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## Virtualization with Oracle VM VirtualBox

## **Installing FreeDOS Guest OS**



Brainboxes Limited, 18 Hurricane Drive, Liverpool International Business Park, Speke, Liverpool, L24 8RL, UK Tel: +44 (0)151 220 2500 Fax: +44 (0)151 252 0446 Web: www.brainboxes.com Email: sales@brainboxes.com

## Contents

This document will help you install **FreeDOS** Guest Operating System under **Windows 7 32-bit** Host Operating System using **Oracle VM VirtualBox** product.

The following excerpt of Q & A from <u>http://www.freedos.org</u> will help you to understand what **FreeDOS** is all about. Please note that you have access to these Q & A from **FreeDOS** official website, <u>http://www.freedos.org</u> but they are provided here for convenience.

• What is FreeDOS?

FreeDOS is a free DOS-compatible operating system that can be used to play games, run legacy software, or support embedded systems. FreeDOS is basically like the old MS-DOS, but better! For example, FreeDOS lets you access FAT32 file systems and use large disk support (LBA) — a feature not available in MS-DOS, and only included in Windows 95 and newer.

• Is FreeDOS really free?

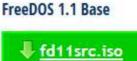
Yes, FreeDOS is really free. It doesn't cost anything to download and run FreeDOS. Even better, FreeDOS is open source software; you can view and edit our source code. All FreeDOS programs are distributed under the GNU General Public License ("GNU GPL") or a similar open source license. Because we are open source software, anyone can contribute to it. Even if you don't write code, you can help out the FreeDOS Project by <u>reporting bugs</u>.

• What programs can I run in FreeDOS?

FreeDOS is a complete, free, DOS-compatible operating system. While we provide our own programs and utilities, you should be able to run any program that was intended for MS-DOS. You can even do networking! However, you may experience problems running Windows on FreeDOS. For example, Windows standard-mode works on FreeDOS, but 386-mode Windows for Workgroups 3.11 does not.

The instructions given below are only for convenience in order to help you use the existing legacy applications which need serial communication access with Brainboxes products by installing FreeDOS Guest Operating System under Windows 7 32-bit Host Operating System. FreeDOS official website also provides excellent manual on how to virtualize FreeDOS using Oracle VM VirtualBox product even though there is a lack of information regarding how to map Brainboxes serial port to the Guest Operating System. Please visit FreeDOS official website if you would like to follow their instructions.

- Please download the ".iso" image file of FreeDOS from the following link: <u>http://www.freedos.org/download/</u>
- 2. Find and click on the link as shown below to download the file to a location on your machine :

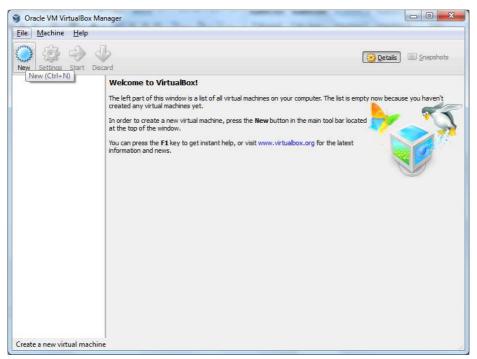


We will be downloading this to our "Desktop" location in this demonstration.

3. Run "Oracle VM VirtualBox" application by clicking Start -> All Programs -> Oracle VM VirtualBox -> Oracle VM VirtualBox as shown below:



4. Click "New" when you are presented with the following:



 Give a name to the virtual machine, "FreeDOS" or one of your own choosing, select "Other" from "Type:" drop-down list, "DOS" from "Version:" drop-down list, and then click "<u>N</u>ext" when you are presented with the following:

Name	and operating system
type of	hoose a descriptive name for the new virtual machine and select th operating system you intend to install on it. The name you choose sed throughout VirtualBox to identify this machine.
<u>N</u> ame;	FreeDOS
Type:	Other 🔹
Version:	DOS 👻

6. Click "<u>Next</u>" when you are presented with the following:

Memory size		
Select the amount of memor virtual machine.	y (RAM) in megabytes to be allocated to the	
The recommended memory s	ize is <b>32</b> MB.	
-0	32	1
4 MB	1024 MB	

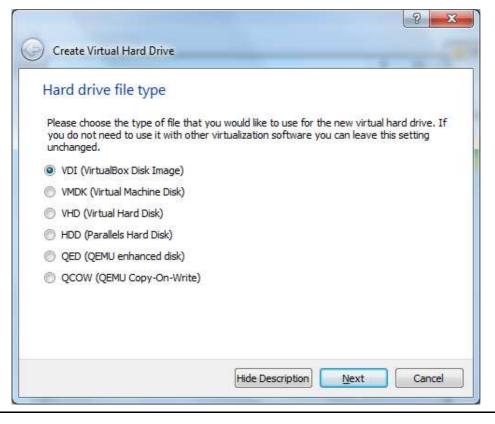
You can increase the amount of memory to be allocated if you wish by using the slider bar or by entering the exact amount you want such as 64, 128 and so on into the textbox where the number 32 is shown as default.

7. Select the option "Create a virtual hard drive now", and click "Create" when you are presented with

the following:

Hard drive			
	ew hard drive file or	d drive to the new m select one from the	
		set-up you can skip once the machine is	
The recommende	d size <mark>of the hard d</mark>	rive is 500.00 MB.	
Do not add a	virtual hard drive		
Oreate a virtu	al hard drive now		
🔘 Use an existin	g virtual hard <mark>d</mark> rive	file	
Empty			- 5

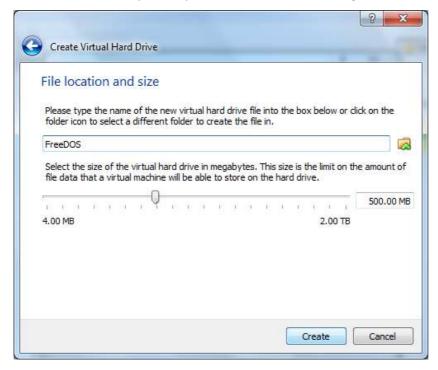
8. Select the option "VDI (VirtualBox Disk Image)", and click "<u>Next</u>" when you are presented with the following:



9. Select the option "Dynamically allocated", and click "Next" when you are presented with the following:



10. Click "Create" when you are presented with the following:



You can change the maximum size of the virtual hard drive that will be allocated to the virtual machine

if you wish to do so. You can also change the location of the virtual hard drive by clicking the icon if you wish to do so in case you would like to store this in a location with more disk space and so on. Since we are using "Dynamically allocated" virtual hard drive, the space will be allocated as required for the virtual machine and this will have a maximum size of 500 MB by default as shown above or the number you specified.

