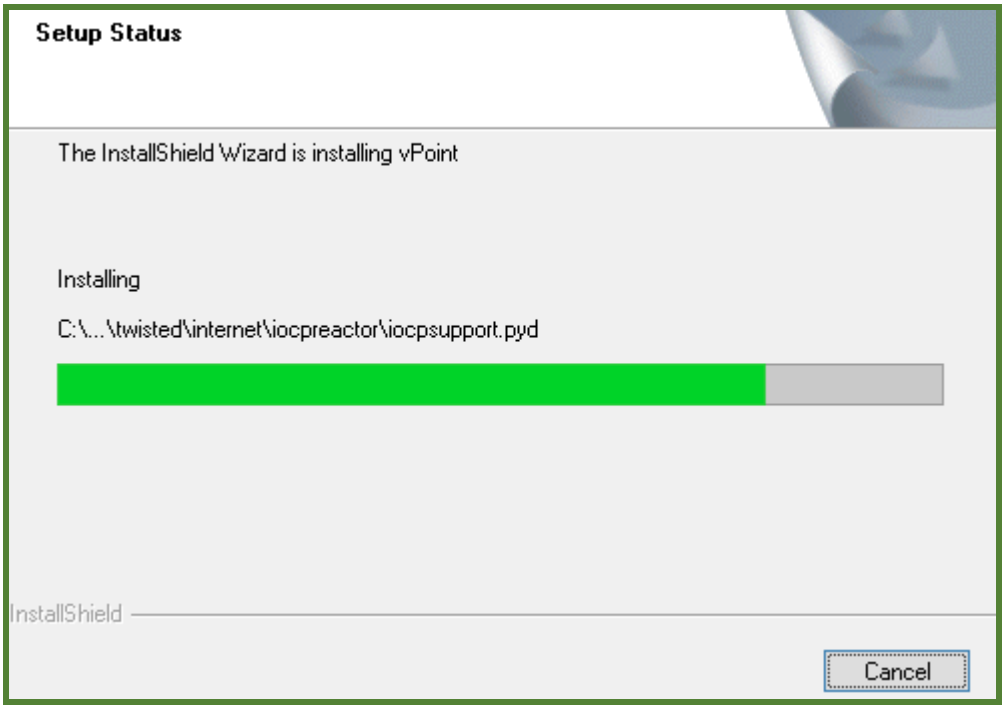
Picture 10

Click “Install” to start the installation:



Picture 11

Installing:



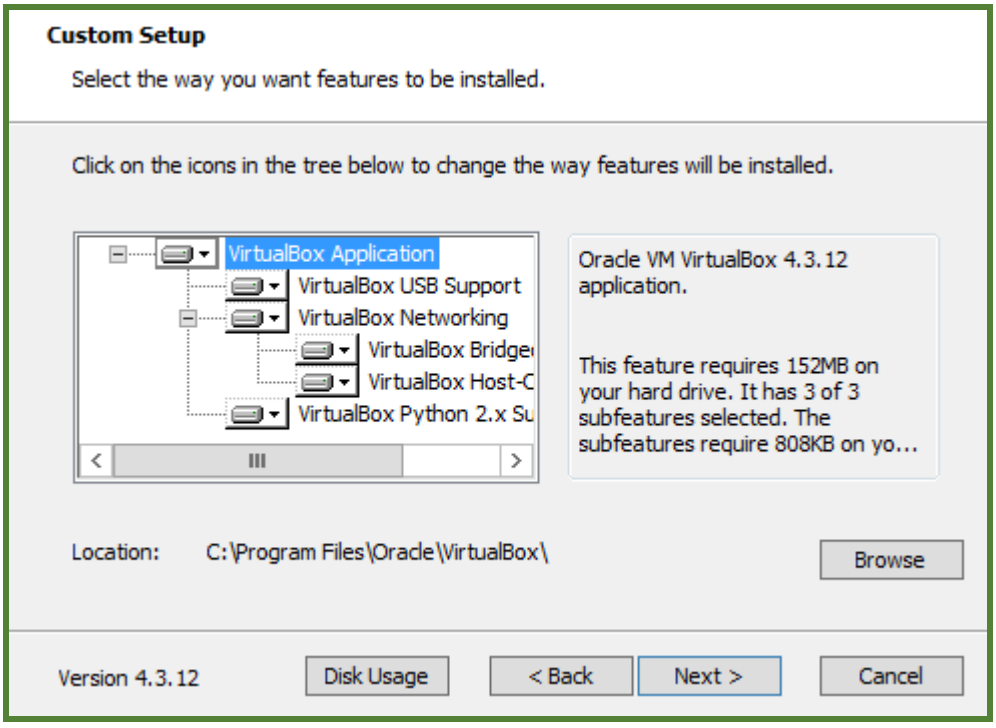
Picture 12

Then comes up the installation of VirtualBox:



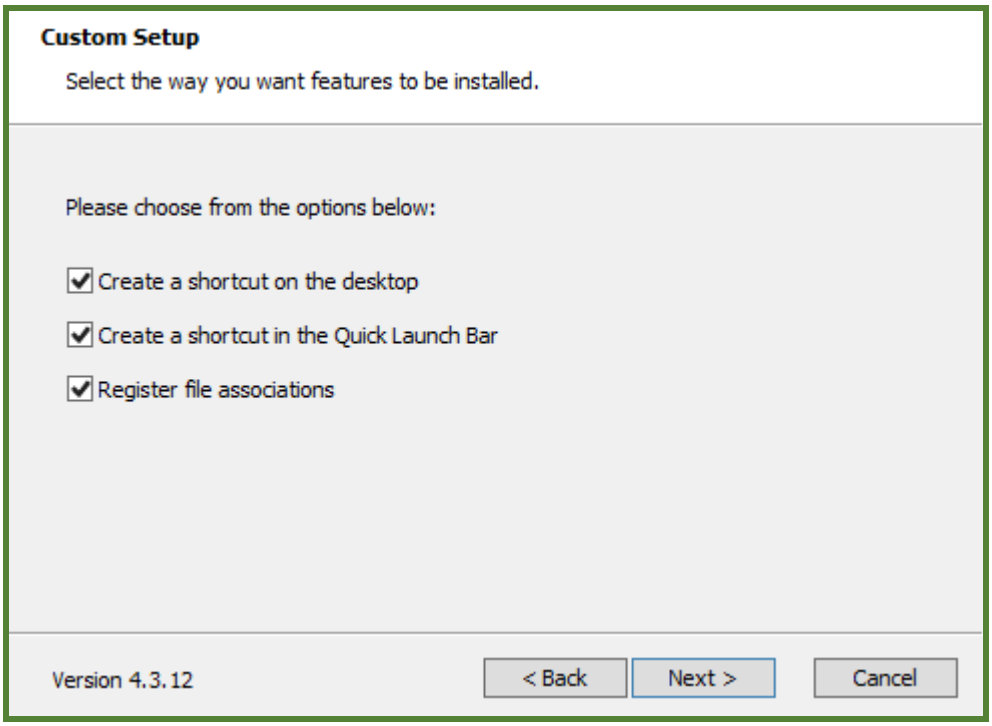
Picture 13

Choose location. Defautl is OK:



Picture 14

Click on “Next”:



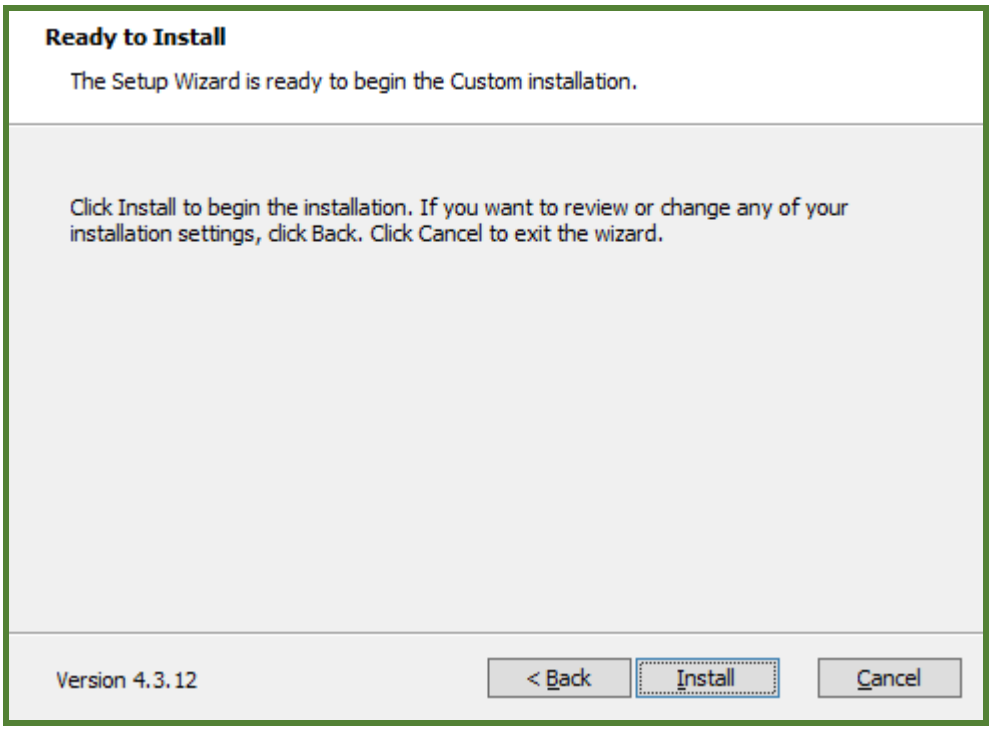
Picture 15

Click on “Yes” to confirm:



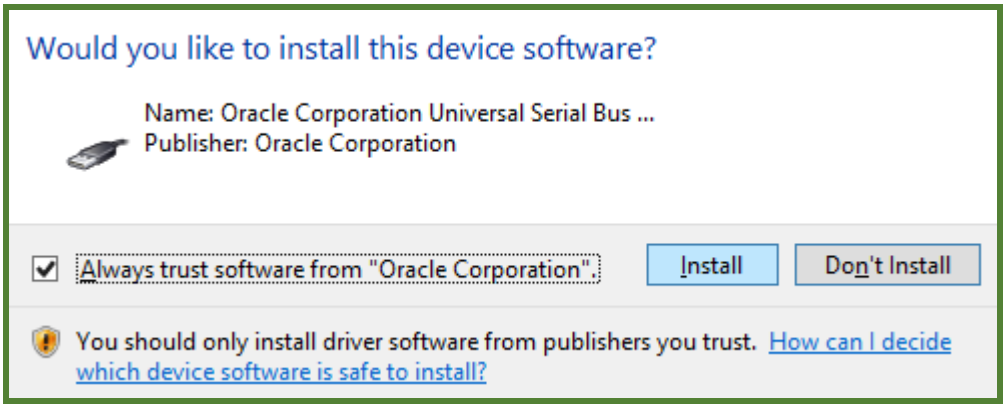
Picture 16

Click on “Install” to start the installation:



Picture 17

When “Windows Security” pops up, check “Always trust software from ‘Oracle Corporation’”, and Click “Install”:



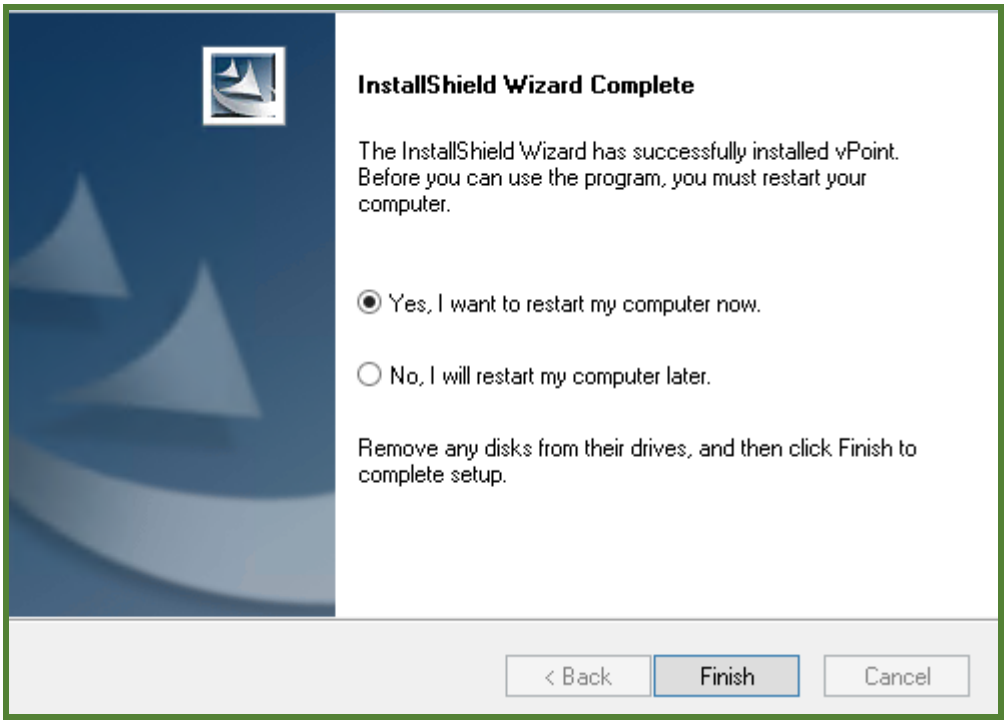
Picture 18

Click on “Finish”:



Picture 19

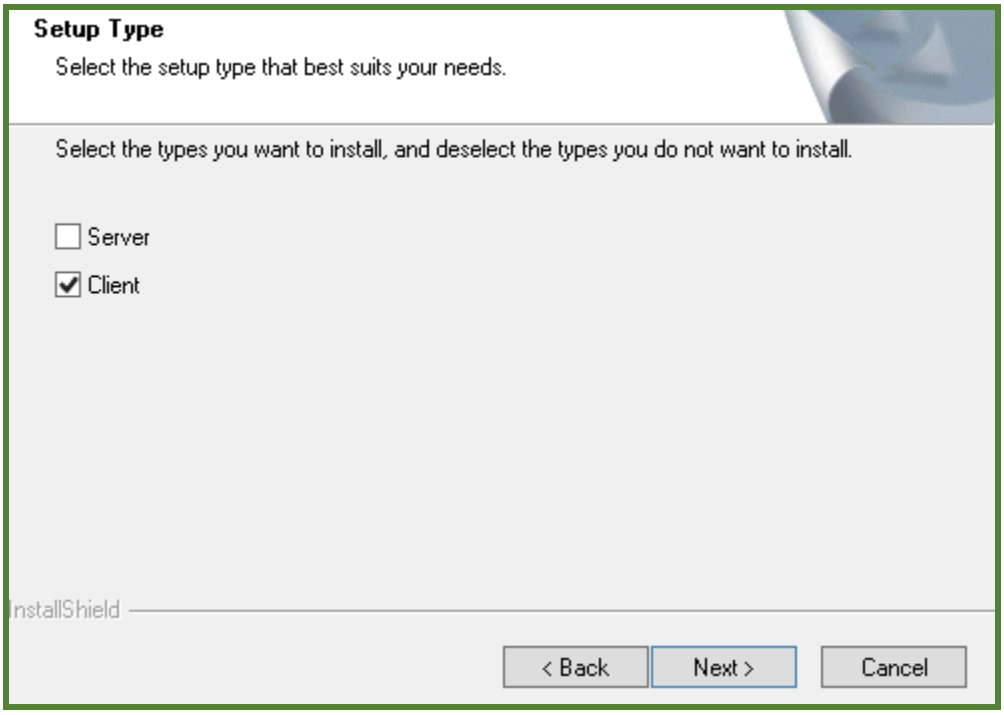
Then it comes back to vPoint installation. Click on “Finish” to restart the server:



Picture 20

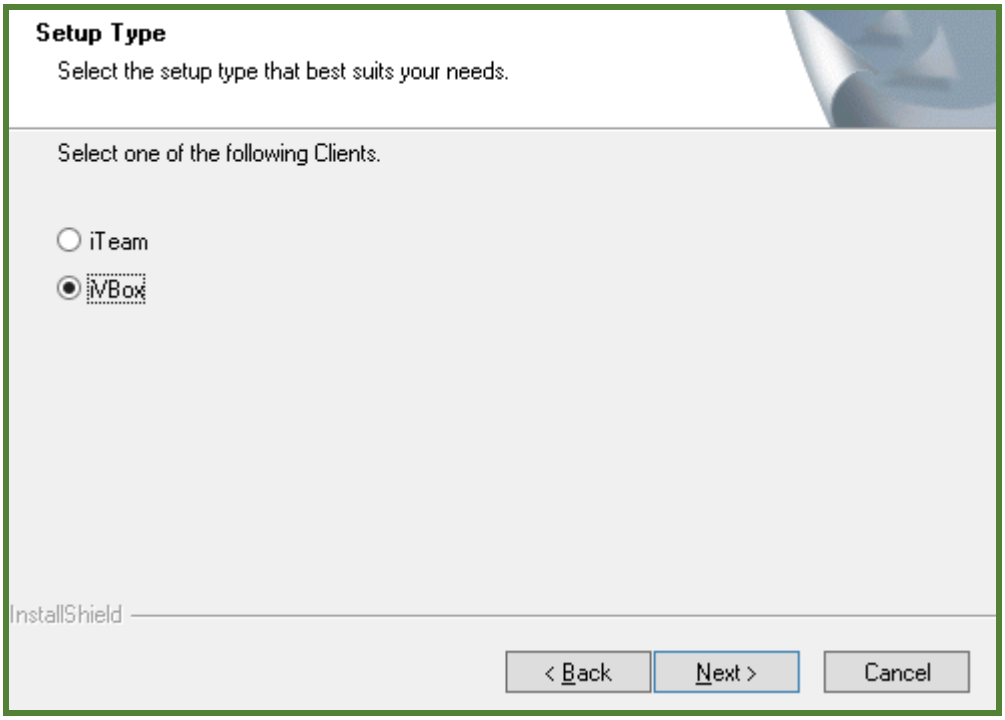
2.3 Install only the Client. This is for server that is intended for both vPoint Server and VM host, here are the steps:

Run the installation with initial steps same as 2.1 till this windows comes up. Choose “Client” only:



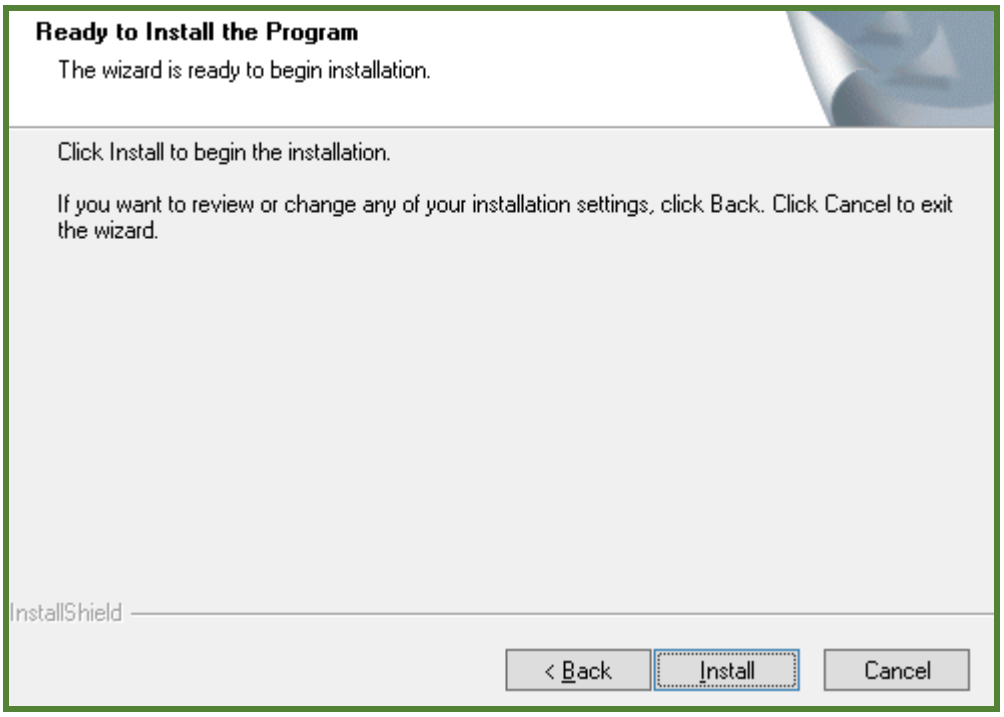
Picture 21

Then, choose “iVBox”. This will install VirtualBox:



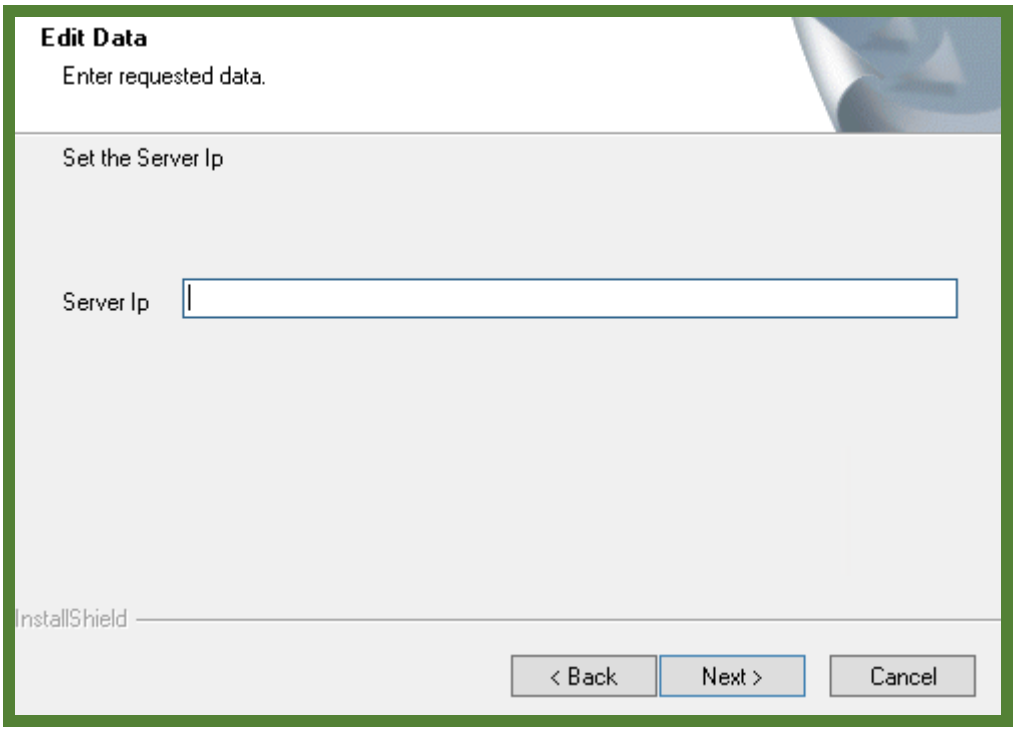
Picture 22

Click on “Next” to start the installation:



Picture 23

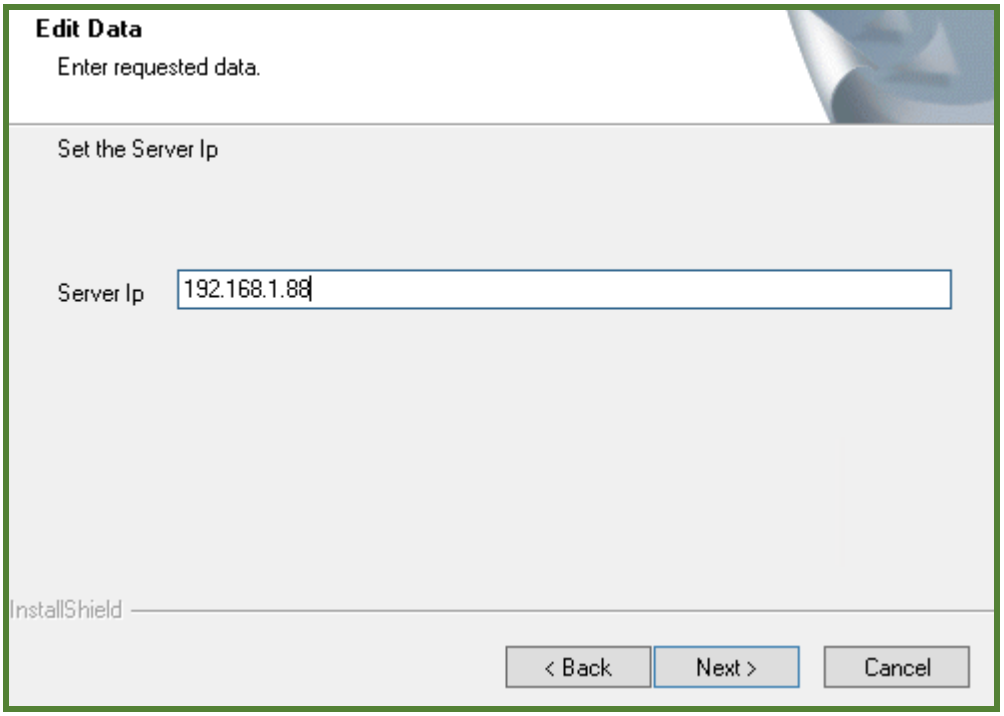
When it comes to the windows as shown below, type in the IP address of vPoint Server:



Picture 24

For example, the vPoint Server that we have installed in 2.1 has an IP address of 192.168.1.88,

and want the current host server to use 192.168.1.88 to be its connection broder, we need to type in the vPoint Server IP address. See Picture 25:



Picture 25

Then comes the installation of VirtualBox. Follow the steps as described in 2.2. Restart the server when the installation is finished.



Picture 26

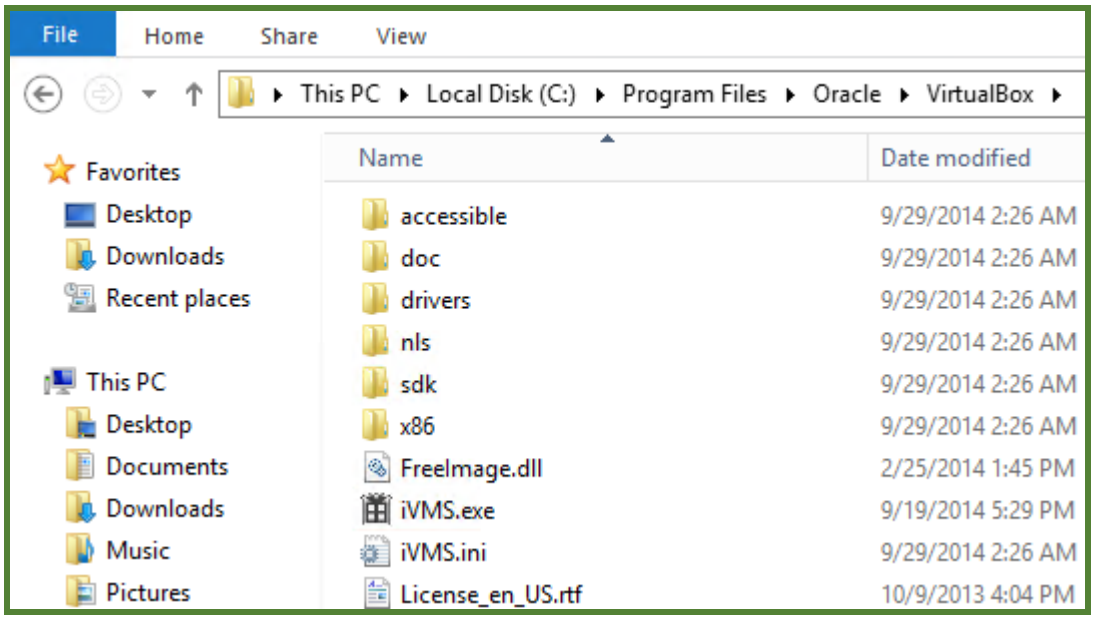
Notes:

1） The “Server” part in vPoint installation package contains vPoint WebConsole and User Account Management, Diana Management. It works as the connection broker between Diana and Host Servers. For a multiple-server configuration environment, one vPoint Server installation is enough for all the Host Servers.

2） The client option of “iVBox” in the vPoint installation package refers to the virtualization software “VirtualBox”. It shall be installed on each Host Server.

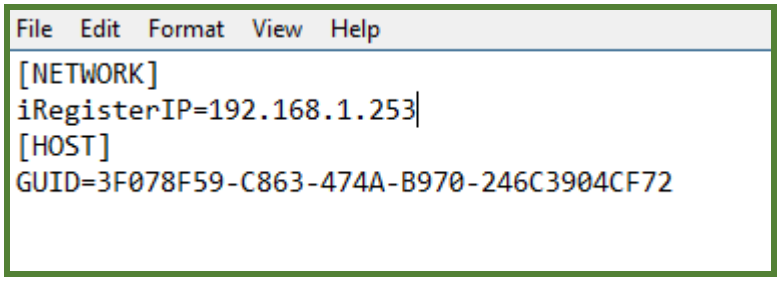
3） If there are multiple vPoint Servers in the environment, Host Servers can be pointed to any one of them. And this pointing can be changed any time by modifying “iVMS.ini” file of the Host Server. Say, a Host Server “A” pointed to 192.168.1.88 now needs to be pointed another vPoint Server with IP address 192.168.1.253. Here are the steps:

Log on Host Server A, and go to location C:\Program Files\Oracle\VirtualBox. Picture 27:



Picture 27

Find iVMS.ini and open it with Notepad:

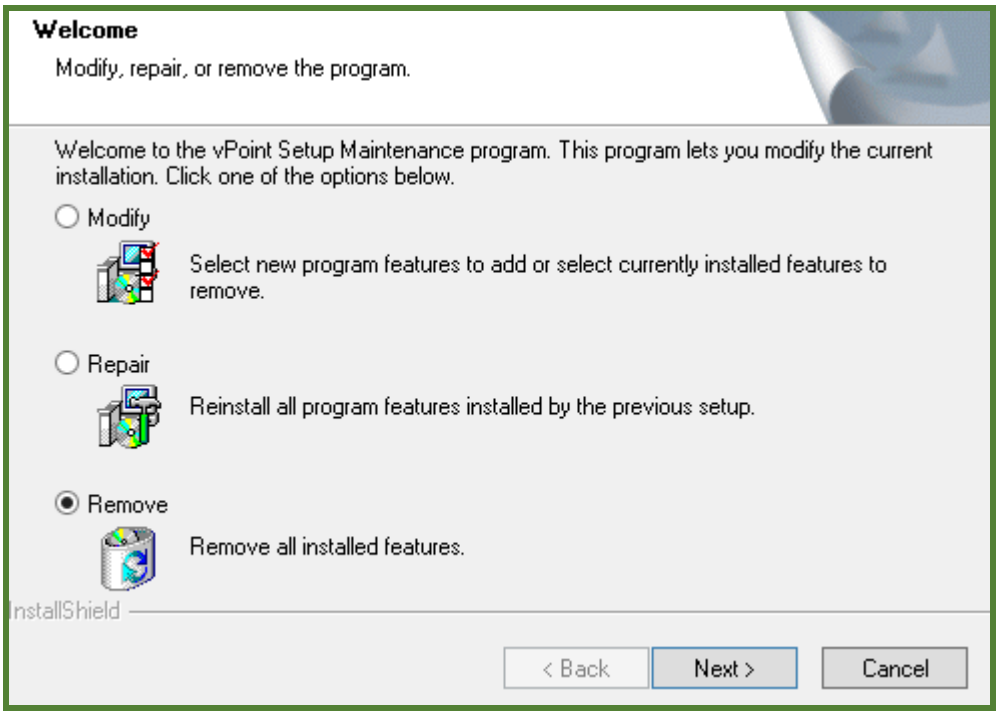


Picture 28

Change iRegisterIP to “192.168.1.253”, save it and then restart the server to take effect.

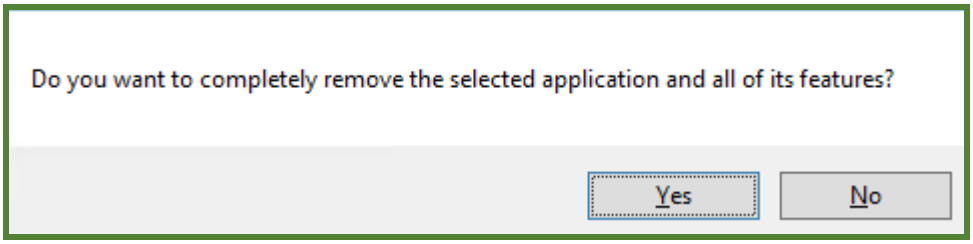
Chapter 3 How to uninstall vPoint 2.1

Double click to run “vPointInstaller”. When it comes to this window, choose “Remove”：



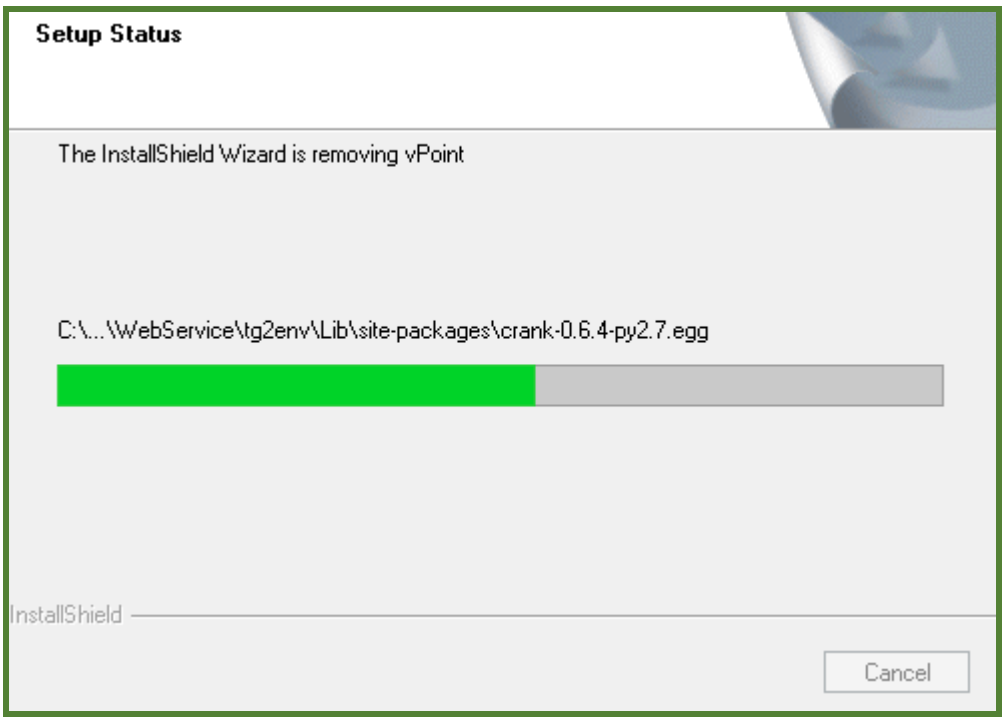
Picture 29

Click on “Yes” to confirm:



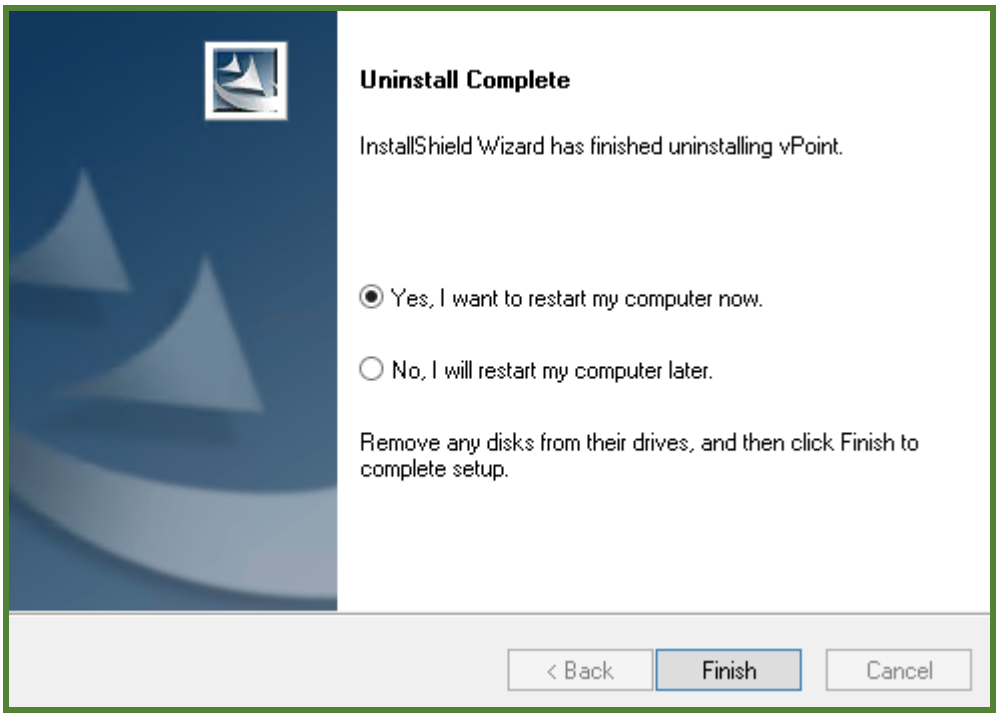
Picture 30

Uninstalling:



Picture 31

When it completes, click on “Finish” to restart the server:



Picture 32

Note: this uninstallation process only uninstalls vPoint2.2. VirtualBox remains unchanged.

