



Virtualization with VMware Workstation 4 Installing FreeDOS Guest OS



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This document will help you install **FreeDOS** Guest Operating System under **Windows 7 32-bit** Host Operating System using VMware Workstation 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 "VMware Workstation" application by clicking Start -> All Programs -> VMware -> VMware Workstation as shown below:



Alternatively, you could also run "VMware Workstation" application by double-clicking on the desktop icon:



4. If you are running the application for the first time, you will be presented with the following:



Choose "Yes, I accept the terms in the licence agreement", and then click "OK"

5. Click "<u>C</u>lose" when you are presented with the following:

VMware Workstation Activation		X
	Thank you for evaluating VMware Workstation! Your evaluation period ends in 28 days.	
	30 28 days left 0	
	Step 1: Buy VMware Workstation Purchase a license key online at the VMware Store.	Buy Now
VMware*	Step 2: Enter license key Enter your license key to activate VMware Workstation.	Enter License Key
Workstation 9	Step 3: Register your version of VMware Workstation Receive the latest information and announcements about VMware, Inc. products and services, and the opportunity to receive 30 days of complimentary Web-based support.	Register
		Gose

If you have a full licence product and would like to register for update, you could do so. We will not be covering that option in our demonstration.

 You will then be presented with the following and ready to begin the installation of the "FreeDOS" Guest Operating System:



7. Click "Create a New Virtual Machine"



8. Choose "Typical (recommended)" option, and click "Next" when you are presented with the following:



9. Select "Installer disc image file (iso):" option from the "Install from:" option when you are presented

with the following:

A virtual machin system. How w	System Ins ne is like a ph ill you install	stallation sical computer the guest opera	; it needs an o ating system?	perating
nstall from:				
🔘 Installer <u>d</u> isc:				
DVD RW Driv	e (E:)		*	
Tinstaller disc imag	e file (iso):			
			+	Browse
Select the ins	staller disc im	age to continue	•	Browse,
Select the ins	taller disc im	age to continue em later.	•	Browse

 Click "Browse..." and 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:



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**.

11. Click "<u>N</u>ext" when you are presented with the following:

Install from: Installer disc: DVD RW Drive (E:) Installer disc image file (iso):	Ŧ
Installer disc: DVD RW Drive (E:) Installer disc image file (iso):	*
DVD RW Drive (E:) Installer disc image file (iso):	Ŧ
Installer disc image file (iso):	
C:\Users\Test\Desktop\fd11src.iso	▼ Browse
Could not detect which operating system is in thi You will need to specify which operating system	s disc image. will be installed.
I will install the operating system later.	
The virtual machine will be created with a blank hard	disk.

12. Select "Other" under "Guest operating system" section, select "MS-DOS" from the drop-down list under "Version" section, and then click "Next >"

ew Virtual Ma	chine Wizard	
Select a G Which	Jest Operating System operating system will be installed on this virtual ma	chine?
Guest operati	ig system	
Microsoft V	indows	
C Linux		
O Noveli Net	Vare	
Sun Solaris		
O VMware ES	X	
0 Other		
Version		
MS-DOS		*
Help	< <u>B</u> ack Next >	Cancel

13. Give the name of the virtual machine to be created and the location where it is going to reside on your

PC / laptop, then click "Next >" when you are presented with the following:

What name would you like	to use for this virtual machin	e?
Irtual machine name:		
FreeDOS		
ocation:		
C:\Users\Test\Documents\Virtua	al Machines\FreeDOS	Browse

14. Choose the option "Store virtual disk as a single file", and then click "Next >" when you are presented

with the following:

Specify Disk Capacity How large do you want	t this disk to be?
The virtual machine's hard di computer's physical disk. The add applications, files, and d	sk is stored as one or more files on the host ese file(s) start small and become larger as you lata to your virtual machine.
Maximum disk <u>s</u> ize (GB):	2.0 🜲
Recommended size for MS-D	OS: 2 GB
Store virtual disk as a sin Split virtual disk into multi Splitting the disk makes it computer but may reduce	gle file ple files t easier to move the virtual machine to another e performance with very large disks.
Help	< Back Next > Cance

