

SAS-University-Edition using Oracle VM VirtualBox

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With SAS University Edition, one gets SAS Studio, Base SAS, SAS/STAT, SAS/IML, SAS/ACCESS and several time series forecasting procedures from SAS/ETS. Steps for downloading of SAS University Edition and its installation in windows operating system environment are described in this document. This document is prepared to provide guidelines to users. It is useful for those who do not have SAS license that is compatible with the operating system on which working and are working for an academic/teaching organization. This may, however, be used for teaching even if the SAS Licensed version is available. However, for more details, one may refer to the website http://www.sas.com/en_us/software/university-edition.html. Similar procedure may be used for OS X and Linux operating system. This

System Requirements

Windows

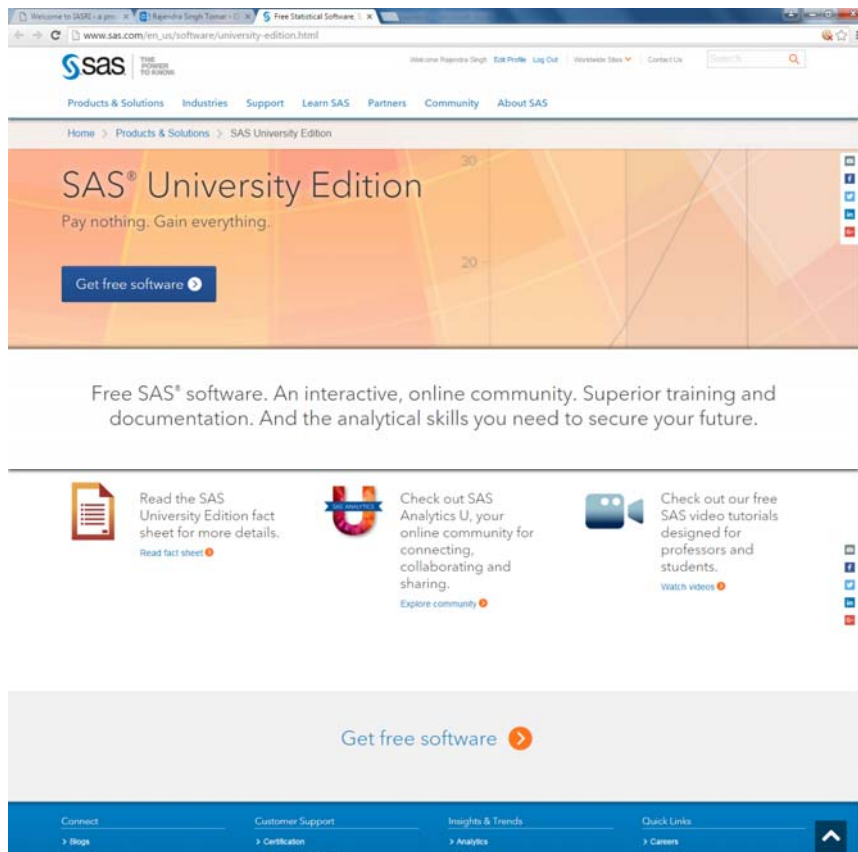
- Microsoft Windows version 7, 8, 8.1 or 10
- 64-bit hardware with a minimum of 1GB of RAM
- One of the following virtualization software packages:
 - ✓ VMware Player 7 or later
 - ✓ Oracle VirtualBox 4.3.16 or later
- One of the following web browsers:
 - ✓ Microsoft Internet Explorer 9, 10 or 11
 - ✓ Mozilla Firefox 21 or later
 - ✓ Google Chrome 27 or later
- Virtual Network Configuration: Network Address Translation (NAT)

Broad View to install SAS University Edition

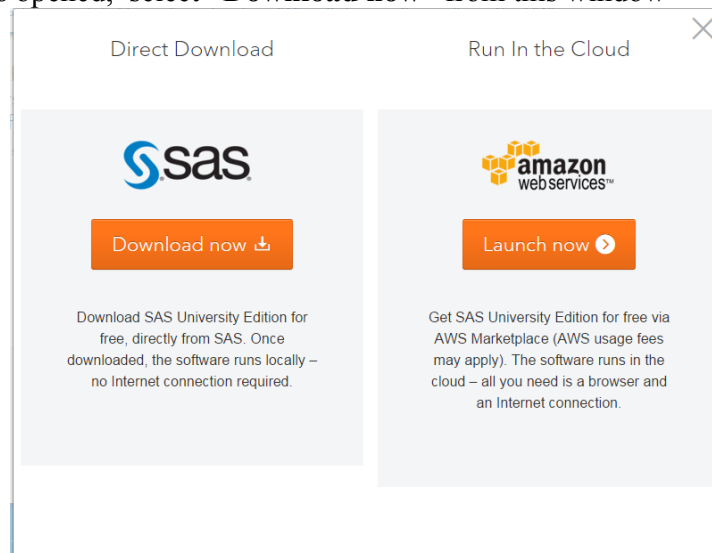
1. Download the SAS University Edition File.
2. Unzip the SAS University Edition compressed file.
3. Configure VMware Player or Oracle Virtualbox.
4. Start SAS University Edition in VMware Player or Oracle Virtualbox.

How to Download SAS- University Edition

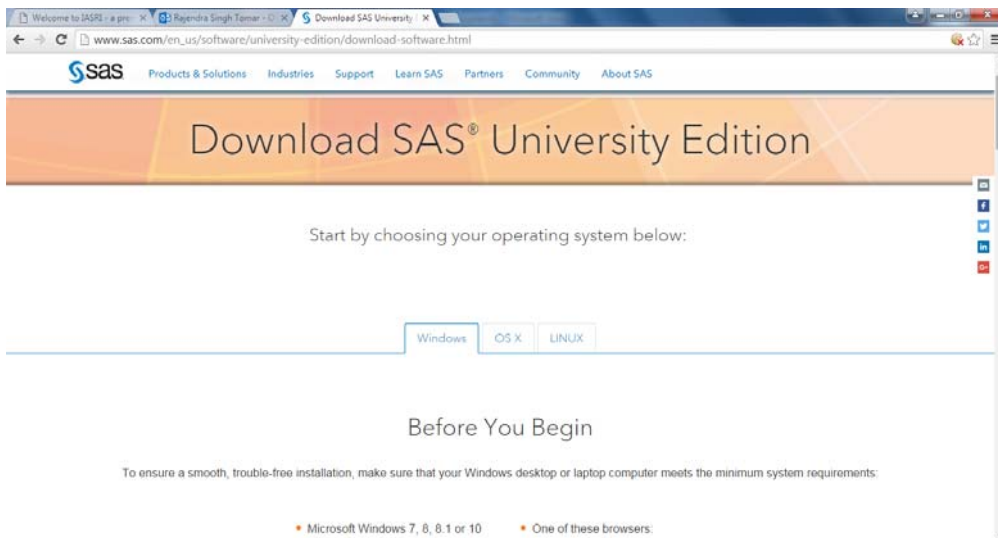
Open the site http://www.sas.com/en_us/software/university-edition.html. Following page gets opened, Scroll down the page, at the end click on “**Get free Software**” (see screen shot given below)



