dbDOS™ PRO 2

Quick Start Guide

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Printed in the U.S.A.

dbDOS PRO™

Contents

dbDOS™ PRO 2 1

Welcome to dbDOS™ PRO 2 5

What's New in dbDOS™ PRO 2? 6

Installing dbDOS™ PRO 2 7

Activating dbDOS™ PRO 2 9

Using dbDOS_Config.exe 10

Initial dbDOS PRO 2 – Configuration Manager 11

Screen Break down 11

New Configuration 15

Wizard Approach to building a dbDOS™ Windows® shortcut: 16

Step 1: Mounted Drive Configuration: 17

Step 2: Create a mounted drive 18

Creating an Executable configuration: 21

Creating a Command Prompt: 23

Step 3: Regional Settings: 25

Step 4: Printer Settings: 27

Step 5: Display options: 29

Step 6: Launcher & Shortcut Options: 31

Step 7: Test Configuration: 32

Returns to Main page: 33

Configuration Wizard Footer-bar explained: 34

Advanced Approach to building a dbDOS™ Windows® shortcut: 35

Configuration Manager Advanced 36

Configuration Settings and Options: 37

Change Area 1: Configuration Details: 37

Change Area 2: Mounted Drives 38

Creating an Executable configuration: 40

Creating a Command Prompt: 43
Change Area 3: Regional Settings: 44
Change Area 4: Printer Settings: 46
Change Area 5: Display Options: 48
Change Area 6: CPU Options: 49
Change Area 7: Launcher & Shortcut Options: 50
Change Area 7: Footer-bar 50
Returns to Main page: 52
Running dBASE DOS after the dbDOS Configuration Utility (dbDOS_Config.exe) 53
The About… menu item 54
New Features for dbDOS™ 2 55
Paste From Windows (CTRL|F9) 55
Print to dbDOS clipboard (Ctrl-F8). 56
Print screen to dbDOS Clipboard (Ctrl-PrnScr) 58
Quick Keyboard shortcuts 62
Glossary of Terms: 63

Welcome to dbDOS™ PRO 2

dbDOS™ PRO 2 is the fastest way for developers and end-users to continue to use MS-DOS / DOS based programs on the latest and greatest Windows Operating System hardware and software. dbDOS™ uses an advanced DOS Virtual Machine (VM) that enables DOS-based application to run just as they did on specific DOS machines, but while on the latest and greatest hardware and software.

This is an incredible way for individuals and companies to save time and money. Now end-users of dbDOS™ PRO 2 can deploy their existing DOS-based dBASE applications on almost any hardware and Microsoft® Windows® Operating System (XP, 2003, Vista, 2008, and 7) either 32 or 64 bit editions. This is done without changing any of the existing programs or applications.

dBase's dbDOS™ PRO 2 makes it incredibly easy to create windows shortcuts that allow running of almost any DOS-based programs. This allows access their programs and data in a few simple mouse-clicks.

dbDOS™ PRO 2 is the best life extender for dBASE for DOS products on the market today. Simply move your programs and data to the new hardware, install dbDOS, run the dbDOS™ Configuration Utility, and then double-click on the shortcut and the product(s) are up and running and ready to use.

The dbDOS™ PRO 2 solution is fast, easy to use, and saves a lot of time and money.

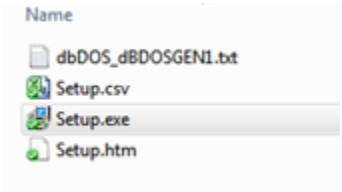
What's New in dbDOS™ PRO 2?

- **(Improved)** dbDOS™ PRO 2 is 100% faster than the older 1.5.1 product
- **(New)** dbDOS™ PRO 2 has an improved Memory Management System that does not require additional 3rd Party memory managers which reduces the hardware conflicts
- **(Improved)** dbDOS™ PRO 2 has updated the Copy from Windows to dbDOS™ VM
- **(NEW)** dbDOS™ PRO 2 introduces a new way to Paste from dbDOS™ VM to the Windows OS
- **(New)** dbDOS™ PRO 2 Introduces a new print screen functionality
- **(Improved)** dbDOS™ PRO 2 has massively updated the dbDOS Config utility making it easier to create, update, and manage dbDOS™ configurations
- **(Improved)** dbDOS™ PRO 2 automatic configuration upgrades
- dbDOS PRO 2 general set of small issues resolved and most known bugs removed