11. You have now created an environment where you can start to install "FreeDOS" operating system, and

you will be presented with the following:

ile <u>M</u> achine <u>H</u> elp		
iew Settings Start Dis	Card	Details Details
FreeD05	📃 General	Preview
💆 🔘 Powered Off	Name: FreeDOS Operating System: DOS	
	System	
	Base Memory: 32 MB Boot Order: Floppy, CD/DVD-ROM, Hard Disk Acceleration: VT-x/AMD-V, Nested Paging	FreeDOS
	🗐 Display	
	Video Memory: 5 MB Remote Desktop Server: Disabled	
	Storage	
	Controller: Floppy Floppy Device 0: Empty Controller: IDE IDE Primary Master: FreeDOS.vdl (Normal, 500.00 MB) IDE Secondary Master: [CD/DVD] Empty	
	De Audio	
	Host Driver: Windows DirectSound Controller: SoundBlaster 16	
	Com making the	

12. Click and select "FreeDOS" entry in the list, and click "Settings"

General	System	
System Display Storage	Motherboard Processor Acceleration Base Memory:	32 ME
Audio Network Serial Ports USB Shared Folders	4 MB       1024 MB         Boot Order:       Image: Floppy         Image: CD/DVD-ROM       Image: Floppy         Image: Floppy       Image: Flo	
	Select a settings category from the list on the left-hand side and move the mouse over item to get more information.	a settings

13. Click and select "System" on the left side when you are presented with the following:

14. Click "Processor" tab on the right, reduce the "Execution Cap:" slider bar to a value of 50, and click

"**OK**" when you are presented with the following:

1 1 10 A 10 A 10 A 10	System
<ul> <li>System</li> <li>Display</li> <li>Storage</li> <li>Audio</li> <li>Network</li> <li>Serial Ports</li> <li>USB</li> <li>Shared Folders</li> </ul>	Motherboard     Processor     Acceleration       Processor(s):     1       1 CPU     4 CPUs       Execution Cap:     50       1%     100%       Extended Features:     Enable PAE/NX

- 15. Click and select "FreeDOS" entry in the list, and click "Settings" again.
- 16. Click and select "Serial Ports" entry in the list, and check "<u>Enable Serial Port</u>" option for "Port <u>1</u>" tab when you are presented with the following:

General	Serial Ports
<ul> <li>System</li> <li>Display</li> <li>Storage</li> <li>Audio</li> <li>Network</li> <li>Serial Ports</li> <li>USB</li> <li>Shared Folders</li> </ul>	Port 1       Port 2             Enable Serial Port        Port Number: COM1          Port Mode:       Disconnected          Ort Mode:       Disconnected          Ort/File Path:
	Select a settings category from the list on the left-hand side and move the mouse over a settings item to get more information.

17. Select "Host Device" from "Port Mode:" drop down list, and enter "\\.\COM5" into "Port/File Path:"

textbox as shown below:

General           System	Serial Ports
<ul> <li>Display</li> <li>Storage</li> <li>Audio</li> <li>Network</li> <li>Serial Ports</li> <li>USB</li> <li>Shared Folders</li> </ul>	Port 1       Port 2            ✓ Enable Serial Port        Port Number: COM1          ✓ IRQ: 4 I/O Port: 0x3F8          Port Mode:       Host Device               Create Pipe       Create Pipe          Port/File Path:       \ \COMS
	Select a settings category from the list on the left-hand side and move the mouse over a settings item to get more information.

Please note that for this demonstration I have installed Brainboxes **US-101** product in the Host Operating System and this is installed as "**COM5**" in my machine as shown below:

Ports (COM & LPT)
 Frainboxes RS232 Serial Port (COM5)

You might have a different COM Port label on your machine such as **COM3**, **COM4** and so on. Please select the correct COM Port label to map accordingly by checking the "**Ports (COM & LPT)**" section under **Device Manager**. For example, if you have installed **US-101** as **COM4** on your machine, you will have to enter "**\\.\COM4"** into "**Port/File** <u>P</u>ath:" textbox.

If you would like to map two Serial Ports in case you have installed two Brainboxes US-101 products or a Brainboxes product with two Serial Ports in your machine, please select "**Port** <u>2</u>" tab like shown below:

General	Serial Ports
<ul> <li>System</li> <li>Display</li> <li>Storage</li> <li>Audio</li> <li>Network</li> <li>Serial Ports</li> <li>USB</li> <li>Shared Folders</li> </ul>	Port 1       Port 2            ✓ Enable Serial Port        Port Number: COM2 ▼ IRQ: 3 I/O Port: 0x2F8          Port Mode:       Host Device ▼          □ Create Pipe         Port/File Path:       \ \COM6
	Select a settings category from the list on the left-hand side and move the mouse over a settings item to get more information.

Again, you might have a different COM Port label on your machine such as **COM3**, **COM4** and so on. Please select the correct COM Port label to map accordingly by checking the "**Ports (COM & LPT)**" section under **Device Manager**. For example, if you have installed another **US-101** as **COM7** on your machine, you will have enter "**\\.\COM7**" into "**Port/File** <u>P</u>ath:" textbox.

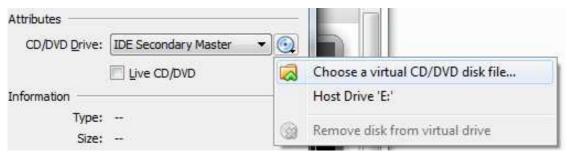
In this demonstration, I will only be mapping one Serial Port. Please follow the steps as described above if you would like to also map two Serial Ports.

- 18. Click "**OK**" after you have finished mapping the COM Ports. Then you will be taken back to the screen as shown in Step 11.
- 19. Click and select "FreeDOS" entry in the list, and click "Settings" again.