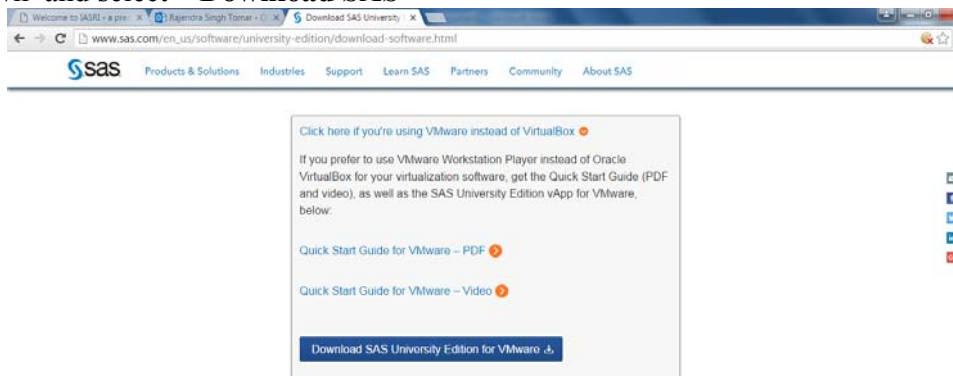
A new window gets opened, select **"Download now"** from this window



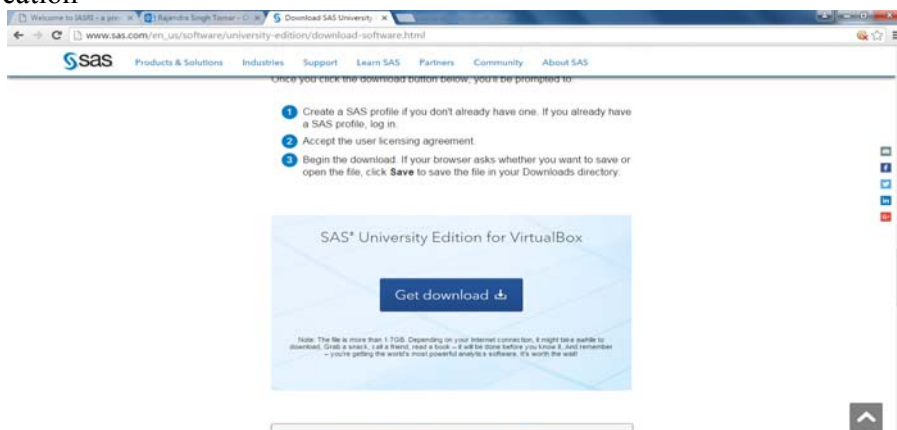
Following pages gets opened select operating system. Since this documents puts emphasis window based installation therefore Selecting **"windows"**



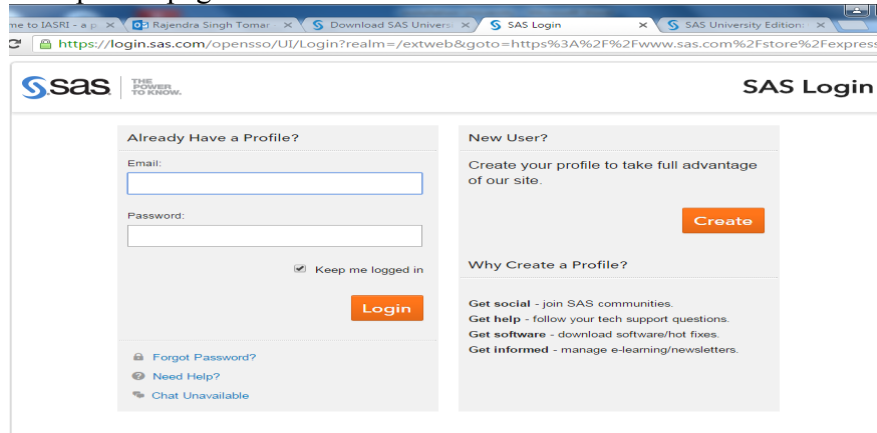
Scroll down and select “Download SAS”



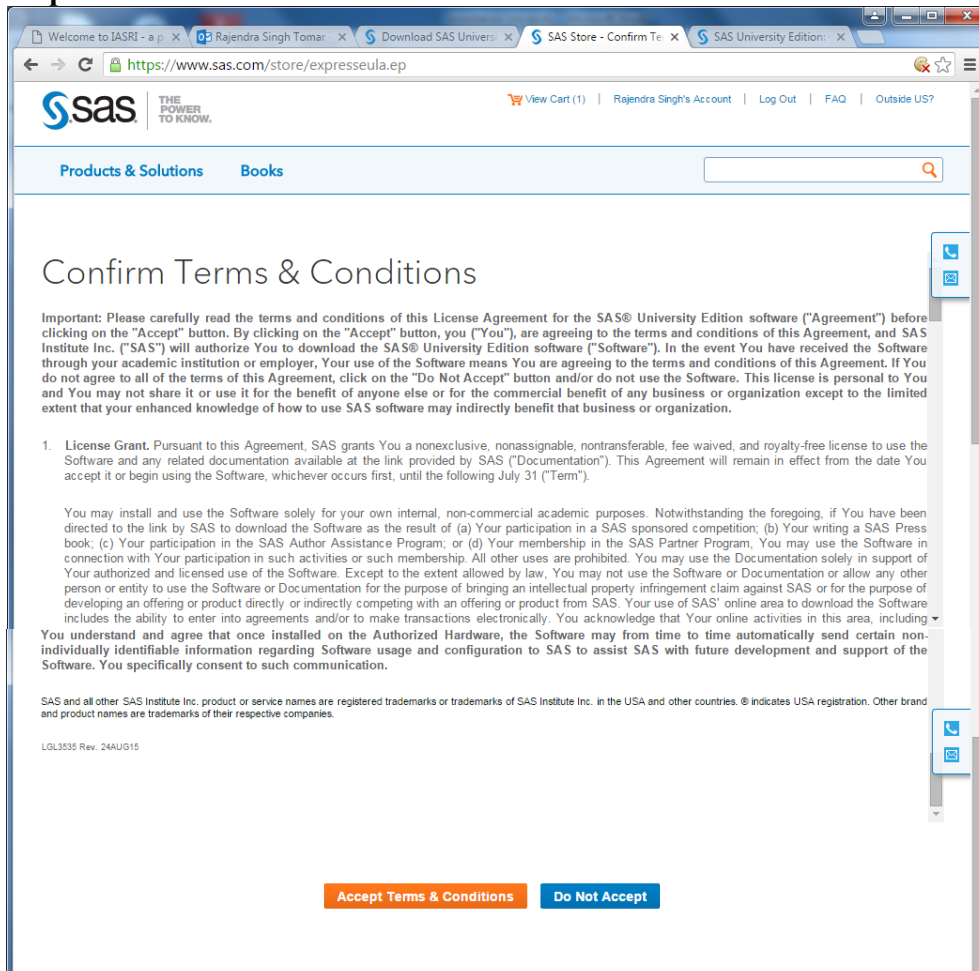
Following page appears. From the screen shot given below it is clear that 1) Create SAS profile if already not created, after creating profile 2) Accept License Agreement 3) Save the download at desired location



One has to create his/her profile with valid e-mail ID along with password (keep with you for future use) on the profile page as shown under.