15. Click "<u>Customize Hardware...</u>" when you are presented with the following:

he virtual machine v	vill be created with the following settings:	R
Name:	FreeDOS	201
Location:	C:\Users\Test\Documents\Virtual Machines\FreeDU	
Version:	Workstation 9.0	
Operating Syst	M2-DO2	
Hard Disk:	2 GB	
Memory:	16 MB	
*	III. I	
13 16 18 distr 0		
<u>C</u> ustomize Hardw	are	

16. The purpose of this demonstration is to virtualize "FreeDOS" so that it would give us legacy resources. Therefore, click "<u>Add...</u>" when you are presented with the following:

Memory Processors New CD/DVD (IDE) Floppy Network Adapter Sound Card Display	16 MB 1 Using file C:\Users\Test\Desktop\fd1 Auto detect NAT Auto detect Auto detect Auto detect	Specify the ammachine. The m machine. The m <u>Memory for this</u> 64 GB - 32 GB - 16 GB - 8 GB - 4 GB - 2 GB - 1 GB - 512 MB - 256 MB - 128 MB - 64 MB - 32 MB - 16 MB - 8 MB - 4 MB -	ount of memory allocated to this virtual nemory size must be a multiple of 4 MB. s virtual machine: 16 MB Maximum recommended memory (Memory swapping may occur beyond this size.) 660 MB Recommended memory 16 MB Guest OS recommended minimum 16 MB
_			

17. Under the section "Hardware", highlight on "Serial Port" and then click "Next" when you are presented

with the following:

What type of hardware do y	you want to install?
Hardware CD/DVD Drive Floppy Drive Wetwork Adapter USB Controller Sound Card Parallel Port Serial Port Printer Generic SCSI Device	Explanation Add a serial port.

18. Choose the option "Use <u>p</u>hysical serial port on the host", and click "<u>Next</u> >" when you are presented with the following:

Serial Port Type What media should th	is serial port access	20	
Serial port			
Use physical serial port or	the host		
🔘 Output to <mark>f</mark> ile			
Output to named pipe			
	2		

19. Choose the serial port of the add-in / add-on card installed in your Host Operating System from the "<u>P</u>hysical serial port" drop down list, select the option "Connect at power <u>o</u>n", then click "Finish" when you are presented with the following:

Select a Physical Seria What physical device	al Port should this	s <mark>serial p</mark> ort	connect to?	
Physical serial port				
COM4		•		
Device status				
Connect at power on				

Please note that for this demonstration, the Host Operating System has an ExpressCard product **XC-475** installed with one Serial Port which is loaded as **COM4**, and one Parallel Port which is loaded as **LPT3**. They are installed as "**COM4**" and "**LPT3**" in my machine as shown below:

Ports (COM & LPT)
 Brainboxes ECP Parallel Port (XC-475) (LPT3)
 Brainboxes RS-232 Serial Port (COM4)

You might have a different COM Port label **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 the Serial Port of **XC-475** as **COM5** on your machine, you will have to select "**COM5"** from "<u>Physical serial port</u>" drop-down list.

20. Click "<u>A</u>dd..." when you're presented with the following:

Device	Summary	Device status
Memory	16 MB	Connected
Processors	1	Connect at power on
New CD/DVD (IDE)	Using file C:\Users\Test\Desktop\fd1	Connection
Floppy	Auto detect	
Network Adapter	NAT	Use physical serial port:
Sound Card	Auto detect	COM4 👻
Serial Port	Using port COM4	O Use output file:
		Browse Use named pipe: This end is the server. The other end is a virtual machine. I/O mode Yield CPU on poll Allow the quest operating system to use this serial
•	₩ →	port in polled mode (as opposed to interrupt mode).