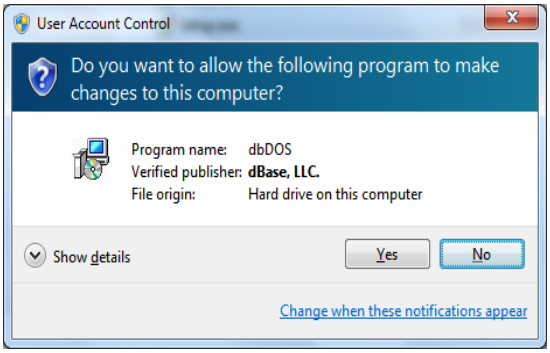
Installing dbDOS™ PRO 2

Installing dbDOS™ is the same as installing any other Microsoft Windows program and uses a standard installation program to do the job.

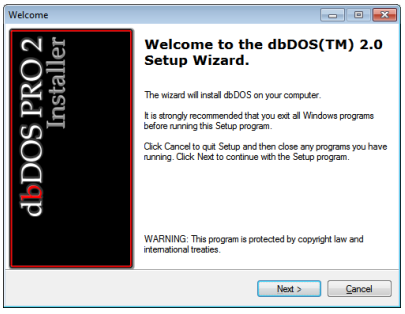
If you simply click the Setup.exe in the install directory, the installer will be kicked off and run.



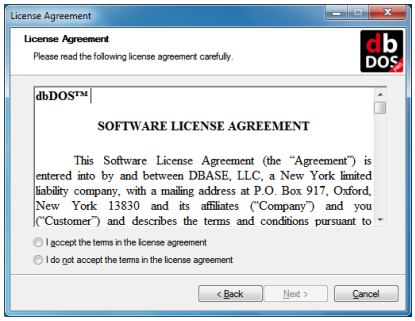
If you are installing in Windows Vista or newer, the first question that will be presented to you is whether or not to run the installer. This is a condition of the Windows UAC (End-user Access Control) and is part of the Windows security system.



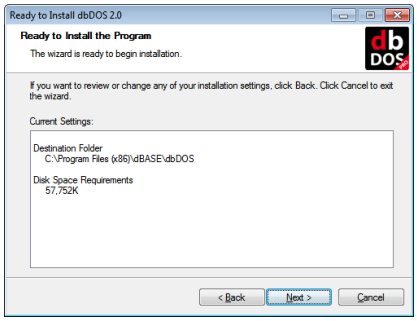
By clicking Yes to the UAC question, the installer will execute:



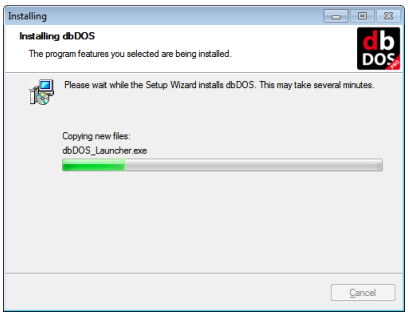
Press Next > button



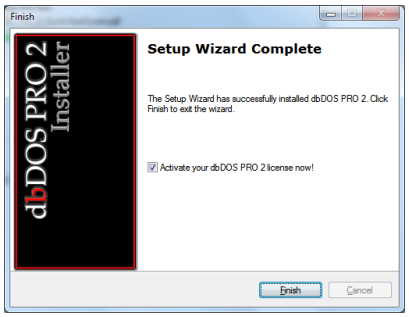
Accept the license and press Next > button



Review the install information and press Next > button to install.



Installation process

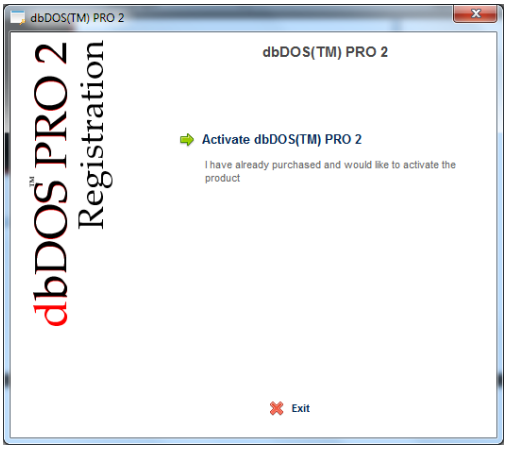


Press the Finish button and it will start the dbDOS™ PRO 2 Configuration Utility.