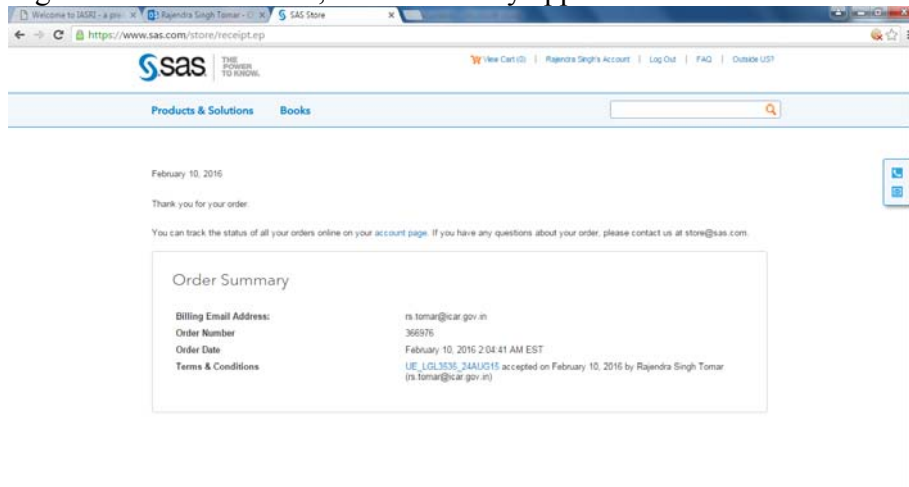


In terms and condition page scroll down, sometime one may have to wait for few minutes, finally select “Accept Terms & Conditions”



Note: While downloading and before accepting the terms and conditions, please read them carefully.

After accepting terms and conditions, order summary appear on the screen as shown below



SAS University product will start downloading.

1. It is a zipped file (see at the bottom of screen shot below).
2. After completion of downloading, unzip the file and **Save** at the desired location under the folder **SASUniversityEdition** and sub Folder **myfolder**. (Create these two folders)

One can install SAS with (1) VMware Player or (2) VM VirtualBox. It is difficult to make a choice between two. However, it appears that working of VMware player is IP based where VM Virtual works on local host.

Using and Configuring VM VirtualBox

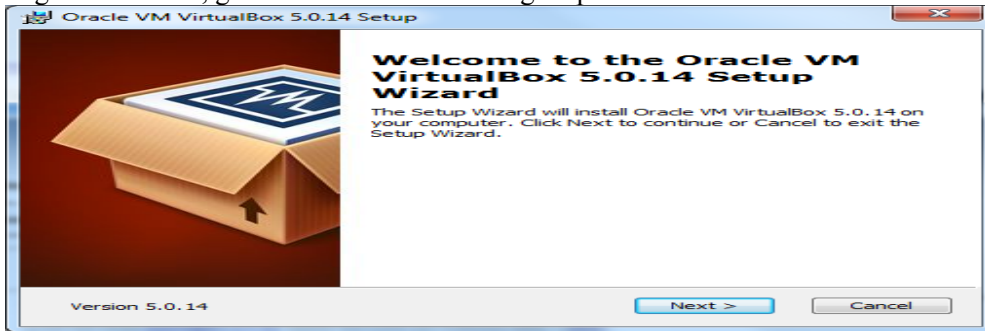
Download VM VirtualBox

Enter the website address <https://www.virtualbox.org/wiki/Downloads> on URL to download the the Oracle virtualbox. Shown below page will get opened. Since we are interested in window based virtualbox platform so select **VirtualBox 5.0.14 for windows hosts**.

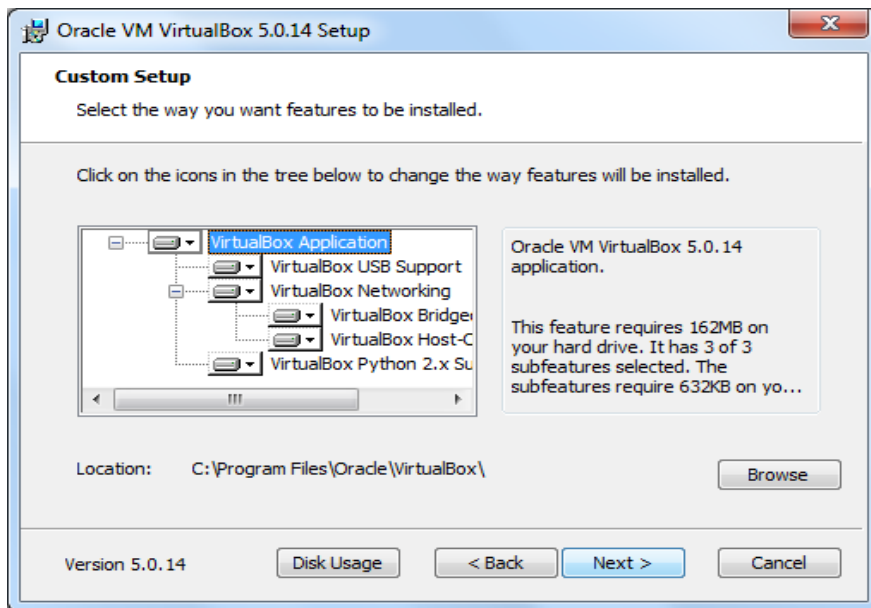
*Note: It is important to mention here that at step 2 of that page there are link "**Download VirtualBox for Window**" If one open this link on new tab following page appears and one can download both simulteneously*