21. Under the section "Hardware", highlight on "Parallel Port" and then click "Next >" when you are presented with the following:

Hardware Type What type of hardware do yo	ou want to install?
Iardware CD/DVD Drive Floppy Drive Network Adapter USB Controller Sound Card Parallel Port Serial Port Serial Port Generic SCSI Device	Explanation Add a parallel port.
	< Bade Next >

22. Select the option "Use physical parallel port on the host", and click "Next >" when you are presented

with the following:

Parallel Port Type What media should t	his parallel port access	2	
Parallel port			
Use physical parallel por	t on the host		
Output to file			

23. Choose the parallel port of the add-in / add-on card installed in your Host Operating System from the "Physical parallel port" drop down list, select the option "Connect at power on", then click "Finish" when you are presented with the following:

What physical device	liel Port should this parallel p	ort connect to?	
Physical parallel port			
LPT3	•		
Device <mark>status</mark>			
Connect at power on			

You might have a different LPT Port label LPT4, LPT5 and so on. Please select the correct LPT Port label to map accordingly by checking the "Ports (COM & LPT)" section under Device Manager as described in Step 16. For example, if you have installed the Serial Port of XC-475 as LPT4 on your machine, you will have to select "LPT4" from "Physical parallel port" drop-down list.

24. Click "Close" when you are presented with the following:

Device	Summary	Device status
Memory Processors New CD/DVD (DE) Floppy Network Adapter Sound Card Parallel Port Serial Port Display	16 MB 1 Using file C:\Users\Test\Desktop\fd1 Auto detect NAT Auto detect Using port LPT3 Using port COM4 Auto detect	© Connected ✓ Connect at power on Connection
<	тт •	

- 25. Please note that the label "Serial Port" under the "Device" column indicates that you would have to use "COM1" in the Guest Operating System in order to access the add-in / add-on serial port "COM4" of the Host Operating System. Remember to use "COM1" when you are running your own application inside the Guest Operating System. If what you see on Step 24 says "Serial Port 2", then you would have to use "COM2", for "Serial Port 3" use "COM3", and for "Serial Port 4" use "COM4" inside the virtual machine and so on.
- 26. Click "Finish" when you are presented with the following:

he virtual machine will be created with the following settings Name: FreeDOS	5:
Name: FreeDOS	
Location: C\Users\Test\Documents\Virtual N	
could be a could be could be could be a could be a could be a could be a coul	Machines\FreeDO
Version: Workstation 9.0	
Operating Syst MS-DOS	1
Hard Disk: 2 GB	
Memory: 16 MB	
٠ (m)	

27. Select and highlight the "FreeDOS" entry, and then click "VM -> Power -> Power On to BIOS" as shown

below:

File Edit View	VM	Tabs Help			
▶ • & ¹	٩	Power	•		Power On Ctrl+B
library		Removable Devices	۶		Power Off Ctrl+E
Q Type here to s		Pause	Ctrl+Shift+P	11	Suspend Ctrl+J
 □ Index to s □ Index to s □ My Comput □ FreeDOS □ Shared VMs 	8	Send Ctrl+Alt+Del Grab Input	Ctrl+G	63	Reset Ctrl+R Start Up Guest
	ß	Snapshot Capture Screen Ctr Capture Movie	• ri+Alt+PrtScn		Shut Down Guest Suspend Guest Restart Guest
	Þ	Manage Install VMware Tools	٠	Γ	Power On to BIOS
	67	Settings	Ctrl+D	5B ing	file C:\Use

28. Place and press the mouse in the area of the guest operating system (for identification purpose it is marked as the area inside the **red rectangular** in the screen shown below) in order to start the installation process when you are presented with the following:

Phoeni Main Advanced Securit	xBIOS Setup Utility y Boot Exit			
	di com	Item Specific Help		
System Date:	[06/07/2013]	(Tab), (Shift-Tab), or		
Legacy Diskette A: Legacy Diskette B:	[1.44/1.25 MB 3½"] [Disabled]	(Enter) selects field.		
Primary Master Primary Slaws	[None]			
 Secondary Master Secondary Slave 	[VMware Virtual ID] [VMware Virtual ID]			
▶ Keyboard Features				
System Memory: Extended Memory: Boot-time Diagnostic Screen:	640 KB 15360 KB [Disabled]			
F1 Help 74 Select Item -	/• Change Values	F9 Setup Defaults		

Remember to press the "**Ctrl + Alt**" 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.