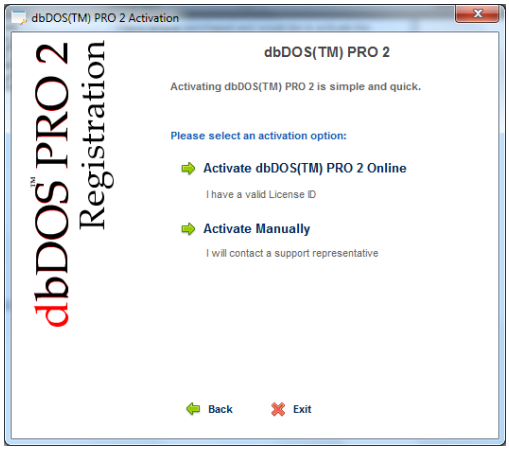
That is the complete install process. As stated above, the install finishes when the Finish button is clicked and that will kick off the dbDOS Configuration Utility, which you can learn about in the next section.

Activating dbDOS™ PRO 2

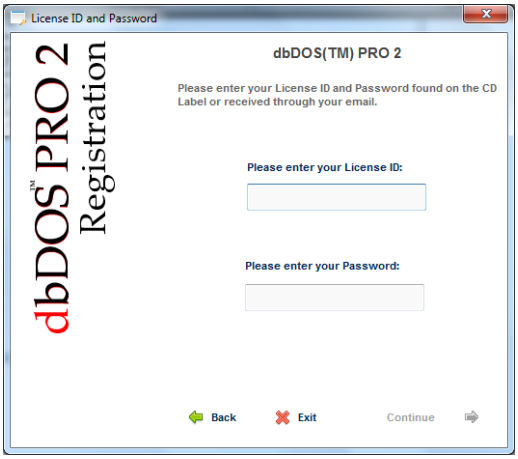
Once installation is complete, the next step in running dbDOS™ PRO 2 is Activating the software. It is recommended that YOU REGISTER THE PRODUCT FROM THE INSTALLER! This will ensure that that Windows® Operating System has the proper elevations for UAC (User Access Control) on Vista and higher OSs.



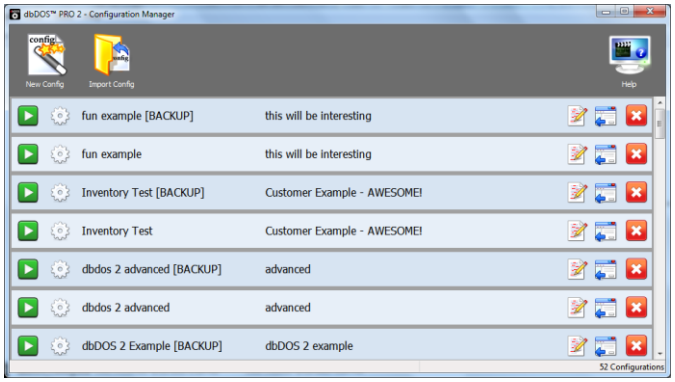
Click the Activate dbDOS™ PRO 2 link



Select the option that best fits your situation. Normally this will be to Activate dbDOS™ PRO 2 Online



Enter user License ID and your Password that was emailed to you.



After Activation and Registration is complete you should see the new dbDOS™ PRO 2 Configuration Manager

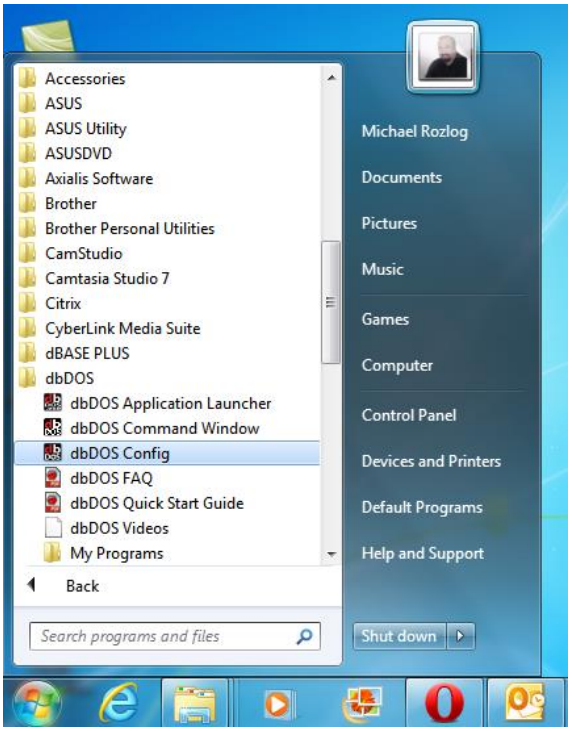
Using dbDOS_Config.exe

One of the main features of dbDOS™ PRO 2 is the dbDOS_Config.exe program. This program is responsible for configuring your dBASE programs to run in dbDOS and for creating the shortcuts that make using dbDOS so easy to use.

dbDOS™ PRO 2, we enhanced the ability to pick the way the developer wants to create configurations. The new wizard gives a much simpler approach to creating the dBASE for DOS shortcuts for the latest Windows® operating systems.