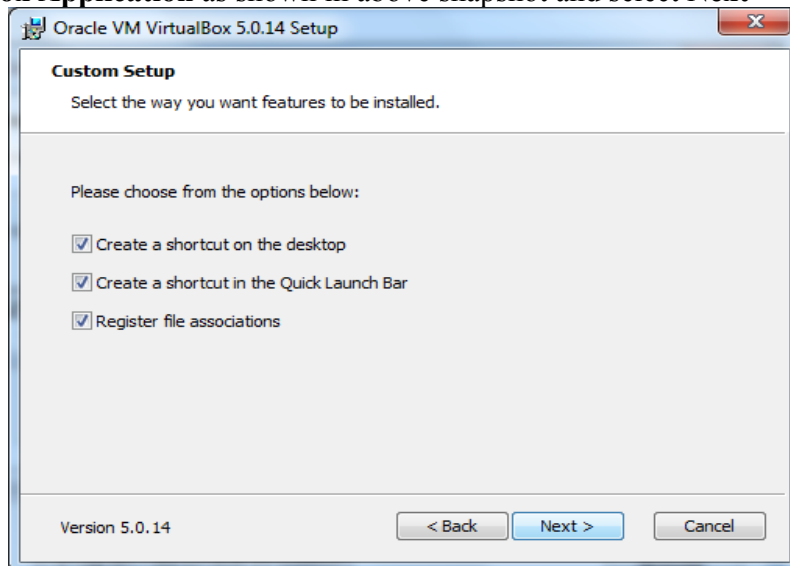
Downloading wizard starts, given below window will get open



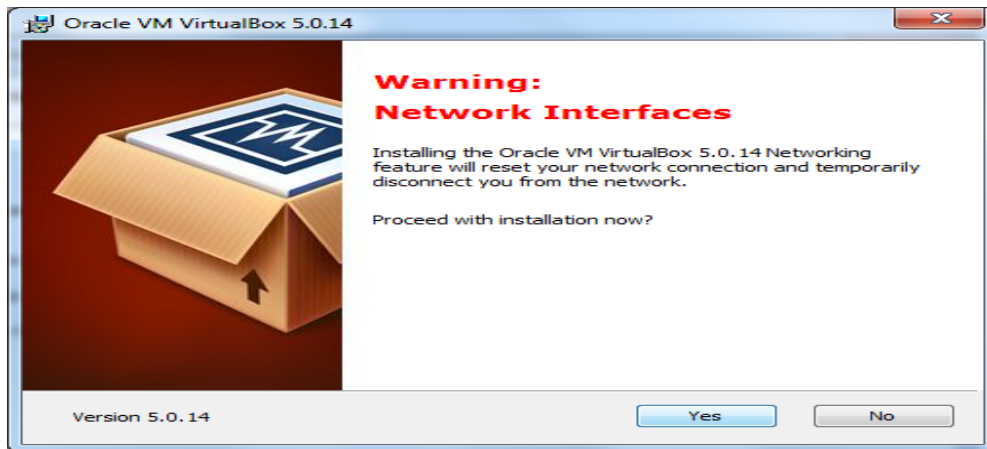
Select Next



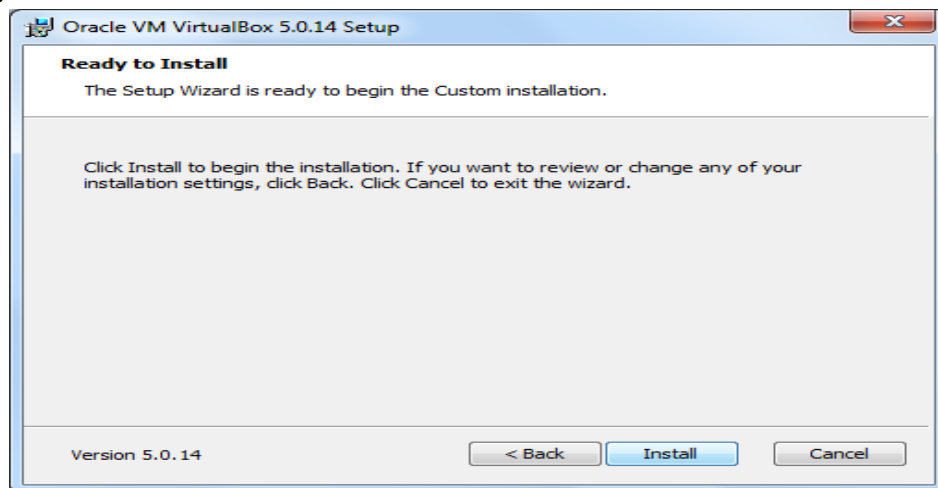
Select **VirtualBox Application** as shown in above snapshot and select Next