29. Use the arrow key to move to the "**Boot**" option as shown below:

Main	Advanced	Phoen ixBIC Security	S Setup Boot	Utility Exit	
+Rem	ovable Device				Item Specific Help
+Han CD- Net	d Drive ROM Drive work boot fro	n AMD Am79C976	Ĥ		Keys used to view or configure devices: <enter> expands or collapses devices with a + or - <ctrl+enter> expands all <+> and <-> moves the device up or down. <n> May move removable device between Hard Disk or Removable Disk <d> Remove a device that is not installed.</d></n></ctrl+enter></enter>
F1 Hel Esc Exi	p 14 Selec t ↔ Selec	t Iten -/+ t Menu Enter	Change Select	Values • Sub-M	F9 Setup Defaults enu F10 Save and Exit

30. Use the arrow key to select "CD-ROM Drive" as shown below:

Main Advanced	O	STREET, STREET	nilling	
	Security	Boot	Exit	
*Removable Devices			1	Item Specific Help
+Hard Drive CD-ROM Drive Network boot from f	and am790970a			Keys used to view or configure devices: <enter> expands or collapses devices with a * or - <ctrl+enter> expands all <+> and <-> moves the device up or down. <n> May move removable device between Hard Disk or Removable Disk <d> Remove a device that is not installed.</d></n></ctrl+enter></enter>

31. Press "+" key so that the "CD-ROM Drive" is located above "+Hard Drive" as shown below (NOTE: You have to press "Shift" key. Otherwise you will probably end up pressing "=" instead and this will not move the option selected from its current place.):

			Phoe	nixBIOS	Setup	Utility	
Main	n Adva	nced	Secur	ity	Boot	Exit	
	Removable	Deutces					Item Specific Help
+	Nemovavie CD-ROM Dri Hard Drive Network bo	ot from	AMD Am	79C970A	E		Keys used to view or configure devices: <enter> expands or collapses devices with a + or - <ctrl+enter> expands all <+> and <-> moves the device up or down. <n> May move removable device between Hard Disk or Removable Disk <d> Remove a device that is not installed.</d></n></ctrl+enter></enter>
F1 Esc	Help 14 Exit 🕶	Select Select	Item Menu	-/+ Enter	Change Select	Values • Sub-M	F9 Setup Defaults enu F10 Save and Exit

32. Use the arrow key to move to "Exit" option as shown below:

			Phoeni	×BIOS	Setup	Utility		
Ha i	n Adv	anced	Secur it	.y	Boot	Exit		
Exi	t Saving (Changes					Item S	pecific Help
Exi Loa Dis Sav	t Discard d Setup D card Chan e Changes	ing Chan efaults ges	ges				Exit Sys save you CMOS.	item Setup and ir changes to
F1	Help 11	Select	Iten	-/+	Change	Values	F9	Setup Defaults
Esc	Exit	Select	Nenu I	inter	Execut	e Command	F10	Save and Exit

33. Press "Enter", use the arrow key to select the "[Yes]" option, and then press "Enter" again when you

are presented with the following:

		PhoenixBIC	IS Setup L	ltility	
Main	Advanced	Security	Boot	Exit	
Fylt Sa	uina Channes				Item Specific Help
Exit Di Load Se Discard Save Ch	scarding Chan tup Defaults Changes anges	iges			Exit System Setup and save your changes to CMOS.
		Setup (Confirmati	ion	
	Save	configuration [<mark>Yes</mark>]	n changes D	and exit	t now?
		Space Select	1	ater A	ceat
		opine derect		ancer in	acept