Chapter 4 The WebConsole of vPoint2.2 Server

When vPoint Server is installed, we can run vPoint WebConsole to manage VMs, setting up Diana user account, etc.

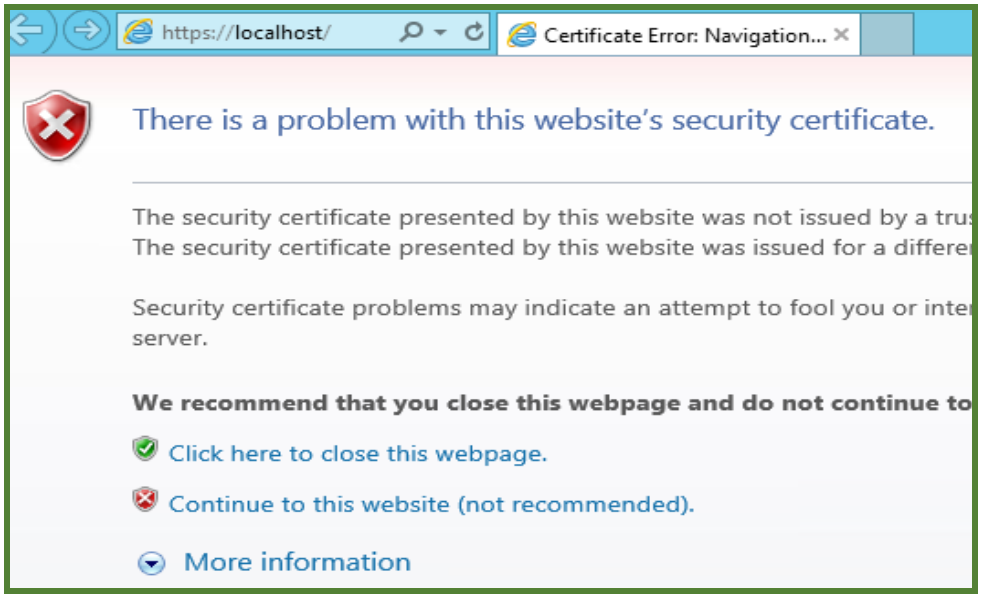
4.1 How to Log in WebConsole

Double click on “WebConsole” icon:



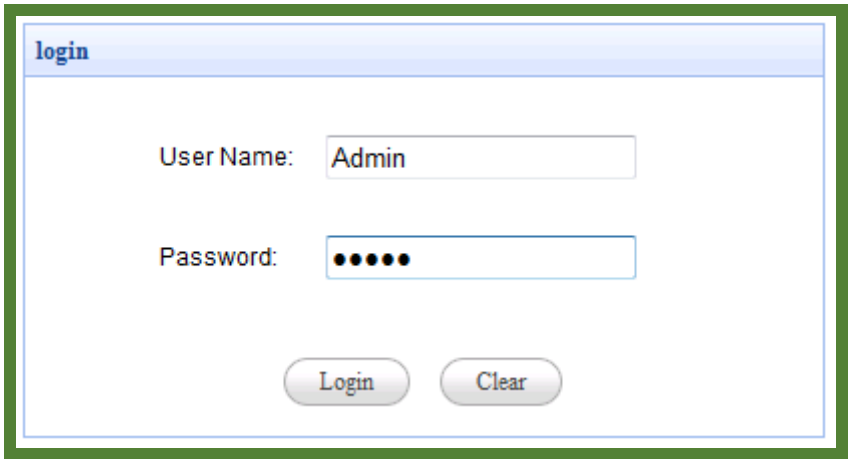
Picture 33

This action will start the brower as show below. Choose “Continue to this website”:



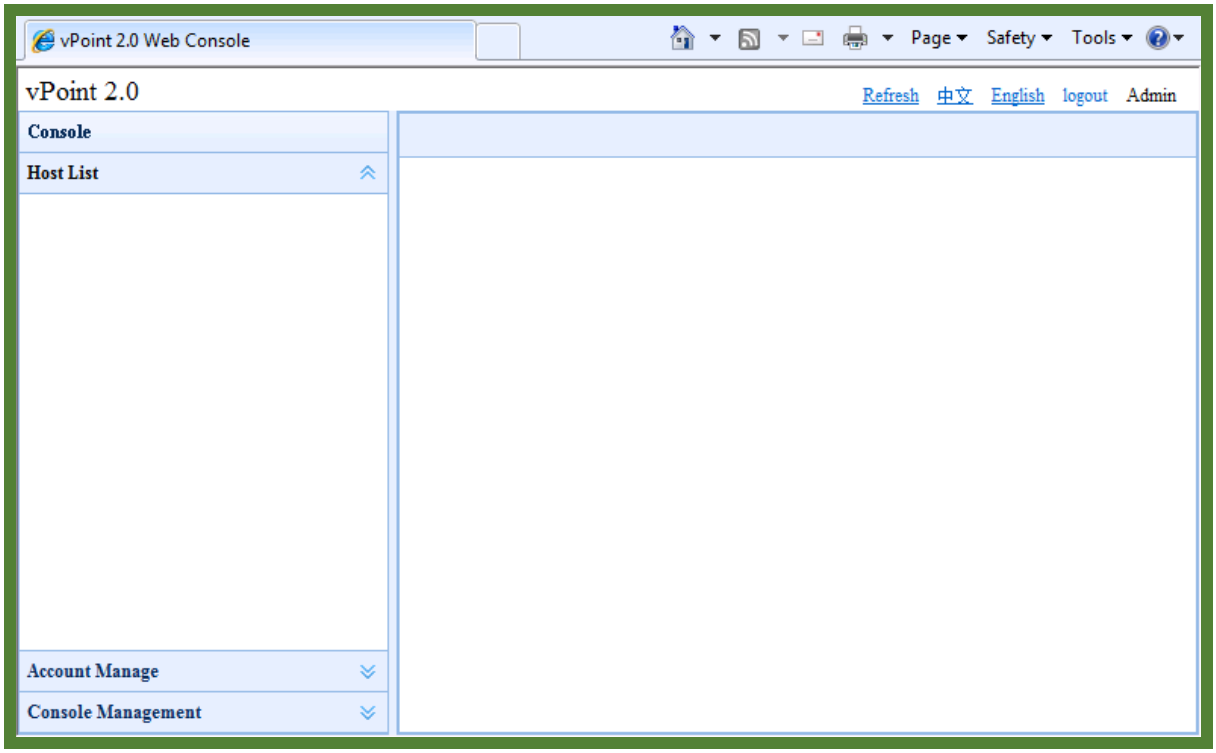
Picture 34

Type in Default User Name and Password (It is case sensitive):



Picture 35

Then we will come to the WebConsole home page:



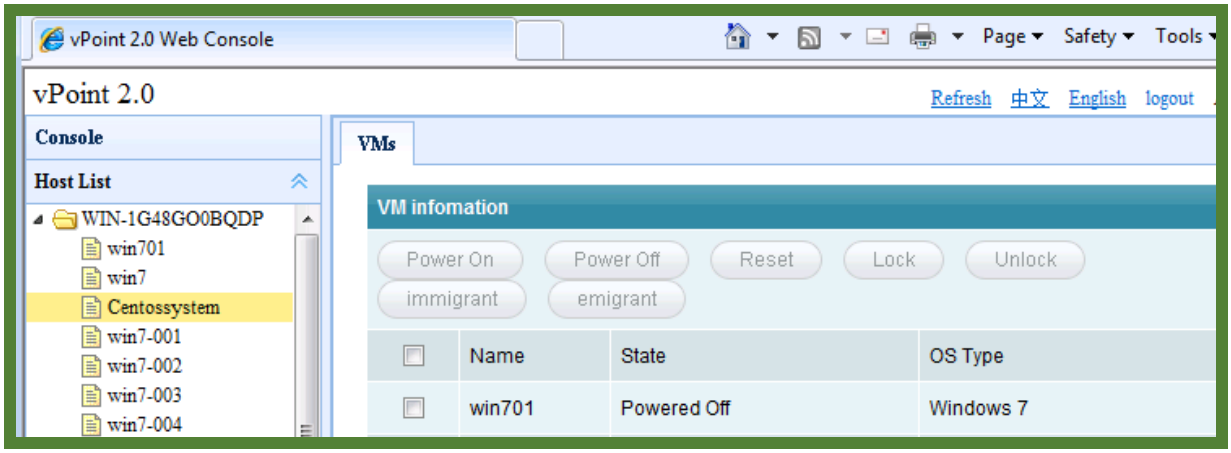
Picture 36

The list is empty since we have not created any virtual machines yet.

When we finishing creating VMs through VirtualBox Manager and having all needed softeware and applications installed in the VM, we can shut it down, and click on the Refresh button on vPoint WebConsole. And then the VM will be shown in the list.

4.2 Functions of vPoint WebConsole:

Host List



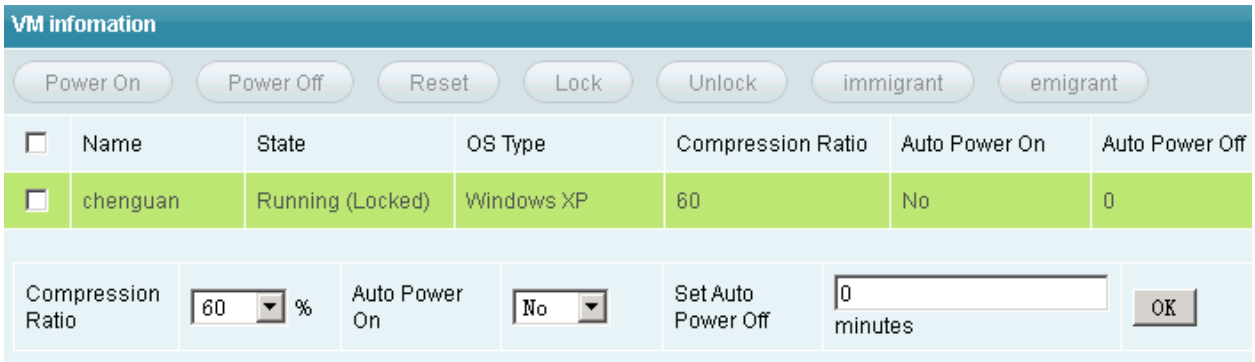
Picture 37

As shown in Picture 37, Host List lists all Host Servers that are set to take this vPoint Server as

connection broker. Under each Host Server lists all available VMs on that Host. “VM Information” on the right gives information on VM’s name, status, OS Type. Under it is the row of functioning buttons. The below chart gives the details:

Host List	
Power On	Click on this button will power on all selected VMs.
Power Off	Click on this button will power off all selected VMs.
Reset	Click on this button will force shut down all selected VMs.
Lock	Click on this button will lock all selected VMs, so that NO Diana can Connect to this VM.
Unlock	Click on this button will unlock all selected VMs, so that they are available for Diana users to connect.
Immigrant	Click on this button will immigrant all selected VMs, so that they are ready to be connected by Dianna users. In this status, the VMs could not be edited or modified by VirtualBox Manager.
Emigrant	Click on this button will emigrant all selected VMs, so that they can be edited or modified by VirtualBox Manager. In this status, the VMs cannot be connected by Diana users

In the “Host List”, choose a VM, then you can see some more setting options as below:



Picture 38

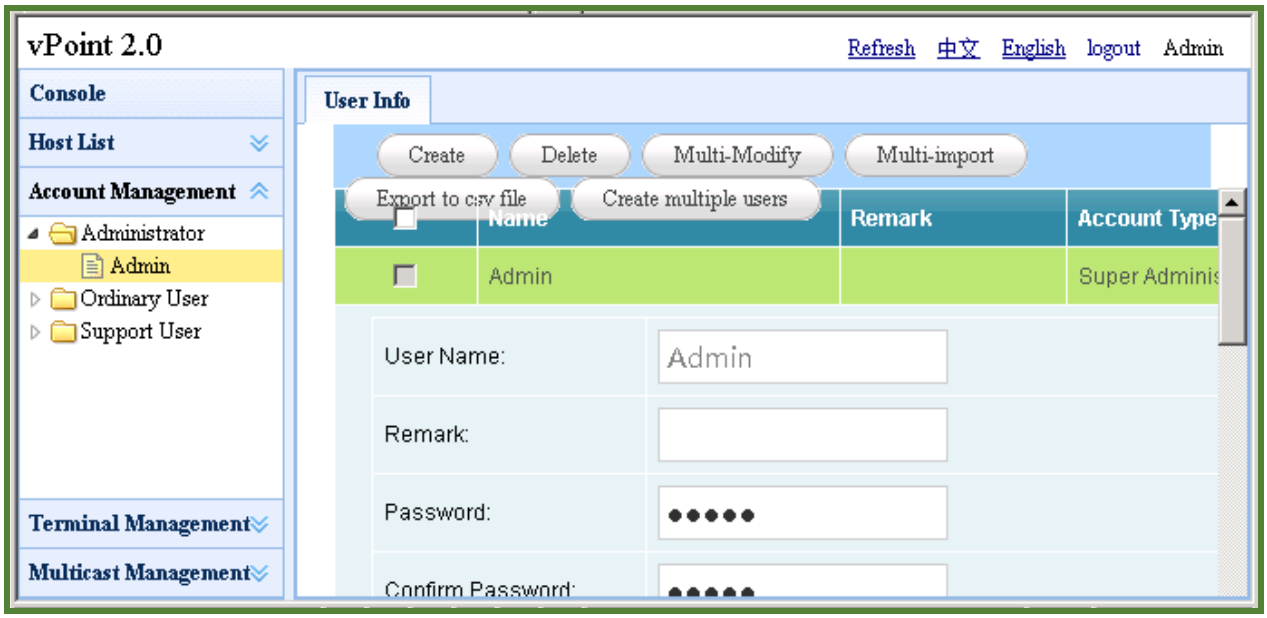
Compression Ratio: the default value is 60%, other options including 50%, 70%, 80% and 90%. The higher the value, the better display effects of VM desktop. Of cause, with higher ratio, the consumption of CPU and network bandwidth will also be higher.

Auto Power On: default value is “No”. Set to “Yes” if you want this VM to power on togher with the

Host Server.

Set Auto Power Off: If want this VM power off automatically after a vertain period of time since it is disconnected from Diana, type in a number here. The biggest value is 2880 (minutes). Default value “0” means the VM will not power off automatically. **And remember to click “OK” button to save the changes.**

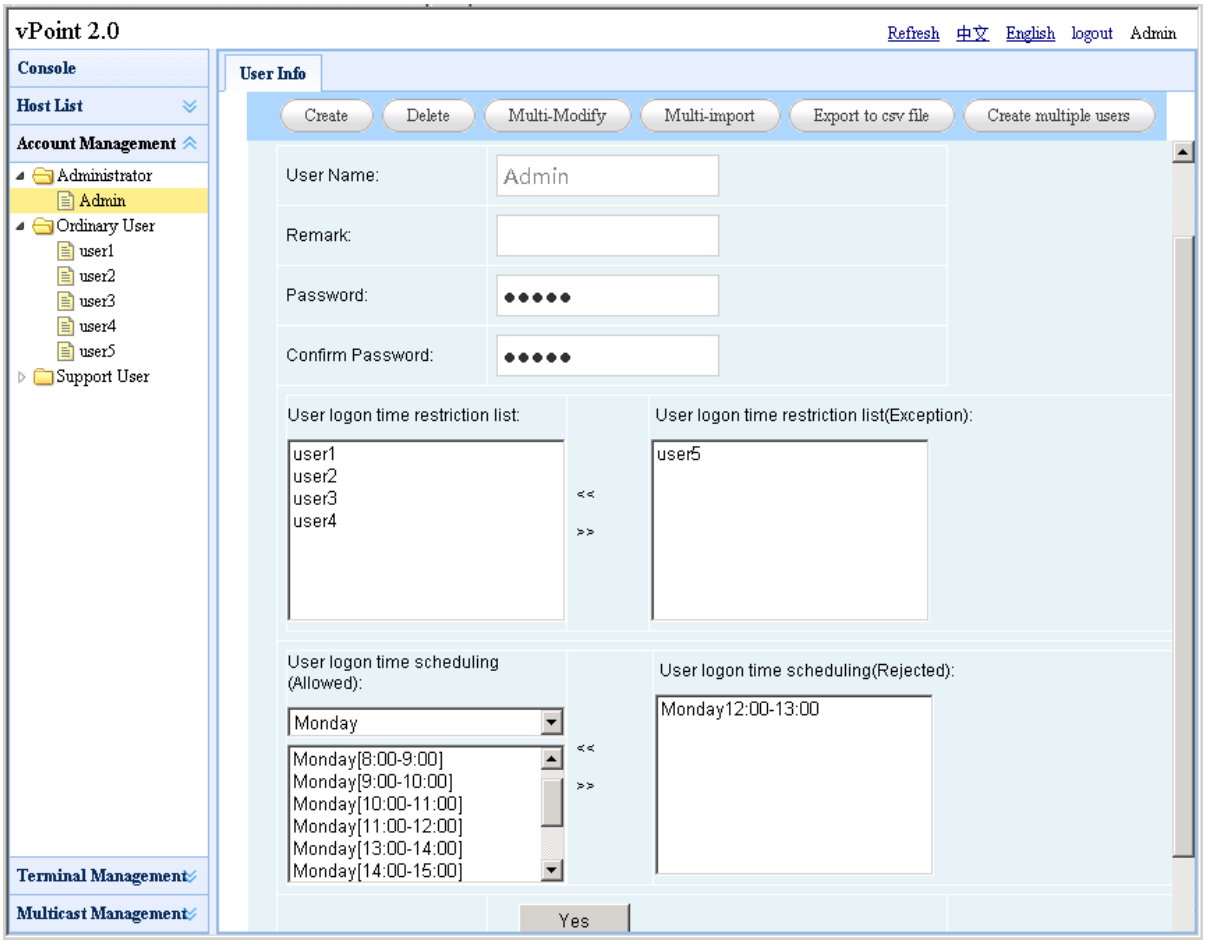
4.3 User Accounts Management



Picture 39

There three types of User Accounts: **Administrator, Ordinary User and Support User.** Administrator users have full access to all VMs and full rights to use all USB devices, while Ordinary users only have rights to access those VMs that are assigned to them.

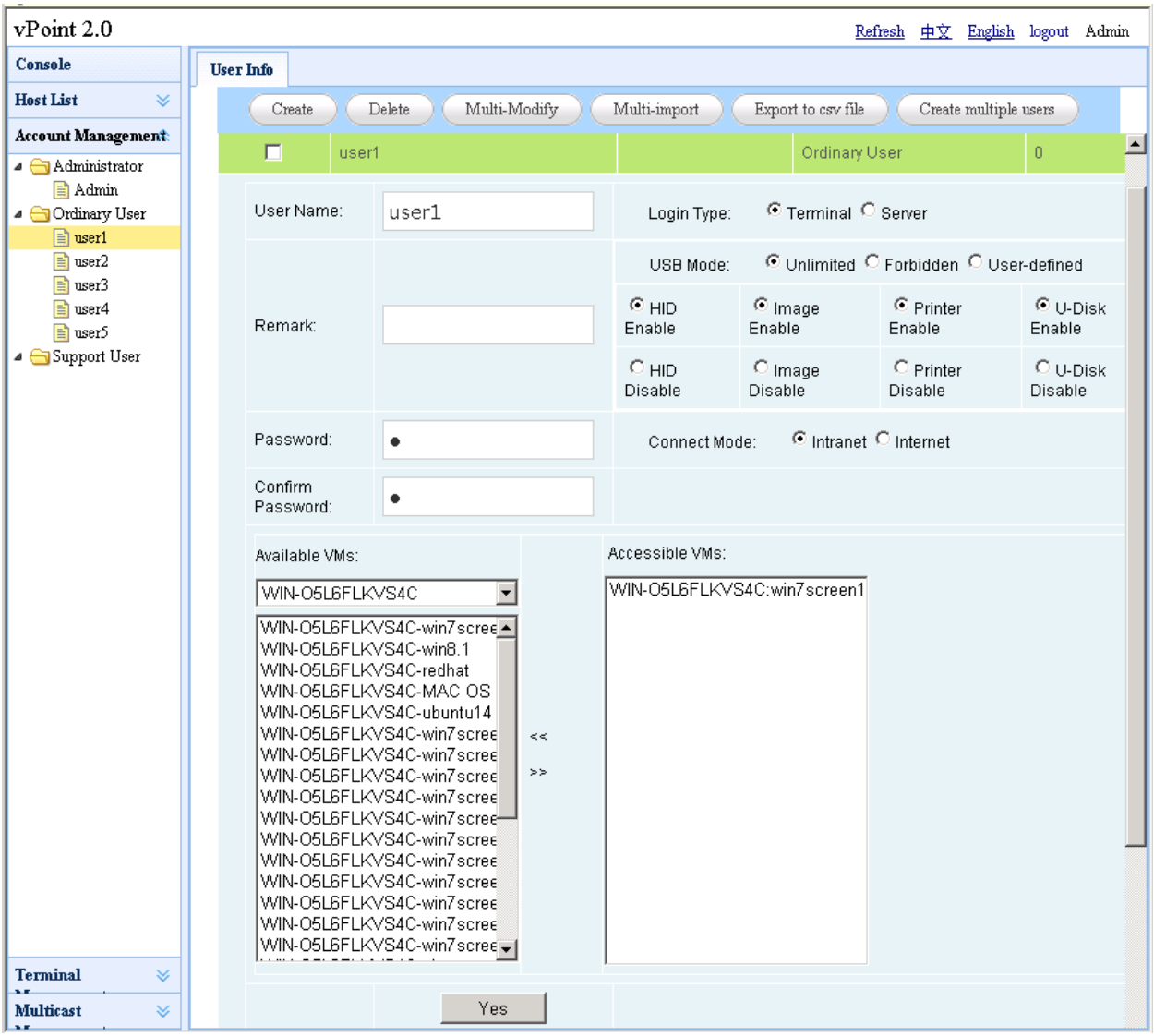
Administrator users can set the logging time control of ordinary users, which means ordinary users can be set to be able to logging to their VM only on Monday or a certain period within a day. Users in the Exception block do not affected by the time control, which means they can logging to VM at any time.



The below chart lists function of all the buttons:

Create	Click on this button, type in User Name and password. Choose user type “Administrator” or “Ordinary”. If the type is “Ordinary”, assign at least 1 VM to this user. Then click on Yes to finish
Delete	Click on this button will delete all selected user accounts.
Multi-Modify	When more than 2 user accounts are selected, click on this button will go to page where we can change account type, password and rights to the use of USB devices.
Export to csv file	Save all user account information to a csv file.
Multi-Import	Import user accounts from a csv file.
Create Multiple Users	Click on this button will go to page where we can create multiple user accounts with same password, account type and rights to use of USB devices.

On the Ordinary User setting up page, users can be set to allow/disallow certain types of USB devices. They are classified into five different types: HID device, Image device, Printers, USB pen drive and other USB devices.

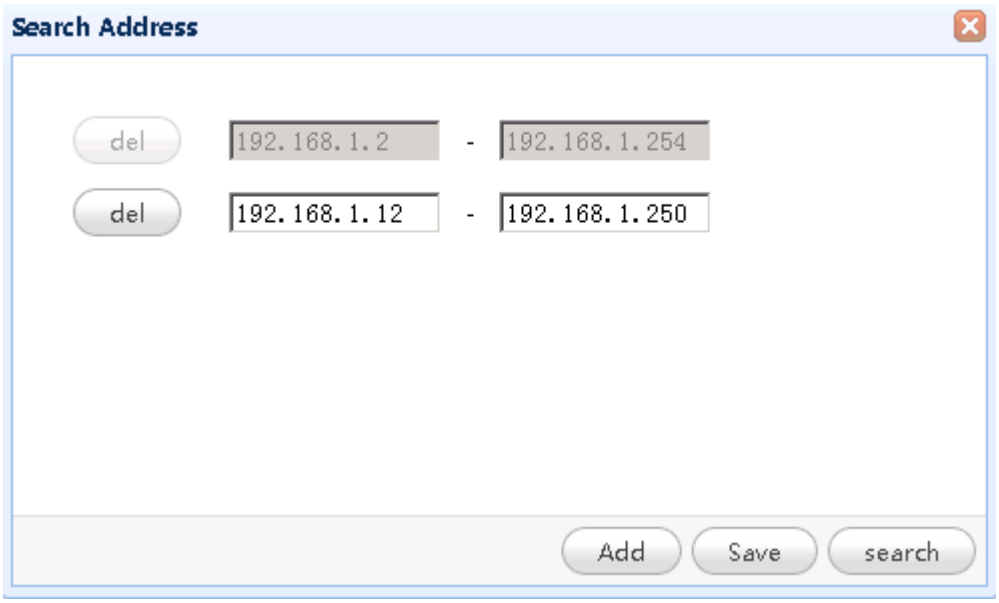


Support User accounts are set up for iSupport users. When running iSupport to monitor/support a VM/Diana user, a "Support User Account" is needed to log onto the server.

4.4 Terminal (Diana) Management

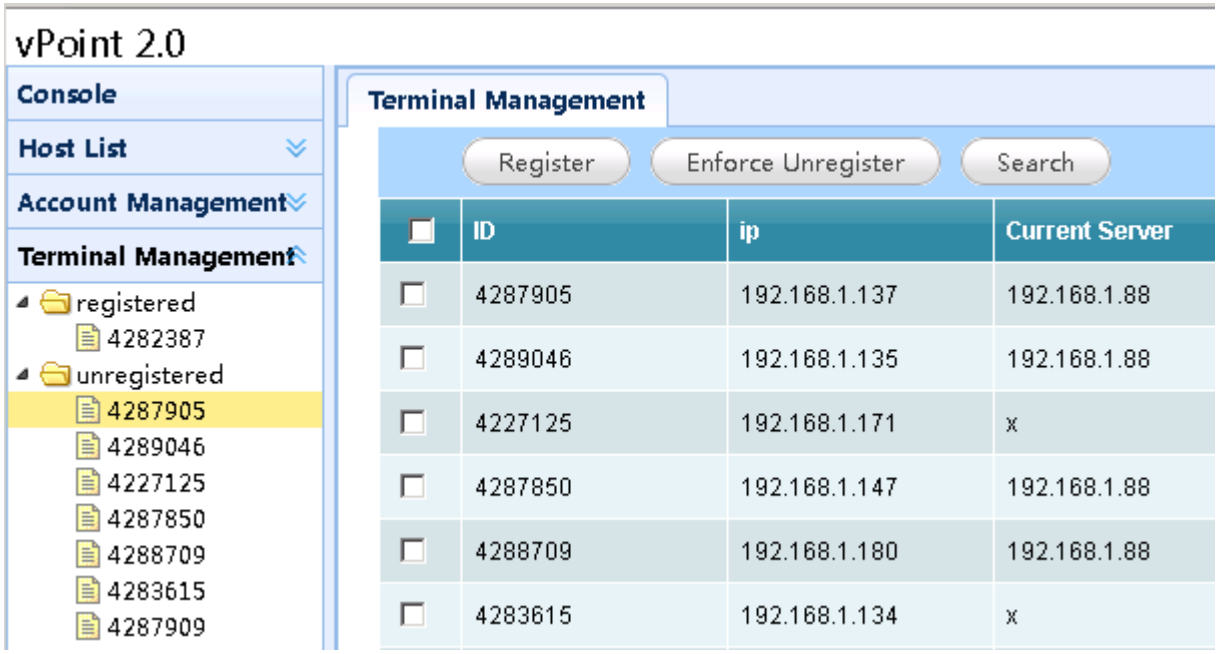
Here we can change the settings of Diana remotely same as we may have done at Diana side. Before we can change the settings, we need to register the Diana to this server.

Go to “unregistered”, and click “Search” if the list is empty.



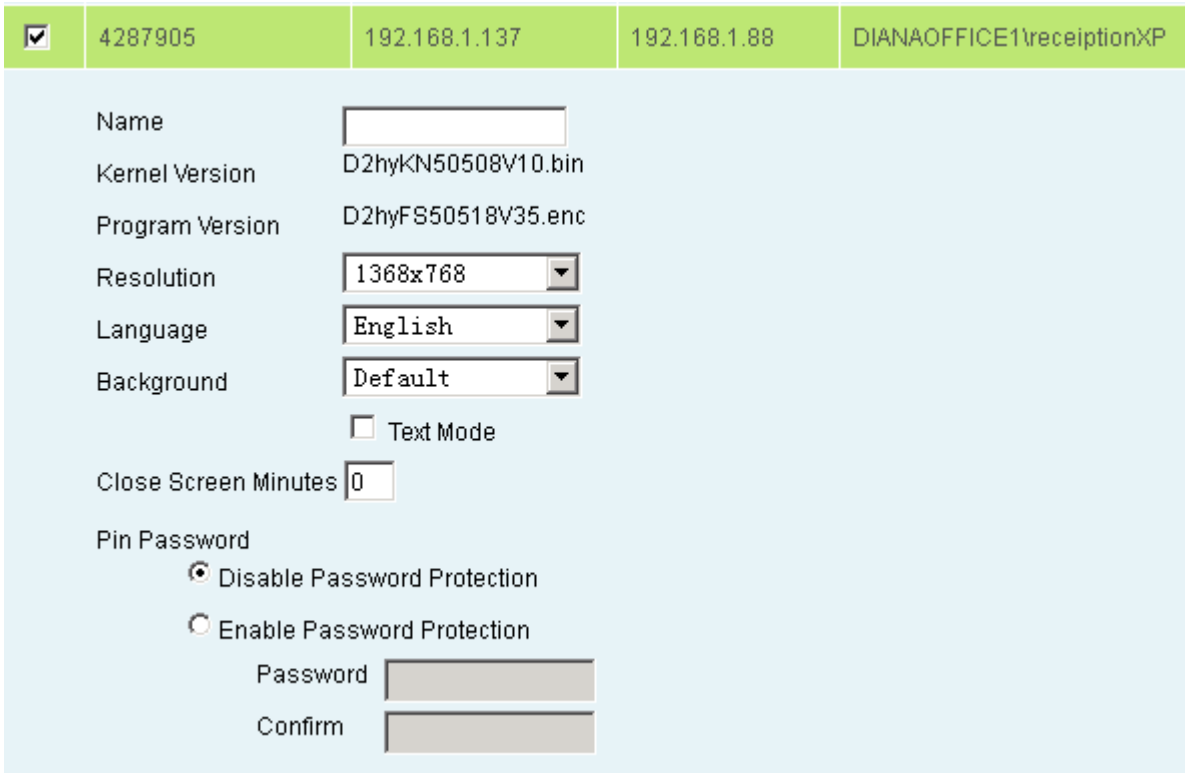
Picture 40

Set an IP address range, and click “Search”. After that, close this window and refresh WebConsole



Picture 41

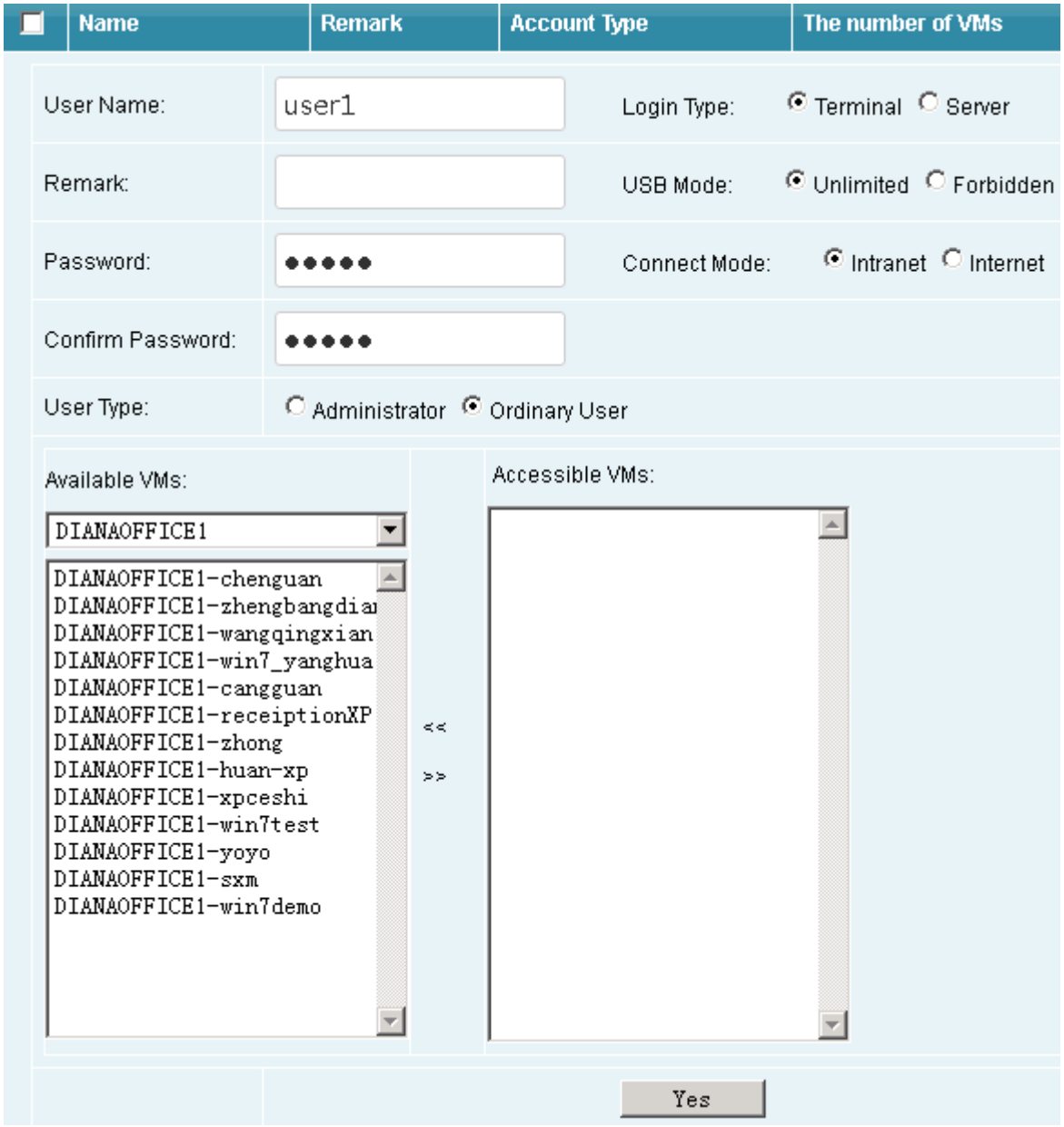
Now we can see a list of Diana terminals. Choose the Diana that you want to register, then click “register” to register it. In our example, Diana with serial number “4287905” is the newly registered device. Choose it, and you will see the settings of this Diana. Now we can make changes to its settings.



Picture 42

4.5 Create Diana User Accounts

Go to "Account Management" of WebConsole, choose "Ordinary User", then on the right, click on "Create".



Picture 43

In he Picture above:

Login Type: the default is "Terminal". "Server" option currently is not functional.

USB Mode: if this user account is allowed to use USB device on Diana, choose "Unlimited". Otherwise, set to "Forbidden".

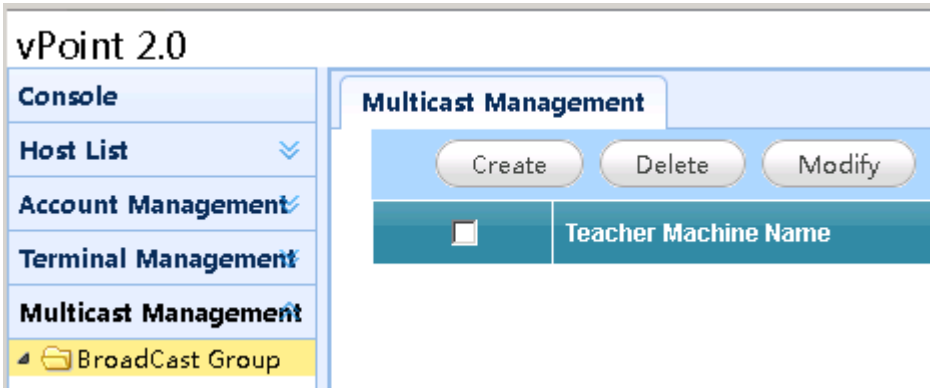
Connection Mode: Default is "Intranet". If this user account need to access its VM across Internet, set to "Internet" (make sure the Server with vPoint2.2 Server part installed has to be accessed over internet and its port 21215 is not blocked by any firewall).

4.6 One-Key Broadcast

As compared to earlier vPoint version 2.0.1.4, One-Key Broadcasting is now a default function of vPoint 2.1. One-Key Broadcasting means: by one trike of key combination “Ctrl+Alt+F10” on the Teacher’s Diana, its desktop(video) + audio + mouse cursor will be sent to all Students’ Diana devices. This is very useful especially in school classrooms, or similar locations.