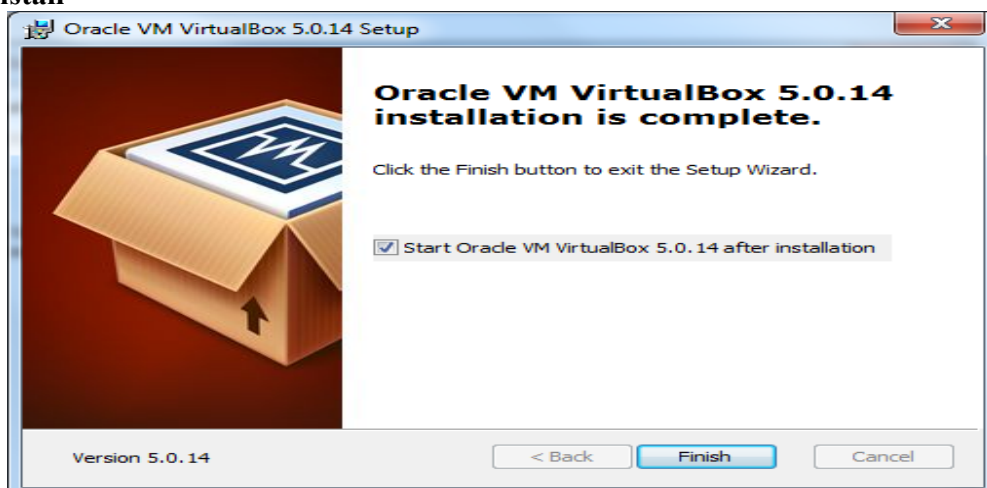
Select all option and then **Next**



Select **Yes**



Select **Install**

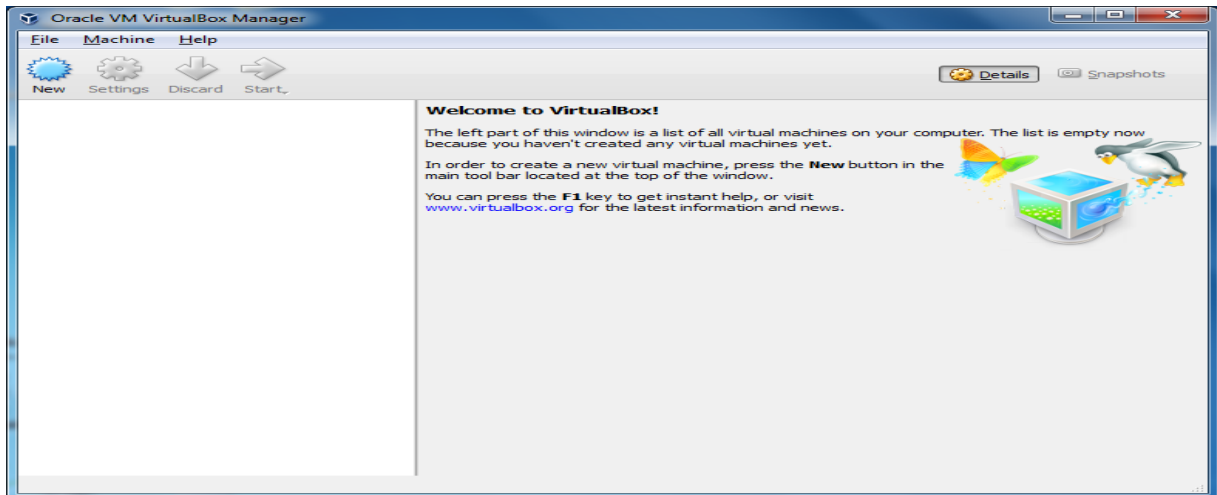


Select **Finish**

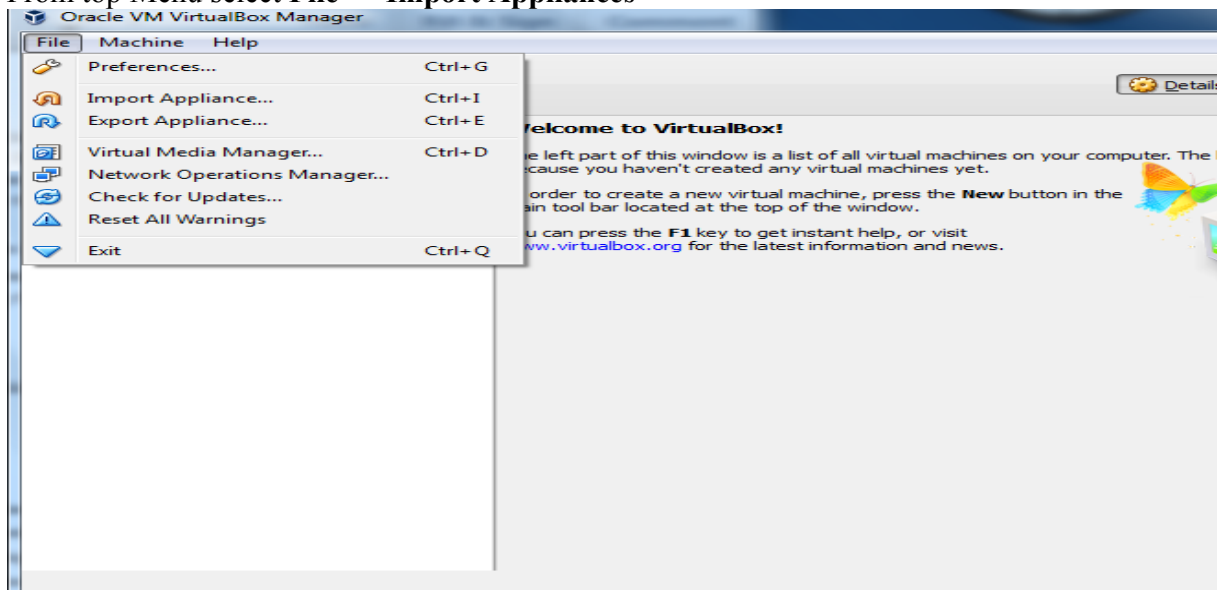
Configure VirtualBox

We need to configure VirtualBox in order to create a shared folder for the data that is available to both the SAS University Edition virtual image and to local system. On local computer a folder **SASUniversityEdition** and a subfolder **myfolders** has already created and saved downloaded SAS software.

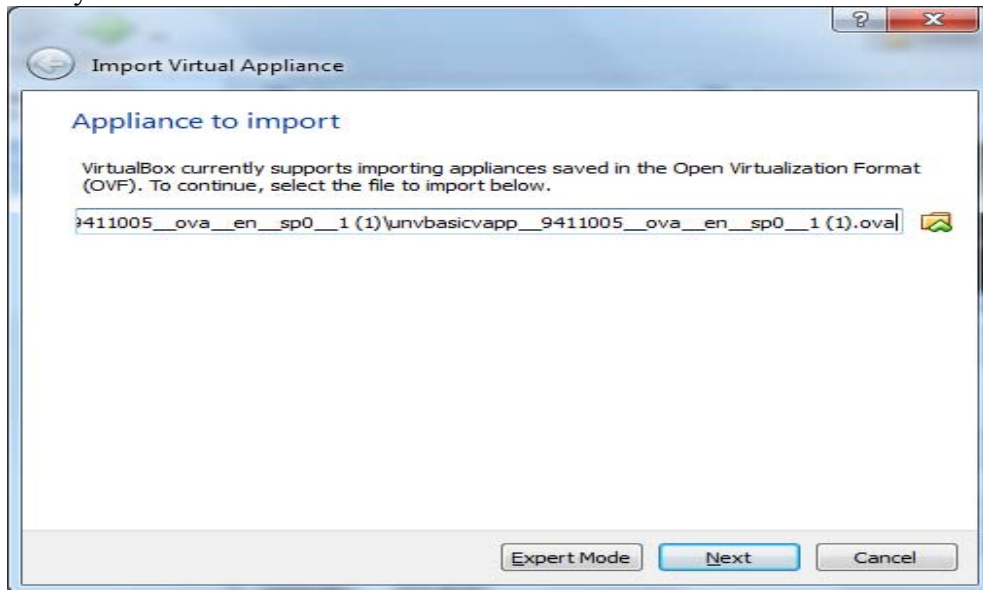
A window shown in the snapshot below, usually get opened after completion of virtualbox installation, if not, Click the virtualbox icon at desktop to **Launch** it



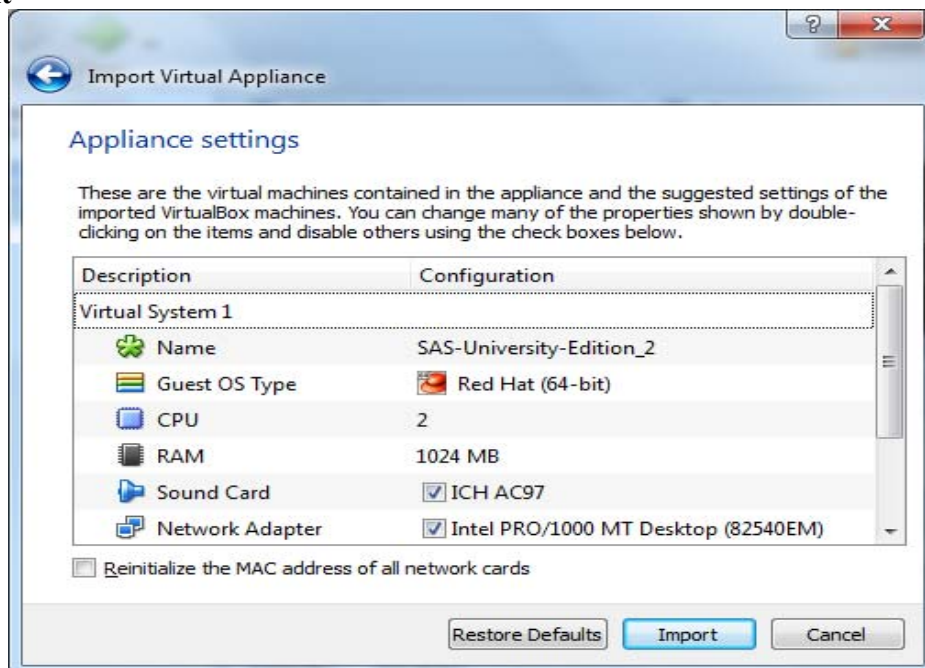
From top Menu select **File** → **Import Appliances**