34. Place and press the mouse in the area of the guest operating system (for identification purpose it is marked as the area inside the **red rectangular** in the screen shown below) in order to start the installation process when you are presented with the following:

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

- 35. Remember to press the "**Ctrl + Alt**" 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.
- 36. Use the arrow key to select "**Create drive C:**" and then press "**Enter**" when you are presented with the following:



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

Free FDISK is capable of using large disk support to allow you to create partitions that are greater than 2,048 MB by using FAT32 partitions. If you enable large disk support, any partitions or logical drives greater than 512 MB will be created using FAT32. IMPORTANT: If you enable large disk support, some operating systems will be unable to access the partitions and logical drives that are over 512 MB in size. Do you want to use large disk (FAT32) support (Y/N).[Y]? 38. Press "1", and then press "Enter" when you are presented with the following:



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



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



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



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



43. Press any key to reboot the guest operating system when you are presented with the following:



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

the following:



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

FreeDOS 1.1 can be installed to the following destination drive: Current fixed disk drive: 1 Partition Status Mbytes Description Usage 2048 FAT32 ext Int13 100% C: 1 Press 1 to start installing the FreeDOS 1.1 operating system from CD-ROM drive E: to drive C: Or select any of the below choices: f - Run FDISK to create/alter target active primary FAT partition on harddisk c - Load driver for optical units (CD/DVD/Blu-Ray IDE/SATA interface)

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

2) Deutsch (German) 3) Francais (French)
3) Francais (French)
5) Nederlands (Dutch)
6) Italiano (Italian)
7) Svensk (Swedish)
8) Portuguese (Portuguese)
9) Español (Spanish)
10) Russian (Russian)

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

	~~	40 0 1 0 11	
1-Hrmenia	22-Hzerbaijan	43-Bosnia & Herz.	64-HIbania (Deadkey)
2-Belarus	23-Brazil (ABNT)	44-Bulgaria (101k)	65-Albania (No deadkey)
3-Belgium	24-Brazil (US)	45-Bulgaria (102k)	66-Canada (Dual-layout)
4-Croatia	25-Canada (Std)	46-Canada (Leg.)	67-Czech Rep. (101k)
5-Denmark	26-Czech Rep.	47-Greece (101k)	68-Esperanto (UK kbd)
6-Estonia	27-Faeroe Isl.	48-Hungary (101k)	69-Esperanto (US kbd)
7-Finland	28-Greece (220)	49-Hungary (102k)	70-France (NumPad ",")
8-France	29-Greece (319)	50-Iceland (101k)	71-Germany (Dual-layout)
9-Georgia	30-Kazakhstan	51-Iceland (102k)	72-Italy (NumPad ",")
10-Germany	31-Kyrgyzstan	52-Lithuania (101k)	73-Latvia (Dual-layout)
11-Ireland	32-L. America	53-Lithuania (Std)	74-Lithuania (Azerty)
12-Italy	33-Mongolia	54-Malta (UK kbd)	75-Lithuania (Baltic)
13-Japan	34-Netherlands	55-Malta (US kbd)	76-Lithuania (Dual-layout)
14-Latvia	35-Philippines	56-Poland (101k)	77-Macedonia (FYROM)
15-Norway	36-Portugal	57-Poland (102k)	78-Russian Fed. (Турем.)
16-Romania	37-Russian Fed.	58-Romania (Qwerty)	79-Serbia & Mont. (Deadkey)
17–Spain	38-Slovakia	59-Turkey (Qwerty)	80-Serbia & Mont. (No deadkey)
18-Sweden	39-Slovenia	60-UK (Alternate)	81-Switzerland (Fr)
19-Turkey	40-US (Dvorak)	61-Ukraine (101k)	82-Switzerland (Gr)
20-UK Ó	41-US (Intl.)	62-Ukraine (102k)	83-UK (Scot. gaelic)
21-US	42-Uzbekistan	63-Ukraine (Tatar)	84-US (Left-Hand Dvorak)
			85-US (Right-Hand Dvorak)