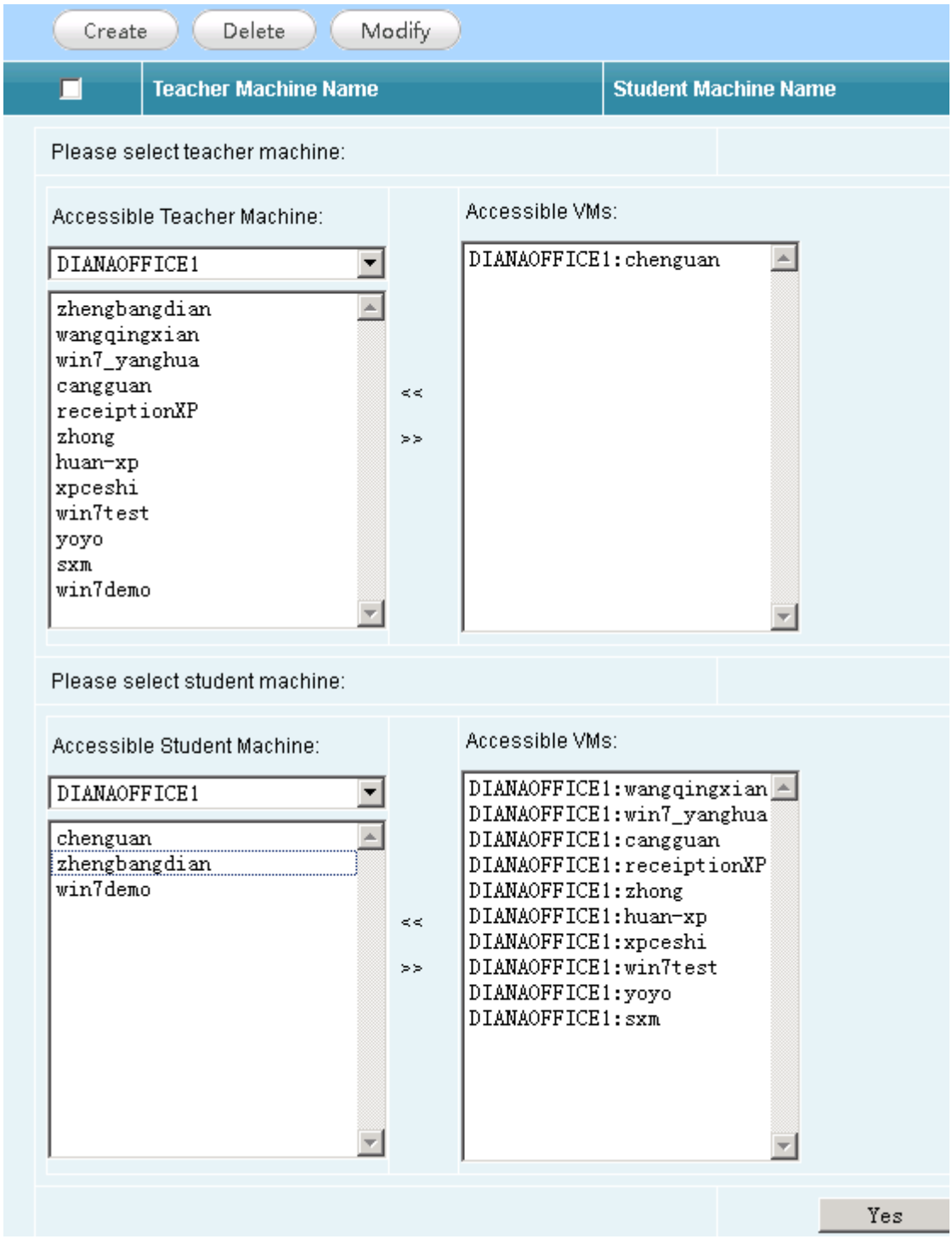
A BroadCast Group hat to be set up before One-Key Broadcast will work. Normally, such a group is formed by a Teacher’s VM and a certain number of Students’ VMs.

Go to “Multicast Management” of WebConsole, then “BroadCast Group”:



Picture 44

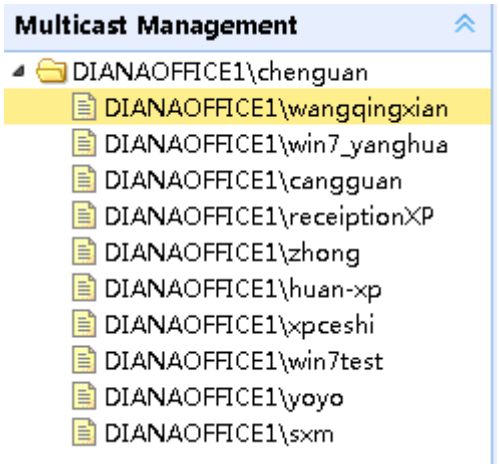
Then, click on “Create”:



Picture 45

As shown in the picture example, VM “chenguan” is the Teacher’s VM. The list in the column below are chosen Students’ VMs. Finally, do not forget to click on “Yes” to save these settings.

Now, in the “Multicast Management”, we can see a Broadcast Group there where Teacher’s VM “chenguan” is on top of the list. The rest VMs are for Students.



Picture 46

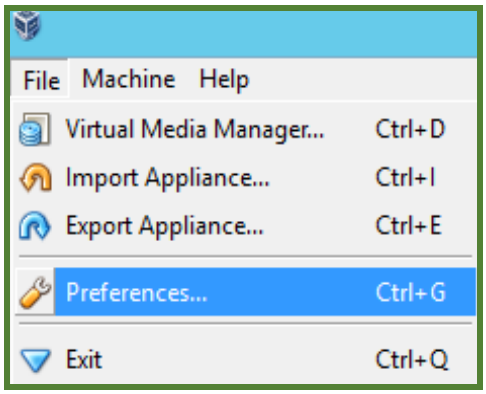
The biggest advantage of Diana One-Key Broadcast is that, when broadcasting (especially high CPU-consuming HD-Movie playback), only the Teacher's VM is playing HD video, though all Students' Diana device are playing the same video simultaneously. The total CPU consumption of server is extremely low as compared to traditional broadcasting software applications.

Chapter 5 Creating Virtual Machines (VMs)

After installing vPoint2.2 and VirtualBox virtualization software, we can move on to creating virtual machines. The operation system (OS) of a VM could be any operation system that is supported by VirtualBox, including all Windows, Linux, MAC, Android, etc. There could be multiple VMs with same OS (say 5 VMs with Windows XP OS), or multiple VMs with different OS (say 1 with Windows XP, 1 Windows 7 and 1 Ubuntu, etc.).

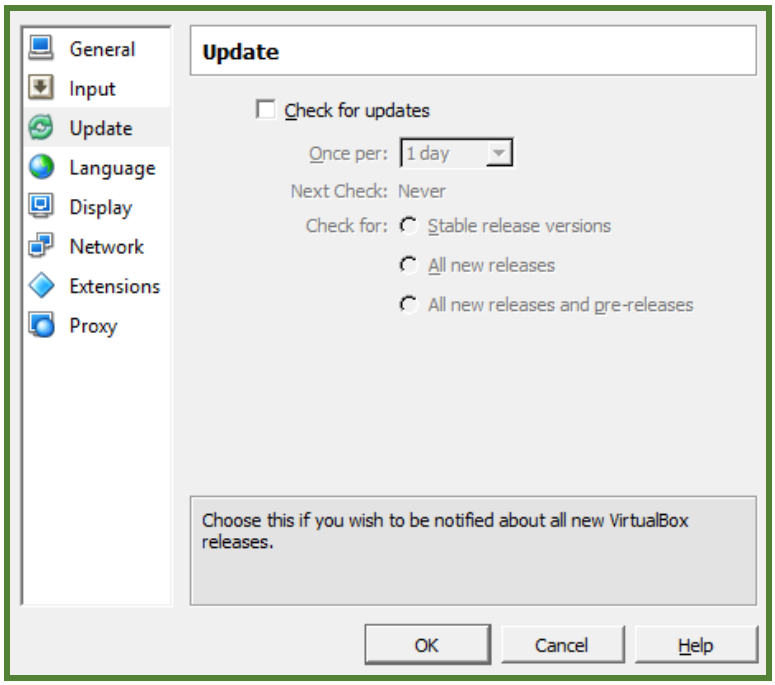
5.1 Change the global setting of VirtualBox

Before starting to create VMs, we'd better change the default VMs location of VirtualBox, since the default is server OS drive while we very often need to store all VM files in other drives. Open **Oracle VM Manager,** Click on "File", then choose "Preferences":



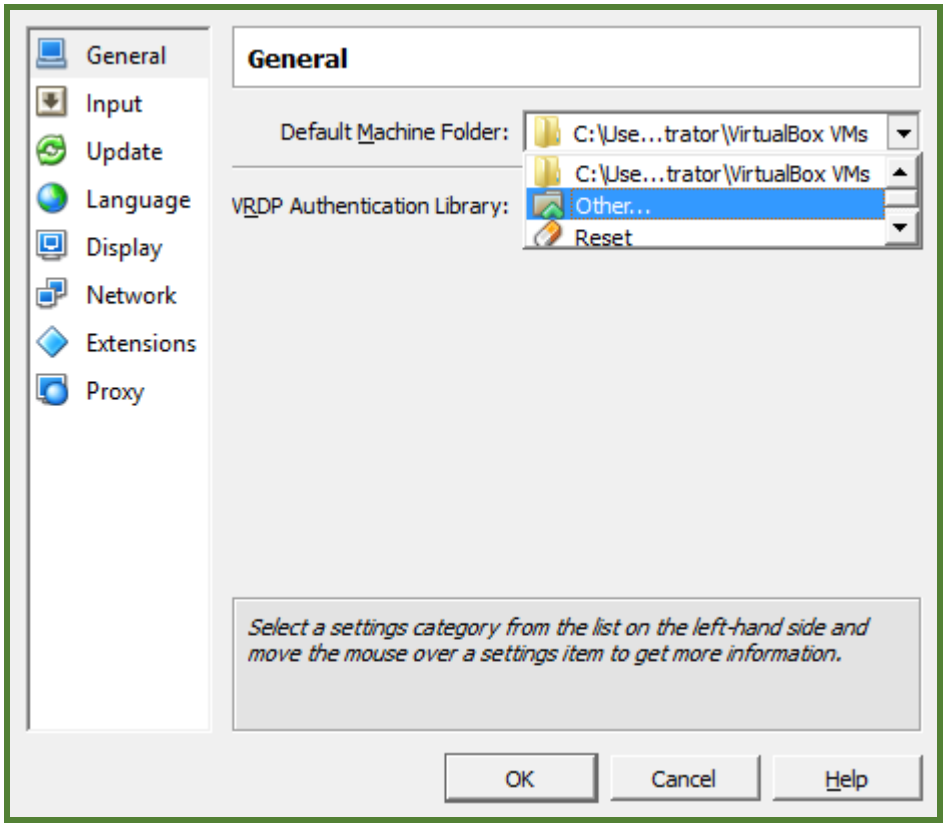
Picture 47

Choose "Update", uncheck "Check for updates":



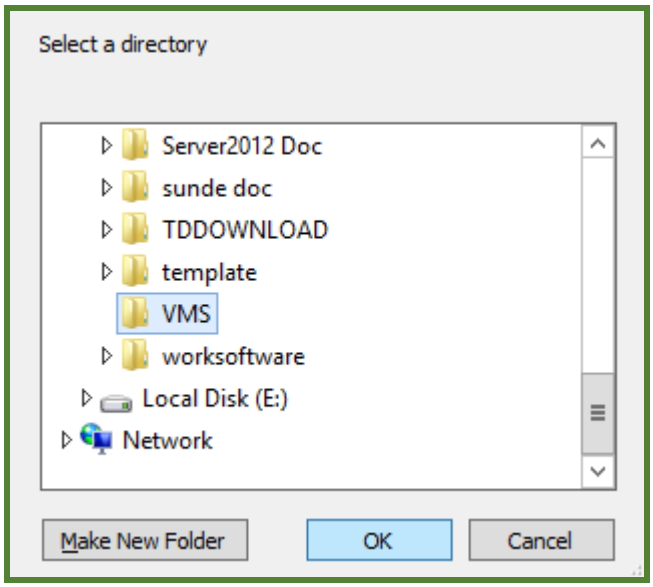
Picture 48

Choose “General”, Change the default machine folder:



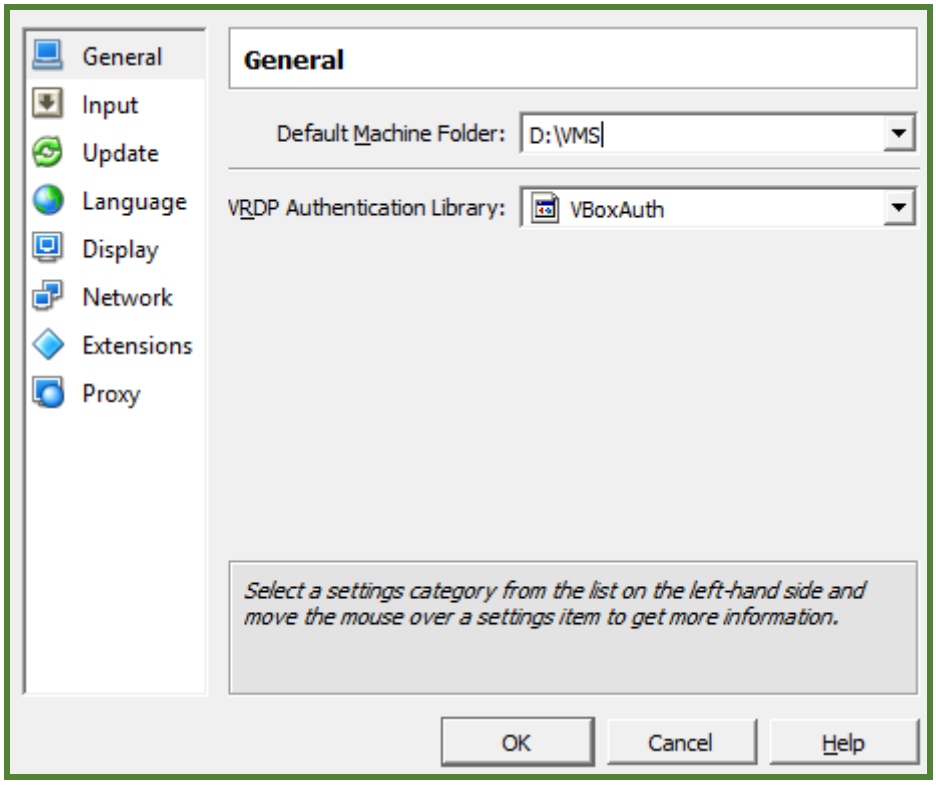
Picture 49

Browse the folder where the hard disk space is big enough for the Virtual Machines and click “OK”:



Picture 50

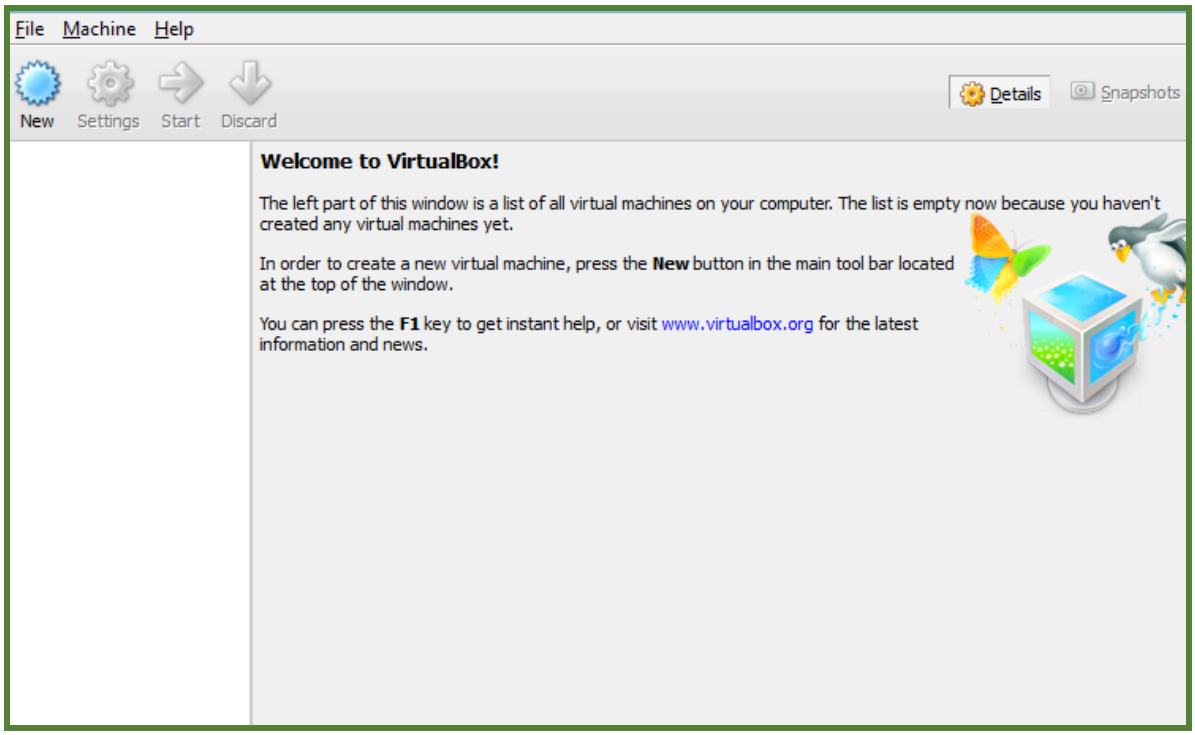
The Default Machine Folder has been changed. Picture 47:



Picture 51

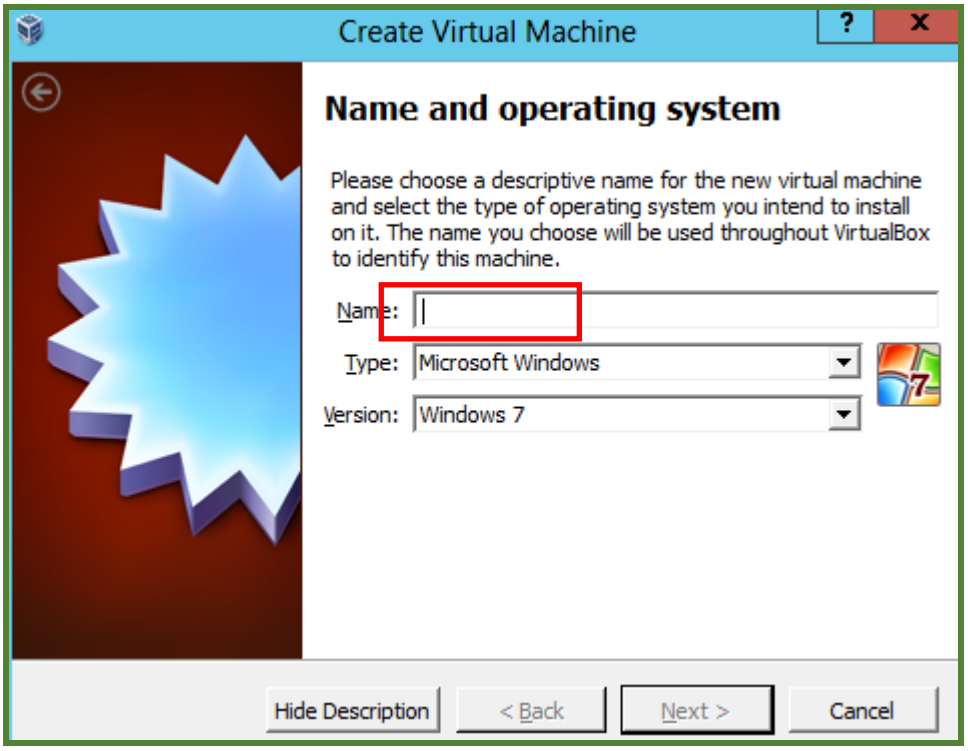
5.2 Creating Virtual Machines (VMs)

Click “New” to start the guide:



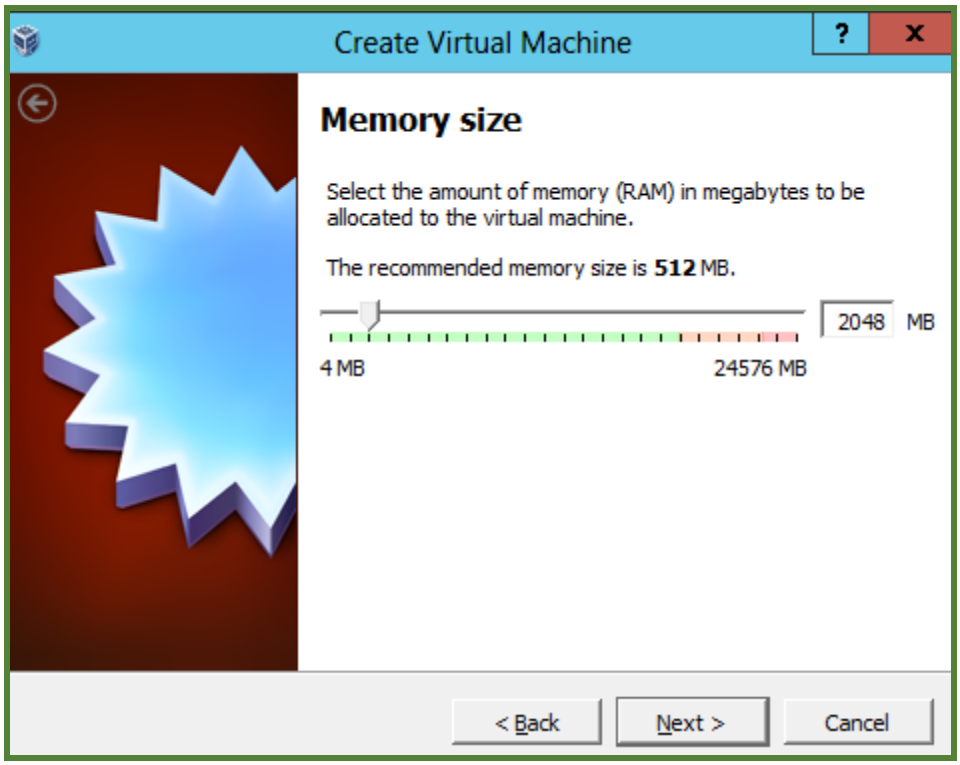
Picture 52

Name the virtual machine, and choose the right operation system:



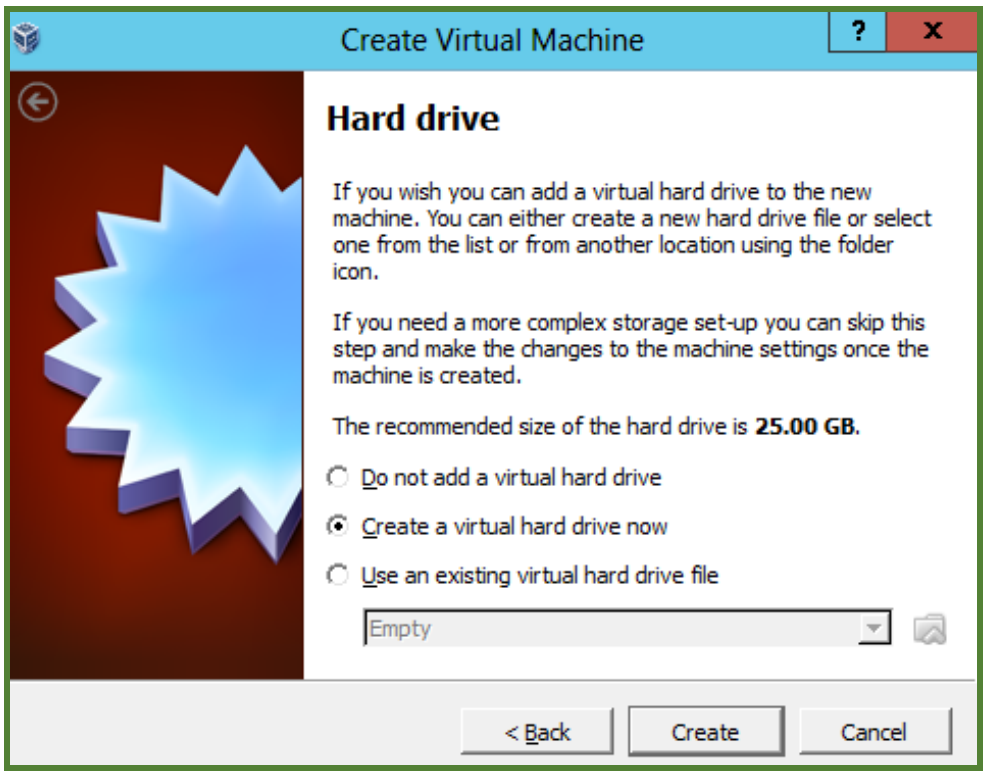
Picture 53

Set the RAM size of virtual machine:



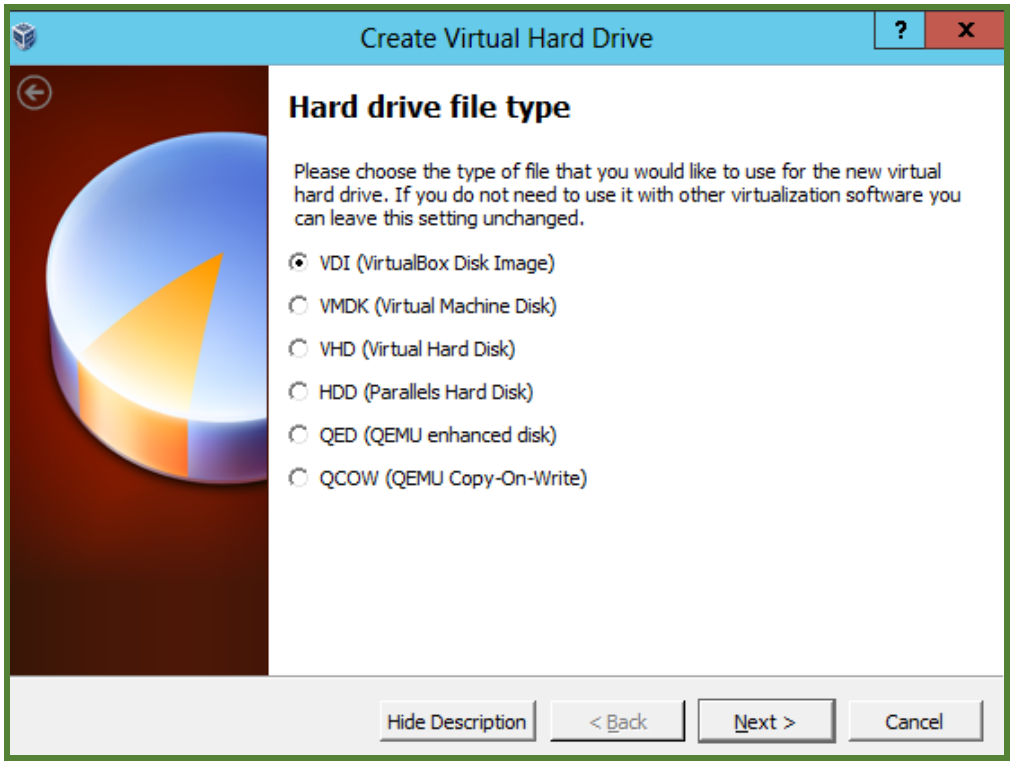
Picture 54

Create hard disk for the virtual machine:



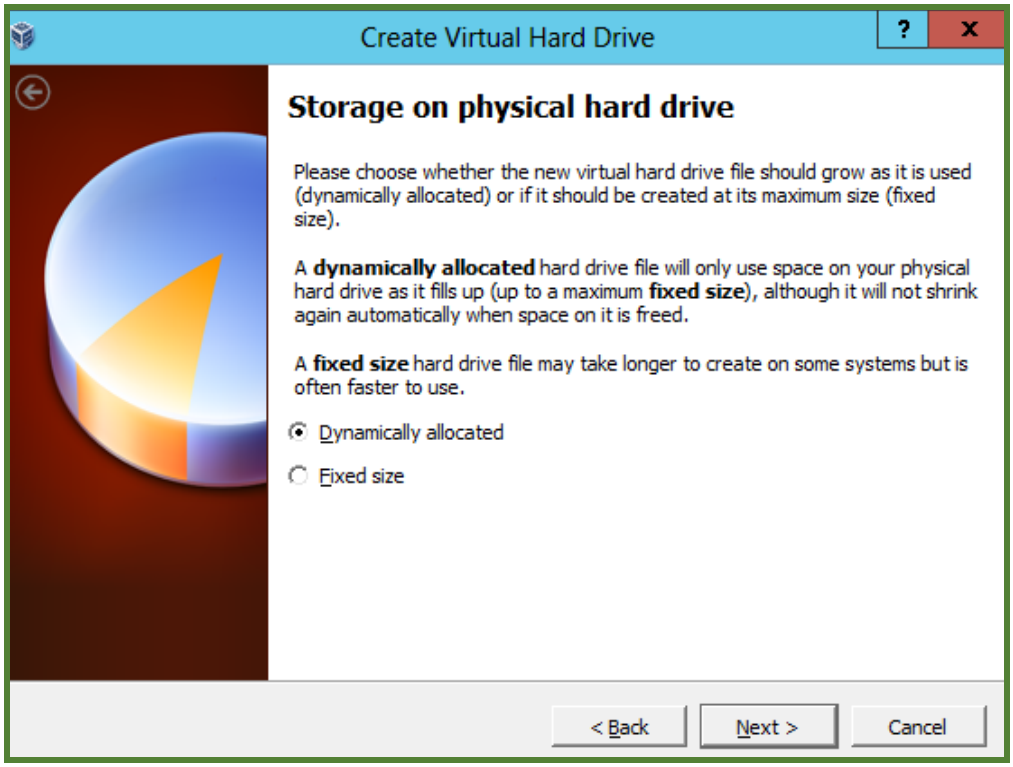
Picture 55

Choose the type of file that you would like to use for the new virtual hard drive, default “VDI” is OK:



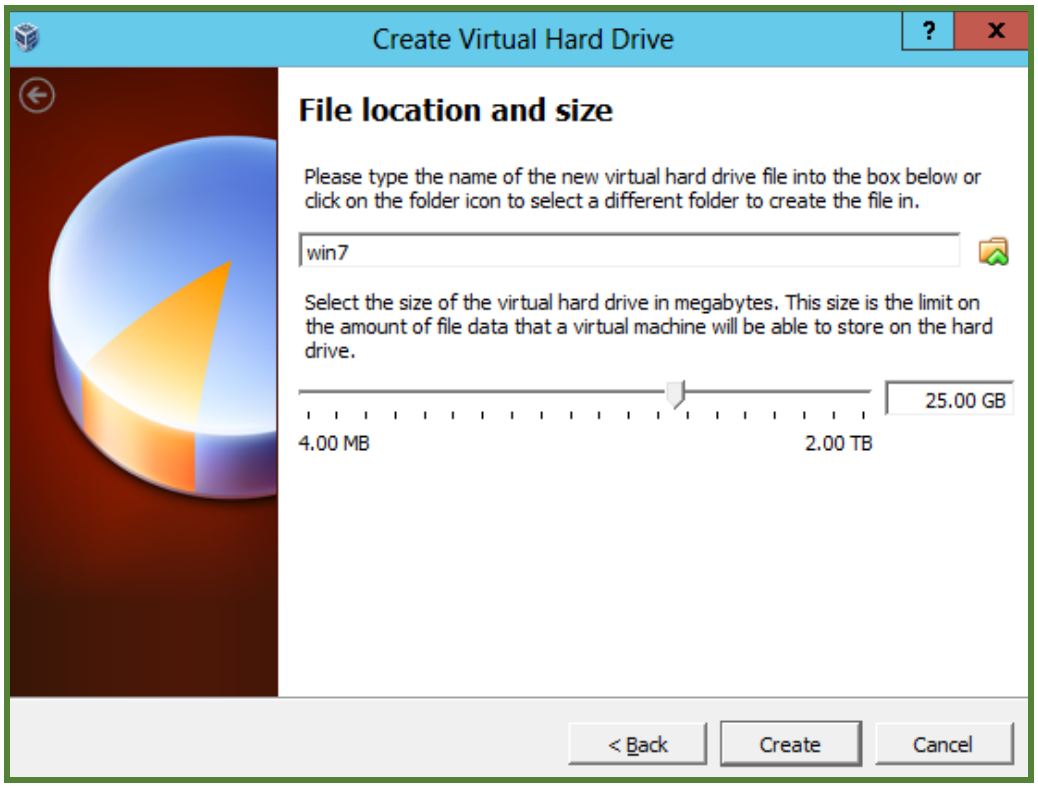
Picture 56

Select the type of virtual hard disk you want to create:



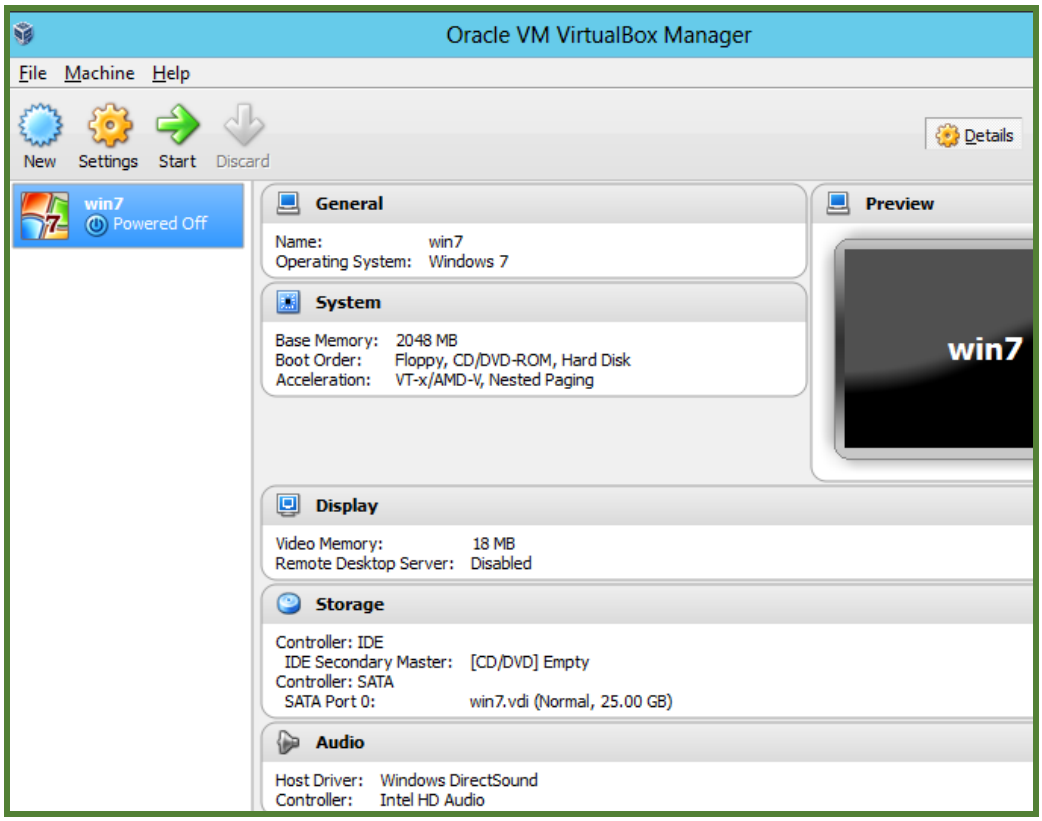
Picture 57

Set the size of hard disk. Then click “Create”:



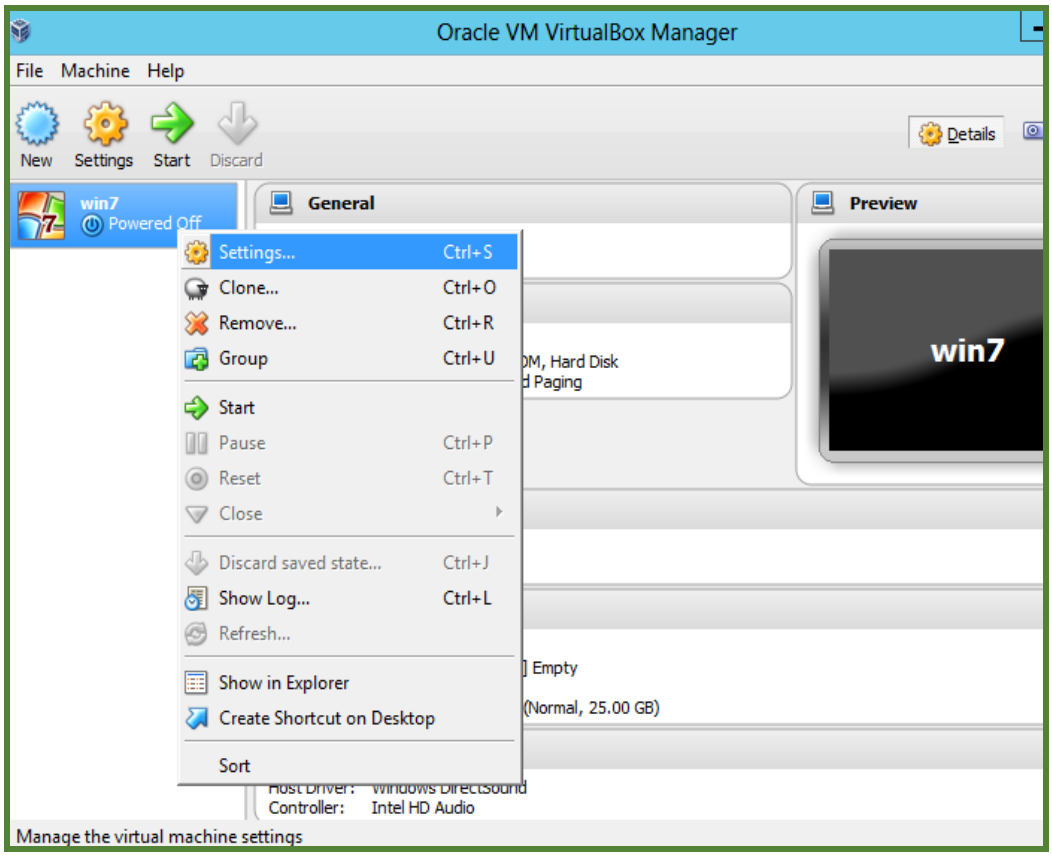
Picture 58

Now, we can see a virtual machine in the list:



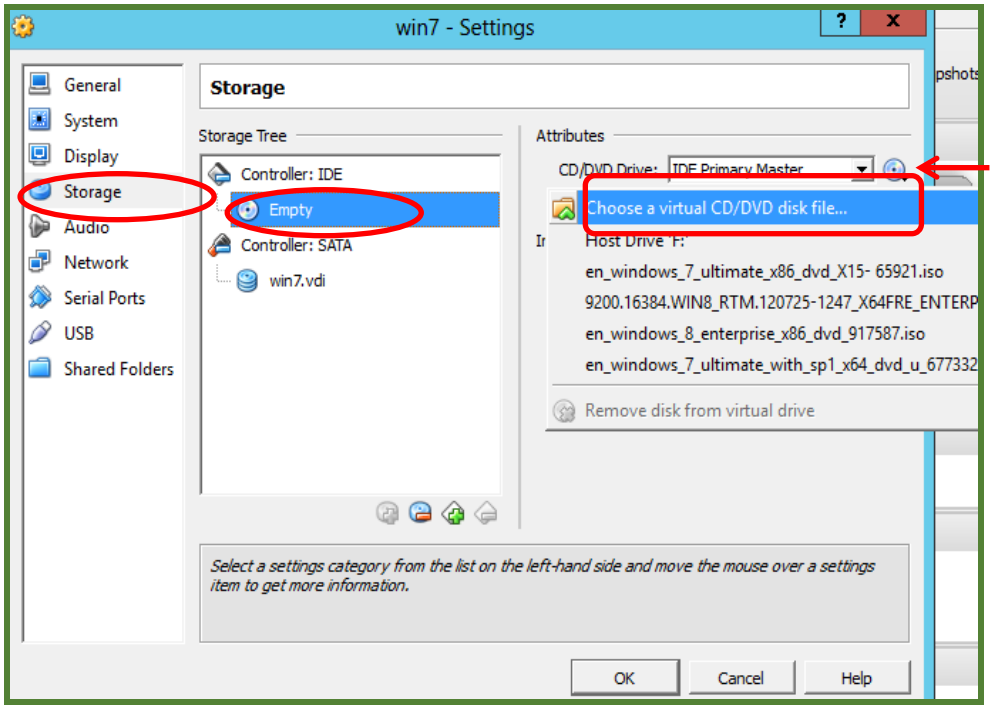
Picture 59

We need to make some changes to the settings of the virtual machine. Click “Settings”:



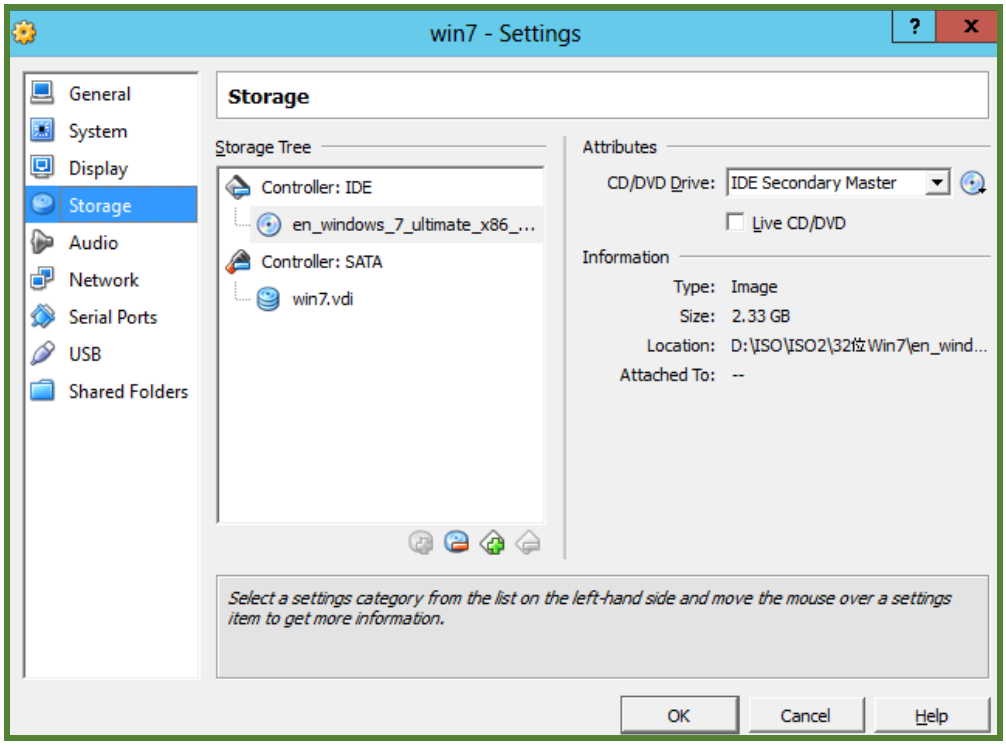
Picture 60

Click “Storage” on the left, and then click “CD drive” in the “Storage Tree”. In the “Attributes”, choose a system ISO image, or put the system CD in CD/DVD drive and choose “Host Drive”:



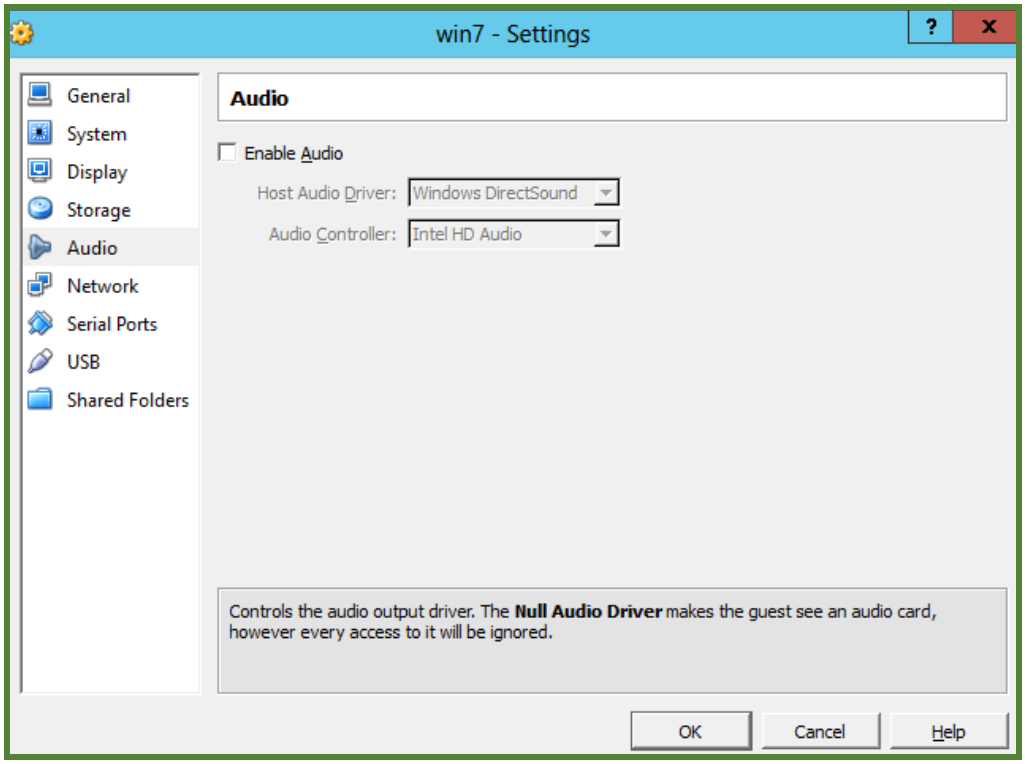
Picture 61

Click “OK”. You can see the ISO image is successfully loaded into to the CD drive:



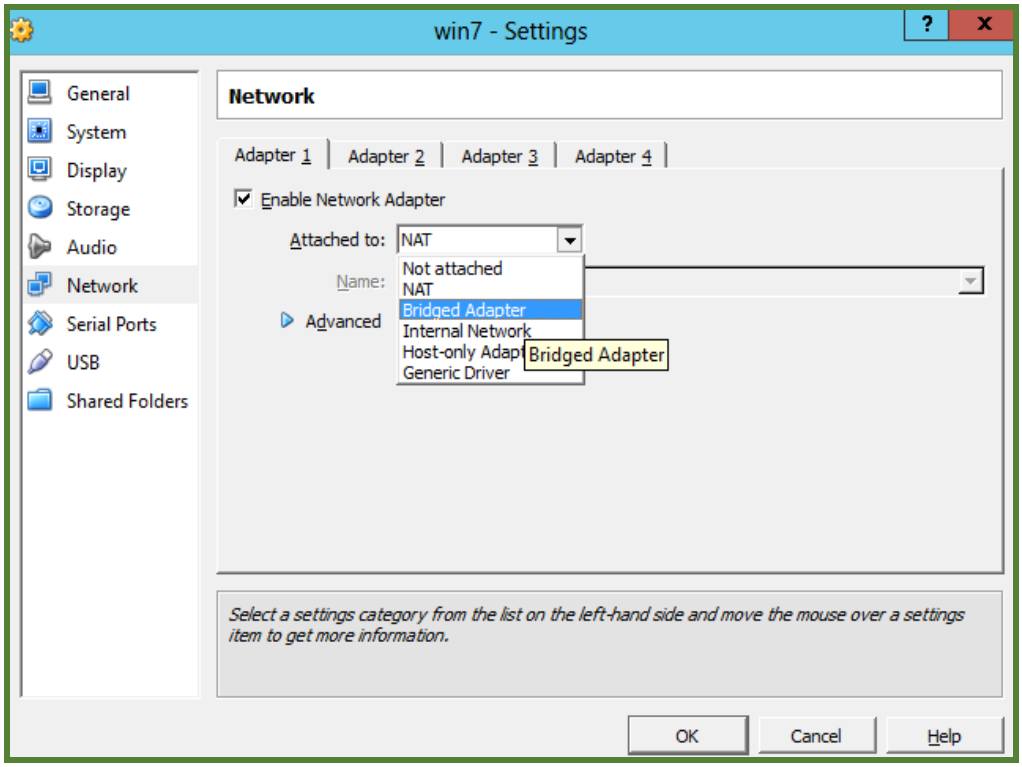
Picture 62

Next step, choose “Audio”，uncheck “Enable Audio”. We will install Diana its own audio device, so no need to enable audio device here:



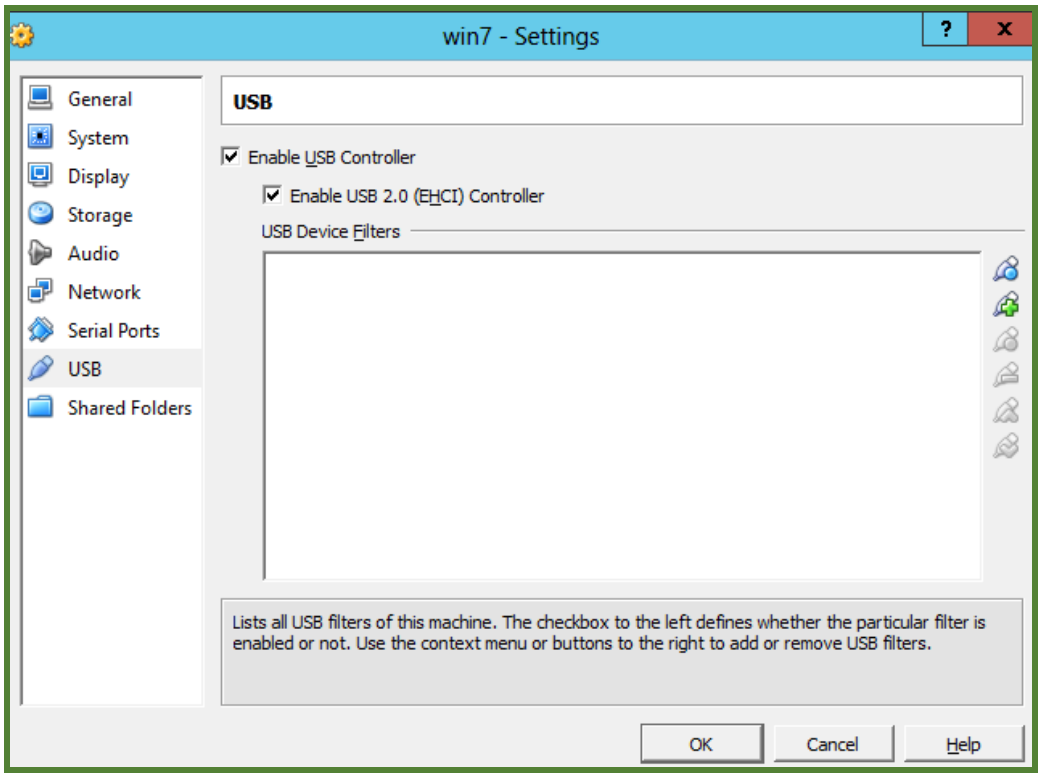
Picture 63

Then go to “Network”, choose “Bridged Adapter” for the virtual machine:



Picture 64

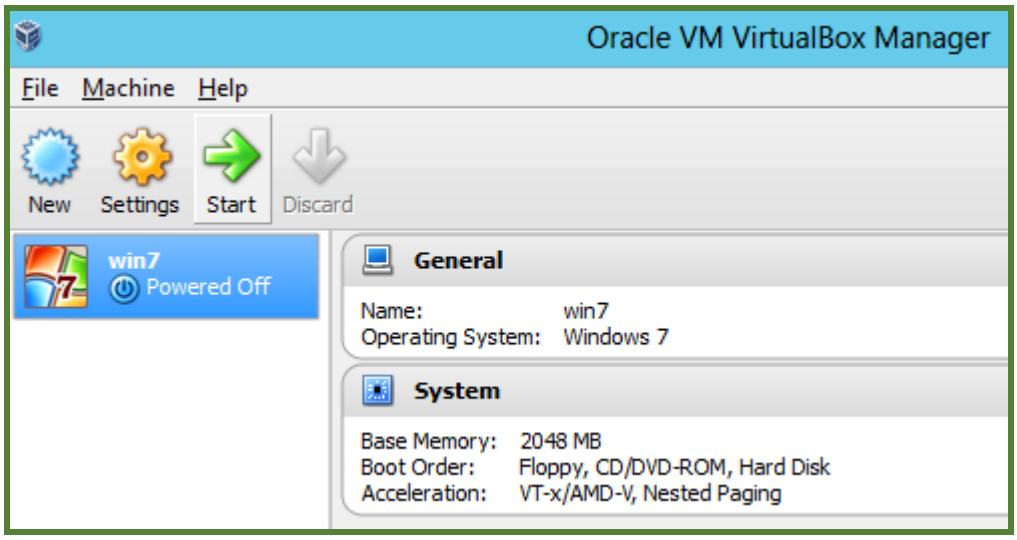
And also in the “USB” option, check “Enable USB controller”. Finally, click “OK” to finish:



Picture 65

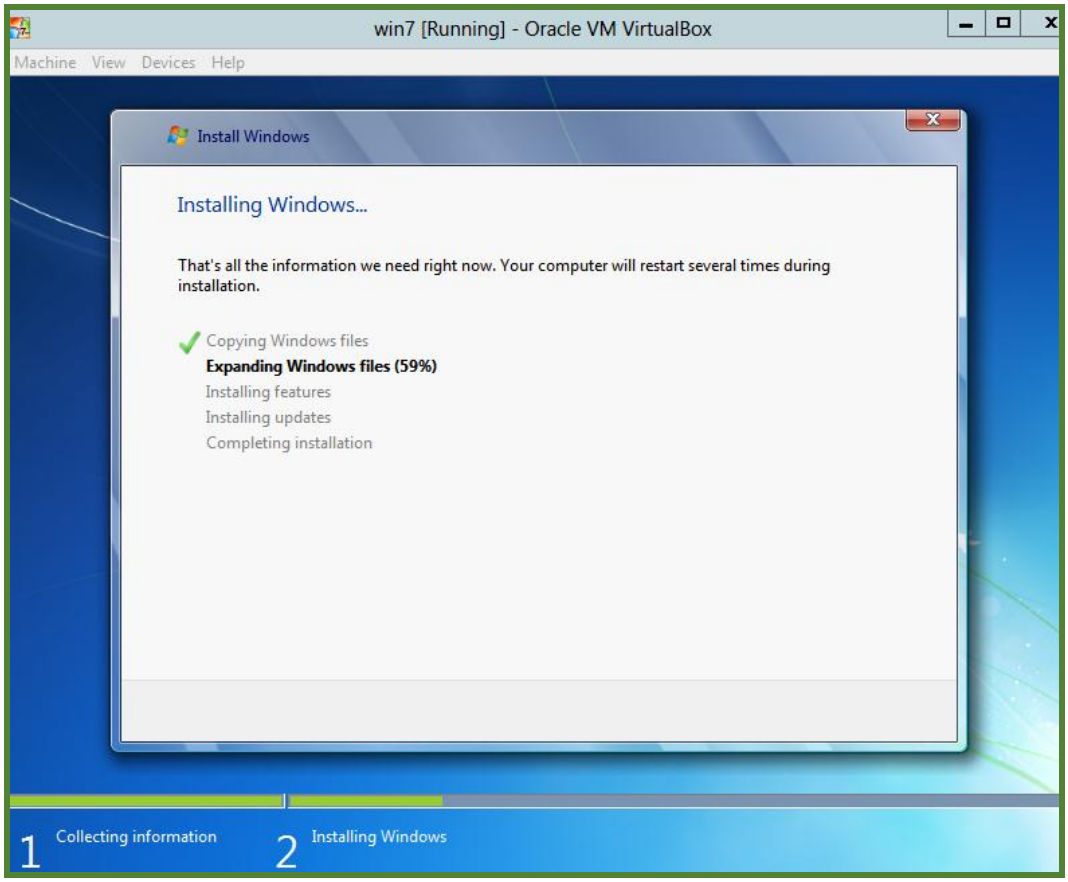
Note: You can also Enable USB 2.0 controller in order to make the VM support USB2.0 devices.

Now, we can start the virtual machine and begin the installation of operation system:



Picture 66

The installation process is just the same as you were installing it on a physical PC (Server):



Picture 67

5.3 Installing Guest Additions to Virtual Machines

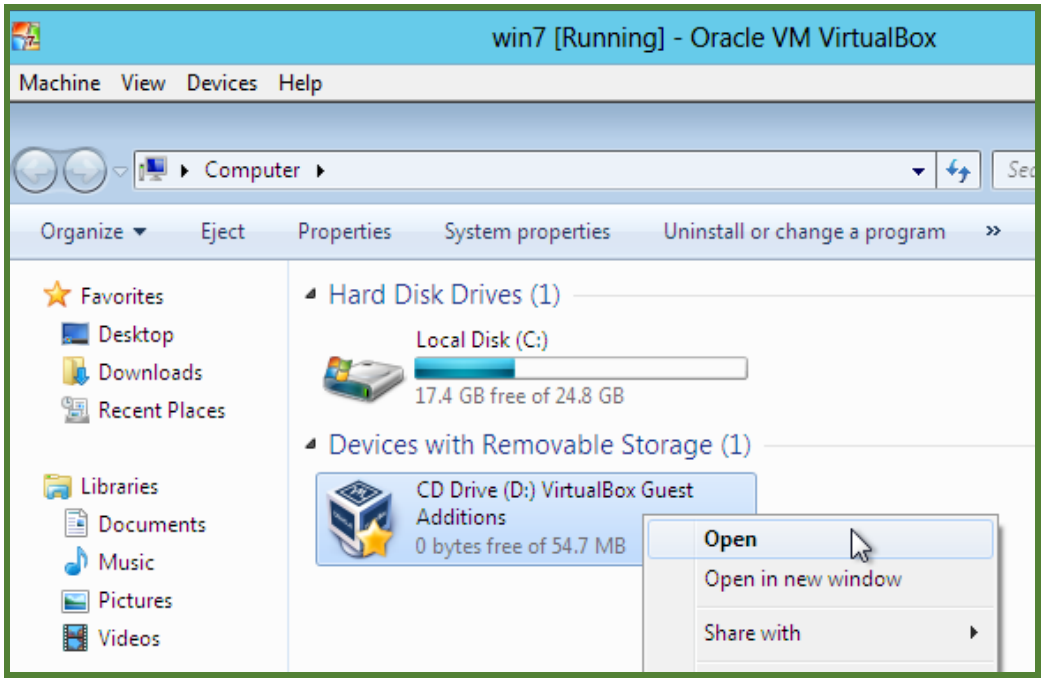
Guest Additions need to be installed to the virtual machine for higher performance, for example, screen resolution, shared folder.

Start the virtual machine we have just finished installing operation system. Click “Devices”, and then choose “Install Guest Additions”. Then the Guest Additions installation ISO image will be mounted to the CD drive of the virtual machine.



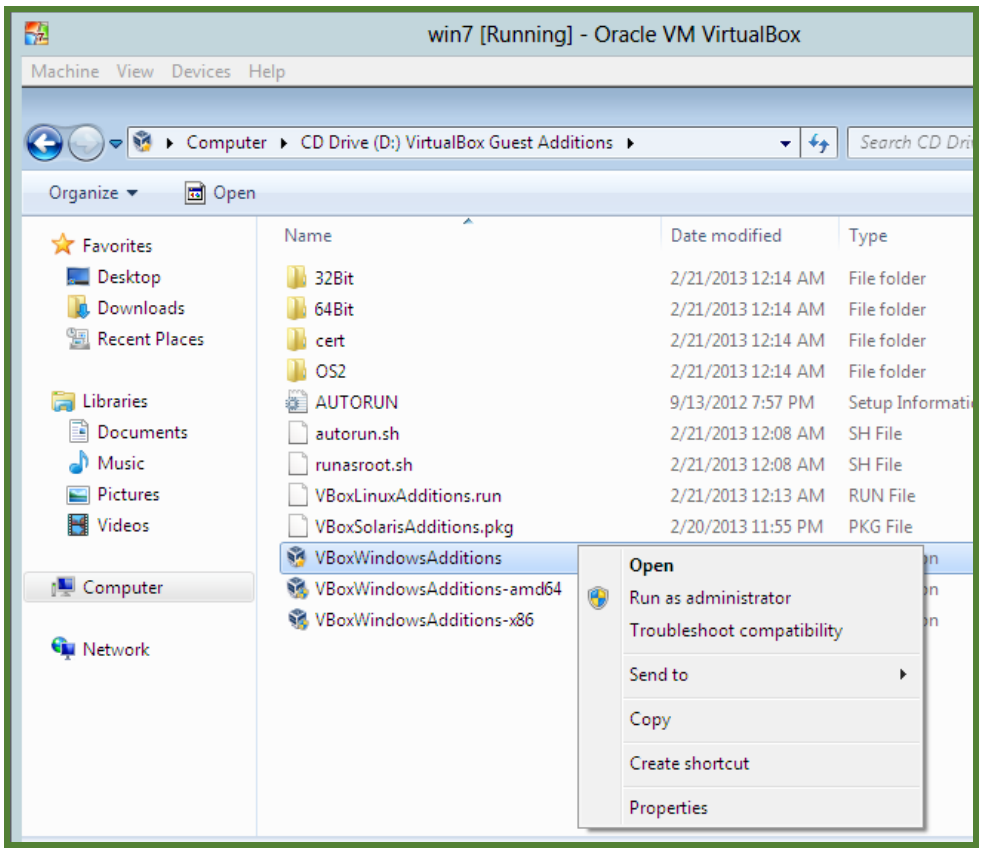
Picture 68

Open the CD Drive of the virtual machine:



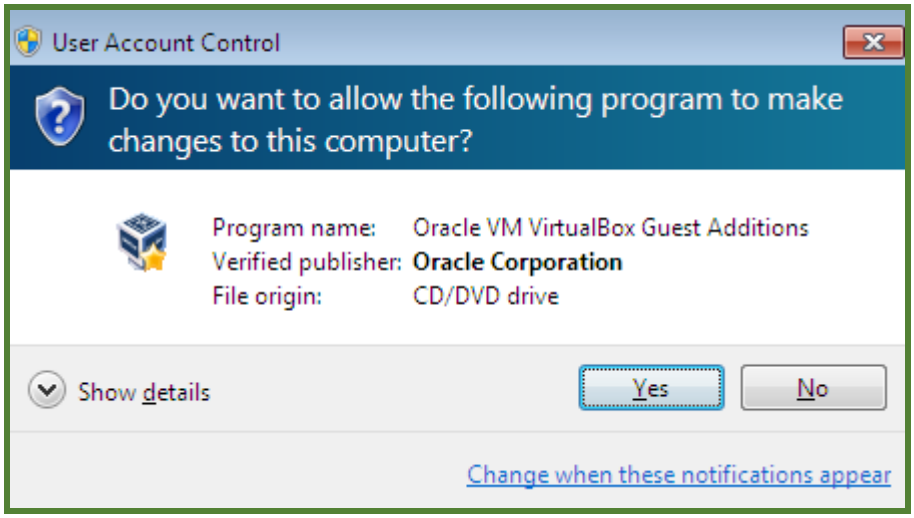
Picture 69

Open VBoxWindowsAdditions:



Picture 70

Click “Yes” to allow the installation:



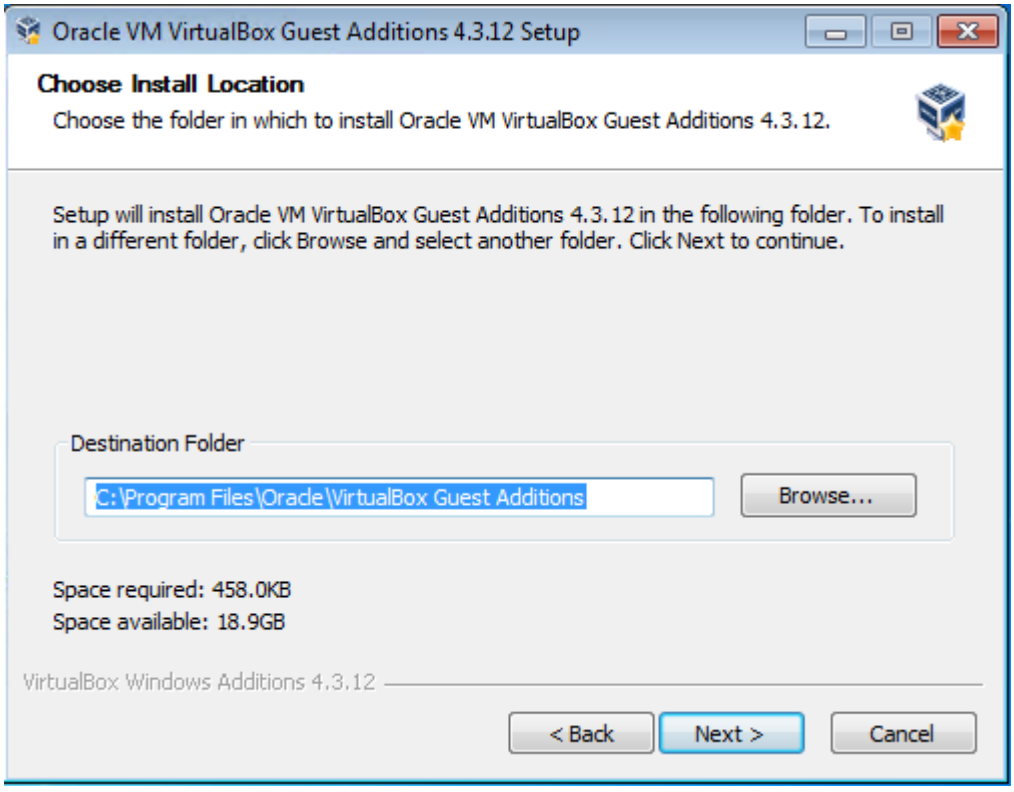
Picture 71

Click “Next”:



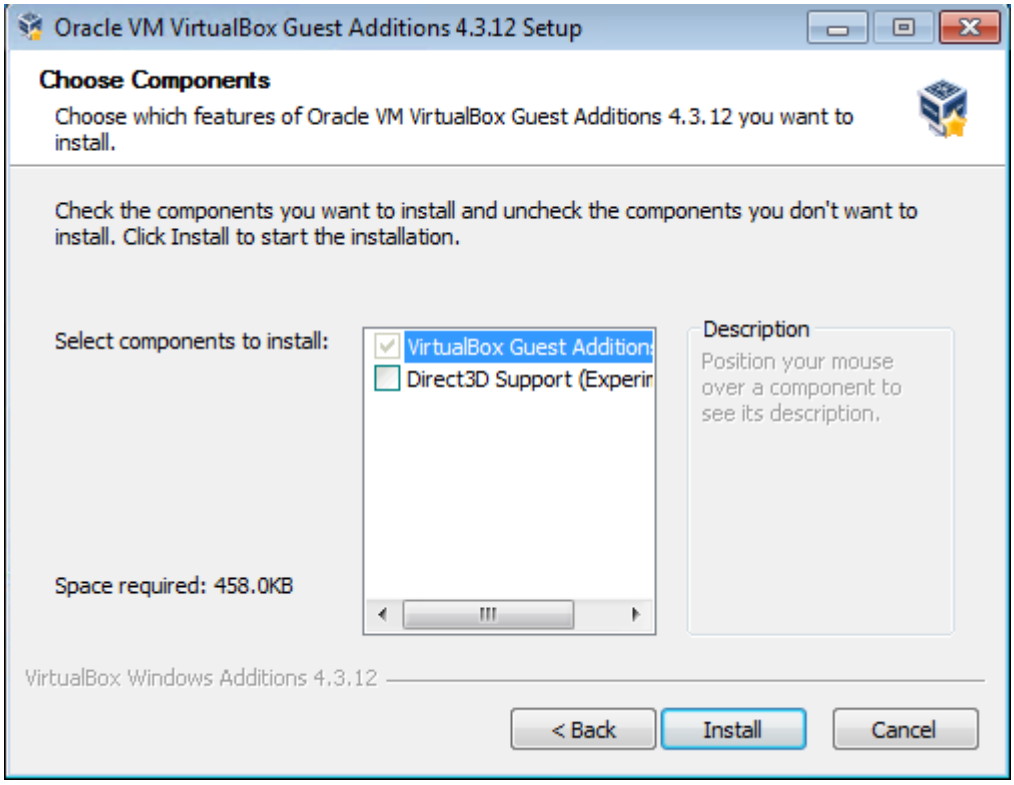
Picture 72

The default destination folder is ok. Click “Next” to continue:



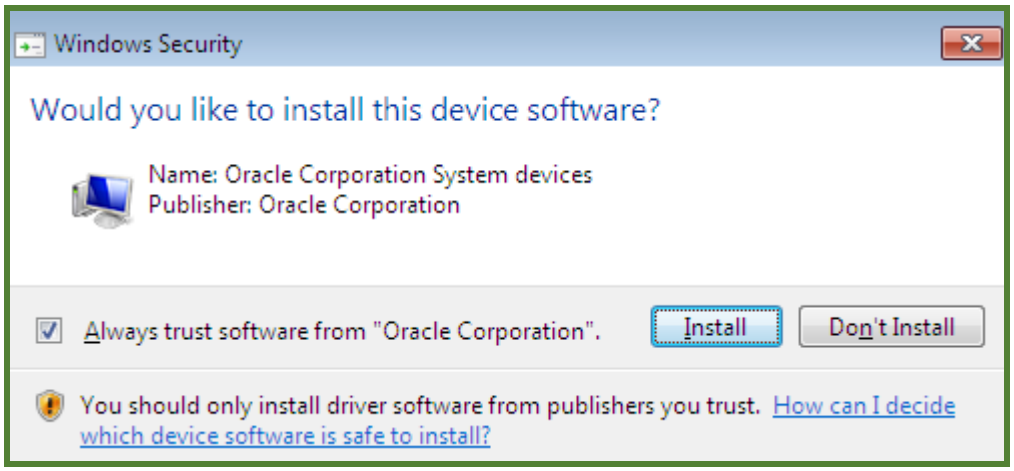
Picture 73

Do not check “Direct3D Support”:



Picture 74

Check “Always trust software from ‘Oracle Corporation’” and click Install:



Picture 75

When the installation complete, click “Finish” to reboot the virtual machine:



Picture 76

5.4 Install vPointGuest to Virtual Machine Operation System

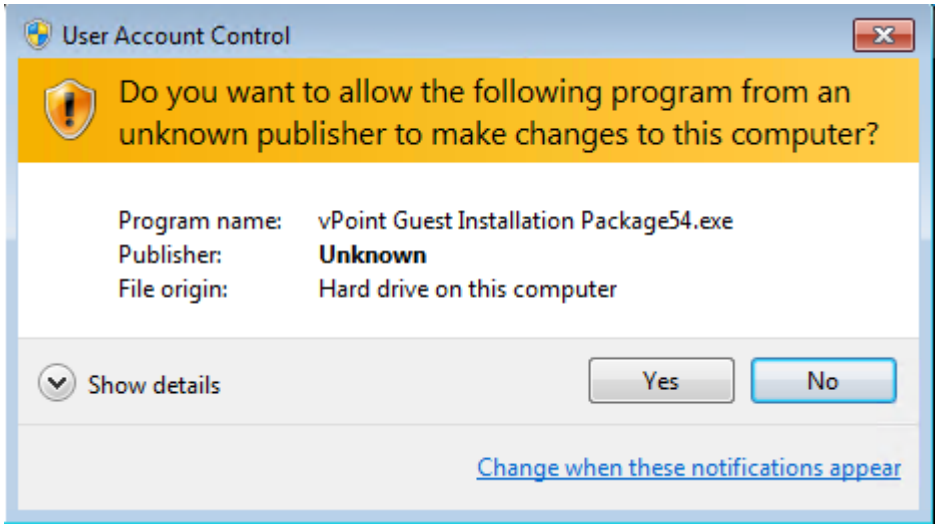
Now, let's install vPointGuest to the virtual machine. The file is called vPointGuestInstallationPackage. Start the virtual machine and log into the system. Double click on "vPoint Guest Installation Package22.exe" (22 is the version number. Please always install the latest version) to run the installation. You can get the installation file from vPoint CD (if there is any) or download from our website. Here is the link: http://www.sundenc.com/support/download/d1/

Here are the steps for vPointGuest installation:



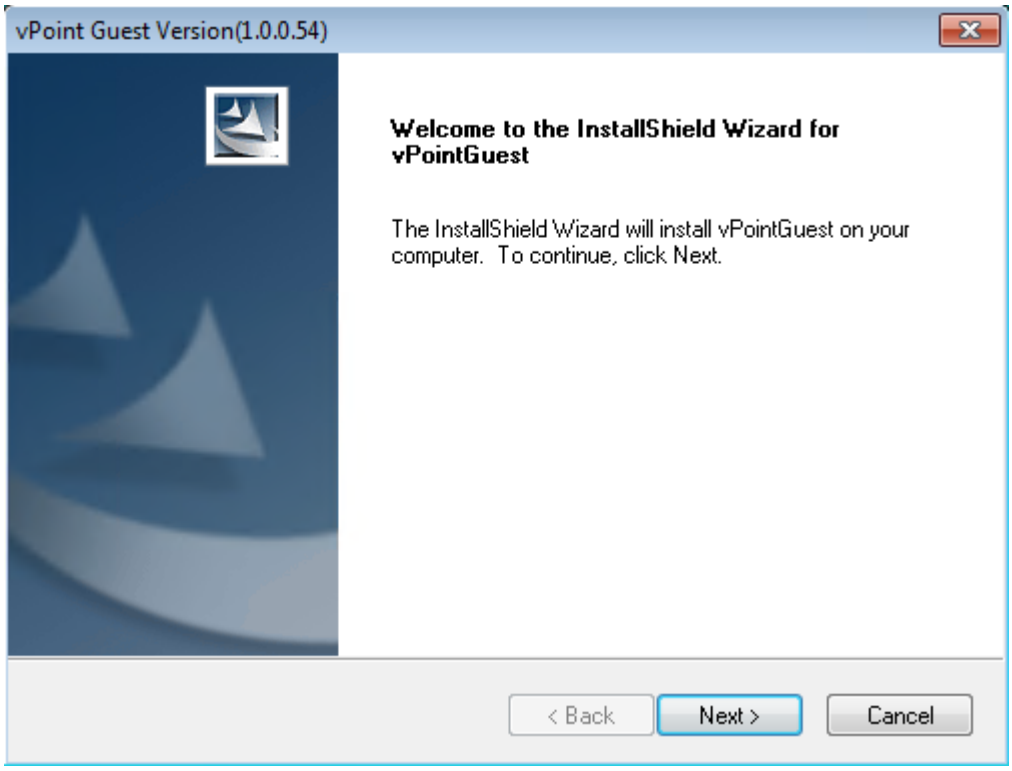
Picture 77

Click on "Yes" to continue if this window pops up:



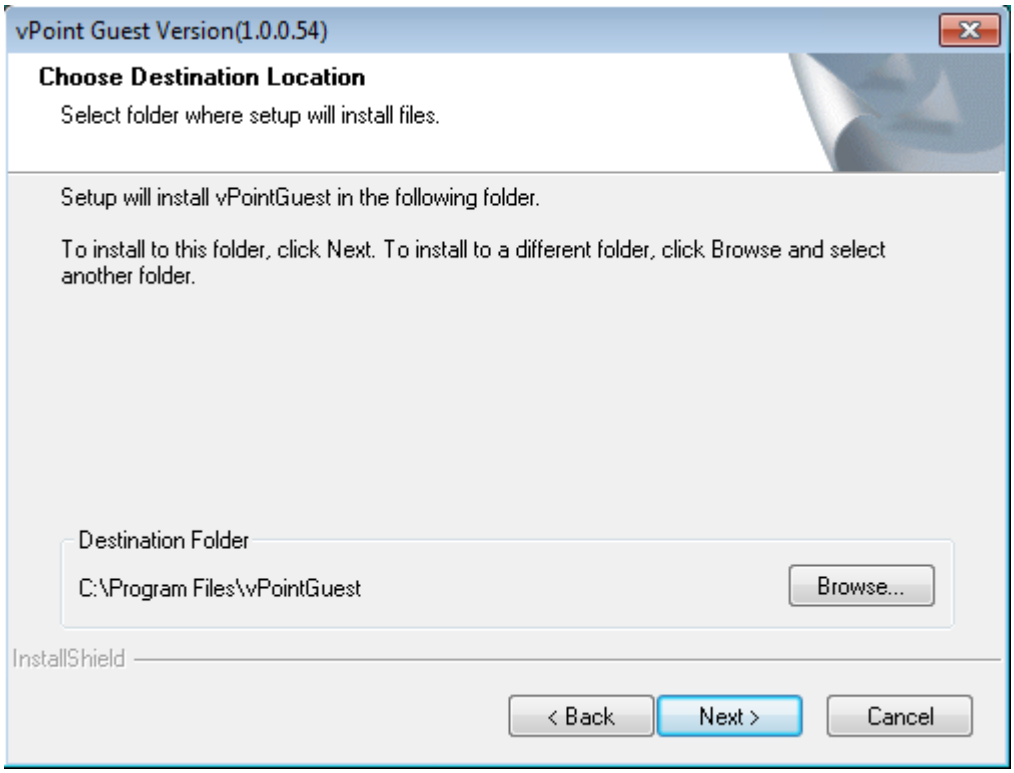
Picture 78

Click on “Next”:



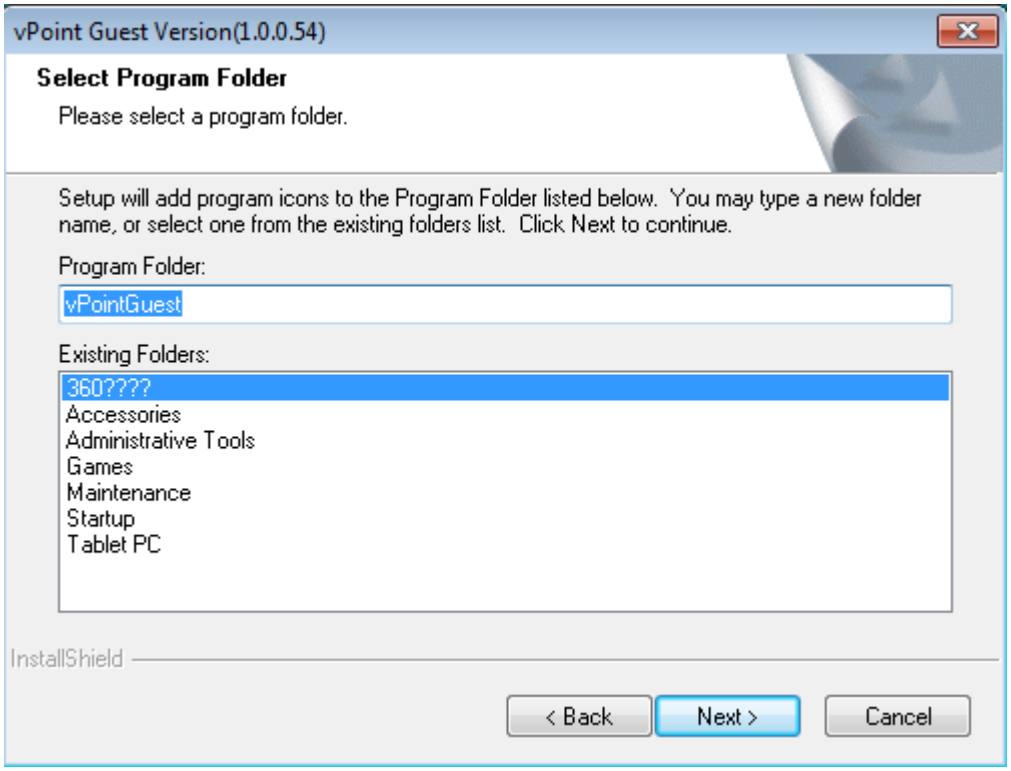
Picture 79

Choose Destination Folder. You can use default settings:



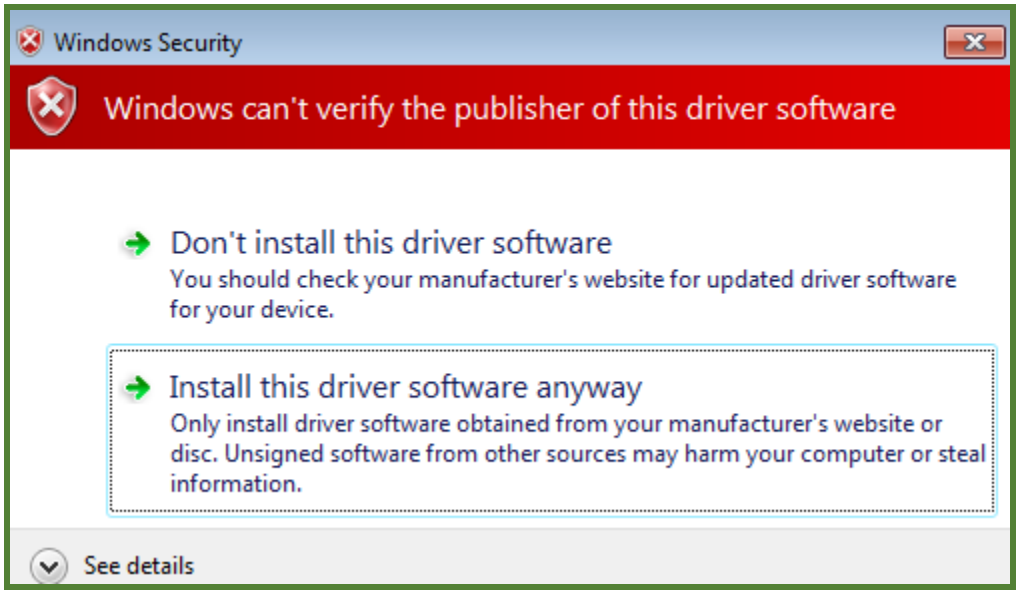
Picture 80

Click on “Next” to continue:



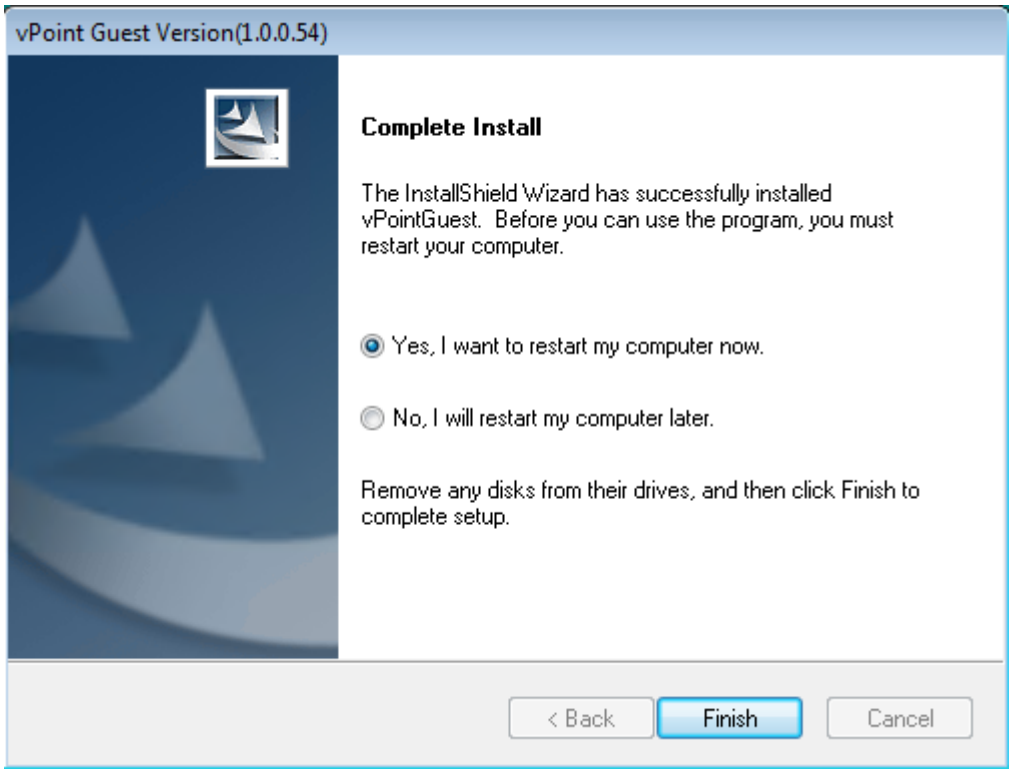
Picture 81

Click “Install this driver software anyway” if this window pops up:



Picture 82

Click “Finish” to restart the VM:



Picture 83

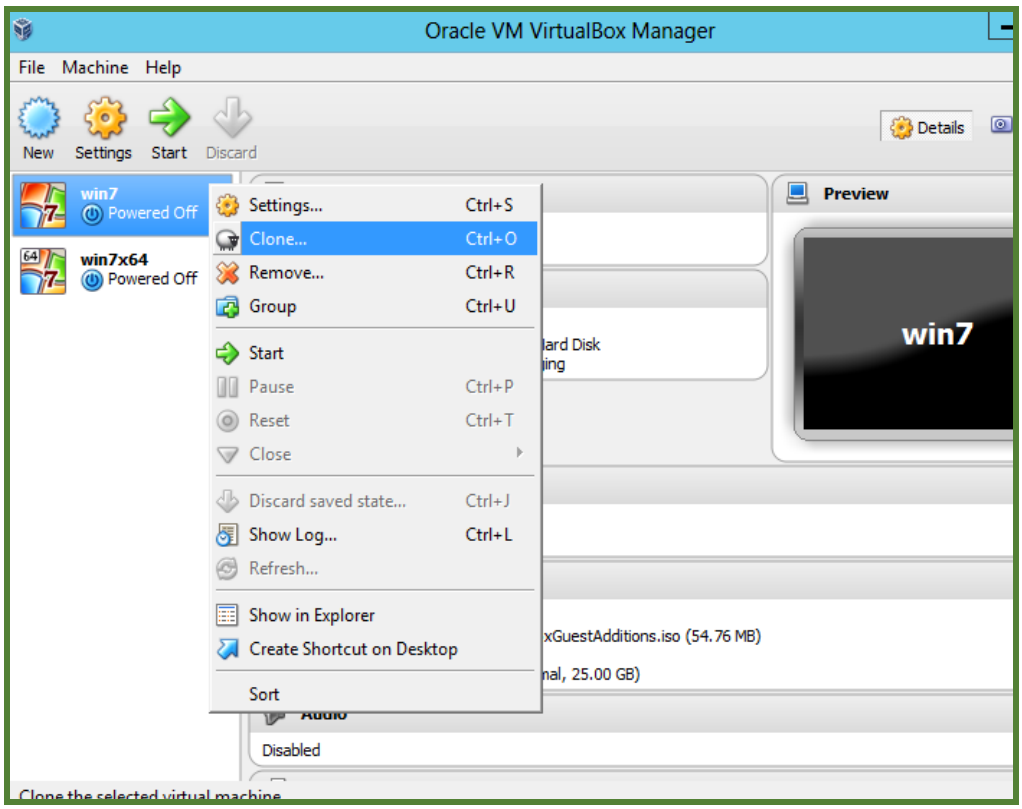
5.5 The Clone of Virtual Machines

More often, we will be using more than 1 copy of same Operation System, say Windows 7, on the Host PC (server). One quick way to have multiple copies of Windows 7 is to clone it. When you have finished installing Windows 7 and necessary configuration, we can move on to clone it.

There are two way to clone virtual machines: VirtualBox clone function or export/import

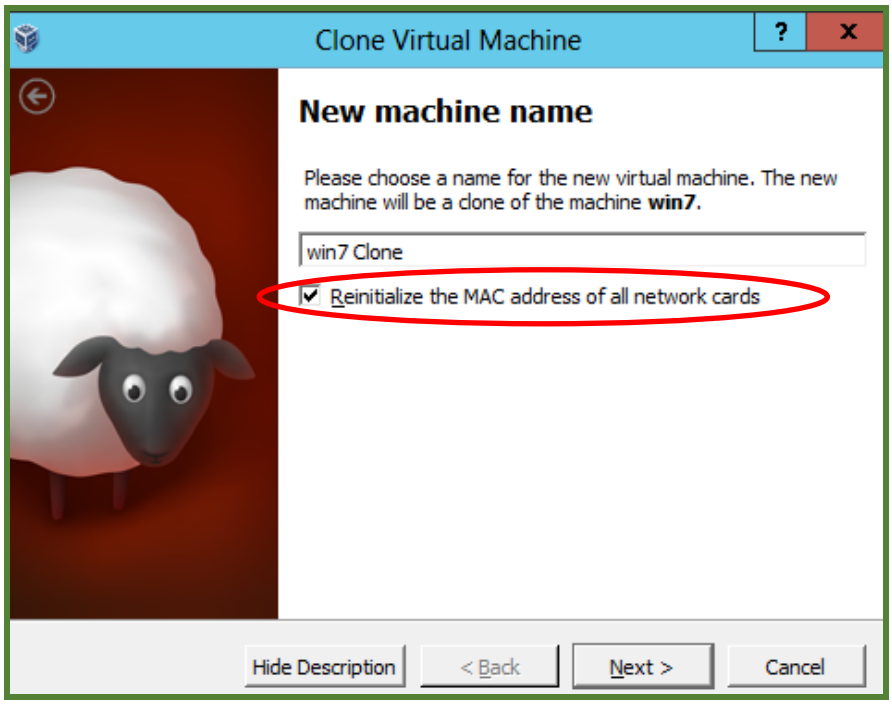
VirtualBox Clone function

Open Oracle VM VirtualBox Manager, make sure the VM you want to clone is powered off, choose that VM, right click and choose “Clone”:



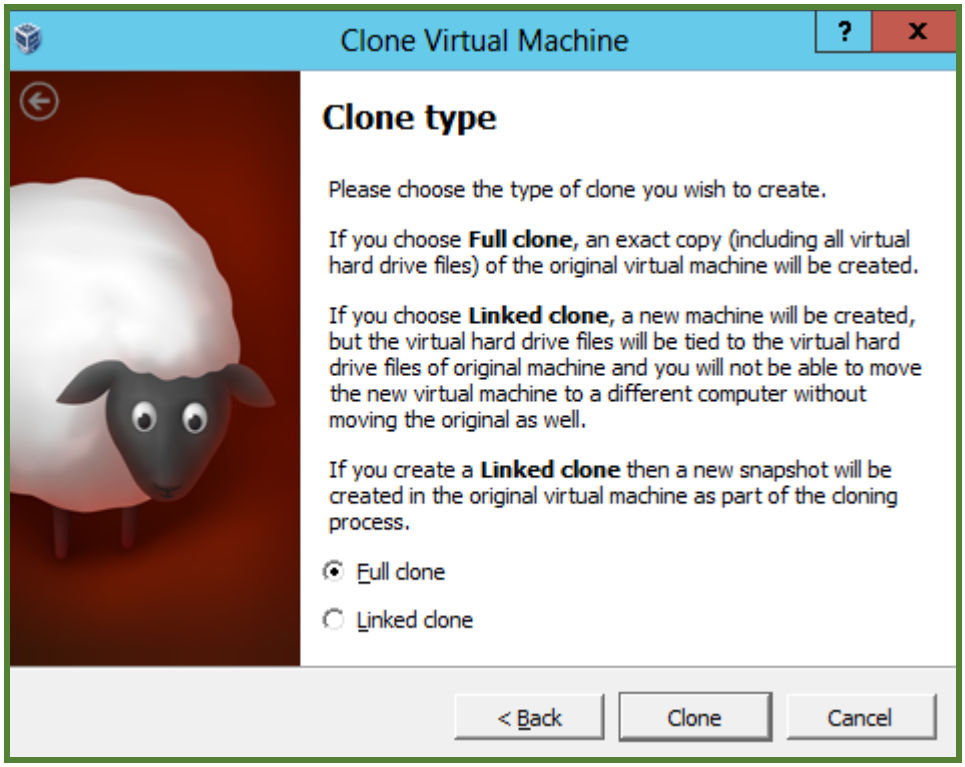
Picture 84

Input the name for the new virtual machine, and check “Reinitialize the MAC address of all network cards” to avoid the IP address conflict, then click “Next”:



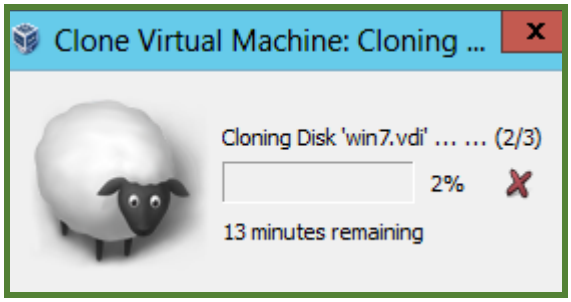
Picture 85

Choose “Full clone”, and click “Clone” to start:



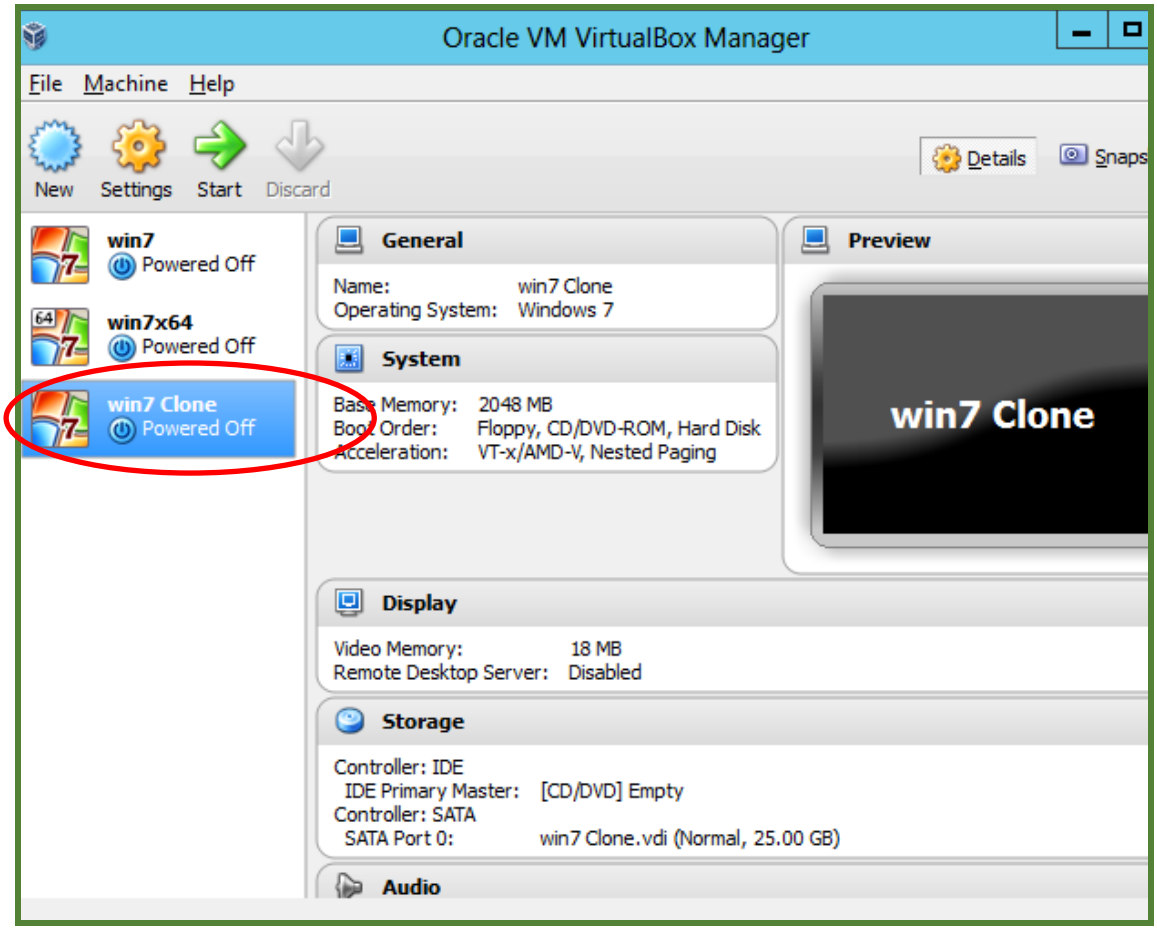
Picture 86

Clone starts:



Picture 87

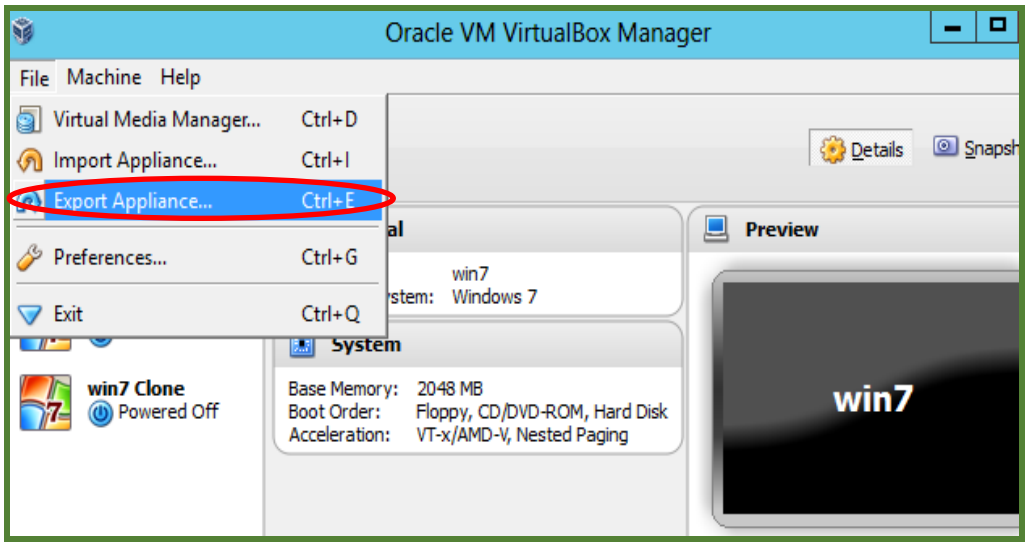
After the Clone finished, you can find the new virtual machine in the list:



Picture 88

VirtualBox export/import

Open Oracle VM VirtualBox Manager, make sure the VM that you want to export is powered off, click “File”, and choose “Export Appliance”:



Picture 89

Select the virtual machines that you want to export. Picture 96:



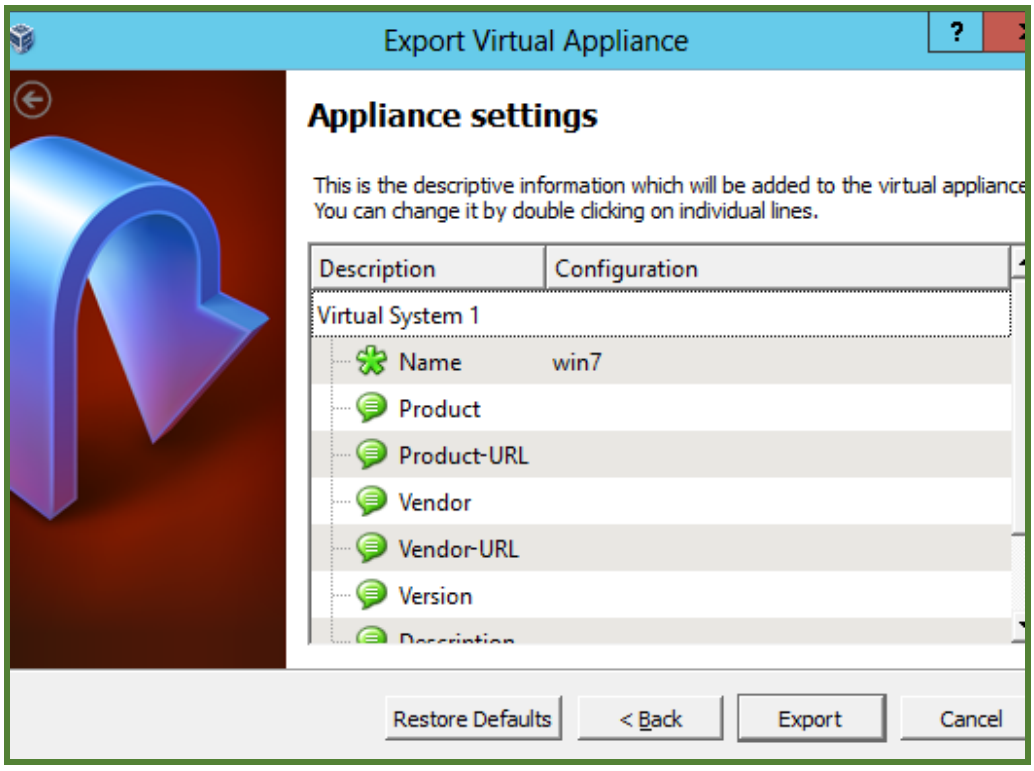
Picture 90

Choose a destination folder to export the virtual machine



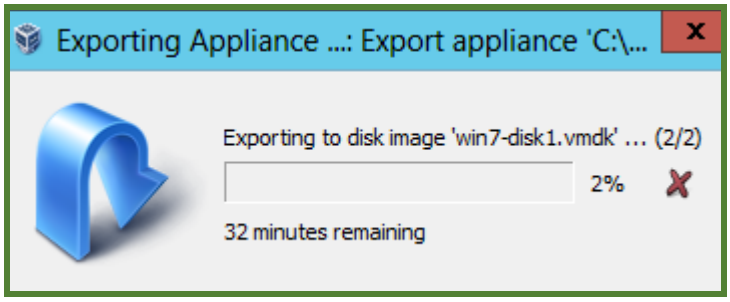
Picture 91

Click “Export” to start:



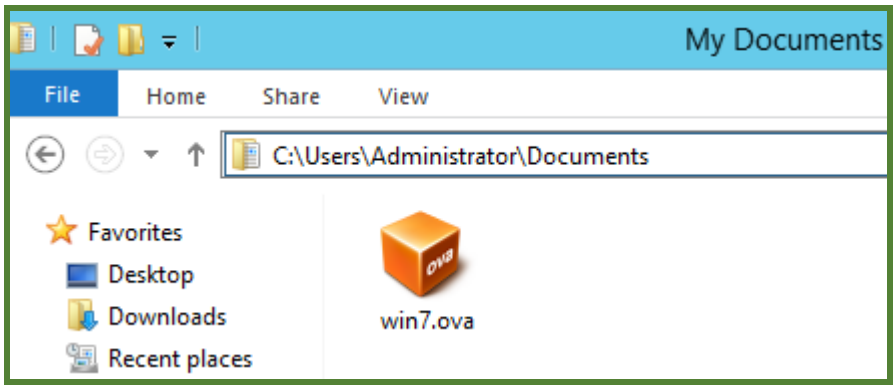
Picture 92

Exporting:



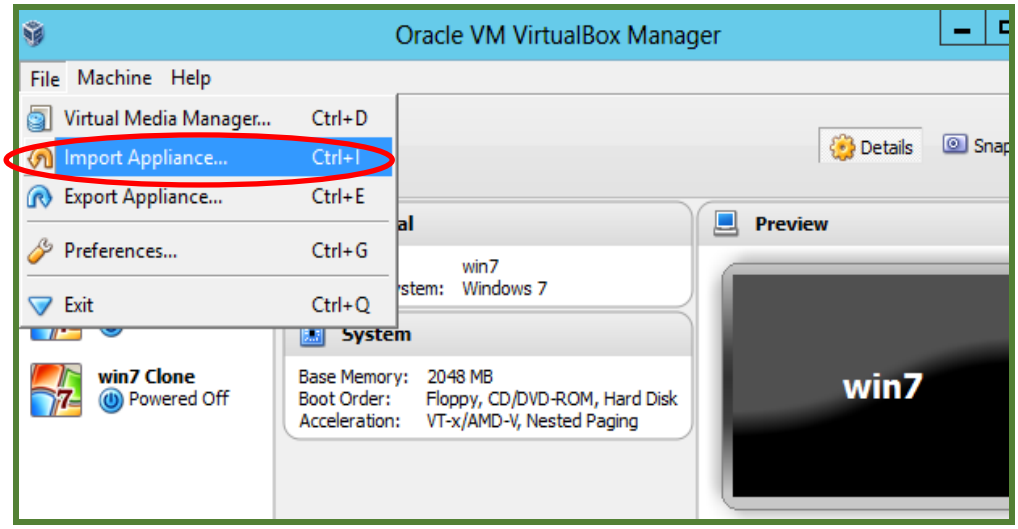
Picture 93

After the exporting finished, we can find a win7.ova file in C:\Users\Administrator\Documents. That is the Virtual Machine we have exported:



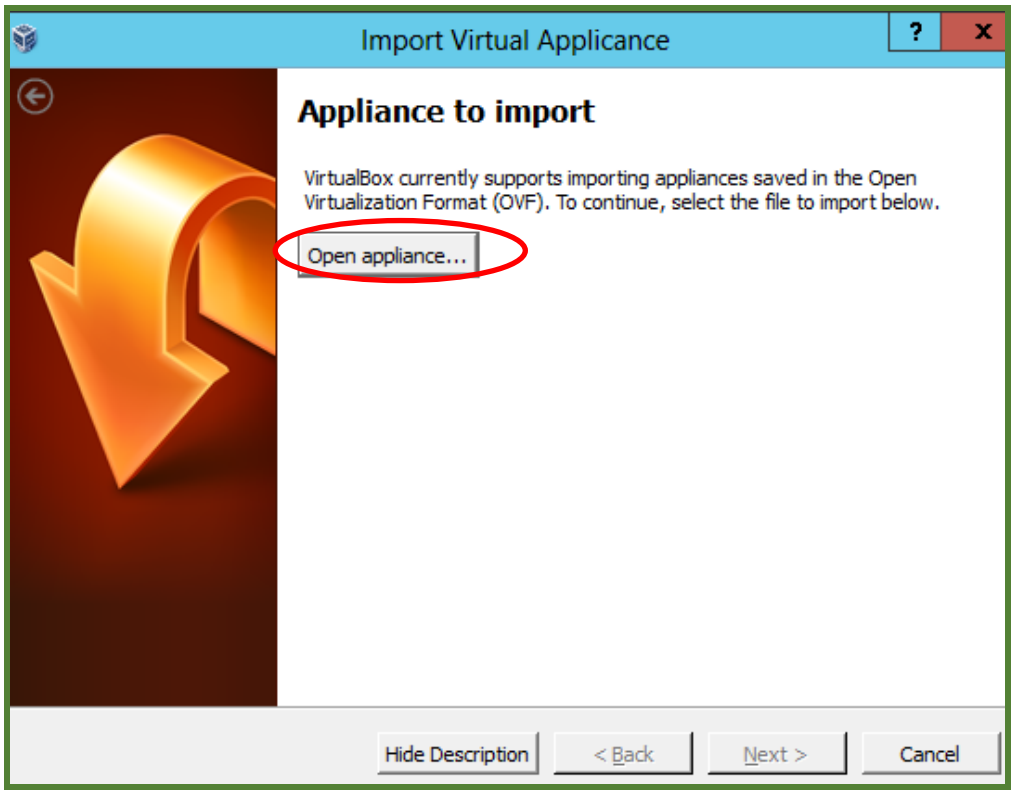
Picture 94

Now we can use the ova file to import virtual machine. Open VirtualBox Manager, click “File” and choose “Import Appliance”:



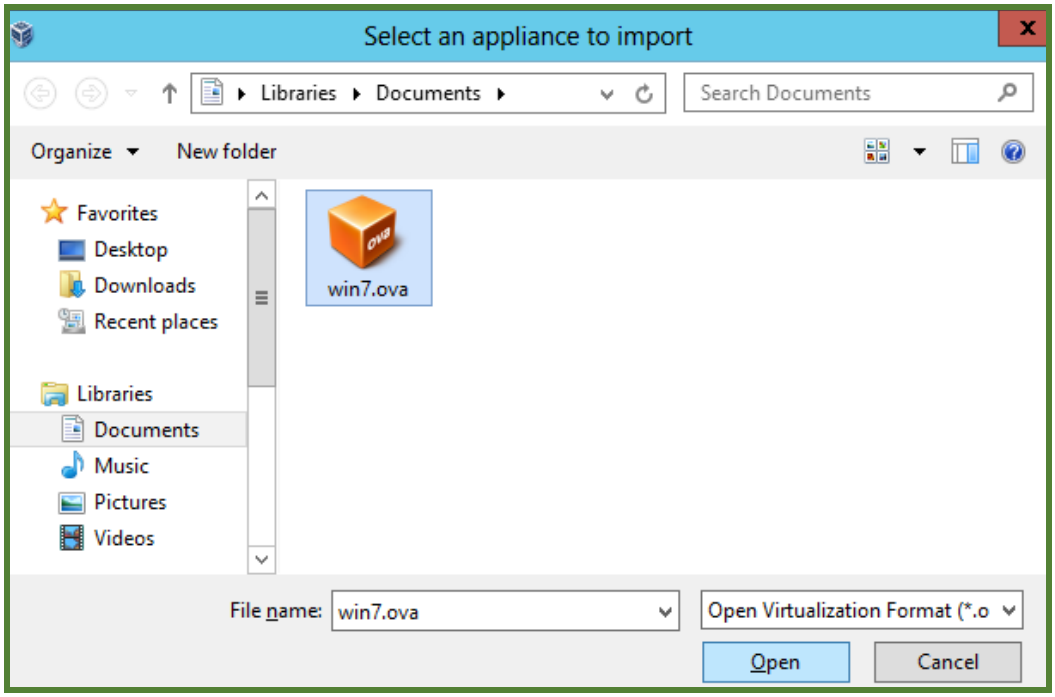
Picture 95

Click “Open appliance”:



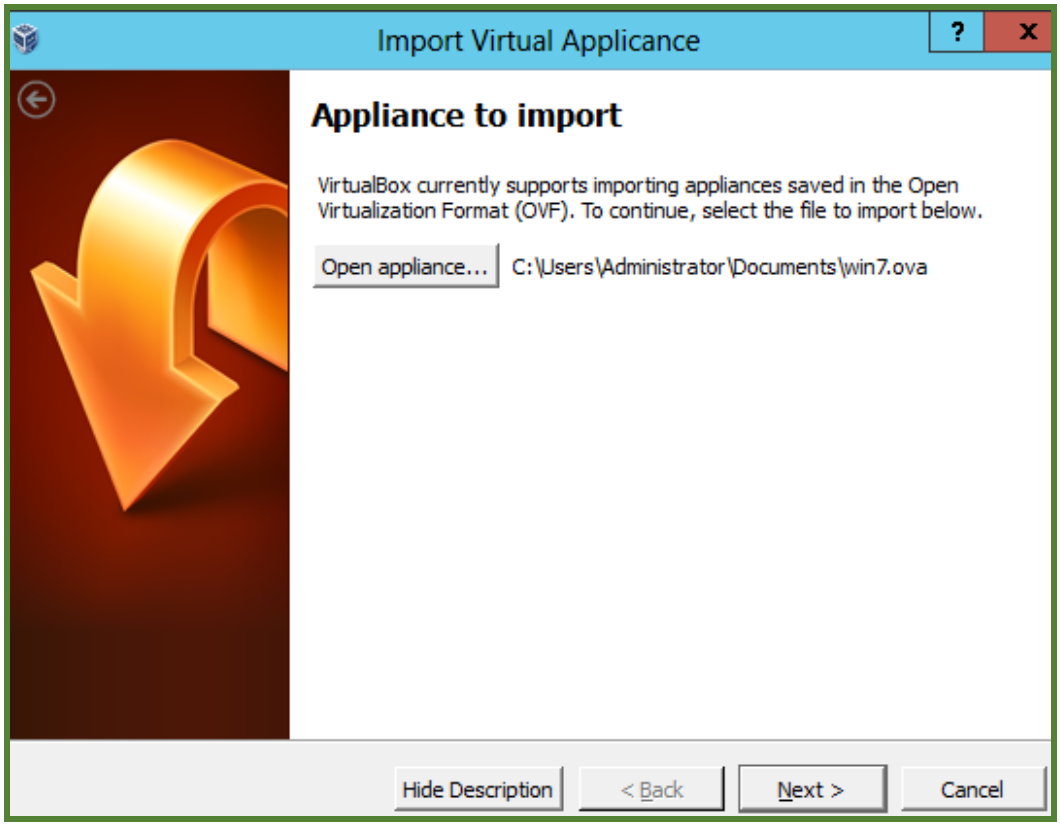
Picture 96

Browse the folder that we have export the ova file to, select win7.ova and click “Open”:



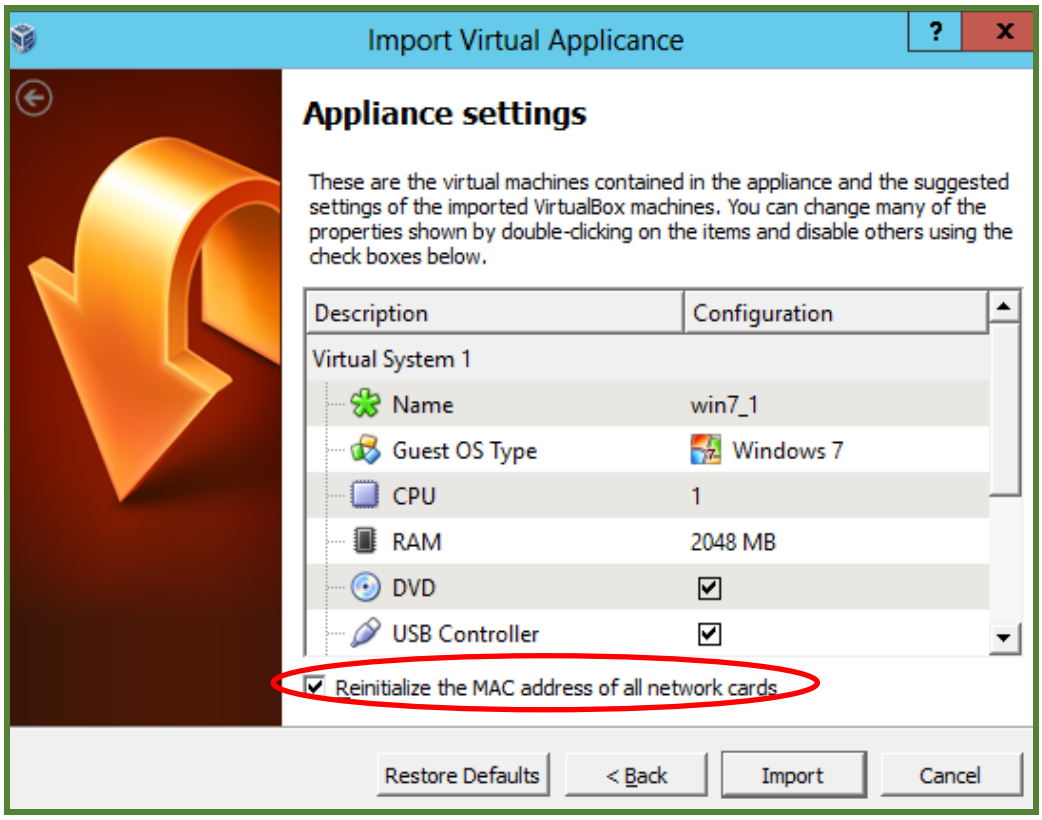
Picture 97

After select the ova file, click “Next”:



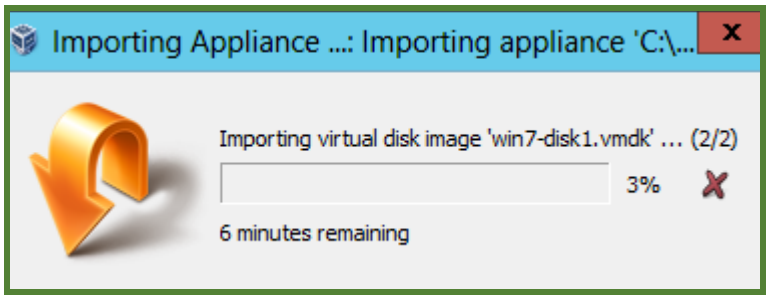
Picture 98

In the Appliance settings, check the “Reinitialize the MAC address of all network cards” to avoid the IP address conflict. You can also make change to other settings of virtual machine like Name, CPU, etc. click “Import” to start importing:



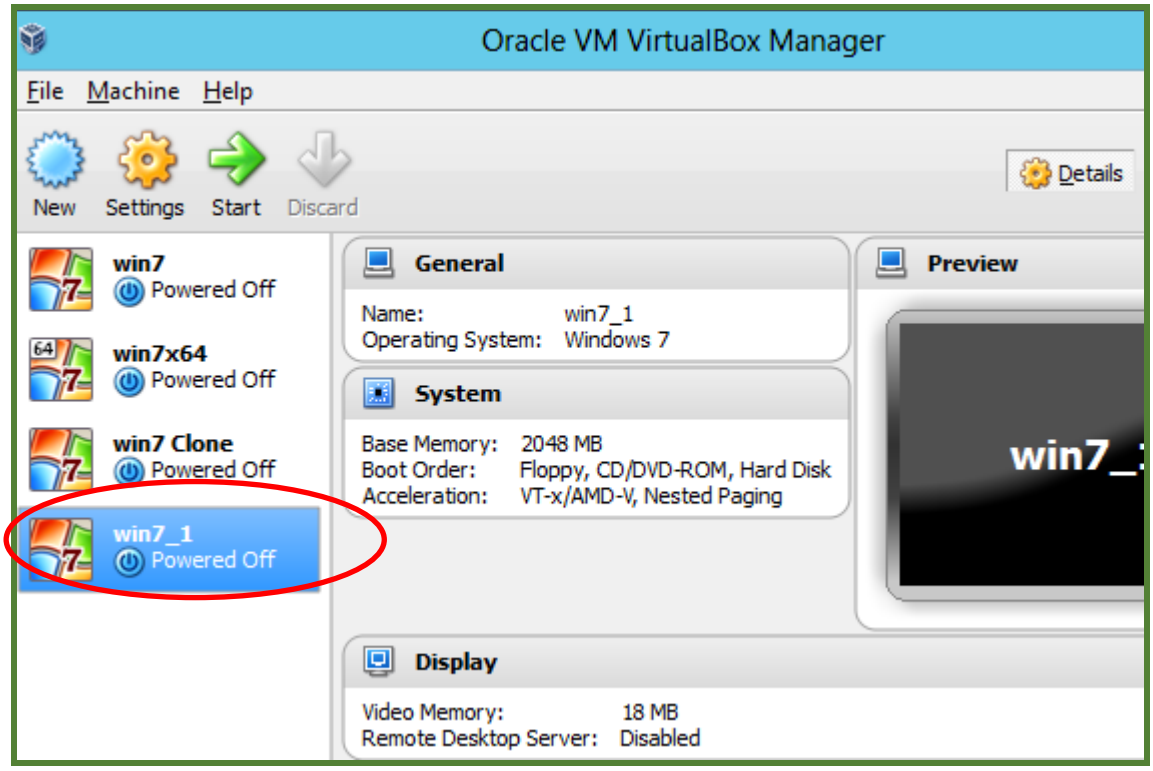
Picture 99

Importing:



Picture 100

When the importing finished, we can find the new virtual machine “win7_1” in the list:

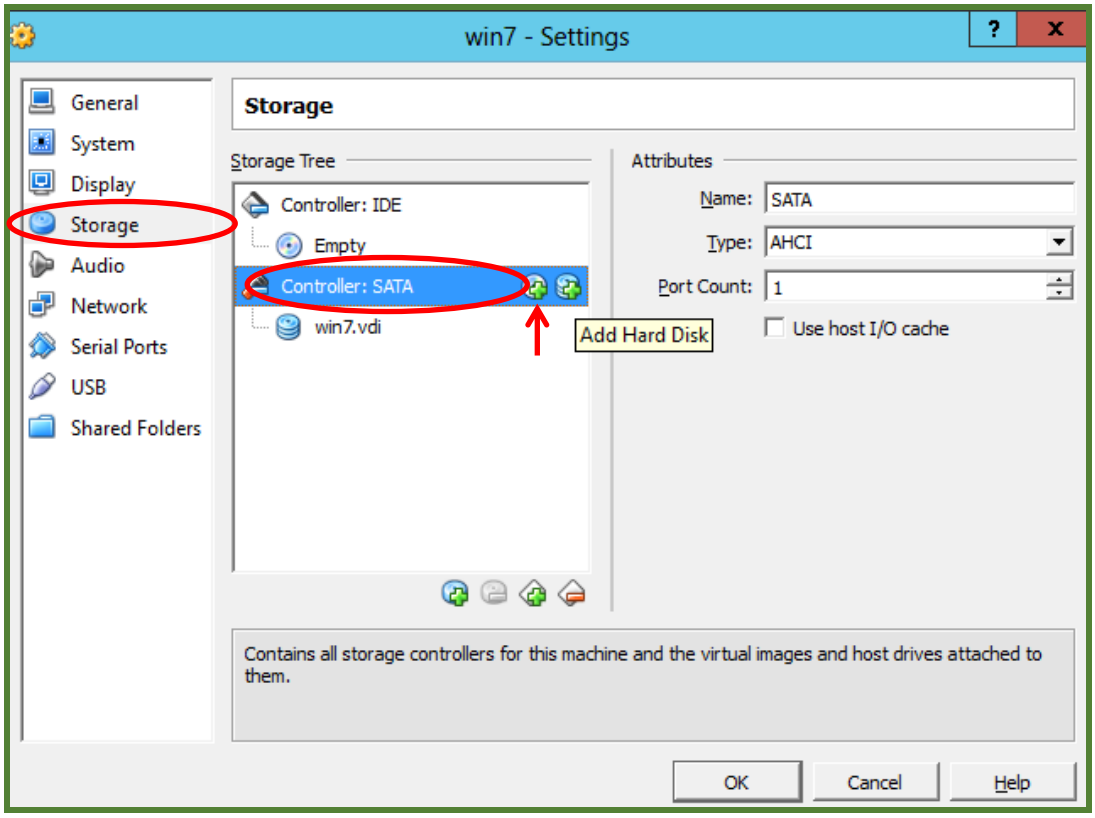


Picture 101

5.6 Add more virtual hard drives to virtual machine

In production environment, we may need more storage space (more often hard drives) to store user data. In the previous steps, we have set up one virtual hard drive for the virtual machine, which has been used by the operation system (drive C). So, adding more storage space means we need to add at least one more virtual hard drive to this virtual machine so that we can have storage space for user data. To store user data in a different virtual hard drive instead of drive C is also a safety measure to protect the user data from damages as caused by system failure or a snapshot restoring operation.

Click on the virtual machine for which you are going to add virtual hard drive, then “Settings”, “Storage”, “Controller: SATA”, click “” to add hard disk:



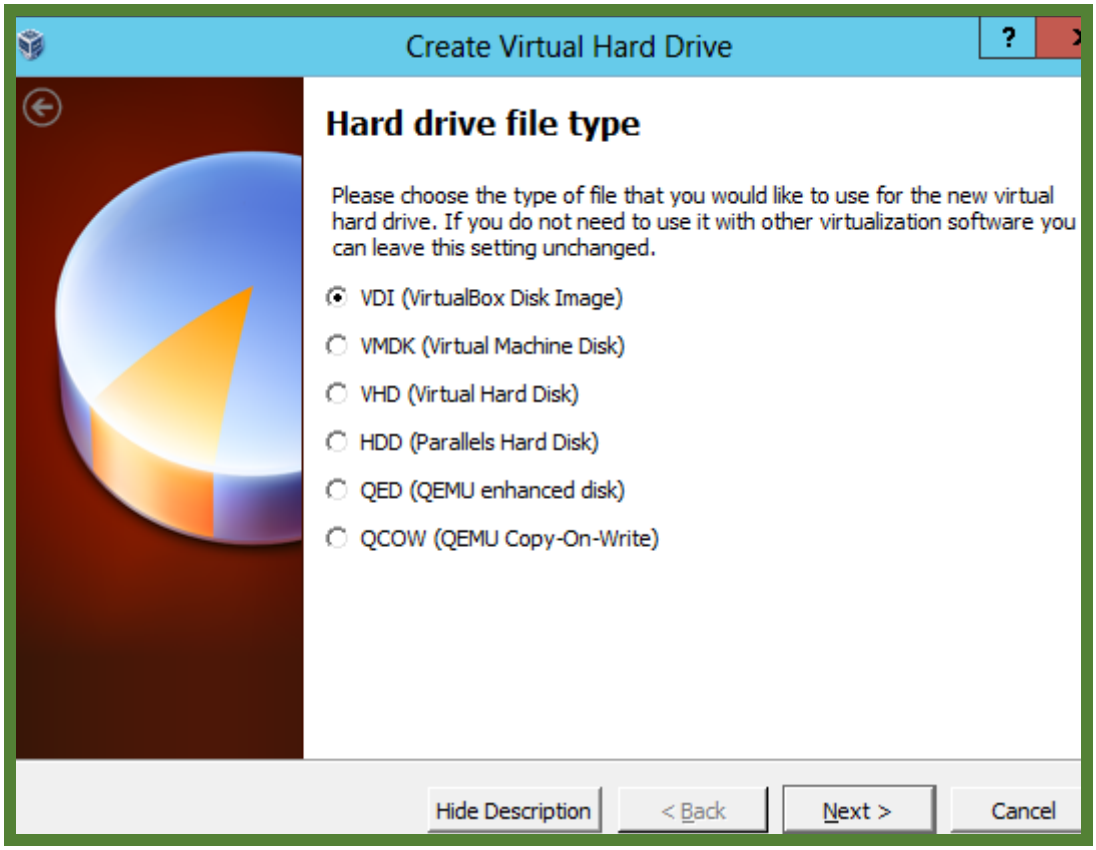
Picture 102

Choose “Create new disk”:



Picture 103

Choose the type of the new virtual hard drive. The default VDI is OK:



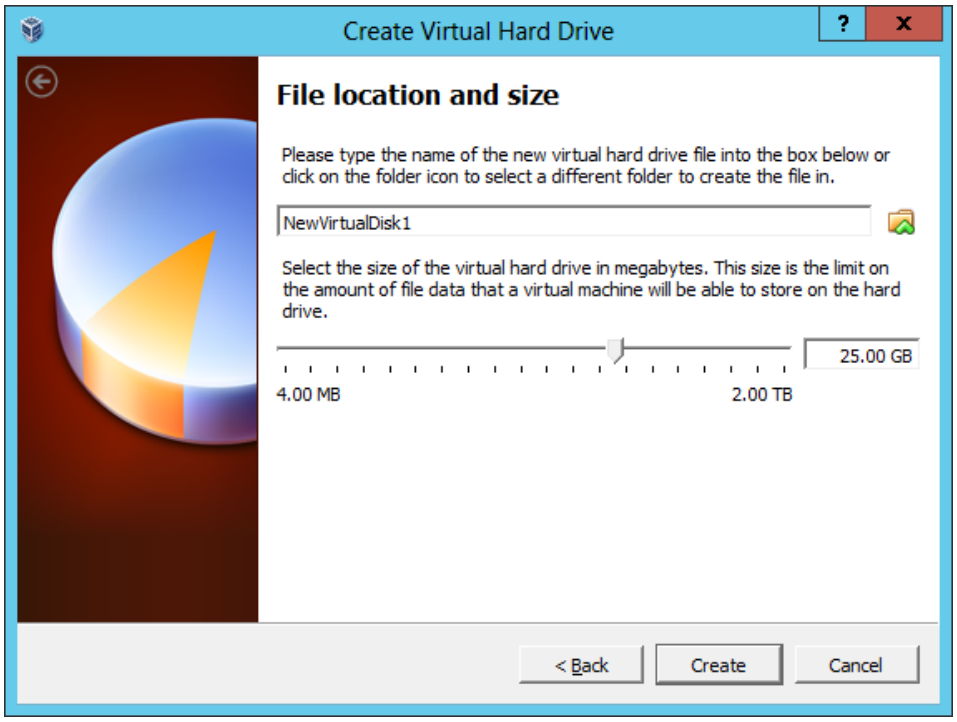
Picture 104

Select the type of virtual hard disk you want to create:



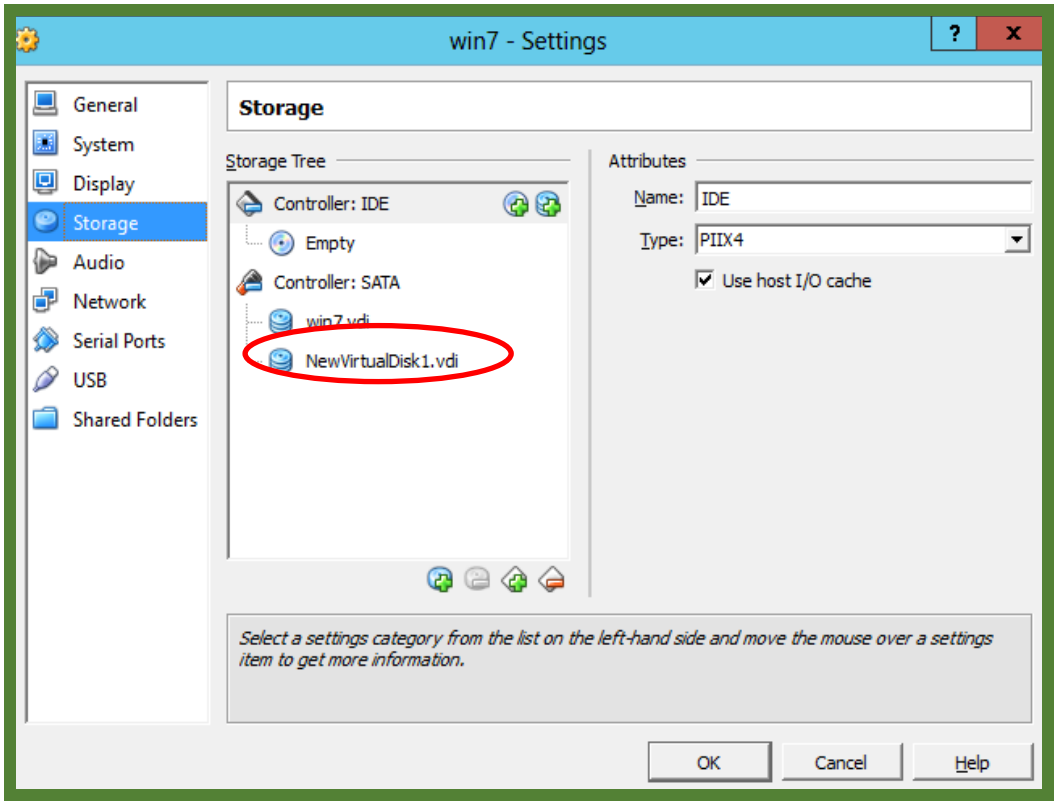
Picture 105

Set the size of hard disk. Then click “Create”:



Picture 106

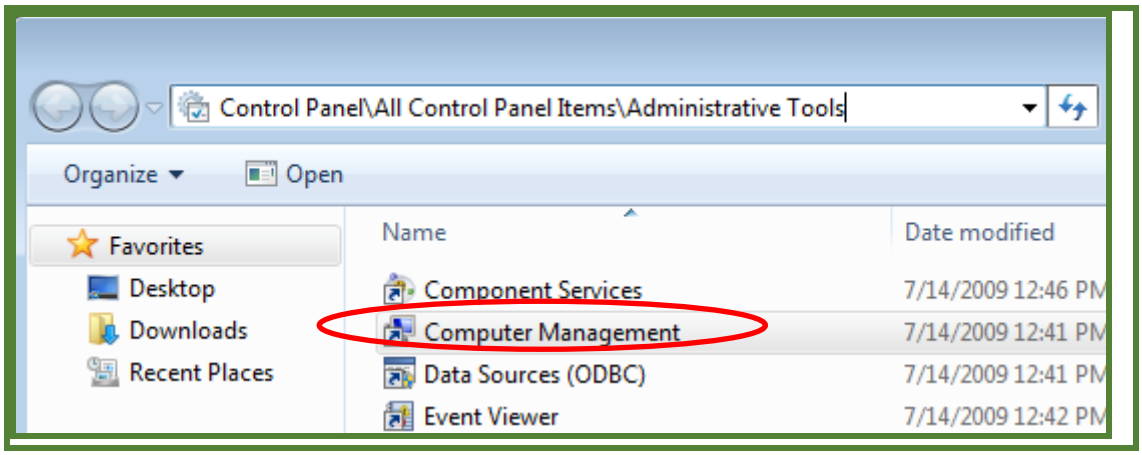
When it is done, you can see a new hard drive is attached to the SATA Controller. Click “OK” to close this window:



Picture 107

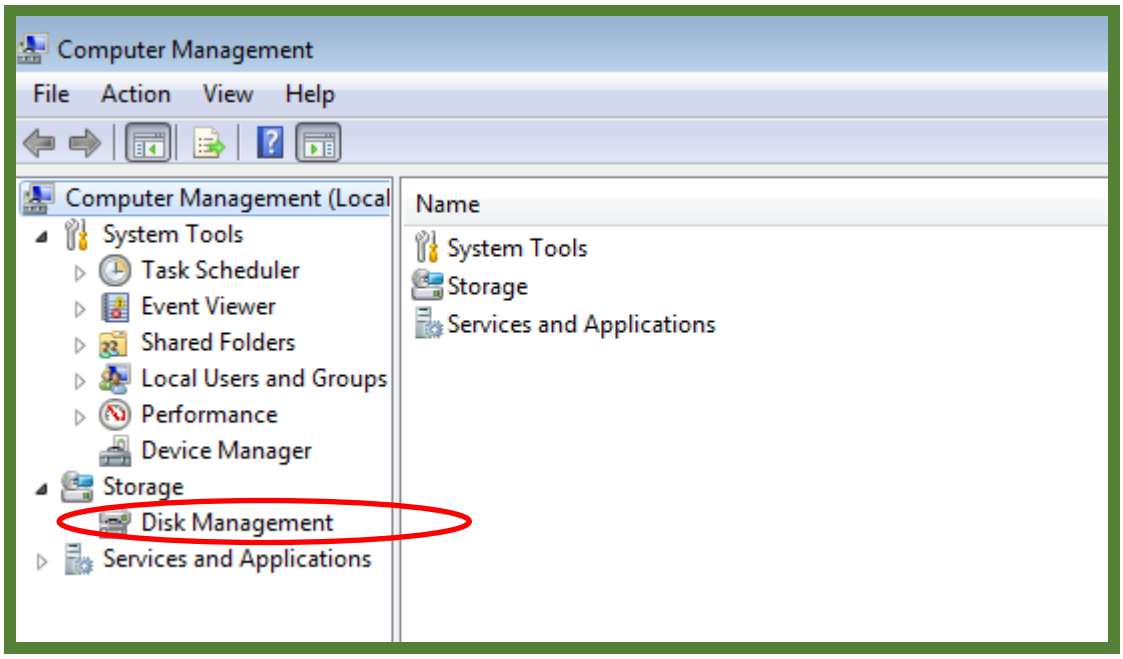
After all these have been done, we still need to log on to the virtual machine to activate the newly added virtual hard drive.

Start the virtual machine with newly added virtual hard drive. Click “Start”, “Control Panel”, “Administrative tools”, then “Computer management”:



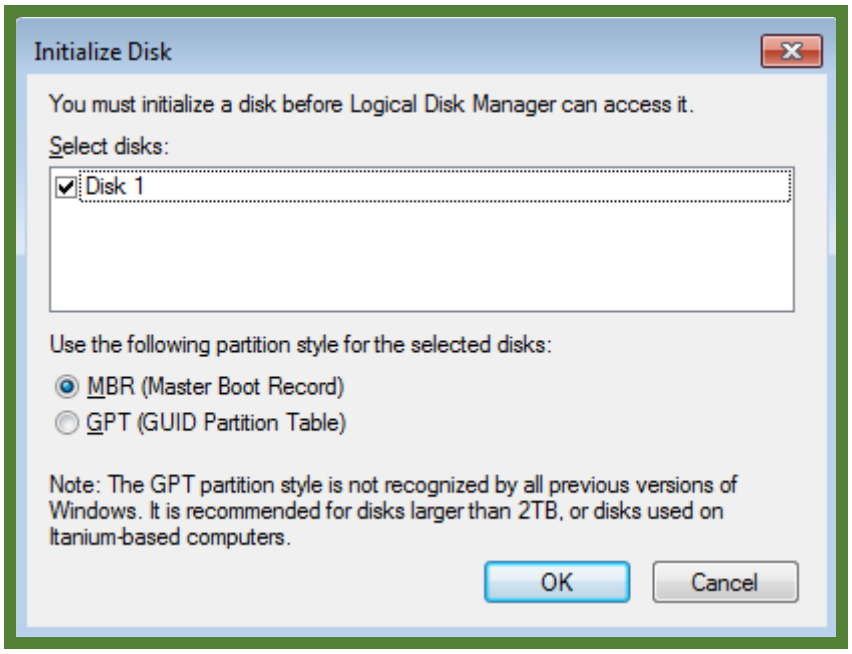
Picture 108

In the popup window, choose “Disk Management”:



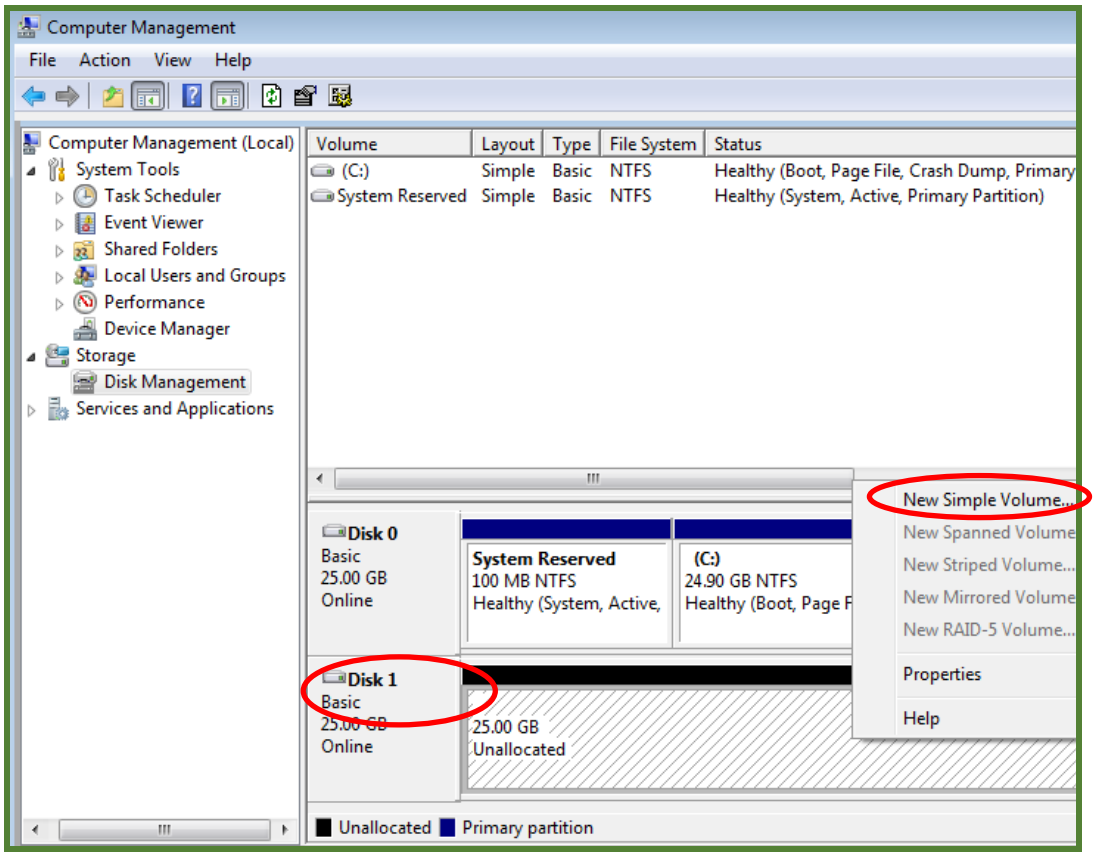
Picture 109

A window called “Initialize Disk” will pop up. Click “OK”. A new disk “Disk 1” will appear in the drive list. The status is “Unallocated”:



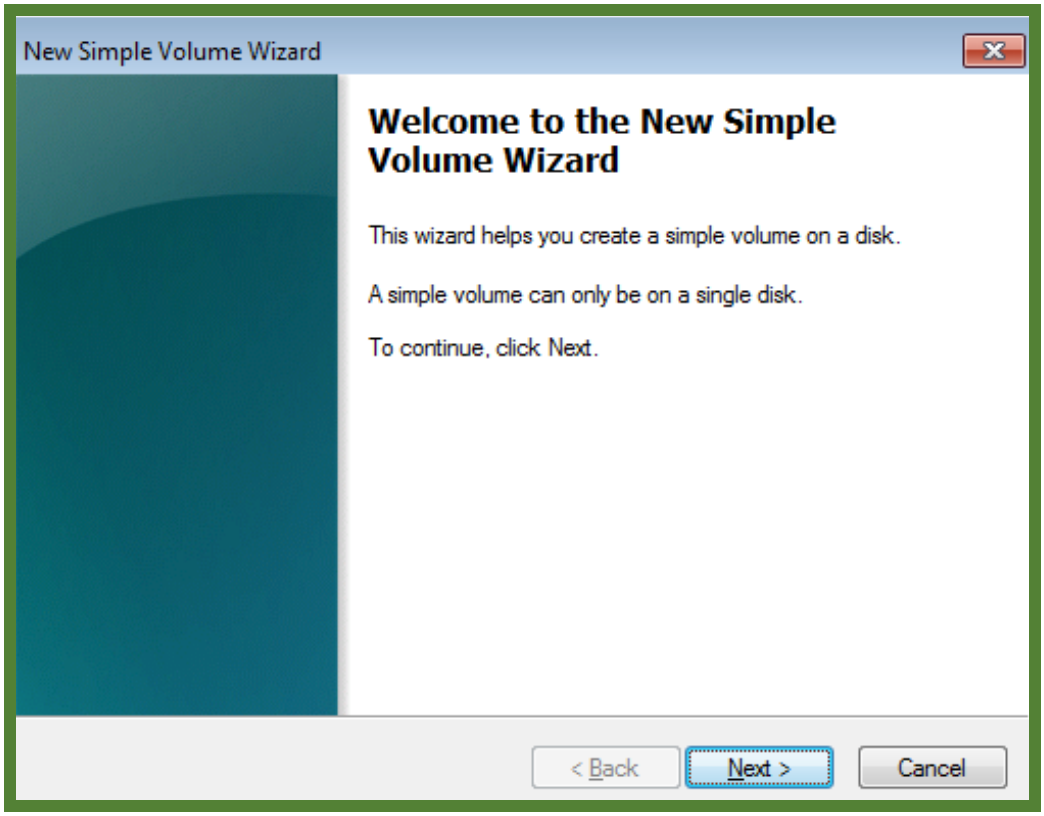
Picture 110

Right Click the Unallocated Disk and choose “New Simple Volume”:



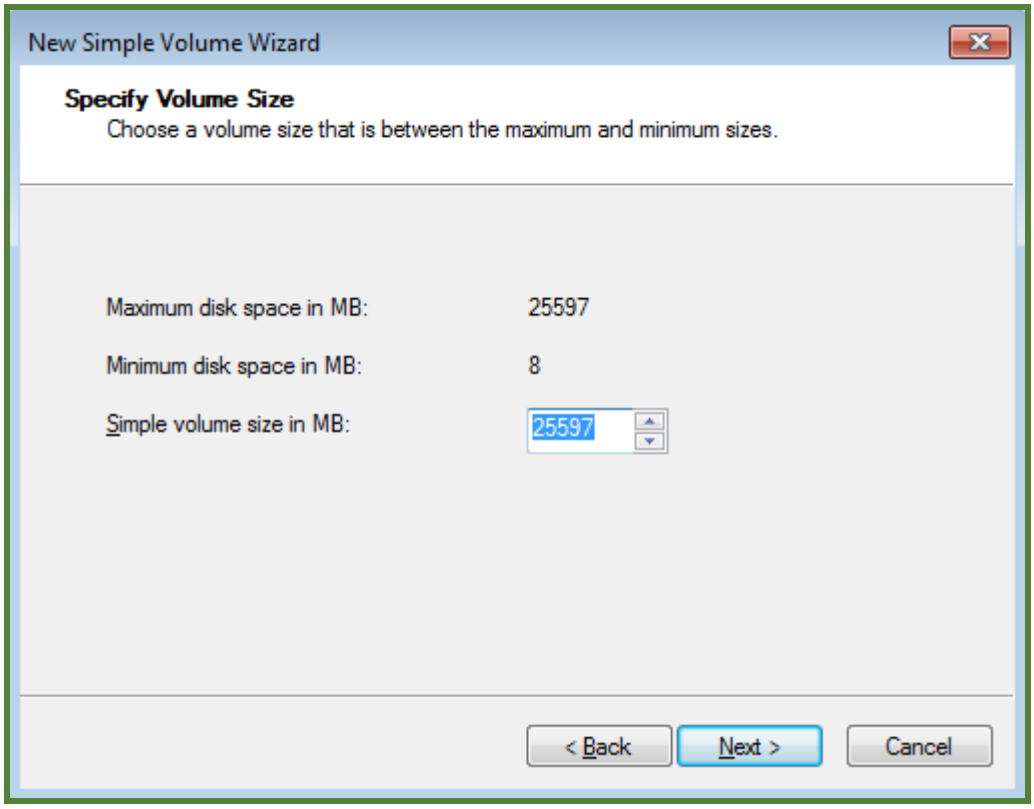
Picture 111

A new window called “New Simple Volume Wizard” will pop up. Click “Next”:



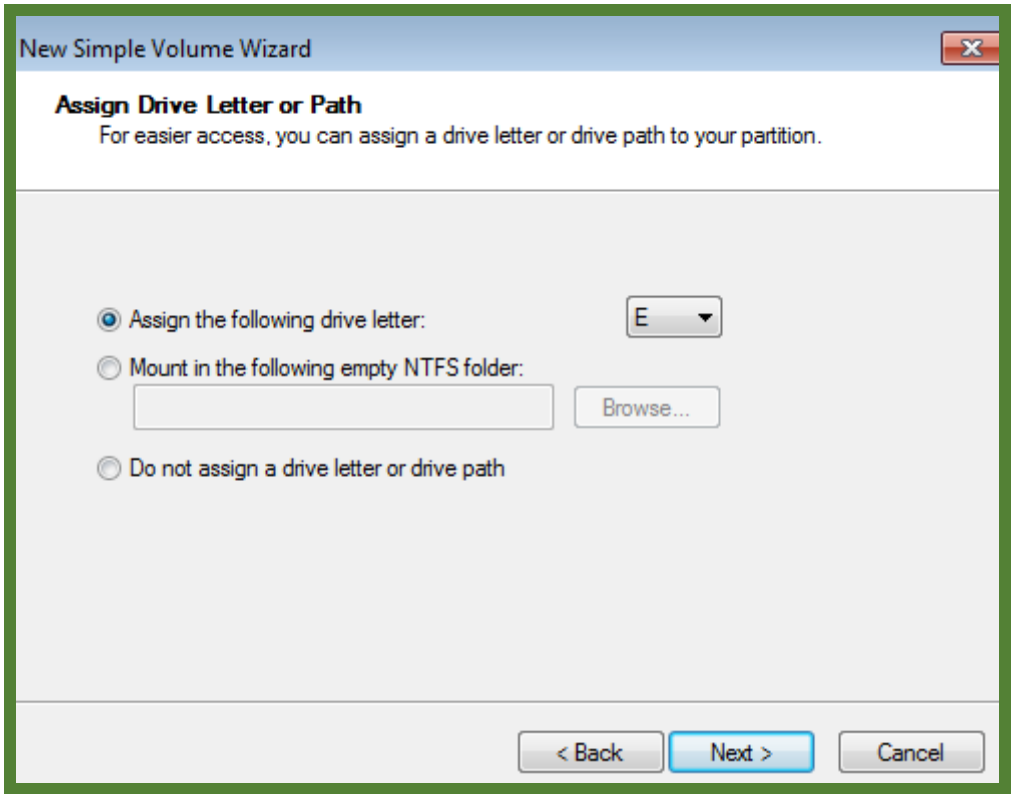
Picture 112

Choose a volume size, the default size is the total space of the disk. Then click “Next”:



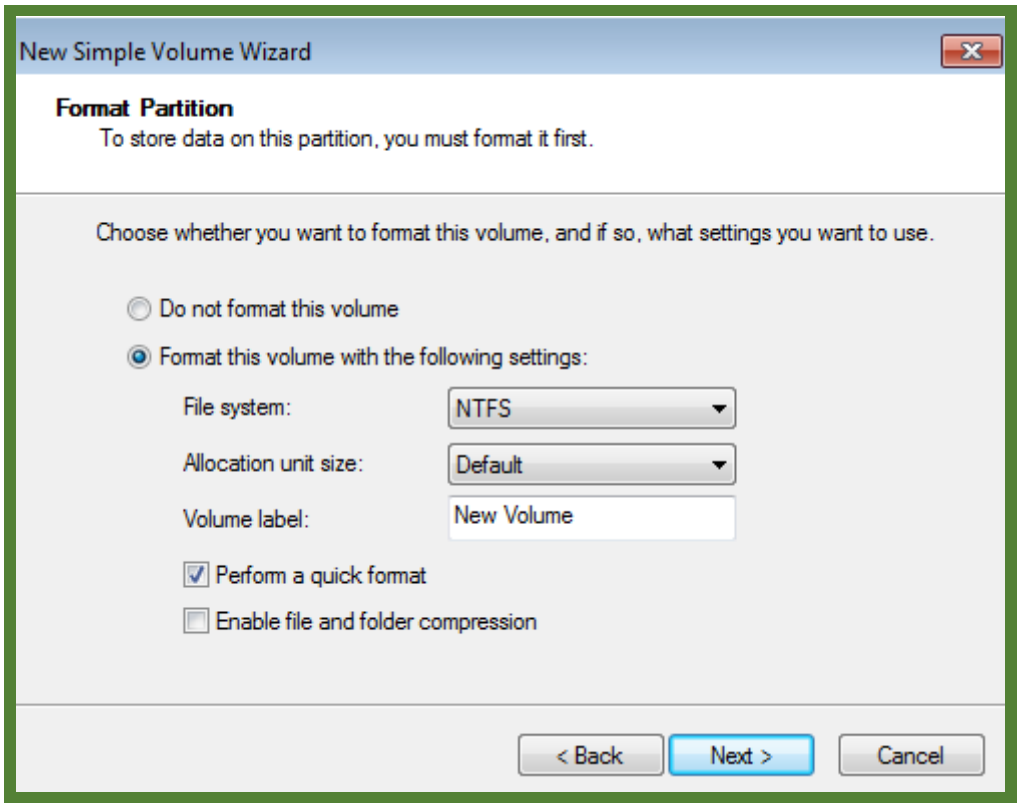
Picture 113

Assign a drive letter, then click “Next”:



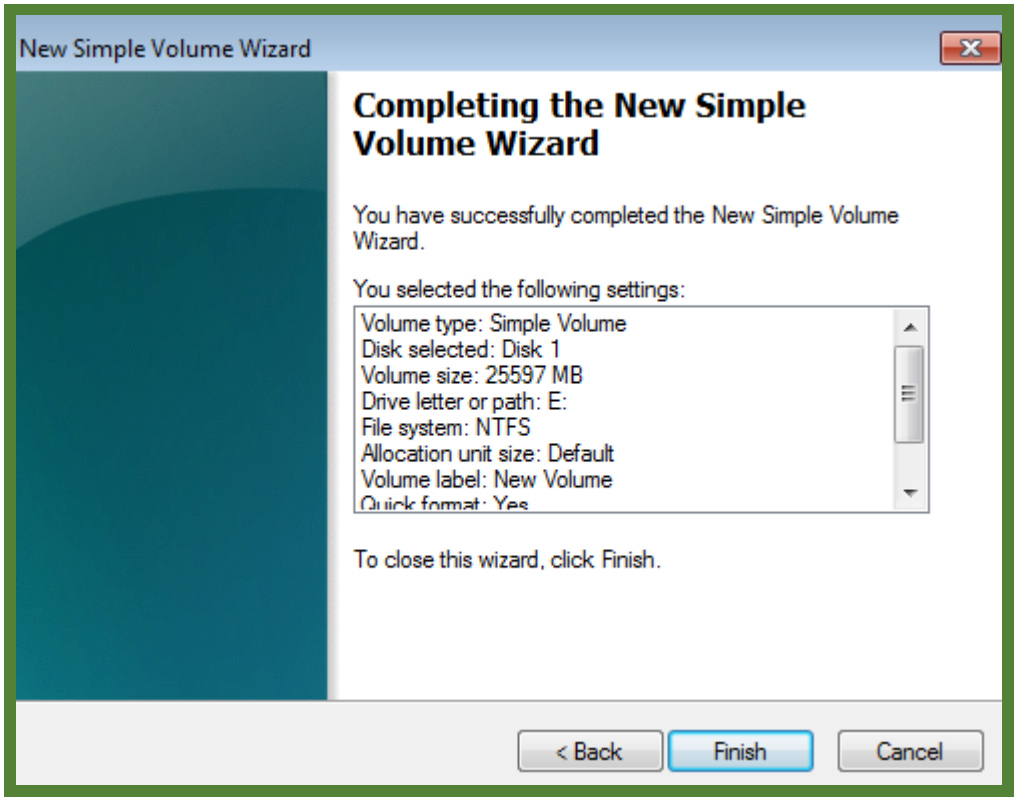
Picture 114

Select the setting to format this volume, click “Next”:



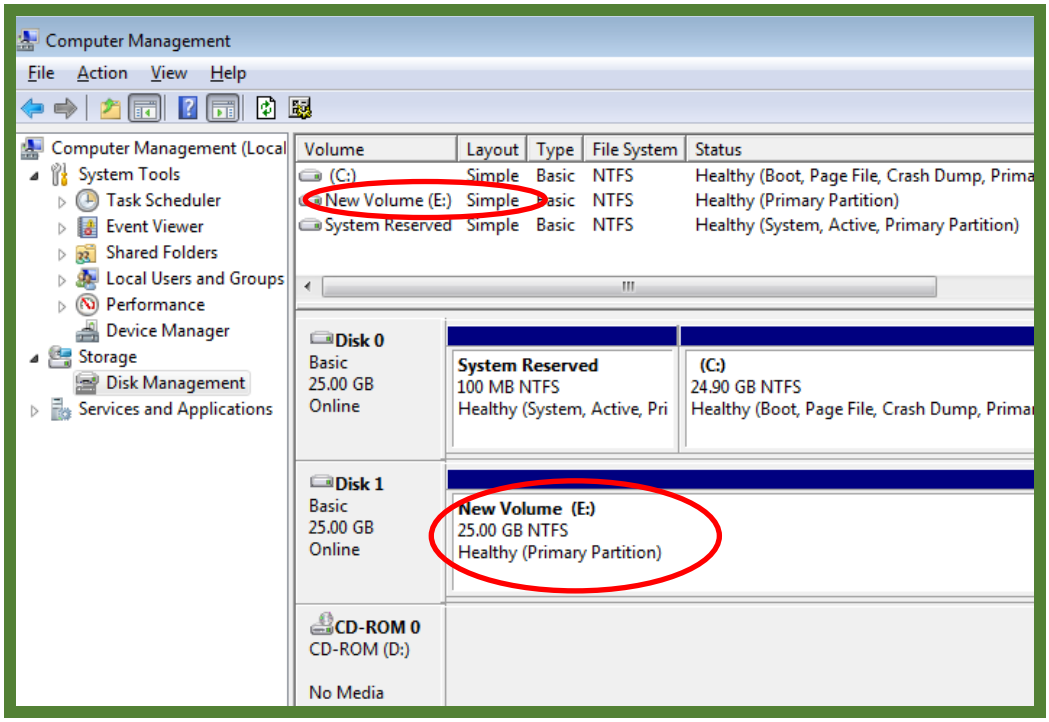
Picture 115

Click “Finish” to complete the wizard:



Picture 116

You can see a “New Volume (E:)” is available now:



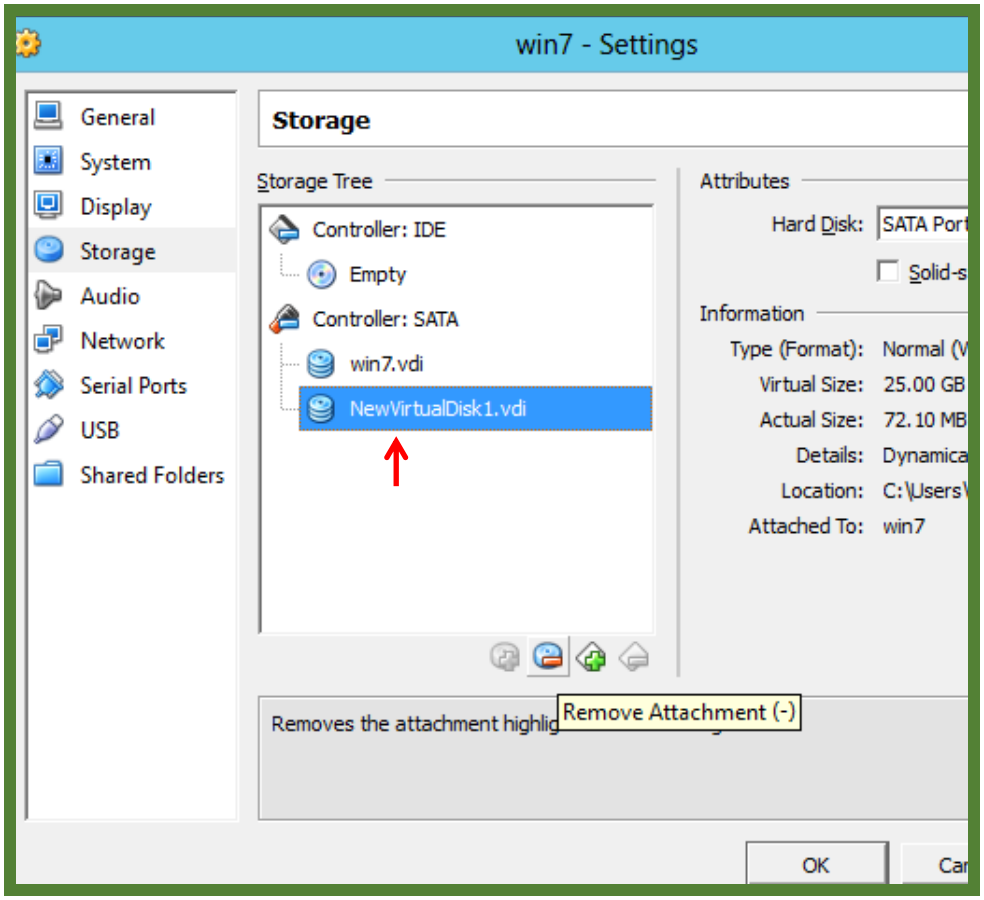
Picture 117

5.7 Take Snapshots and restore Snapshots of Virtual Machines

Operation Systems like Windows may suffer from various kinds of problems like system failure or virus affection. VirtualBox has a backup function called “Snapshot”. We can take a snapshot for the system when we have installed all the programs and have done all the configurations.

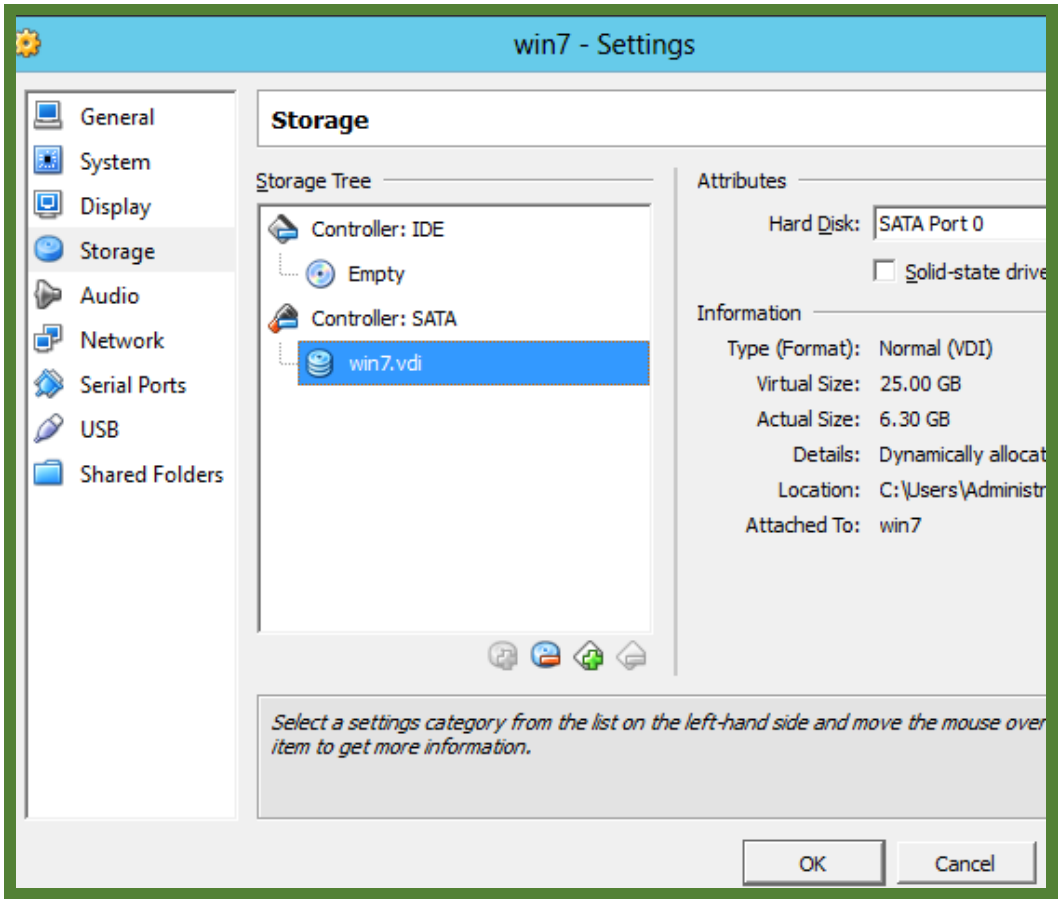
Since VirtualBox will take snapshot for the whole machines (including all hard drives), we need remove all theVirtual Drive except Drive C (system drive) before taking snapshot—we do not want the other drives with user data to be affected by the snapshot.

Go to the Settings of virtual machines, click on “Storage”, click  to remove all the drives except the system drive “win7.vdi”:



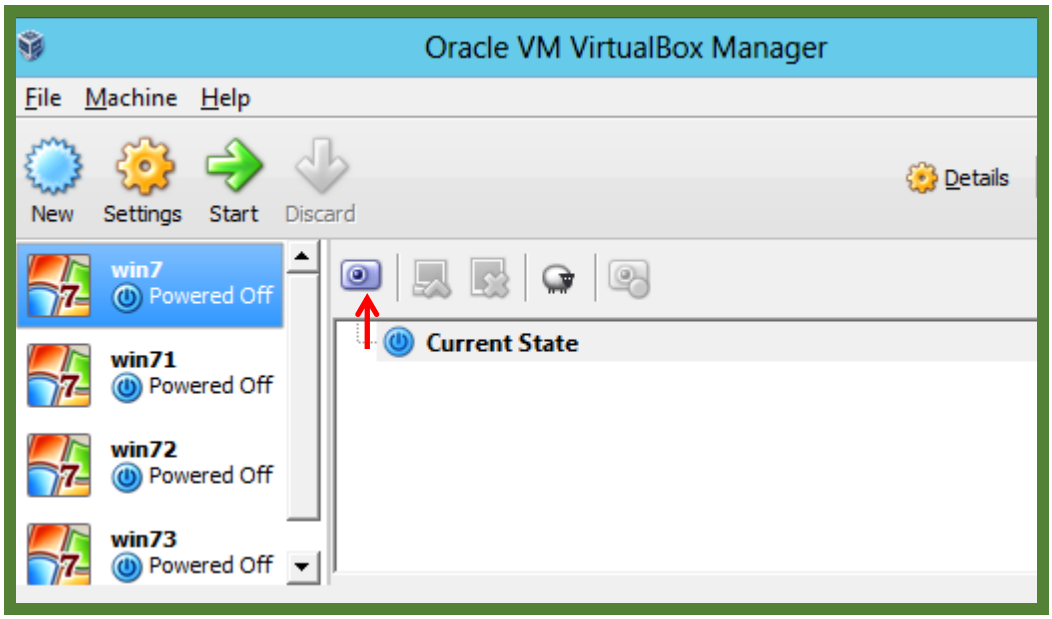
Picture 118

Leave the system drive “win7.vdi”, then click “OK”:



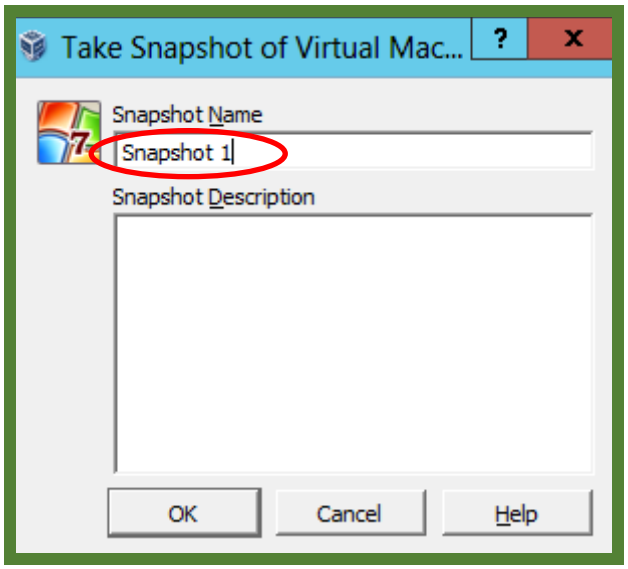
Picture 119

Then go back to VirtualBox Manager, choose the virtual machines that we are going to take snapshot of. Click on the “Camera” button:



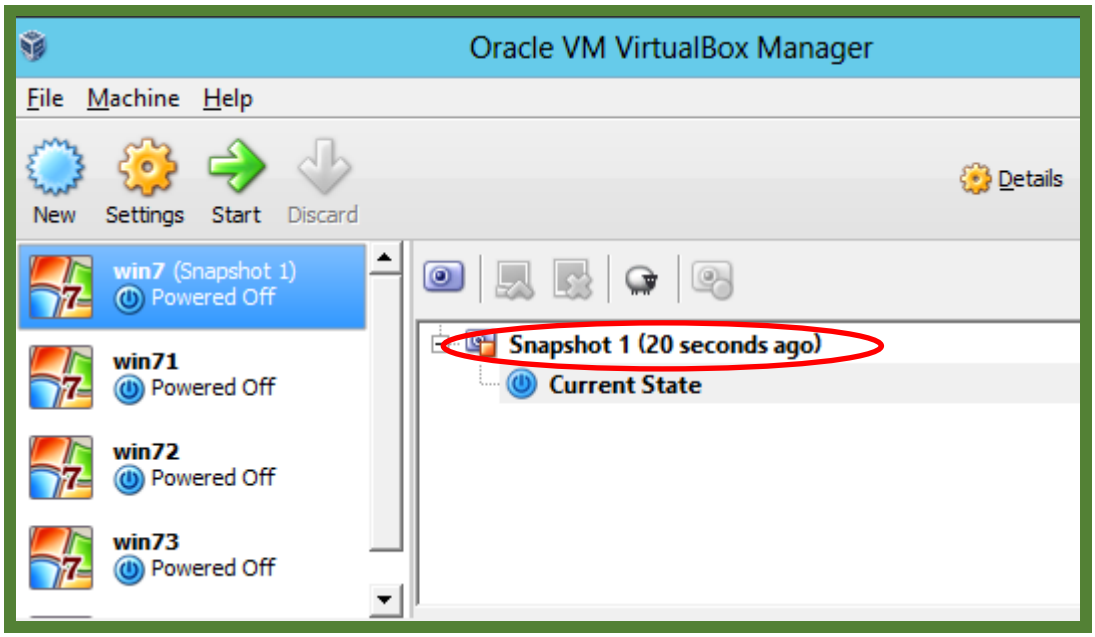
Picture 120

The popup window shows Snapshot Name and you can also input some words as Snapshot Description. Click “OK” to finish. Now you can see “Snapshot 1” in the list:



Picture 121

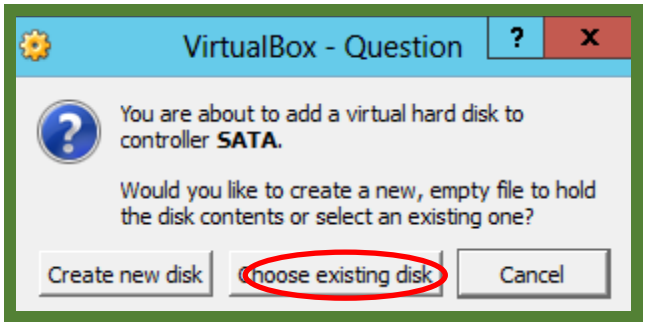
When you finish the setting, there is a snapshot available:



Picture 122

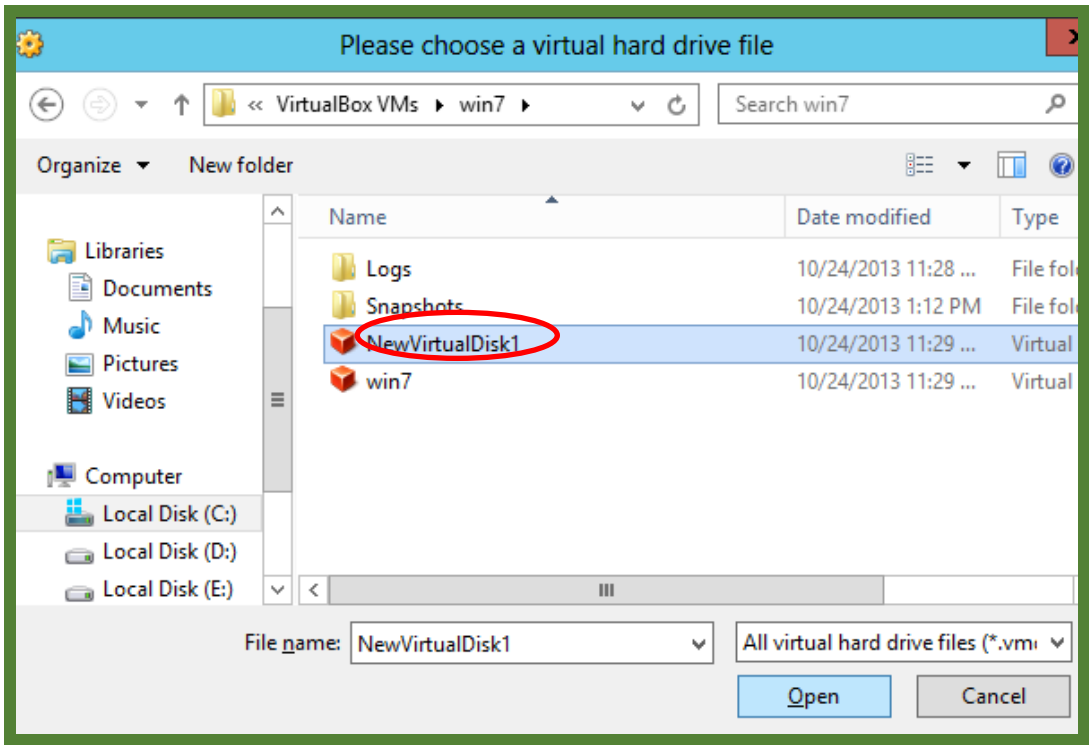
After the Snapshot is done, we need to add back the removed virtual drive.

Just like the way we add second drive (data drive) to the virtual machines, we need to go to the “Settings”, and then” Storage”. Here we need to click “Choose existing disk”:



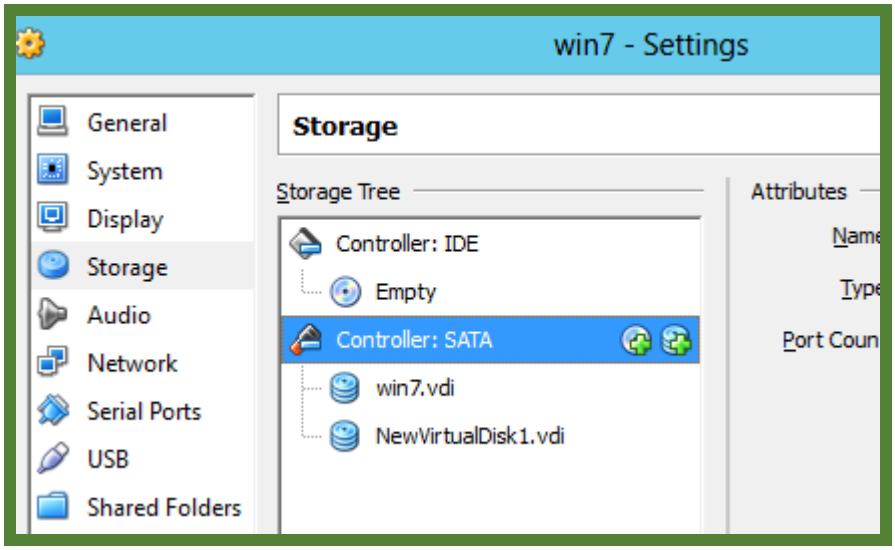
Picture 123

Go to the folder, and add the virtual drive we have removed earlier:



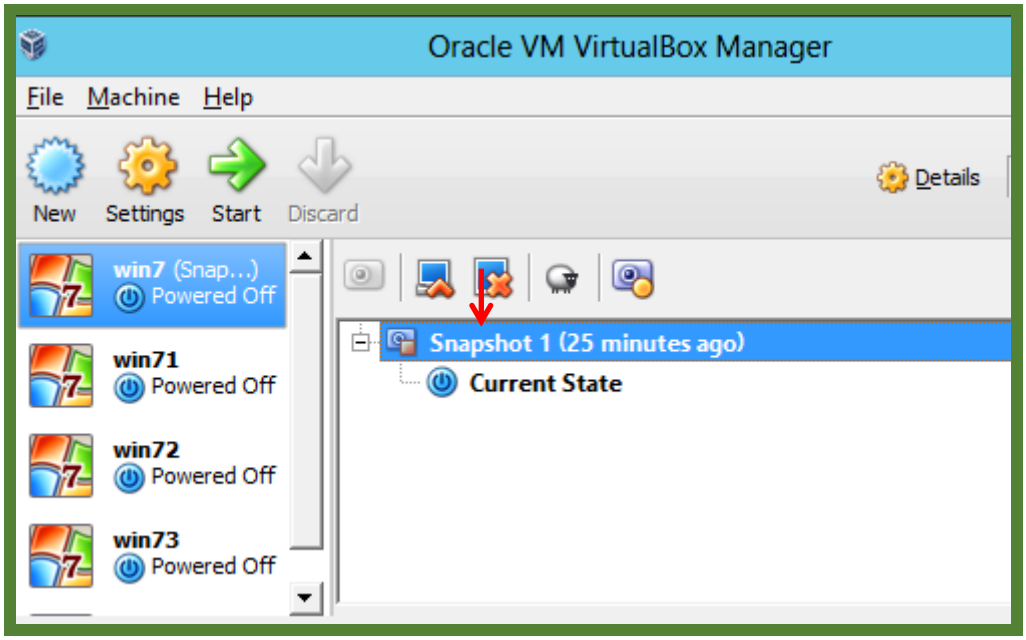
Picture 124

Now you can see the virtual drive is back:



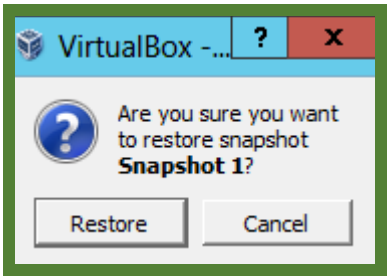
Picture 125

When the virtual machines suffer a system failure or corruption, we can click  to restore the snapshot. Remember, a newly restored virtual machine is of settings without the second hard drive. So we need add back the second hard drive. Just follow the steps above to accomplish this.



Picture 126

In the window pop up, click Restore to start:



Picture 127

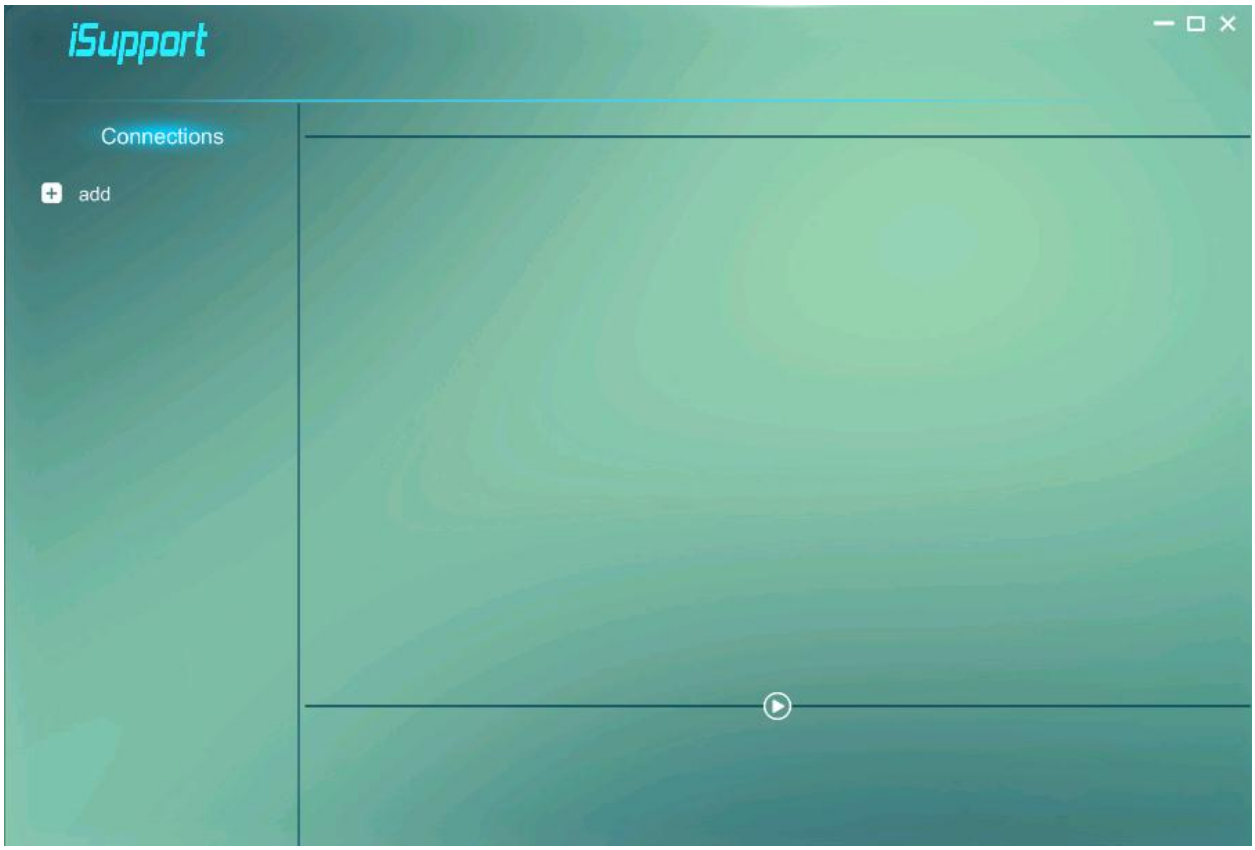
After a new seconds, the VM is set back to state when this snapshot was taken.

6. How to Use iSupport

6.1 How to install iSupport

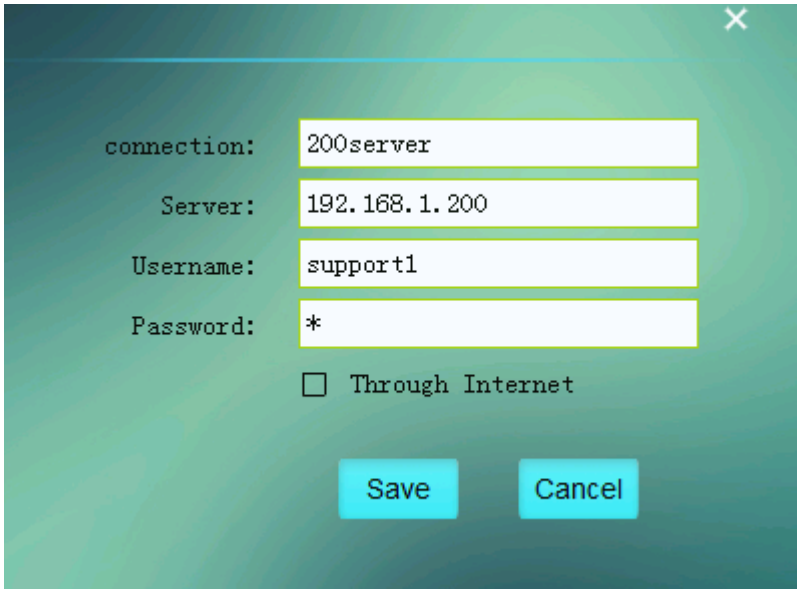
iSupport is a special tool for vPoint to monitor the running status of VM or the desktop of VM. iSupport can also log onto the VM system (the original VM user can choose to accept/deny an incoming connection of an iSupport user) to operate.

iSupport is a green software – no need to run installation. Just unzip the archive and double click the iSupport.exe to run the application. You can download iSupport package from http://www.sundenc.com.

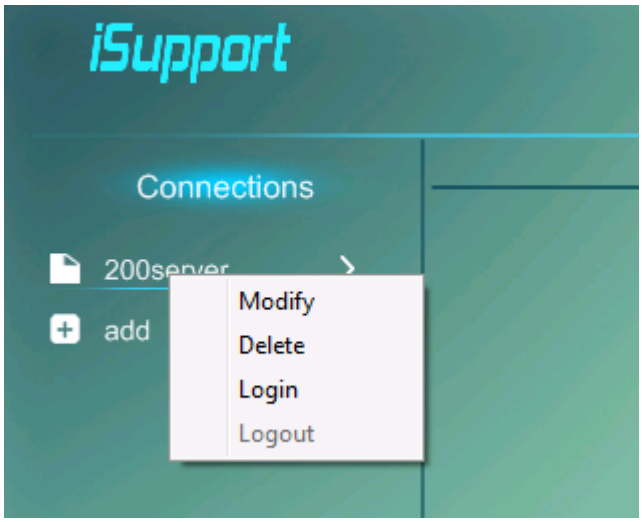


6.2 How to use iSupport

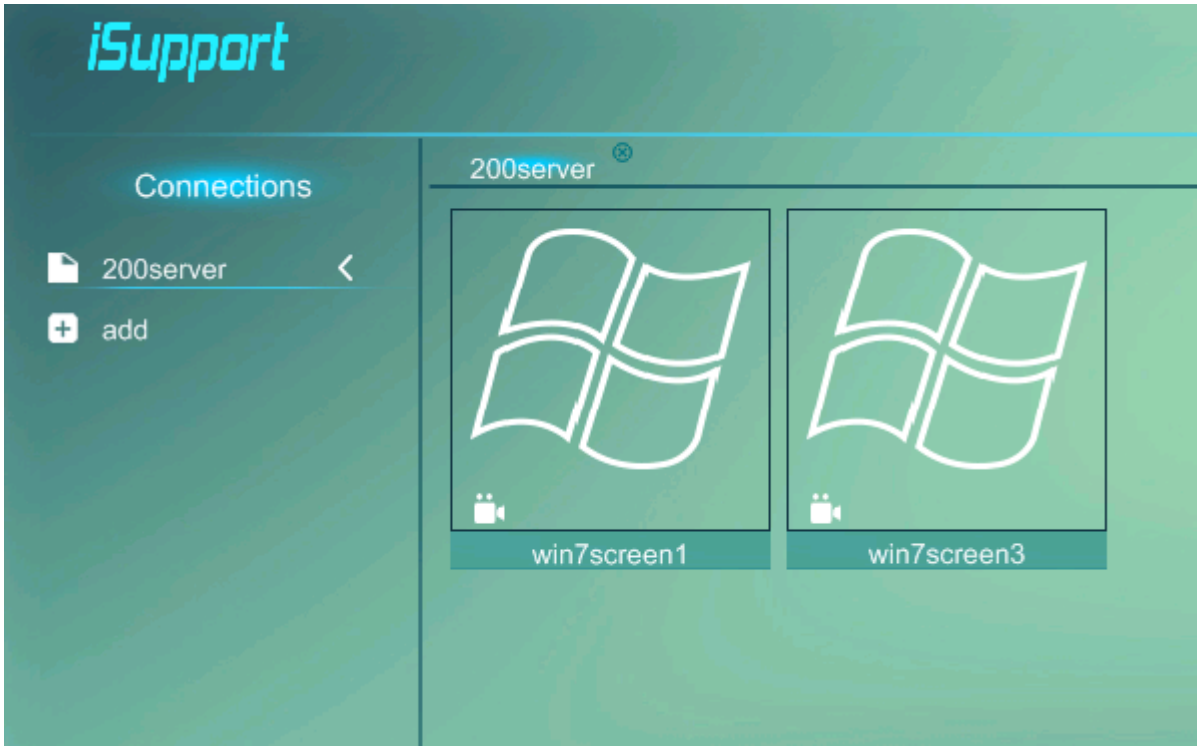
Click “New Connection” to set up a new connection. Type in iServer IP address, iSupport account name (which is already set up in the iServer) and password. Then click to “Save”.



Right click on the newly set up connection, choose “connect”.