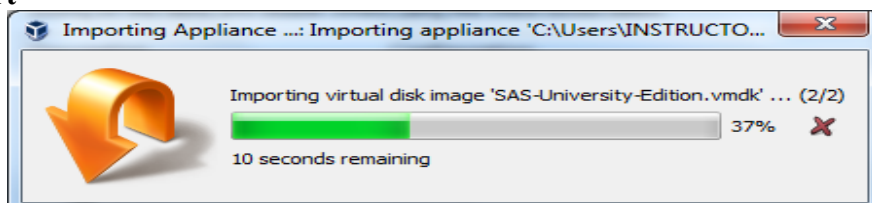
Click on file browser (on right side pane) and then select **others** and then select SAS University Edition .ova file downloaded earlier.



Select **Next**

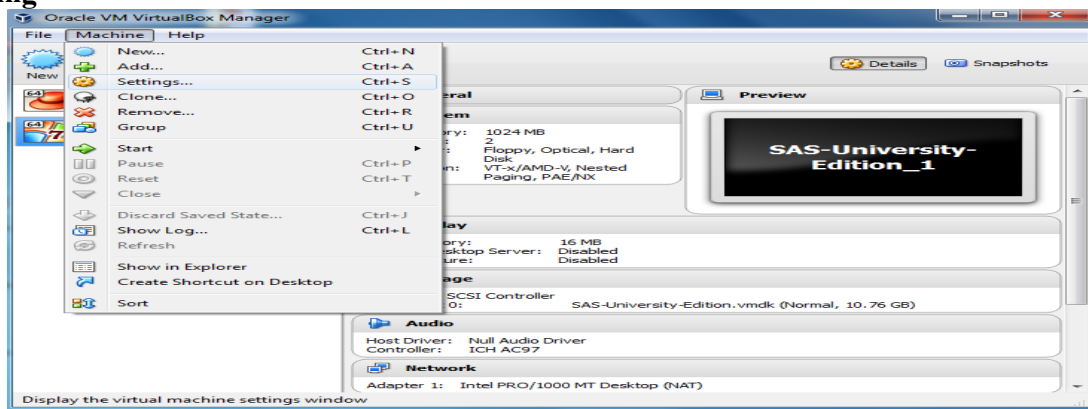


Select **Import**

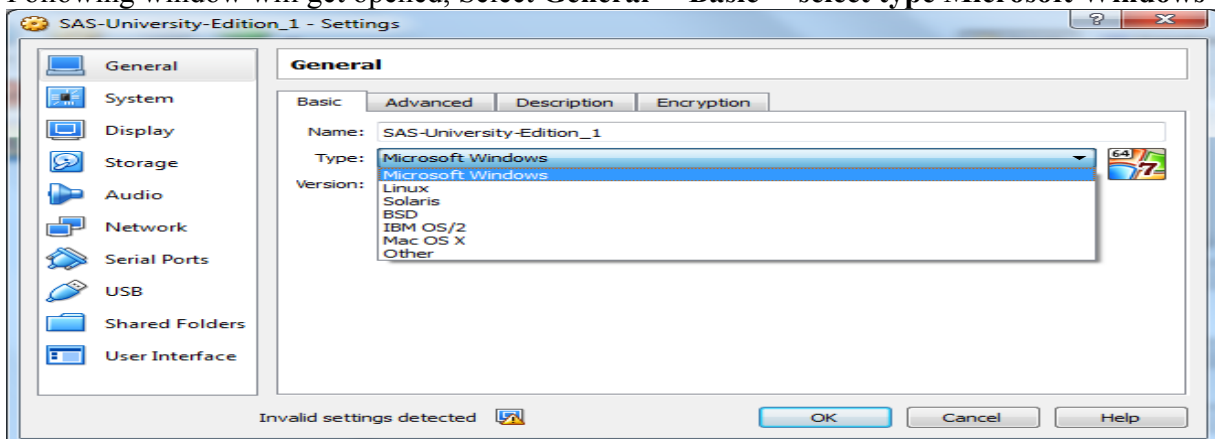


Wait till the importing is completed.

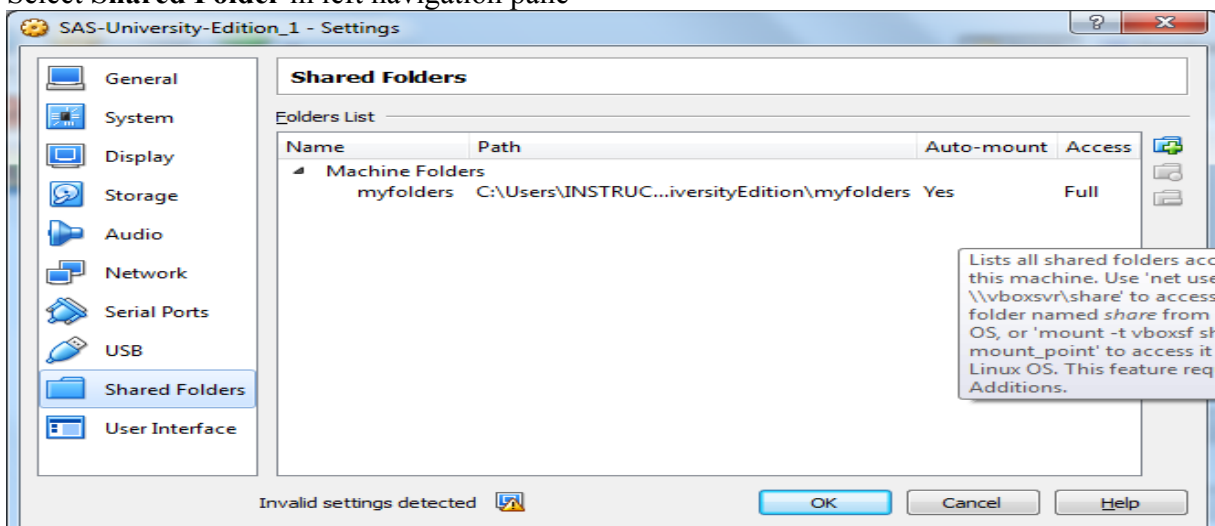
From left pane select SAS University Edition and then from top main menu select **Machine** → **Setting**