> ***Note:*** *Shortcuts created with dbDOS™ 1.5.1 should automatically be updated to the latest standard, not action will be required from the end-user.*

Starting the dbDOS_Config.exe interface has two main approaches, it will be started as the last step in the installing of dbDOS™, or it can be started at any time using the ***Start*|*All Programs*|*dbDOS*|*dbDOS Config***; as shown below:

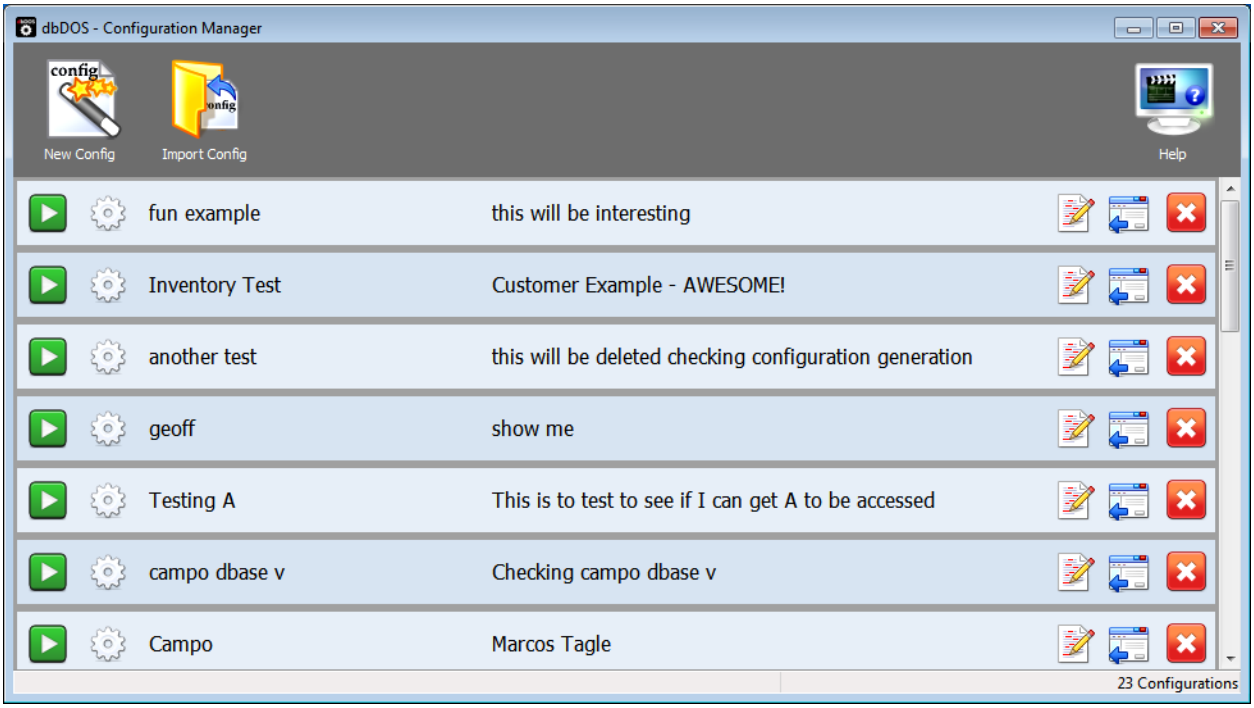


Using the Start*|*All Programs*|*dbDOS*|*dbDOS Config

Initial dbDOS PRO 2 – Configuration Manager

The updated dbDOS Configuration adds significant features to manage Windows® shortcuts for running dBASE for DOS applications. The focus with the dbDOS™ PRO 2 Configuration Manager was that end-users need to be able to manage the shortcuts, they wanted to be able to delete them, and they wanted a way to share them.