Please enter the number corresponding to the name which best describes your current location (confirm input by pressing ENTER):20 $_$

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



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



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



51. 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:

FreeDOS 1.1 Fin	nal Distribution	
	 Start installation of FreeDOS 1.1 Final Change installation mode Reset language to English Return to previous menu 	

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



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



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



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

Where are th	he install files	? (where to i	nstall fro	(?m	
E:NFREEDOSN	PACKAGES				
		ad? (uhana ta	install	o?)	
Where will	files be install	cal twhere to			
Where will C:NFDOS	files be install	ea: tunere to			

56. 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 follow	ing:
--	------

FreeDOS Install					
[X] base	[X] boot	[X] gui	[X] net	[X] util	
		< <u>D</u> ONE>			

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

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

FreeDOS Install					
[X] base	[X] boot	[X] gui	[X] net	[X] util	
	Proce	<done> eed with inst Yes No</done>	allation?		

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

[X] k	ernelx	[X]	commandx	[X]	fdiskx	[X]	formatx	[X]	editx
[X] 1	ocalizx	[X]	appendx	[X]	assignx	[X]	attribx	[X]	cdrcachx
[X] c	hkdskx	[X]	choicex	[X]	compx	[X]	cpidosx	[X]	ctnousex
[X] c	usdpmix	[X]	debugx	[X]	defragx	[X]	deltreex	[X]	deuloadx
[X] d	iskcpyx	[X]	displayx	[X]	dosfsckx	[X]	dskconpx	[X]	edlinx
[X] e	xeZbinx	[X]	fasthlpx	[X]	fcx	[X]	fdapnx	[X]	fdpkgx
[X] f	dupdatx	[X]	findx	[X]	fourdosx	[X]	fxms286x	[X]	graphicx
[X] h	elpx	[X]	himenxx	[X]	infozipx	[X]	installx	[X]	jennexx
[X] k	eybx	[X]	labelx	[X]	Ibacachx	[X]	nenx	[X]	mirrorx
[X] m	odex	[X]	norex	[X]	novex	[X]	mtcpx	[X]	nansix
[X] n	Isfuncx	[X]	printx	[X]	printqx	[X]	recoverx	[X]	replacex
[X] r	ipcordx	[X]	samcfgx	[X]	sharex	[X]	shsucdxx	[X]	sortx
[X] s	ubstx	[X]	treex	[X]	undelx	[X]	uidex	[X]	unfmtx
[X] u	sbdosx	[X]	хсорух	[X]	xmgrx				
				8	(<u>D</u> ONE>				

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

[X] ke	rnelx	[X]	connandx	[X]	fdiskx	[X]	formatx	[X]	editx
[X] lo	calizx	[X]	appendx	[X]	assignx	[X]	attribx	[X]	cdrcachx
[X] ch	kdskx	[X]	choicex	[X]	compx	[X]	cpidosx	[X]	ctmousex
[X] cu	sdpmix	[X]	debugx	[X]	defragx	[X]	deltreex	[X]	deuloadx
[X] dis	skcpyx	[X]	displayx	[X]	dosfsckx	[X]	dskcompx	[X]	edlinx
[X] ex	eZbinx	[X]	fasthlpx	[X]	fcx	[X]	fdapmx	[X]	fdpkgx
[X] fd	updatx	[X]	findx	[X]	fourdosx	[X]	fxms286x	[X]	graphicx
[X] he	lpx	[X]	hinemxx	[X]	infozipx	[X]	installx	[X]	jennexx
[X] ke	ybx	[X]	labelx	[X]	Ibacachx	[X]	nemx	[X]	mirrorx
[X] mo	dex	[X]	morex	[X]	movex	[X]	ntcpx	[X]	nansix
[X] nl:	sfuncx	[X]	printx	[X]	printqx	[X]	recoverx	[X]	replacex
[X] rij	pcordx	[X]	samcfgx	[X]	sharex	[X]	shsucdxx	[X]	sortx
[X] su	bstx	[X]	treex	[X]	undelx	[X]	uidex	[X]	unfmtx
[X] us	bdosx	[X]	хсорух	[X]	xmgrx				
					(DONE>				
			Description		a contrato				
			and services	1 01	Yes	aun	011123		
					No	_			

61. 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:

reeDOS Install
ackage: base\defragx
EQUIRED

62. 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.