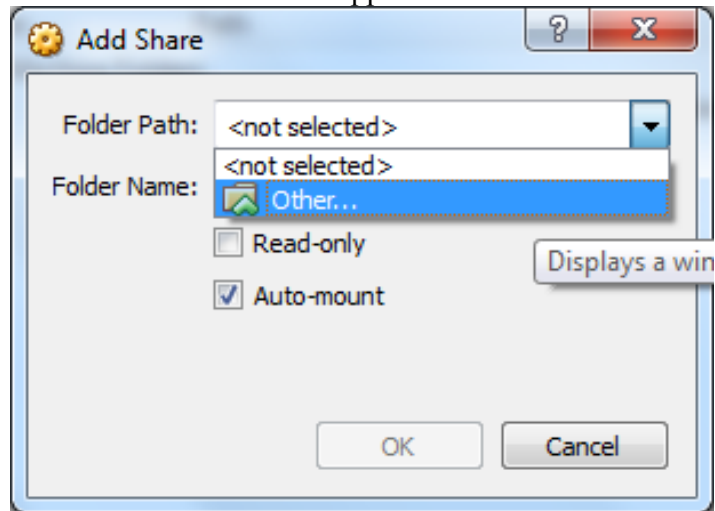
Following window will get opened, Select **General** → **Basic** → select type **Microsoft Windows**



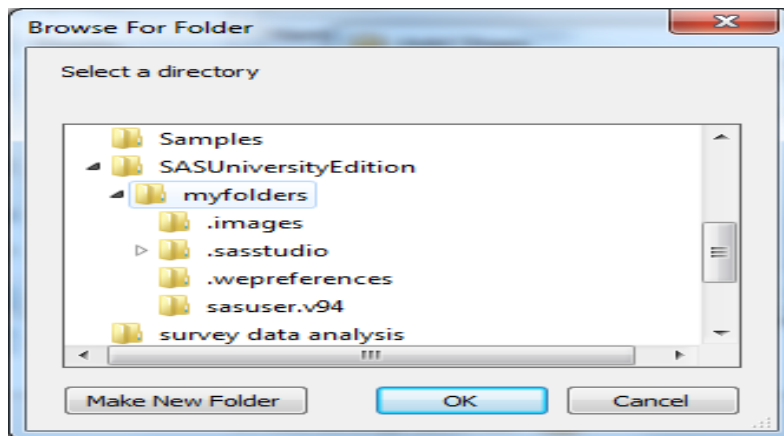
Select **Shared Folder** in left navigation pane



In right side, click +. The **Add Share** window appears.



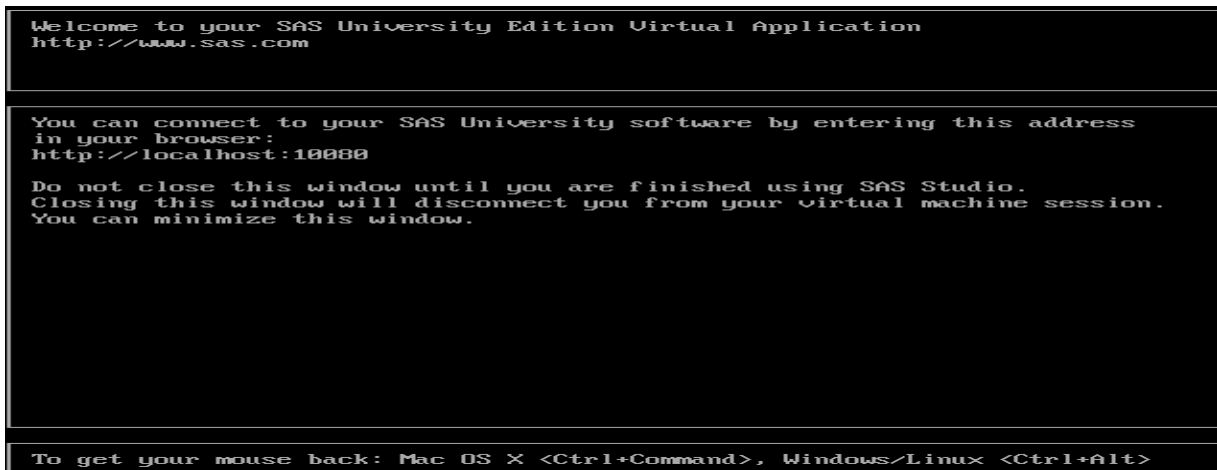
Check **Auto-mount** box and make sure **Read Only** must be unchecked. Select **Others** in folder path



Select the **myfolders** folder that was created earlier under **SASUniversityEdition** folder then click **OK**. This folder is mapped to the **My Folders** folder in SAS Studio

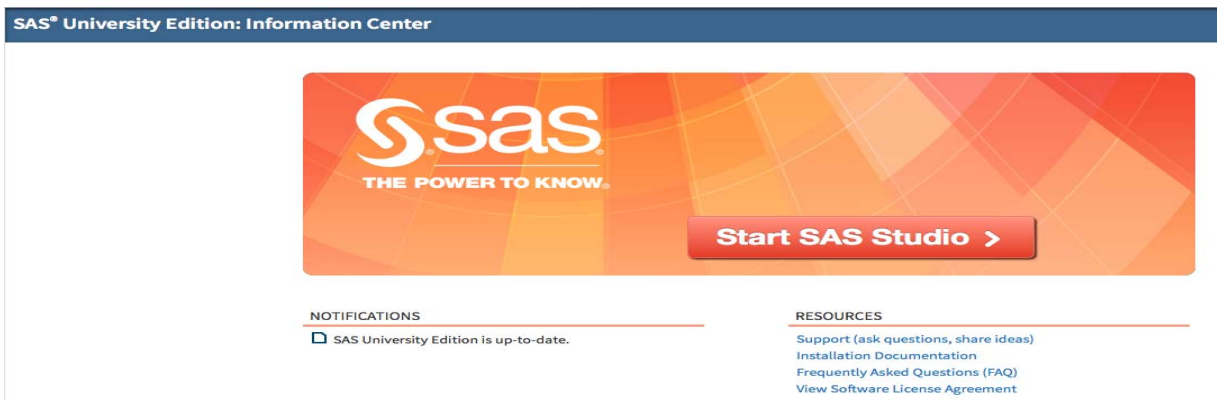
Starting SAS University Edition Using VM VirtualBox

1. On desktop select **VirtualBox**, select **SAS University Edition virtual image** in the left column, and then select **Machine** → **Start**.
2. If prompted to upgrade, click **Don't upgrade**.
3. When the start-up process completes, the SAS University Edition Welcome screen appears