20. Click and select "**Storage**" on the left side, and click on "**Empty**" under the "<u>Storage Tree</u>" entry when you are presented with the following:

General	Storage				
<ul> <li>System</li> <li>Display</li> <li>Storage</li> <li>Audio</li> <li>Network</li> <li>Serial Ports</li> <li>USB</li> <li>Shared Folders</li> </ul>	Storage Tree Controller: Floppy Empty Controller: IDE FreeDOS.vdi To Empty Empty Controller: Controlle	Attributes CD/DVD <u>D</u> rive: IDE Secondary Master • ( Live CD/DVD Information Type: Size: Location: Attached To:			
	Select a settings category from the list or item to get more information.	n the left-hand side and move the mouse over a settings			

21. Click on the icon, and click "Choose a virtual CD/DVD disk file..." option as shown below:



22. Browse to the location of the "fd11src.iso" file which you have downloaded in Step 2, select and highlight the file, and then click "Open" when you are presented with the following:

Organize 🔻 Nev	v folder			E	
🚖 Favorites	<u> </u>	System Folder			
Desktop Downloads		System Folder			
Libraries	1	Computer System Folder			
J Music		Network System Folder			
Videos		fd11src.iso Disc Image File 38.9 MB			

Please specify and open the file from the correct location. For this demonstration, we have downloaded the file to "**Desktop**" in Step 2. Please select the location of the file accordingly if you specified it to a different location in Step 2.

23. Click "**OK**" when you are presented with the following:

General	Storage	Storage			
<ul> <li>System</li> <li>Display</li> <li>Storage</li> <li>Audio</li> <li>Network</li> <li>Serial Ports</li> <li>USB</li> <li>Shared Folders</li> </ul>	Storage Tree Controller: Floppy Empty Controller: IDE PreeDOS.vdi fd11src.iso Controller: Controller: Controller: Controller: Controller: Controller: Floppy FreeDOS.vdi Controller: Controller: Controller: Controller: Floppy FreeDOS.vdi Controller: Controller: Controller: Controller: Controller: Controll	Attributes CD/DVD Drive: IDE Secondary Master • • • • Live CD/DVD Information Type: Image Size: 38.94 MB Location: C:\Users\Test\Desktop\fd11src.is Attached To:			
	Select a settings category from the list on item to get more information.	n the left-hand side and move the mouse over a settings			

24. Now we will begin the process of installing "**FreeDOS**" Guest Operating System by clicking "**Start**" when you are presented back to the following screen:

Oracle VM VirtualBox Ma <u>File</u> <u>Machine</u> <u>Help</u>	mager	
New Settings Start Dis	b card	Details Details Snapshots
FreeDOS Powered Off	General     Mame: FreeDOS     Operating System: DOS	Preview
	System           Base Memory:         32 MB           Execution Cap:         50%           Boot Order:         Floppy, CD/DVD-ROM, Hard Disk           Acceleration:         VT-x/AMD-V, Nested Paging	FreeDOS
	Display Video Memory: 5 MB Remote Desktop Server: Disabled      Storage	
	Controller: Floppy Floppy Device 0: Empty Controller: IDE IDE Primary Master: FreeDOS.vdi (Normal, 500.00 MB) IDE Secondary Master: [CD/DVD] fd11src.iso (38.94 MB)	
	Host Driver: Windows DirectSound Controller: SoundBlaster 16	
	Ca ment	).

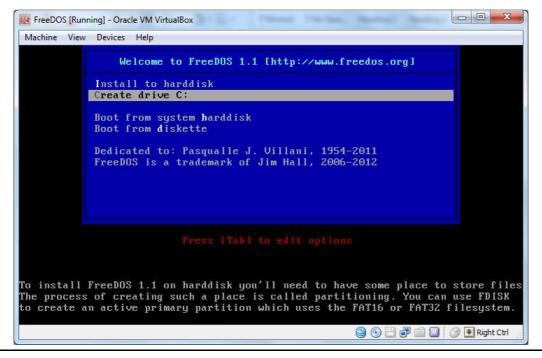
1. Check the option "**Do not show this message again**", and click "**OK**" when you are presented with the following:



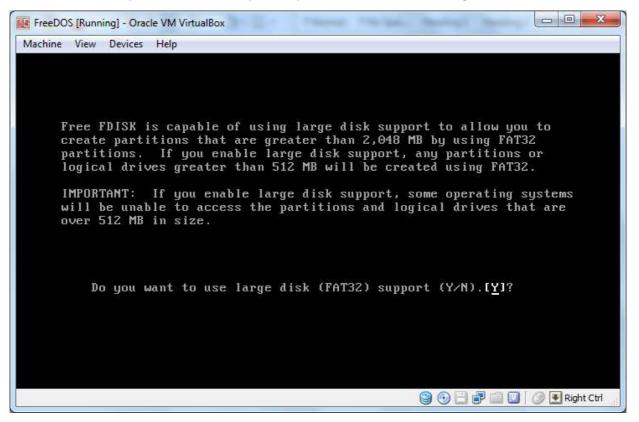
25. Check "Do not show this message again" option, and click "OK" in order to get pass the following:

🔣 Virtu	alBox - Information
0	The Virtual Machine reports that the guest OS supports <b>mouse</b> <b>pointer integration</b> . This means that you do not need to <i>capture</i> the mouse pointer to be able to use it in your guest OS all mouse actions you perform when the mouse pointer is over the Virtual Machine's display are directly sent to the guest OS. If the mouse is currently captured, it will be automatically uncaptured.
	The mouse icon on the status bar will look like $\bigotimes$ to inform you that mouse pointer integration is supported by the guest OS and is currently turned on.
	<b>Note:</b> Some applications may behave incorrectly in mouse pointer integration mode. You can always disable it for the current session (and enable it again) by selecting the corresponding action from the menu bar.
	👿 Do not show this message again
	ОК

- 26. Remember to press the "**Right Ctrl**" key if you ever find yourself stuck inside the "**FreeDOS**" Guest Operating System windows. This will take you back to your Host Operating System and you could move your mouse again.
- 27. Point your mouse and click on the "FreeDOS" Guest Operating System windows, use the arrow key to select "Create drive C:" and then press "Enter" when you are presented with the following:



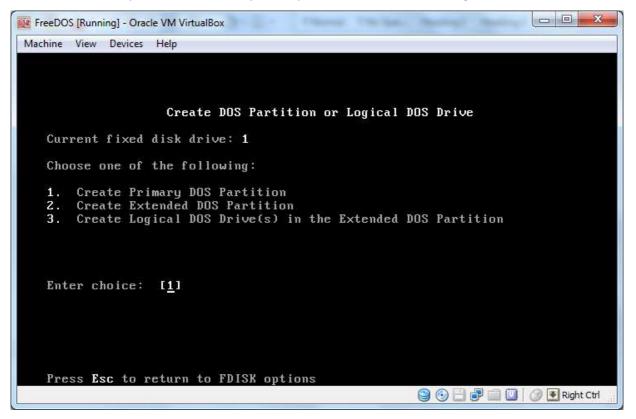
28. Press "Y", and then press "Enter" when you are presented with the following:



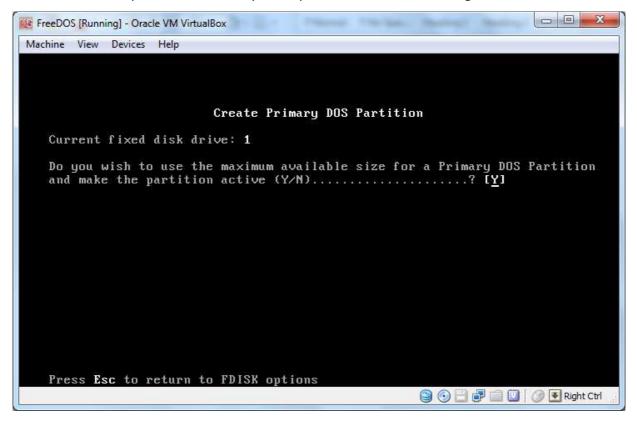
29. Press "1", and then press "Enter" when you are presented with the following:

Machine View Devices Help	
Free FDISK Version 1. Fixed Disk Setup Progra GNU GPL Copyright Brian E. Reifsnyd	m
FDISK Options	
Current fixed disk drive: 1	
Choose one of the following:	
<ol> <li>Create DOS partition or Logical DOS Drive</li> <li>Set Active partition</li> <li>Delete partition or Logical DOS Drive</li> <li>Display partition information</li> </ol>	
Enter choice: [ <u>1</u> ]	
Press Esc to exit FDISK	
	일 💽 🔡 🗗 🛄 🛄 🧷 Right Ctrl

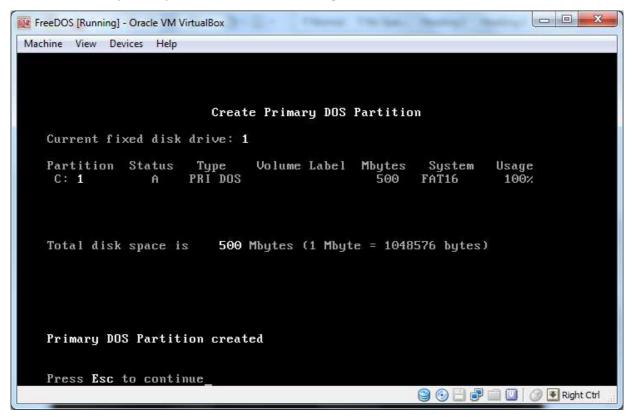
30. Press "1", and then press "Enter" when you are presented with the following:



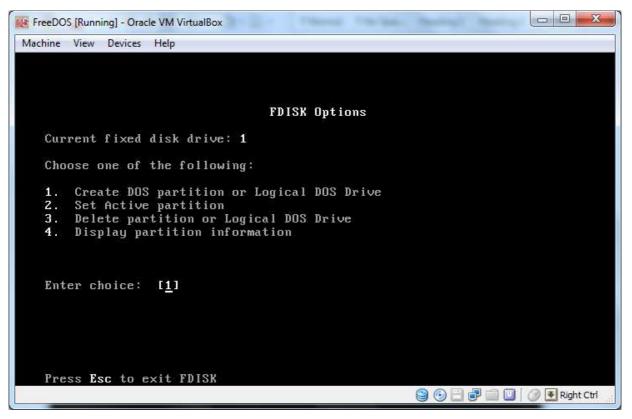
31. Press "Y", and then press "Enter" when you are presented with the following:



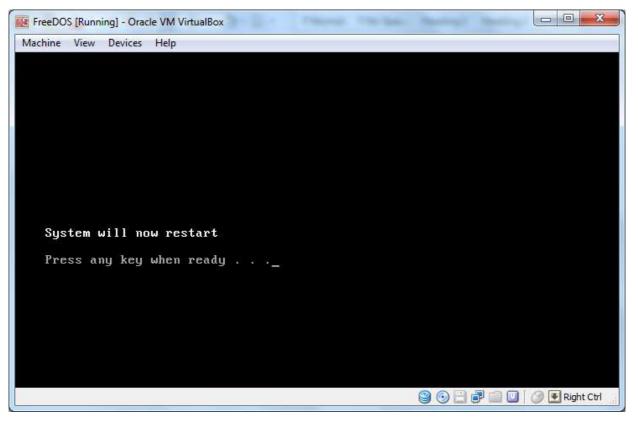
32. Press "Esc" when you are presented with the following:



33. Press "Esc" again when you are presented with the following:



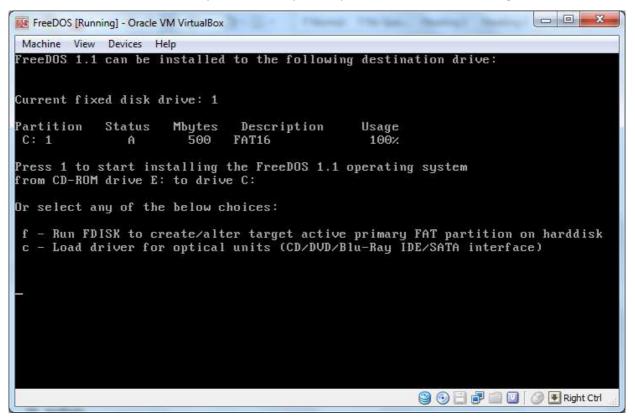
34. Press any key to reboot the Guest Operating System when you are presented with the following:



35. Use the arrow key to select "**Install to harddidk**", and then press "**Enter**" when you are presented with the following:

	ing] - Oracle VM VirtualBox
Machine View	Devices Help
	Welcome to FreeDOS 1.1 [http://www.freedos.org]
	Install to harddisk Create drive C:
	Boot from system harddisk Boot from diskette
	Dedicated to: Pasqualle J. Villani, 1954-2011 FreeDOS is a trademark of Jim Hall, 2006-2012
	Press [Tab] to edit options
	FreeDOS 1.1 operating system from CD-ROM (or image file) to harddisk
	rocess is able to format drive/volume C:, copy/unpack files, as well the necessary code and configuration files to startup from harddisk.
	😂 🕢 🗗 🕼 🚺 🖉 Right Ctrl 💡