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

FreeDOS Install
[X] SYSLNXX [X] FDSHELLX [X] WATTCPX [X] WGETX [X] BOOTFIXX [X] CALLVERX [X] DOSLFNX [X] FLASHRX [X] FSHIELDX [X] UPXX [X] VHSMNTX <done></done>

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



65. 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:

FreeDOS Insta	11
Package: util	NFSHIELDX
Description:	malware action blocker and warner, helps to reduce virus activity on your DOS
-	
с С	
PEQUIPER	
REQUIRED	

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

FreeDOS Install		
Done installing this dis	k series.	
If you are installing ot disk #1 of the next serie	her disk series, please insert es in the drive now.	
	Press any key to continue	

67. 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:

```
[+] 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 u3.7a, Aug 10 2011
FreeDOS System Installer u3.7a, Aug 10 2011
Processing boot sector...
FAT type: FAT32
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)
1) Write FreeDOS specific code to this area so KERNEL.SYS will be loaded
2) Install and configure the Syslinux bootloader with its startup code
3) Try to integrate FreeDOS into the system's current bootloader (experimental)
4) Skip updating and finalise installation by dropping to commandline.
Please select now:_
```

- 68. The "**FreeDOS**" guest operating system will now reboot.
- 69. 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:

Install to harddi: Create drive C:	sk
Boot from system Boot from diskette	harddisk
Dedicated to: Pase FreeDOS is a trade	qualle J. Villani, 1954—2011 емагк of Jiм Hall, 2006—2012

70. 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:



- 71. We will now un-mount the installation ".iso" disk image. Otherwise, you will be greeted with the screen shown in **Step 34** 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.
- 72. Click "VM -> Removable Devices -> CD/DVD (IDE) -> Settings..." as shown below:

🗾 FreeDOS - VMwa	e Workstation					
<u>File E</u> dit <u>V</u> iew	VM Iabs Help					
	U Power +					
Library	Removable Devices	1	CD/DVD (IDE)		Disconnect	
Q Type here to s	Pause Ctrl+Shift+P		Floppy	•	Settings	
	THE 2012/2012 (2012)	1	Network Adapter	•		

73. Select "User physical drive:" option, select "Auto detect" from the drop-down list, and then click "OK"

as shown below:

ardware Options		
Device Memory Processors Hard Disk (IDE) CD/DVD (IDE) Floppy Network Adapter Serial Port Display	Summary 16 MB 1 2 GB Using file C: \Users\Test\Desktop\ Auto detect NAT Auto detect Using port LPT3 Using port COM4 Auto detect	Device status Qonnected Connection Question to the physical drive: Auto detect O Use ISO image file: C::\Users\Test\Desktop\fd11src. Adyanced
	Add <u>R</u> emove	

This step is necessary as the disc image we have loaded from **Step 9 – 11** is a bootable image, and we also set the BIOS boot order **Step 28 – 33** to set CD-ROM Drive the first bootable device. If you load other non-bootable ".iso" disc image, this step will not be necessary, for example when you are trying to transfer the files you need to the "**FreeDOS**" guest operating system environment, etc.

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

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

- 75. Now you will be taken a screen as shown in **Step 70** every time you start the "**FreeDOS**" guest operating system.
- 76. Please also note that the CD / DVD drive for "FreeDOS" guest operating system is "D:" drive as shown below:

Drive	Driver	Unit	
D:	FDCD0001	Θ	l

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.

77. 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

78. To start the "**FreeDOS**" guest operating system, select and highlight "MS-DO" on the left, and then press "**Power on this virtual machine**" as shown below:



Version History

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