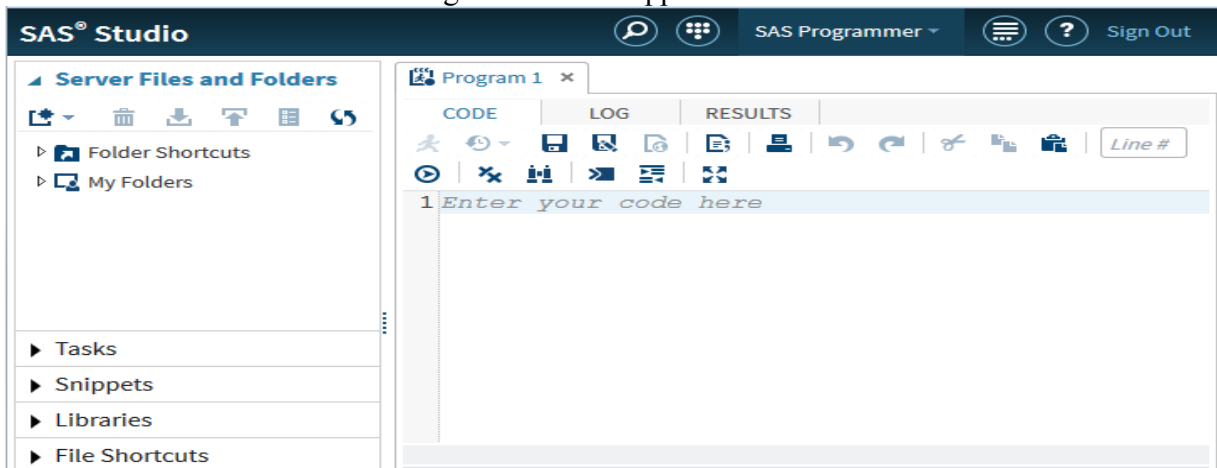


Do not close Welcome window, it can be minimized

In a web browser, enter the URL `http://localhost:10080` (one can see Welcome screen), and press **Enter** to open the SAS Information Center.



Select **Start SAS Studio**. Following window will appear on the screen



One can work on SAS Studio now.

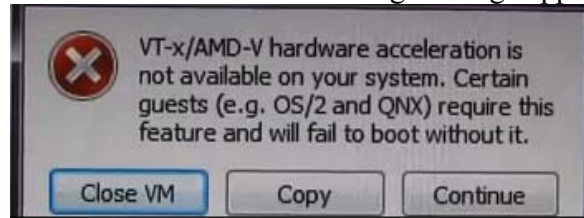
Shut Down SAS University Edition in VirtualBox

When we want to close the SAS Studio. Select **Sign Out**

- 1) In the left column of VirtualBox, click the SAS University Edition virtual image.
- 2) Select **Machine** → **Close** → **ACPI Shutdown**.

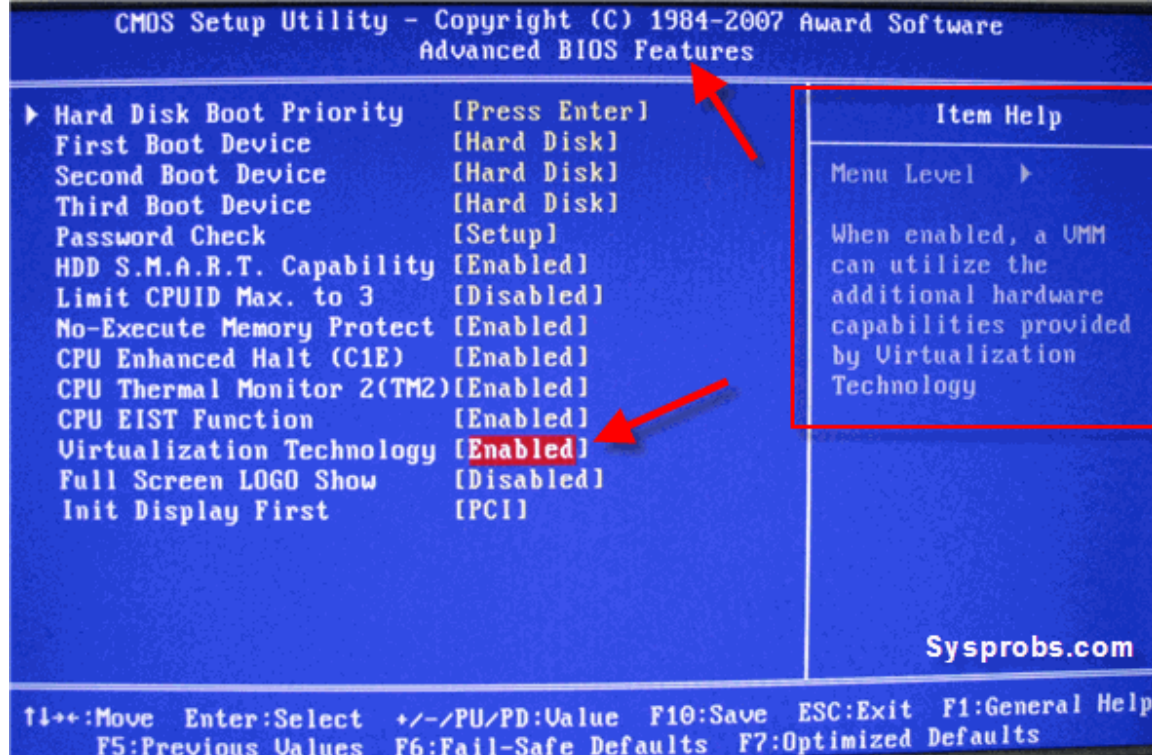
Frequent Problem in First Time Starting and Solution

When one Start VM VirtualBox first time and following message appear on screen



It means that changes need to be made in the BIOS of the system. Virtualization in the system may be disabled which needs to be made **Enabled**. One can enter in the BIOS of any Computer/Laptop at the start up so restart the computer/laptop and press the key/keys, set to enter the BIOS. Generally key are F2/Delete/Esc, BIOS setting may differ computer to computer as BIOS version, Processor, Chipset or Motherboard (Go for Google search based on make) . Find the Virtualization Technology tab and change it to disabled to **Enabled**.

Following is BIOS setting for windows7, After entering the BIOS **select Advanced**→ **CPU Configuration**→ **Secure Virtual Machine**, Enable it and then press **Esc** → **Save the Changes**, it may be different in Window 8 and Windows 10



In Windows 8 **Goto Settings**→ **Change PC Update Recovery** →**Recovery**→ **Restart Now** →**Troubleshoot**→ **Advanced Option**→ **UEFI** → **Restart**→ **Enable Software Virtualization**→ **Save setting**

After BIOS setting, select **Machine** → **Start**.

This document is only for downloading and installing SAS-University-Edition using Oracle VM VirtualBox. The document for steps for working with after installation is being prepared and would be shared separately.

Acknowledgements: The discussions held with Dr. A Dhandapani, Dr. B.N. Mandal, Sh. K.V. Kumar and Sh. Satyajit Dwivedi are thankfully acknowledged.