36. Press "1" to start the installation process when you are presented with the following:



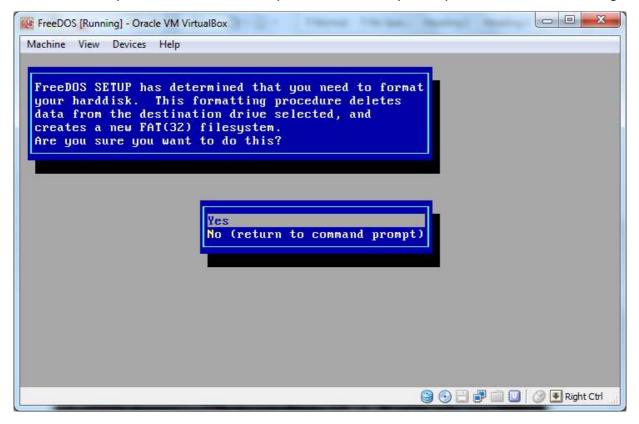
37. Use the arrow key to select "**More choices**", and then press "**Enter**" when you are presented with the following:

FreeDOS [Running] - Oracle VM Virtua Machine View Devices Help Please select your lang	uage and keyboard layout	
	1) English (US)2) Deutsch (German)3) Francais (French)4) Polski (Polish)5) Nederlands (Dutch)6) Italiano (Italian)7) Svensk (Swedish)8) Portuguese (Portuguese)9) Español (Spanish)10) Russian (Russian)11) More choices	
		🕽 🥥 💽 Right Ctrl 📊

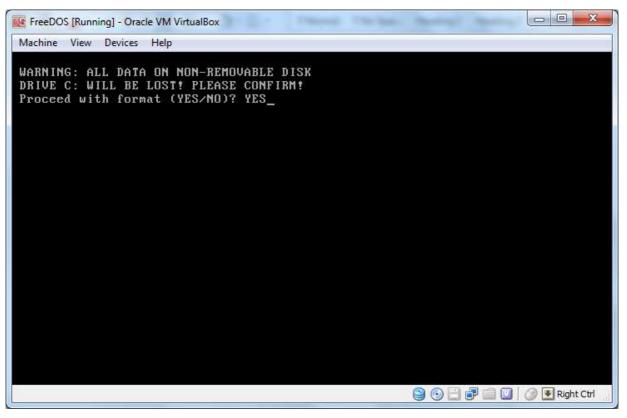
38. Type "20" to set the location as UK, and then press "Enter" when you are presented with the following:

FreeDOS [Running] - Oracle	VM VirtualBo	x	
Machine View Devices H	lelp		
1-Armenia 22-Azerb	a i jan	43-Bosnia & Herz.	64-Albania (Deadkey)
2-Belarus 23-Brazi	I (ABNT)	44-Bulgaria (101k)	65-Albania (No deadkey)
3-Belgium 24-Brazi	1 (US)	45-Bulgaria (102k)	66-Canada (Dual-layout)
4-Croatia 25-Canad	a (Std)	46-Canada (Leg.)	67-Czech Rep. (101k)
5-Denmark 26-Czech	Rep.	47-Greece (101k)	68-Esperanto (UK kbd)
6-Estonia 27-Faero	e Isl.	48-Hungary (101k)	69-Esperanto (US kbd)
7-Finland 28-Greec	e (220)	49-Hungary (102k)	70-France (NumPad ",")
8-France 29-Greec	e (319)	50-Iceland (101k)	71-Germany (Dual-layout)
9-Georgia 30-Kazak	hstan	51-Iceland (102k)	72-Italy (NumPad ",")
10-Germany 31-Kyrgy	zstan	52-Lithuania (101k)	73-Latvia (Dual-layout)
11-Ireland 32-L. Am	erica	53-Lithuania (Std)	74-Lithuania (Azerty)
12-Italy 33-Mongo	lia	54-Malta (UK kbd)	75-Lithuania (Baltic)
13-Japan 34-Nethe		55-Malta (US kbd)	76-Lithuania (Dual-layout)
14-Latvia 35-Phili	ppines	56-Poland (101k)	77-Macedonia (FYROM)
15-Norway 36-Portu		57-Poland (102k)	78-Russian Fed. (Typew.)
16-Romania 37-Russi	an Fed.	58-Romania (Qwerty)	79-Serbia & Mont. (Deadkey)
17-Spain 38-Slova	kia	59-Turkey (Qwerty)	80-Serbia & Mont. (No deadkey)
18-Sweden 39-Slove	nia	60-UK (Alternate)	81-Switzerland (Fr)
19-Turkey 40-US (D	vorak)	61-Ukraine (101k)	82-Switzerland (Gr)
20-UK 41-US (I	ntl.)	62-Ukraine (102k)	83-UK (Scot. gaelic)
21-US 42-Uzbek	istan	63-Ukraine (Tatar)	84-US (Left-Hand Dvorak)
			85-US (Right-Hand Dvorak)
			me which best describes
your current locati	on (conf	irm input by pressing	g ENTER):20_
			😂 🕟 💾 🗗 🧰 💟 🛛 🔗 💽 Right Ctrl 🔄
L			

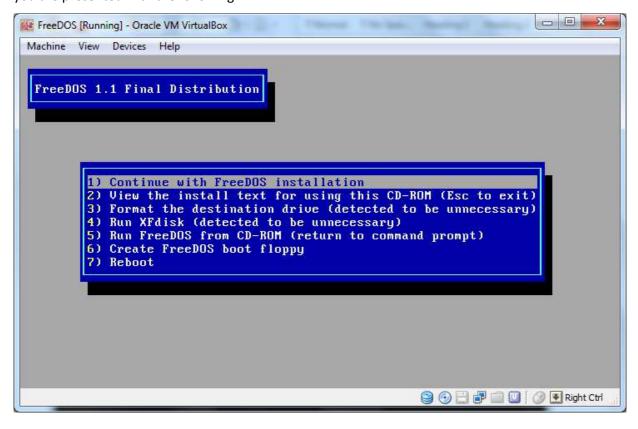
39. Use the arrow key to select "Yes", and then press "Enter" when you are presented with the following:



40. Type "YES", and then press "Enter" when you are presented with the following:

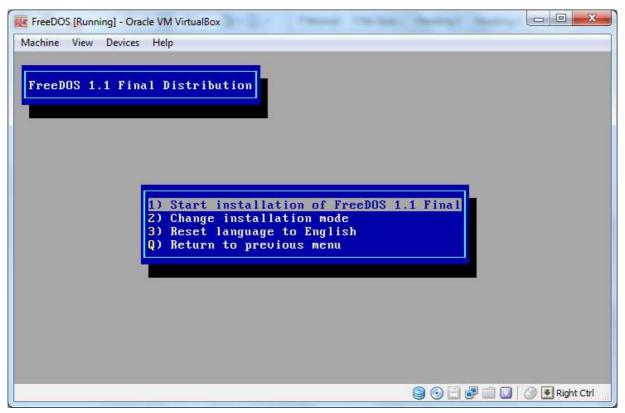


41. Use the arrow key to select **"1) Continue with the FreeDOS installation**", and then press **"Enter**" when you are presented with the following:

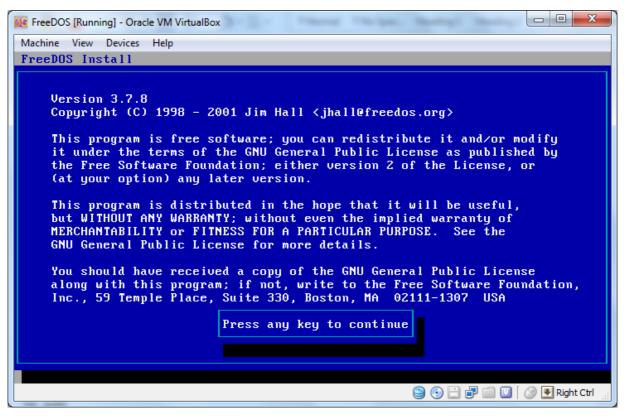


42. Use the arrow key to select "1) Start installation of FreeDOS 1.1 Final", and then press "Enter" when

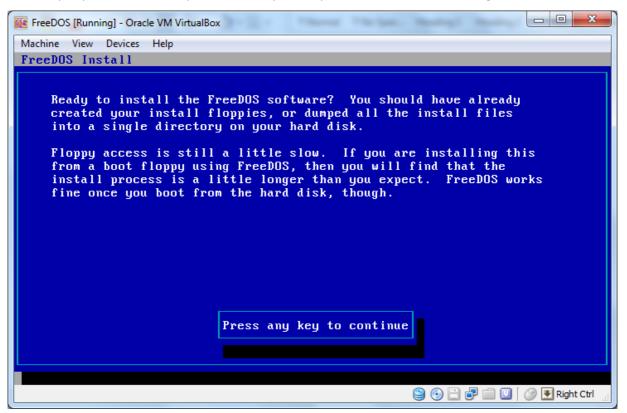
you are presented with the following:



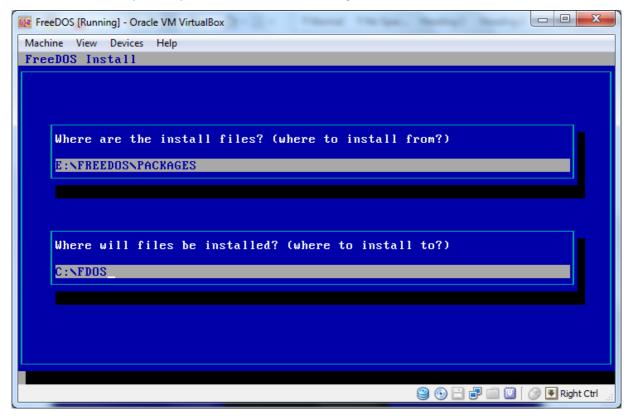
43. Press any key to continue the process when you are presented with the following:



44. Press any key to continue the process when you are presented with the following:



45. Press "Enter" when you are presented with the following:



46. Use the arrow key to select "Yes", and then press "Enter" when you are presented with the following:

FreeDOS [Running] - Oracle VM VirtualBox
Machine View Devices Help
FreeDOS Install
Where are the install files? (where to install from?)
E : NFREEDOSNPACKAGES
Where will files be installed? (where to install to?)
C:NFDOS
Are above directories correct? Yes
No
😂 🚱 💾 🗗 💹 🛛 🖉 Right Ctrl 🛒

47. Use the arrow key to move to different section, and press "Space Bar" to select all the packages with

"[X]" when you are presented with the following:

FreeDOS [Running] - Oracle VM VirtualBox	See . I therease	Conciliante da	and the second	
Machine View Devices Help				
FreeDOS Install				
[X] base [X] boot	[X] gui	[X] net	[X] util	
	< <u>D</u> ONE>			
		0		
		9		Right Ctrl

Make sure all are selected as "[X] base", "[X] boot", "[X] gui", "[X] net" and "[X] util" as shown above.

48. Press "Enter"

- FreeDOS [Running] Oracle VM VirtualBox

   Machine View Devices Help

   FreeDOS Install

   IXI base

   IXI base

   IXI base

   IXI boot

   IXI base

   IXI base
- 49. Use the arrow key to select "**Yes**", and then press "**Enter**" when you are presented with the following:

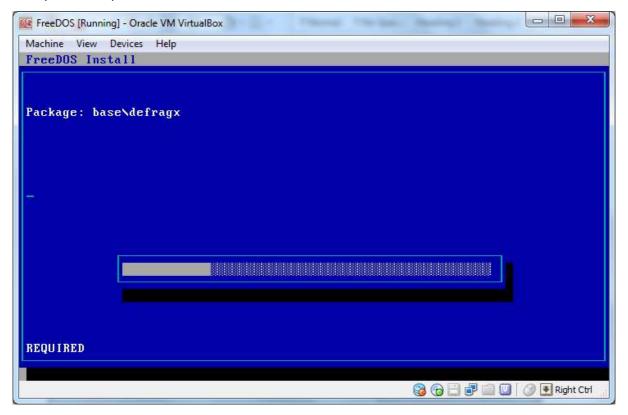
50. Press "Enter" when you are presented with the following:

FreeDOS [Running] - Oracle Machine View Devices FreeDOS Install				
[X] chkdskx [X] cwsdpmix [X] diskcpyx [X] exe2binx [X] fdupdatx [X] helpx [X] helpx [X] keybx [X] modex [X] nlsfuncx	<pre>( [X] debugx ( [X] displayx ( [X] fasthlpx ( [X] findx [X] himemxx [X] labelx</pre>	<pre>[X] assignx [X] compx [X] defragx [X] dosfsckx [X] fcx [X] fourdosx [X] infozipx [X] lbacachx [X] movex [X] printqx</pre>	<pre>[X] attribx [X] cpidosx [X] deltreex [X] dskcompx [X] fdapmx [X] fxms286x [X] installx [X] memx [X] mtcpx</pre>	<pre>[X] deuloadx [X] edlinx [X] fdpkgx [X] graphicx [X] jemmexx [X] mirrorx [X] nansix [X] replacex</pre>

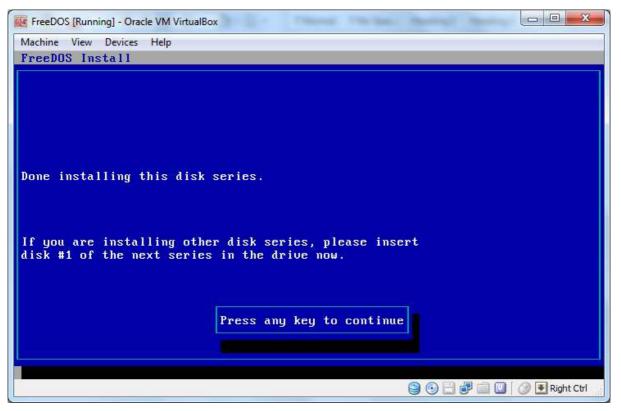
51. Use the arrow key to select "Yes", and then press "Enter" when you are presented with the following:

FreeDOS [Running] - Oracle VM Virt	ualBox	
Machine View Devices Help		
FreeDOS Install		
[X]       localizx       [X]         [X]       chkdskx       [X]         [X]       cwsdpmix       [X]         [X]       diskcpyx       [X]         [X]       diskcpyx       [X]         [X]       diskcpyx       [X]         [X]       exe2binx       [X]         [X]       fdupdatx       [X]         [X]       helpx       [X]         [X]       helpx       [X]         [X]       helpx       [X]         [X]       modex       [X]         [X]       nlsfuncx       [X]         [X]       ripcordx       [X]         [X]       substx       [X]	choicex [X] compx debugx [X] defragx displayx [X] dosfsckx fasthlpx [X] fcx findx [X] fourdosx himemxx [X] infozipx labelx [X] lbacachx morex [X] movex printx [X] printqx	<pre>[X] dskcompx [X] edlinx [X] fdapmx [X] fdpkgx [X] fxms286x [X] graphicx [X] installx [X] jemmexx [X] memx [X] mirrorx [X] mtcpx [X] nansix [X] recoverx [X] replacex</pre>
	Proceed with install Yes No	lation?
		😂 💿 💾 🗗 🛄 💟 🛛 🖉 Right Ctrl 🚽

52. Please wait for the installation process to continue as this step will take a while to complete. During this time you will be presented with a series of screen similar to the one shown below:

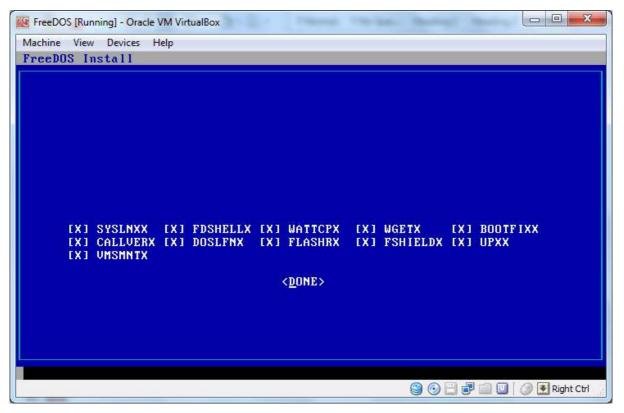


53. Press any key to continue the process when you are presented with the following:



You will have to repeat pressing any key for about four times before you get to the next stage.

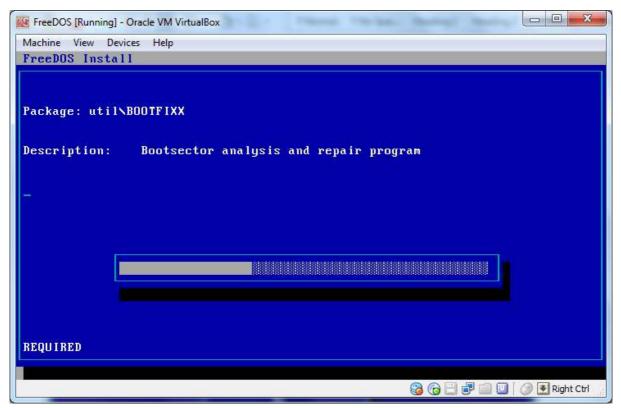
54. Press "Enter" when you are presented with the following:



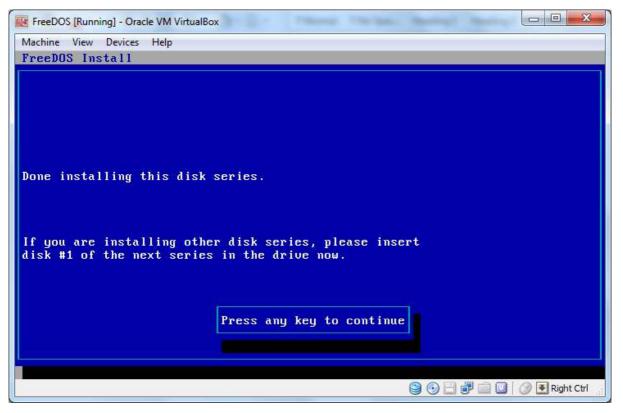
FreeDOS [Running] - Oracle VM Vir	rtualBox	
Machine View Devices Help FreeDOS Install		
IXI SYSLNXX IXI IXI CALLUERX IXI IXI UMSMNTX		[X] WGETX [X] BOOTFIXX [X] FSHIELDX [X] UPXX
	<done></done>	
	Proceed with instal Yes No	lation?
		🧐 💽 📄 🗗 🛄 💟 🛛 🖉 Right Ctrl