As shown in the picture, VMs with a windows logo means the VM is power off, while those power-on VM will have their desktop image displayed.

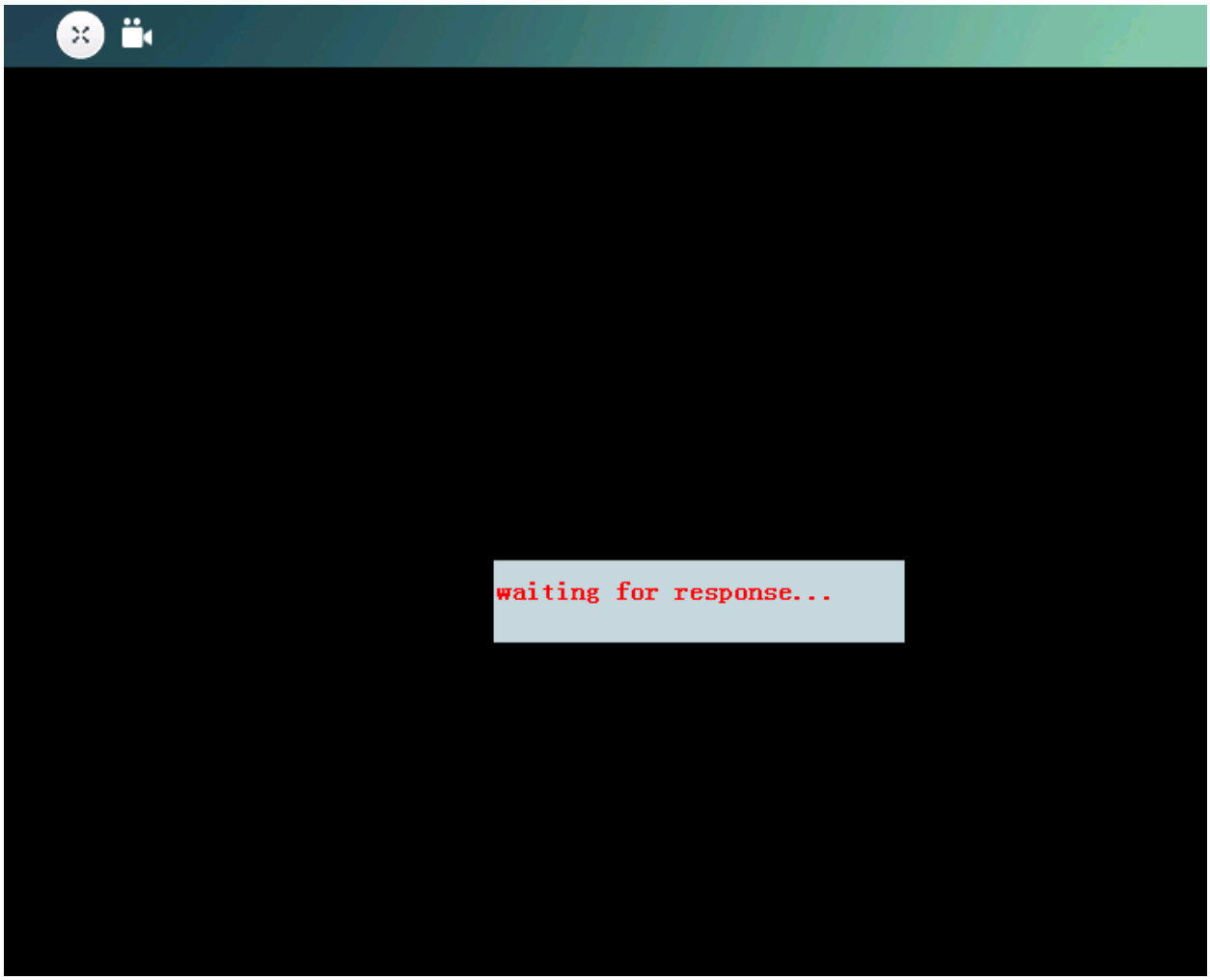




The VM with a logo displayed means that this VM is currently connected by a Diana. Now click on the window with logo will display the full desktop of this VM. And at this time, we can have interactive operation within the VM with the Diana user. And, when the iSupport user is running it with

Diana, audio chat can be achieved between the iSupport user and the Diana user of the VM.

When clicked, a message “waiting for response” will displayed:



Meanwhile, a pop-up of the following will be available on the Diana user desktop:



If the Diana user wants to have support from the iSupport user, he/she can click on “Yes” to accept. Otherwise, click on “No”.

When “Yes” is been clicked, an icon will be displayed on the right bottom of Diana user’s desktop, meaning iSupport is ongoing. If the Diana user wants cancel the iSupport, he/she can use key combination of “Ctrl + Alt + End”.

When the iSupport user is also using a Diana, an icon will be displayed, meaning that they can have audio chat.

Click on  will have a full screen of the VM desktop. Click on  to record the whole process of iSupport.  is to play the recorded iSupport.

7. Setting up Multi-iServer to achieve load balancing and backup

Note: all the below steps are critical and shall be carried out by professional personnel.

Compared to earlier vPoint version, vPoint2.2 has a new function of load balancing and backup within multiple iServers. Some settings need to be done before this function can effect.

7.1 Multiple iServers

Normally in a vPoint system, only one iServer is needed to act as the user account authentication and connecting broker. Other server nodes in the system are acting as VM hosts (with iVBOX installed).

Now with vPoint2.2, we can set up two or more (up to 4) iServer so that all the iServers can work simultaneously. In order to achieve this goal, we need to set all the iServers using the same database.

Say, we have 3 iServers in a vPoint2.2 system: iServer1, iServer2 and iServer3. iServer1 has been done with all VM and User Accounts settings. Now we need to let iServer2 and iServer3 to use the database of iServer1 so that the 3 of them can work together and share the work loads.

Here are the steps:

a) Go the iServer installation folder of iServer2 & iServer3 (by default “C:\Program Files(x86)\vPoint\Server)

b) Open a file with name “app.config” using Notepad, then type the IP address of iServer1 after “HOST=”.

c) When done, save the file and restart iServer2 and iServer3.

The above 3 steps achieve the load balancing purpose with the 3 iServers. However, if iServer1 went down, iServer2 and iServer3 will not have database to access, so the system will not work.

So if we want to achieve the goal that the 3 iServers can both share work load and backup one another, we need to install iServer1 (mainly the SQL database) on a redundant server.

7.2 iVMS connecting to multiple iServer

By default, one iVMS (iVMS is the module linking VM host to iServer. Each VM host has one iVMS) is connected to only to one iServer. If this iServer went down, the iVMS will be out of connection and cannot be accessed by Diana users any more.

If we want to make sure that an iVMS can be accessed by Diana users even when its iServer is down, we need to configure this iVMS to be connected to more than one iServer. Here are the steps:

a) Go to iVMS installation folder (by default it is “C:\Program Files\Oracle\VirtualBox)

b) Use notepad to open file with name “iVMS.ini”

c) Add one row behind “iRegisterIP=xxx.xxx.xxx.xxx”: iRegisterIP2=yyy.yyy.yyy.yyy” (yyy.yyy.yyy.yyy is the IP address of the second iServer)

In this way, we can have in total 4 iServers for one iVMS. So when one of the iServer is down, Diana users can still access this iVMS through the rest iServer.

8. Setting up Diana 2

Compared to earlier Diana product (Diana1), Diana 2 version is equipped with some new functions or features. Diana 2 is intended to be used together with vPoint 2.0. Of cause, it is still compatible with vPoint1.0 version. This manual shows you the steps of how to setup and use this new generation of Diana terminals.

8.1 Create user account profiles

Diana 2 allows you to create and save **multiple user account profiles** in the terminal. When the terminal is powered on and initialized, it comes to the **profile list** page where all created and saved user account profiles will be displayed.

As factory default, Diana terminal has no saved profiles. So its profile list page will be like this:



Now, let's click the big **"+"**. Then we will come to the **profile settings page**:



a) **Profile Name:** type a name for the profile you are going to create, such as "user1" or whatever you like. On its right, there are 6 icons to choose for the profile.

b) **Broker:** type in the **NAME** or **IP Address** of the vPoint server which this user account is going to log in.

c) At the **User Account** area, you can choose **"Manual input when login"** which means that you have to type user name and password each time logging in. If you choose **"Remember the user name and/or password"**, you do not need to type user name and/or password when logging in.

d) At the **Virtual Machine** area, there are 3 options: **Choose one when login**, **Random select** and **Specify one**. If you choose **"Specify one"**, you need to type in the VM name.

When all this is done, click on **"Save",** then we will come back to the **Profile List** page. And we can see a profile with name **Profile** showing up. If you want to add more account profiles, just click on the "+" at the up-right corner.



8.2 Modify a User Account Profile

If you want to modify a user account profile, just right-click on its icon, and then select **"Edit profile"** from the menu. Then it will go to profile settings page. Make the changes and save.



8.3 Setting Up IP Address for Diana

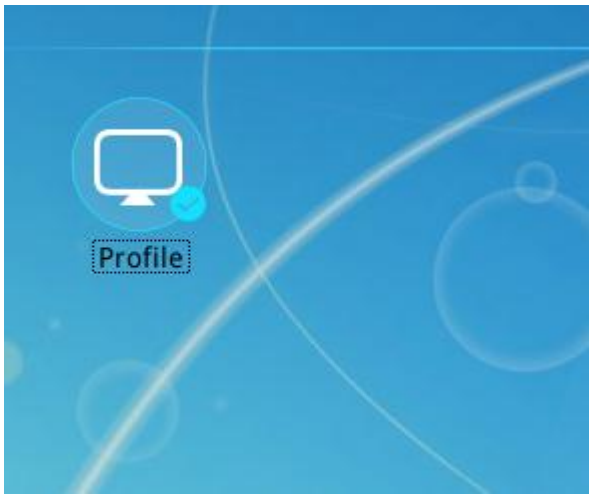
As factory default, Diana terminals are set to obtain an IP address from DHCP server. So it will get IP address automatically when it is connected to a LAN with DHCP server. If there is no DHCP server in the LAN, we have assign and set up manually an IP address for Diana.



At the Profile List page, click on the icon  , and we will come to the Network Settings page of Diana. Choose **"Use Static IP Address"** and then type **IP address, Subnet Mask and Gateway** for this Diana terminal. If it is in a Domain network, please also type in **DNS server IP address**. When it is done, click **"Save"** button to take effect.

8.4 How to Log in

After setting up user account profile and IP address of Diana, we can try logging in vPoint server for authorization and eventually log in the VM (virtual machine/virtual desktop) assigned to the user account. At the User Account **Profile List** page, click on the **Profile** that you want to log in. In our example, we have a profile named with **"Profile"** created. Click on

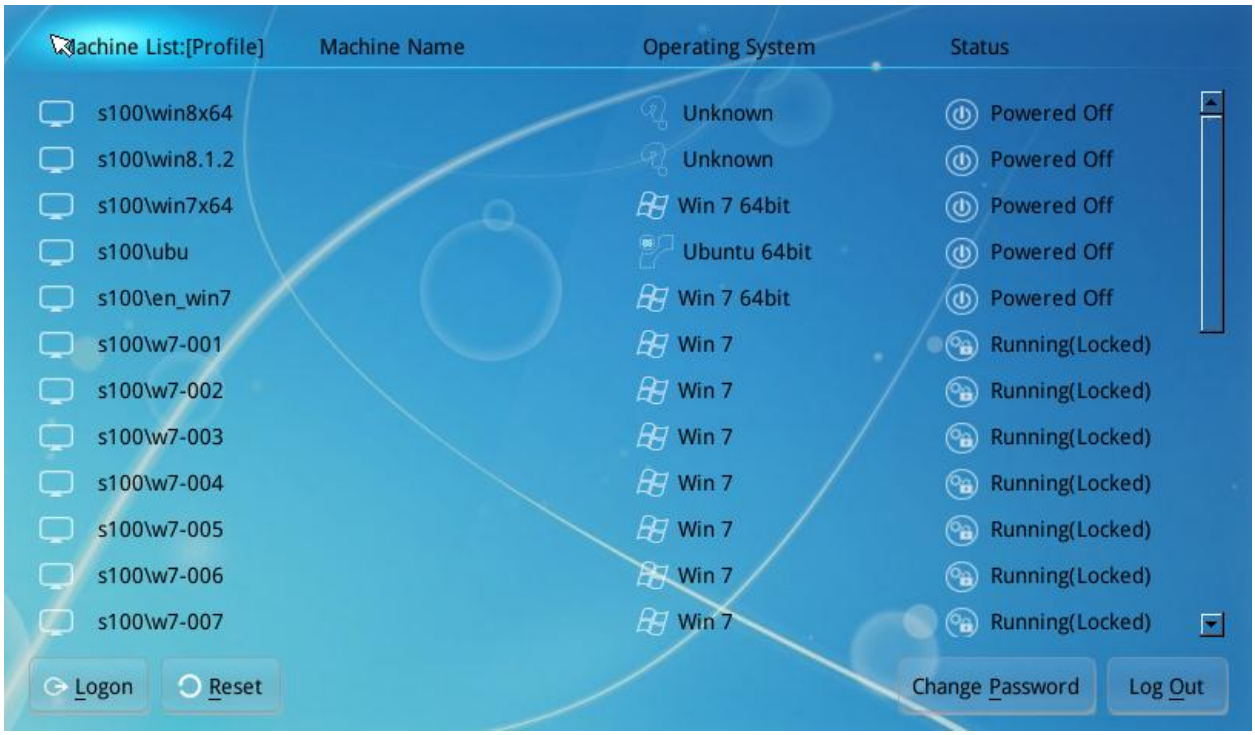


Then we will come the **logging in** page where we need to type in **account name** and **password** (however, if the account name and password is already saved in the profile, this logging in page will not show up. Instead, it will be the **VM list** page):



Type in **user name** and **password**, then click on **"Log In"** button.

The **VM list** page showing all the VMs available for this user account shows up:



Choose a VM from the list, and then click on **"Logon"** button. Now we will see the desktop image of the

VM showing up on the screen. If the VM is in Power Off status, click on "Logon" will power on the VM automatically.

In Picture 8, the **"Reset"** button is used to shut down the VM. Normally this function is used to power off a non-responding VM.

8.5 Other columns in the Settings page of Diana

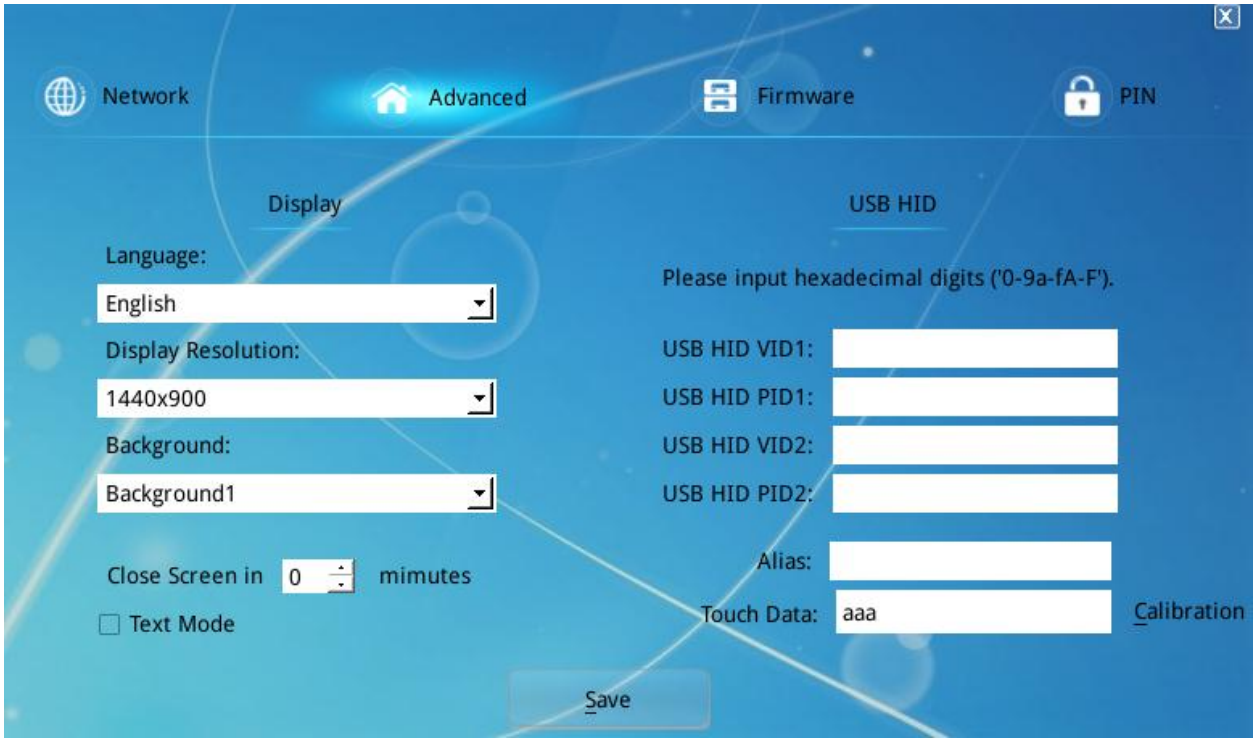
As shown in picture 5, there are 3 other columns in the Settings page of Diana.

a) **The "Advanced" column**.

In the **"Display"** area, we can change **the Language, Resolution and Background** of Diana.

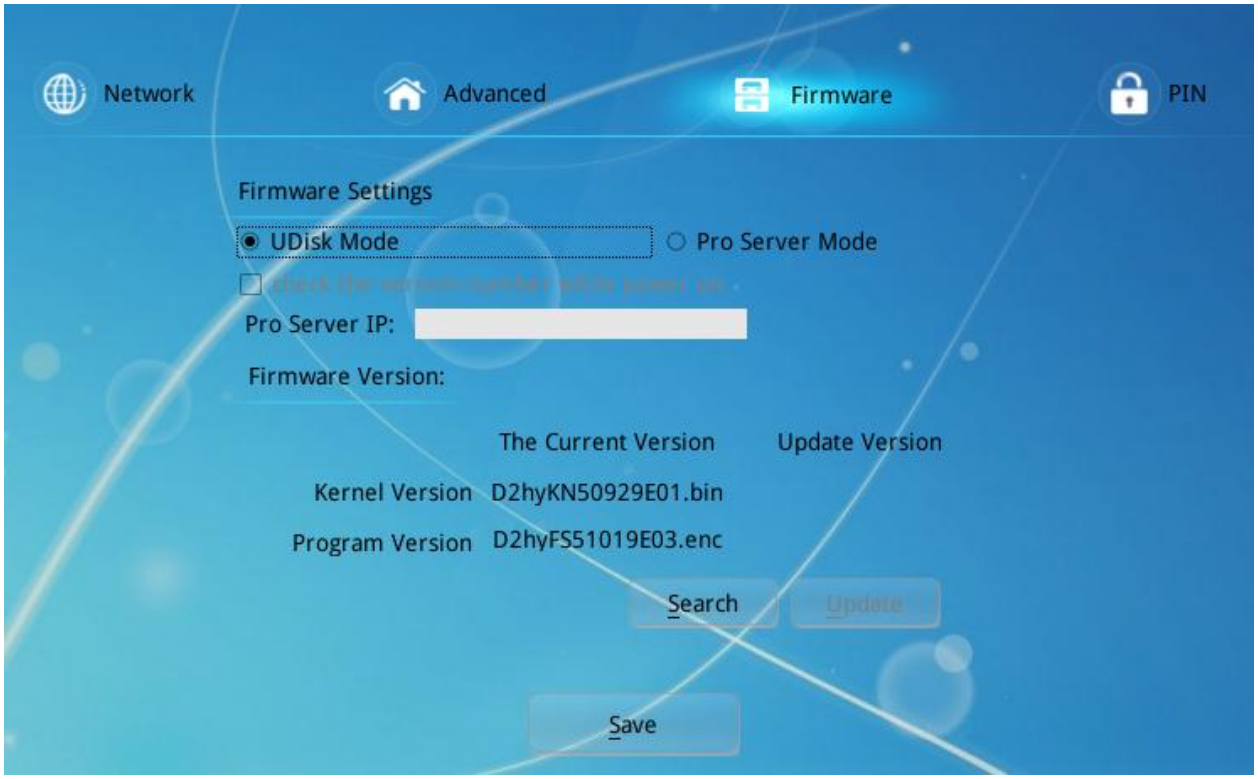
For language, currently available is English and Chinese. The highest resolution available is 1920x1080.

The USB HID area is where to type in Vendor ID and Product ID of a USB device for better support.



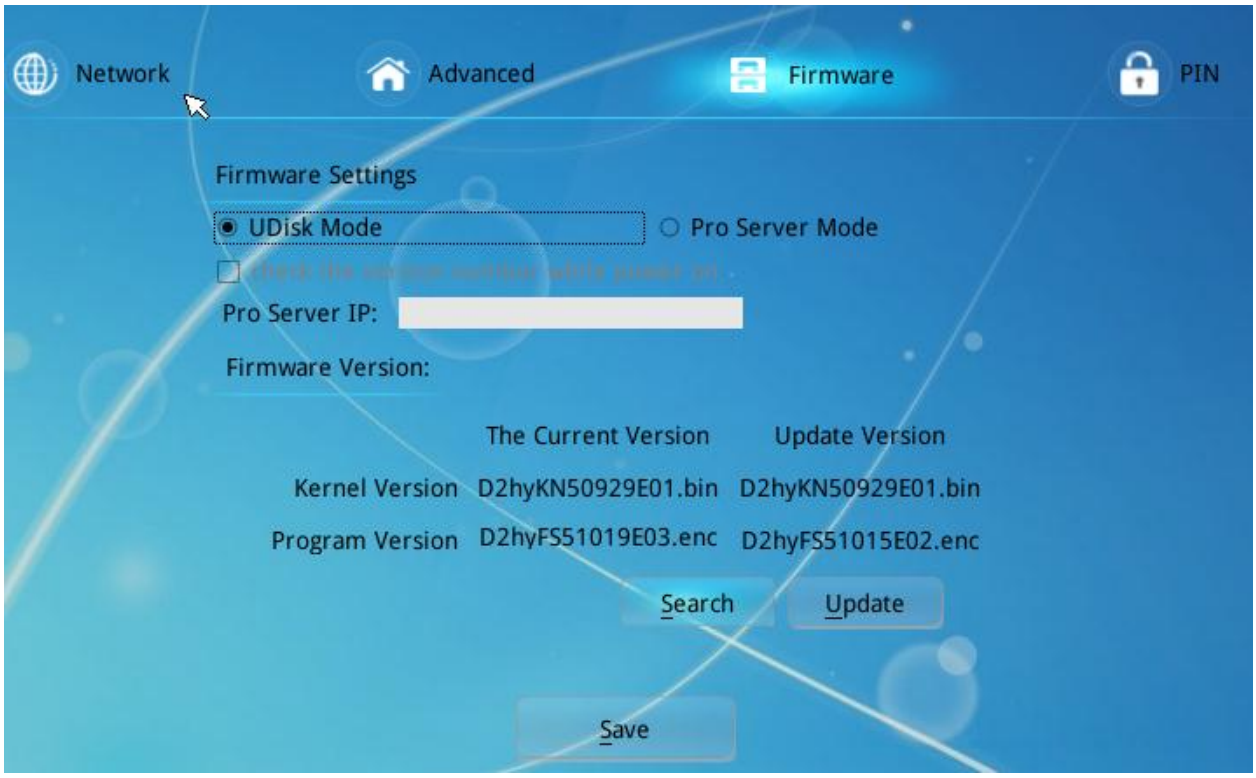
Text Mode: this is for users who seldom plays HD video but want to have best display quality.
Alias: a name that helps to identify this Diana in the network.
Close Screen in (0) minutes: this is to set power off display after the given time.

b) **Firmware:**

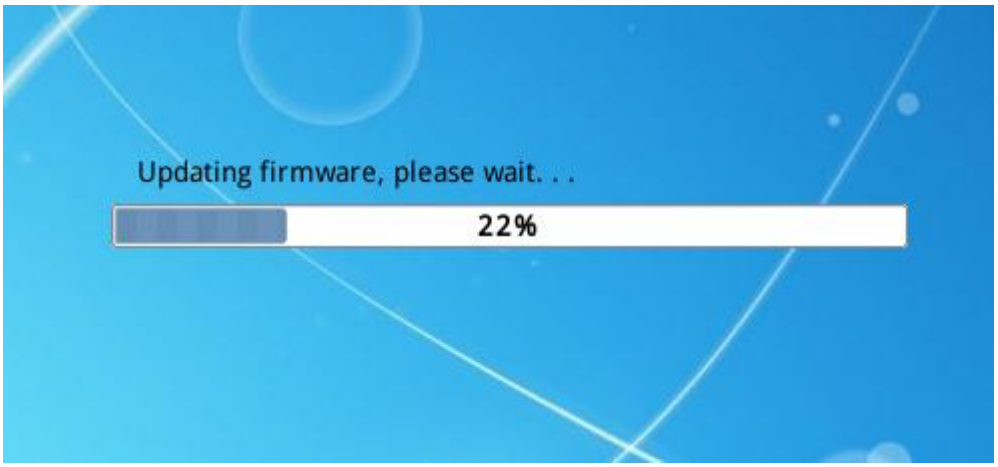


Firmware update helps Diana fix a bug or have a new function. There are two ways of updating the firmware: by USB flash drive or by TFTP server.

Download new firmware from our website: www.sundenc.com, unzip the file and then copy the entire **"v2update"** folder to the root location of a USB flash drive. Plug the drive to the Diana, and then click on **"Search"** button. Firmware info will be displayed:



Check the update version to make sure it is the one you want to update. Then click on **"Update"** button to start the process.



Picture 12

When the following shows up, restart the power of Diana terminal.

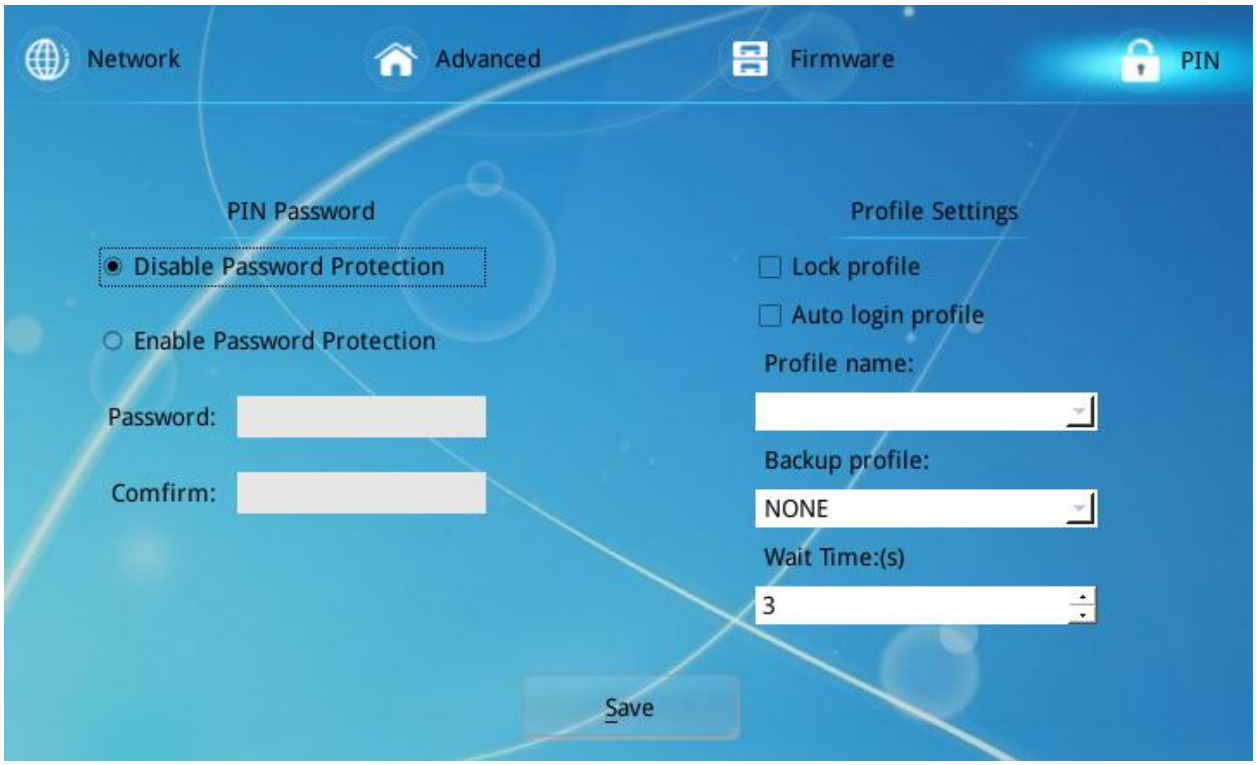


Picture 13

c) Pin column:

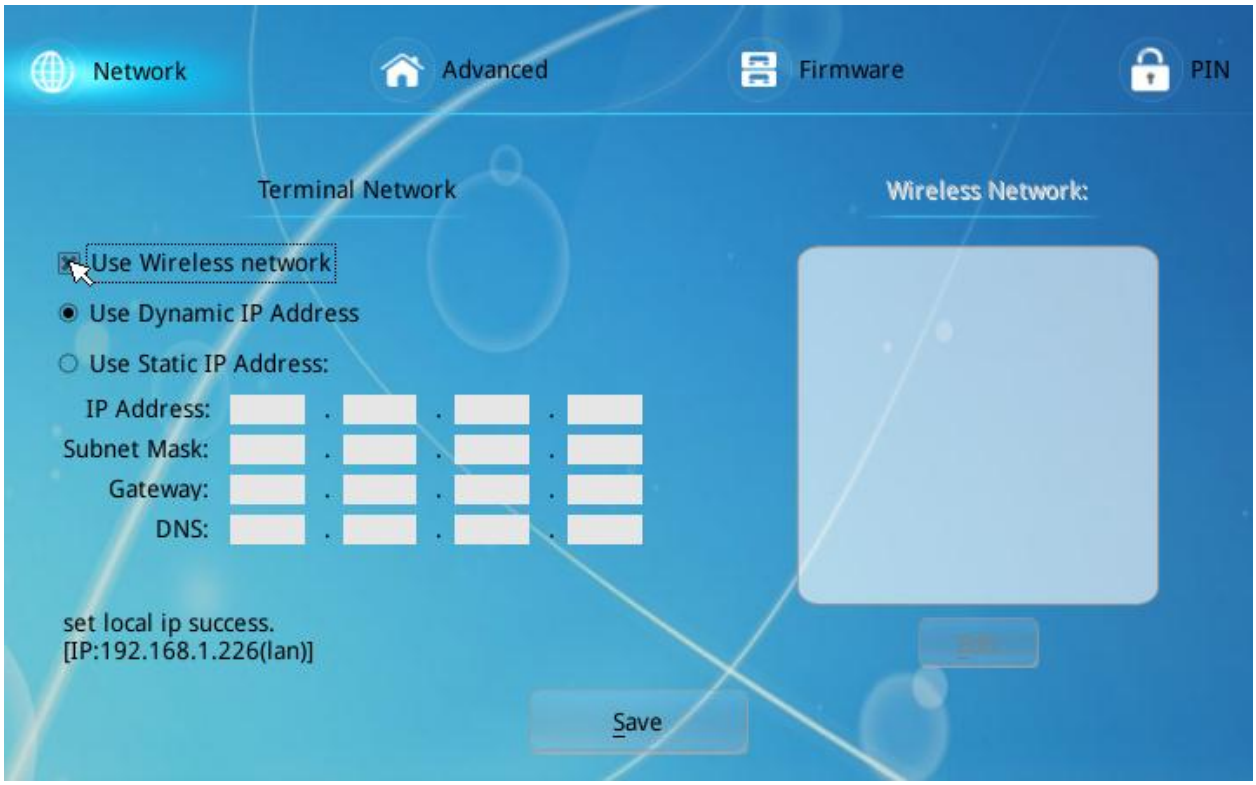
When **"Enable Password Protection"** is chosen and a password is set, correct password input is required before you can go to the Settings page of Diana and make changes.

In the **"Profile Settings"** area, you can enable **"Auto login profile"** if you want the Diana terminal to log in its intended VM desktop as given in the profile. This is useful for advertising, library or school computer lab. Do not forget to type in the chosen profile name and then click on "Save" button.

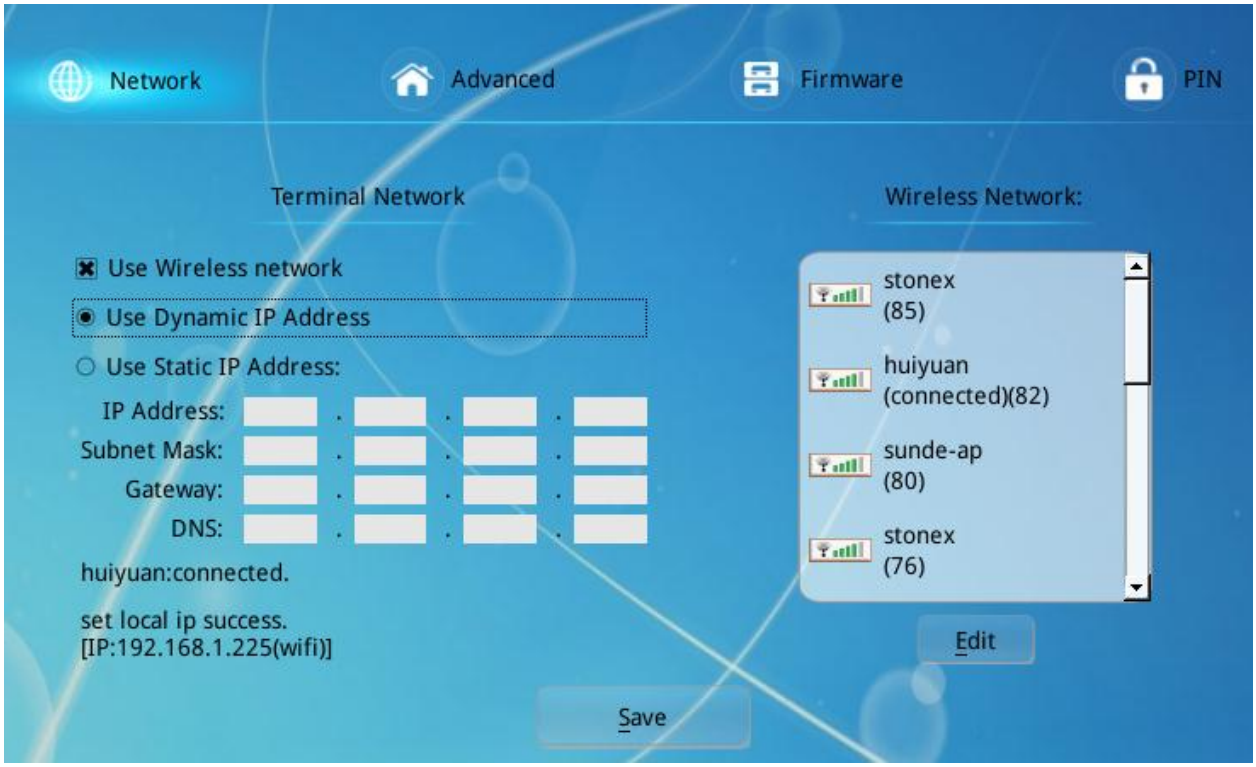


8.6 Setting up WIFI connection for Diana

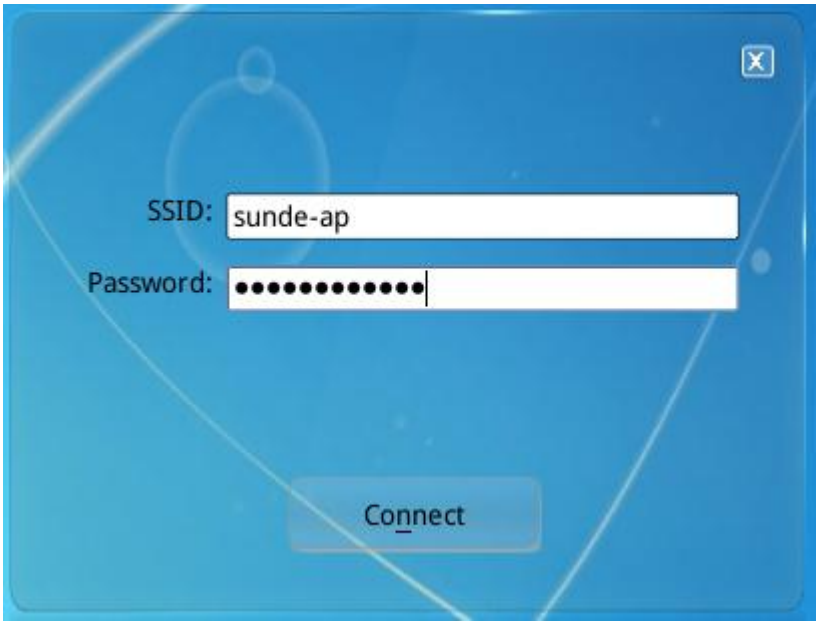
WIFI module is optional for Diana terminal. Go to Network page of Diana, enable **"Use Wireless Network":**



Then Diana will automatically search for available WIFI hotspots and list them in the right column:



Click on the WIFI spot you are going to connect. Type in its password:



Click on **“Connect”** button and all is done.