55. Use the arrow key to select "Yes", and then press "Enter" when you are presented with the following:

56. Please wait for the installation process to continue as this step will take a while to complete. During this time you will be presented with a series of screen similar to the one shown below:



57. Press any key to continue the process when you are presented with the following:



58. Please wait for a few seconds for the installation to finalize, and then press "1" in order to select the option "1) Write FreeDOS specific code to this area so KERNEL.SYS will be loaded" when you are presented with the following:

FreeDOS [Running] - Oracle VM VirtualBox
Machine View Devices Help
[+] Stage 3 : Create startup automation file [+] Stage 4 : Setting up translated programs. [+] Stage 5 : Setup all packages. [+] Stage 6 : Done, reboot system? FreeDOS System Installer v3.7a, Aug 10 2011 FreeDOS System Installer v3.7a, Aug 10 2011
Processing boot sector FAT type: FAT16
System transferred. C:\FDOS\bin\syslinux.cfg => C:\FDOS\syslinux.cfg
For your convenience the contents of drive C:'s bootsector area has been saved (restore by "SYS C: /BOOTONLY /RESTORBS C:\FDOS\BOOTSECT.BSS"). Currently it seems to contain code belonging to FreeDOS
Please select what to do with the bootsector (also known as Volume Boot Record)
<ol> <li>Write FreeDOS specific code to this area so KERNEL.SYS will be loaded</li> <li>Install and configure the Syslinux bootloader with its startup code</li> <li>Try to integrate FreeDOS into the system's current bootloader (experimental)</li> <li>Skip updating and restart system from harddisk</li> <li>Skip updating and finalise installation by dropping to commandline.</li> <li>Please select now:_</li> </ol>
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59. Check the option "Do not show this message again", and then click "OK" when you are presented with

the following:

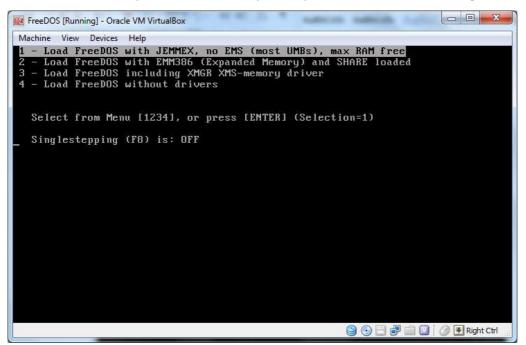


- 60. The "FreeDOS" Guest Operating System will now reboot.
- 61. After the Guest Operating System resume from reboot, use the arrow key to select the option "**Boot** from system harddisk", and press "Enter" when you are presented with the following:

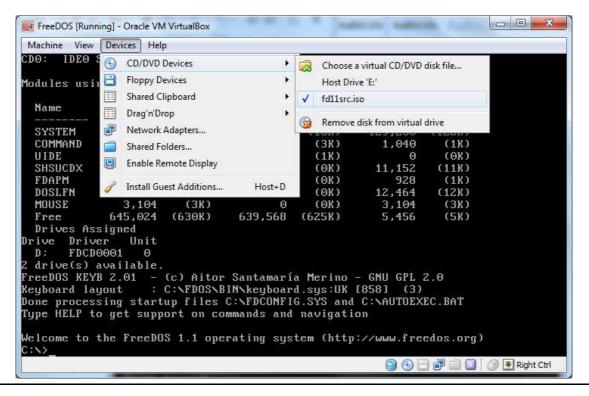


62. Use the arrow key to select the option "1 – Load FreeDOS with JEMMEX, no EMS (most UMBs), mas

RAM free", and then press "Enter" when you are presented with the following:



- 63. We will now un-mount the installation ".iso" disk image. Otherwise, you will be greeted with the screen shown in **Step 61** every time you start the "**FreeDOS**" Guest Operating System. Since we have now successfully installed the Guest Operating System, we no longer need this installation disk image.
- 64. Click "Devices -> CD/DVD Devices", and then click on "fd11src.iso" to un-mount the installation disk image as shown below:



65. Now type "**reboot**", and then press "**Enter**" as shown below:

Welcome to the FreeDOS 1.1 operating system (http://www.freedos.org) C:\>reboot

- 66. Now you will be taken a screen as shown in **Step 62** every time you start the "**FreeDOS**" Guest Operating System.
- 67. Please also note that the CD / DVD drive for "FreeDOS" Guest Operating System is "D:" drive as shown below:



The disk image file (or) actual DVD / DVD media you load from the Windows 7 32-bit Host Operating System will show up under "**D**:" drive inside the "**FreeDOS**" Guest Operating System.

68. To shut down / switch off the "FreeDOS" Guest Operating System, type "shutdown" and then press "Enter" at the "C:\>\_" DOS prompt as shown below:

Welcome to the FreeDOS 1.1 operating system (http://www.freedos.org) C:\>shutdown

69. To start the "FreeDOS" Guest Operating System, simply press "Start" as shown below:

ile <u>M</u> achine <u>H</u> elp		
New Settings Start Disc		Details Details
FreeDOS Powered Off	General Name: FreeDOS Operating System: DOS	Preview
	System Base Memory: 32 MB Execution Cap: 50% Boot Order: Floppy, CD/DVD-ROM, Hard Disk Acceleration: VT-x/AMD-V, Nested Paging	
	Display Video Memory: 5 MB Remote Desktop Server: Disabled	
	Storage Controller: Floppy Floppy Device 0: Empty Controller: IDE IDE Primary Master: FreeDOS.vdi (Normal, 500.00 MB) IDE Secondary Master: [CD/DVD] Empty	
	Audio Host Driver: Windows DirectSound Controller: SoundBlaster 16	

70. Now "FreeDOS" Guest Operating System is ready to be used for Serial Port communication. You will be using **COM1** of the "FreeDOS" Guest Operating System which will be **COM5** of the "Windows 7" Host Operating System as we have mapped in **Step 13**. Inside the Guest Operating System, **COM1** will appear as a legacy serial port with legacy I/O resources. Now you could run application inside the Guest Operating System which required legacy serial port resources by using **COM1**.

## **1. Version History**

Version	Date	Author	Checked By	Comments
1	12/06/2013	Seng Seng Du	R&D	