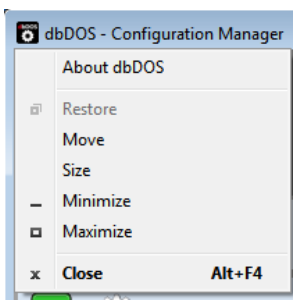
The new dbDOS_Config.exe interface will always show the initial start screen.

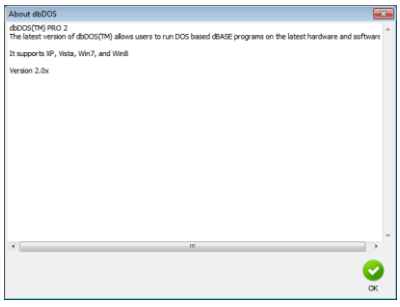


dbDOS Config main screen

Screen Break down

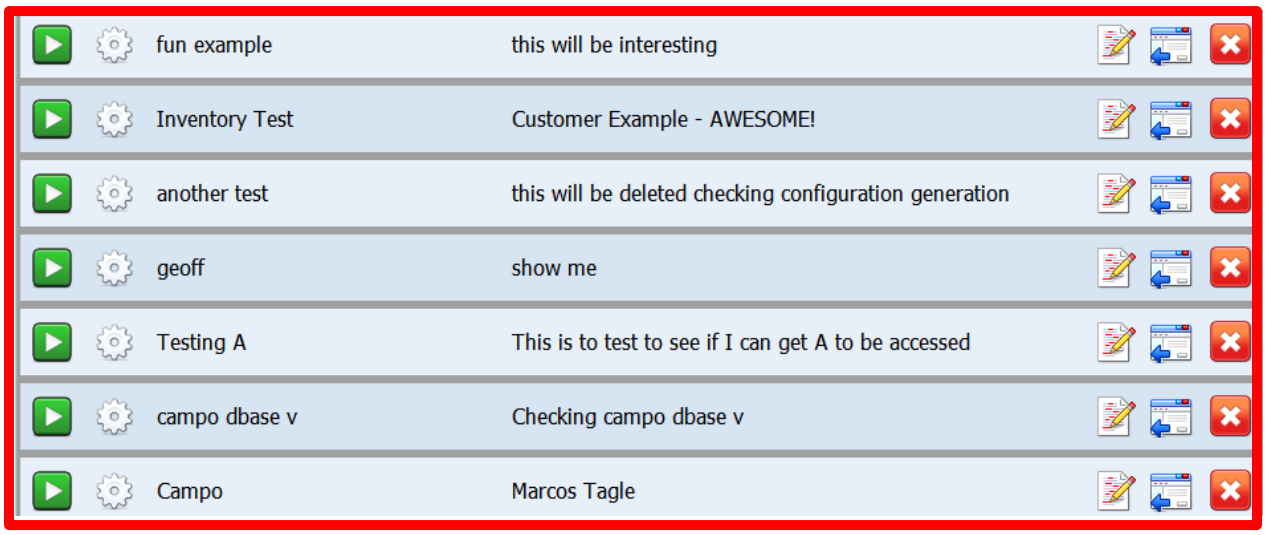
Clicking the dbDOS icon gives the ability to get the About… window. The red 'x' is the standard way to close the dbDOS Config.



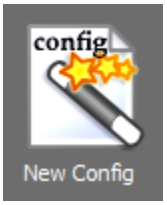


The Execution Bar – allows you to pick the operation you want to perform inside the dbDOS Config.

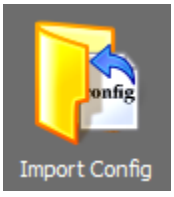
The Shortcut browser – allows you to see all of the created shortcuts for your DOS programs. This is the area where you can manage those configurations.



The execution bar has a number of buttons that can be activated to do certain operations as defined below:

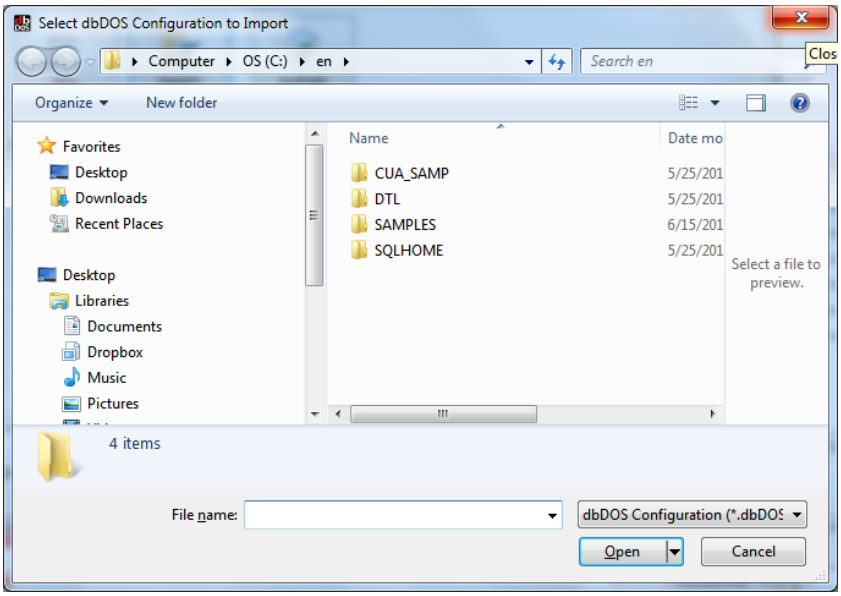


The **New Configuration** button will create a new shortcut that will be placed on the Windows® desktop and can be placed inside the dbDOS folder off the Start menu.

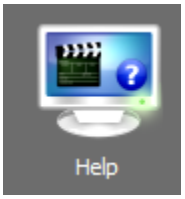


The **Import Configuration** button allows the end-user to modify an existing configuration. This means that once a Windows® shortcut is created, it can now be updated, and can be deleted if needed.

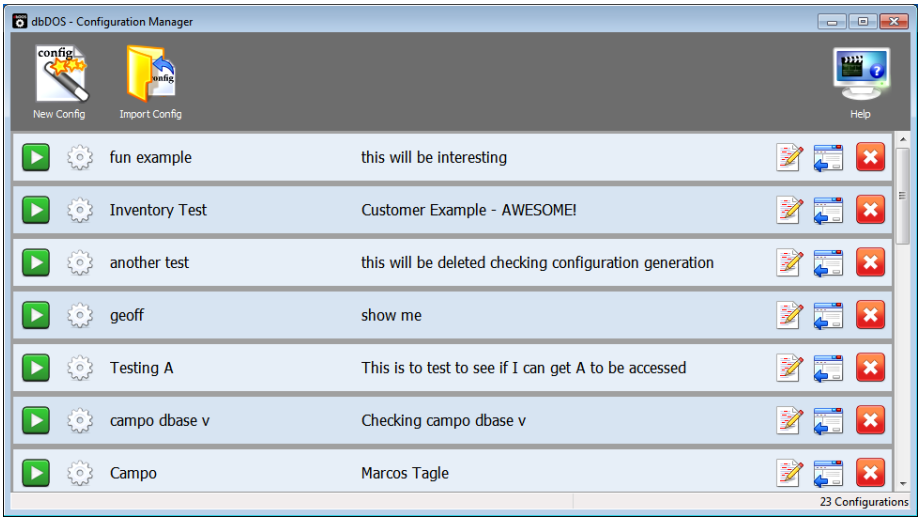
When the Import Configuration button is pressed, the end-user can import a saved configuration. This will also allow you to then modify or customize that configuration to meet their needs on the system.



Import a configuration: it asks the location of the configuration to be imported



Press the **Help icon** to watch the help video – Clicking this link will start the video that includes an overview of the dbDOS Config and how to use the dbDOS™ PRO 2 interface.

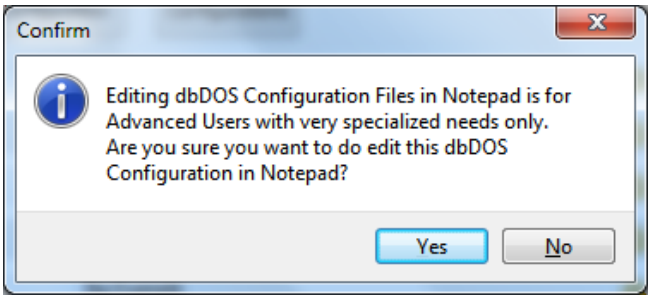
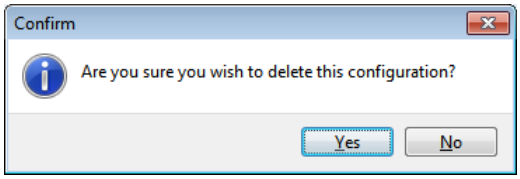


After a Windows® shortcut is created

The shortcut created on the Windows® desktop

The above shows the outcome of running the dbDOS PRO 2 – Configuration Manager, it shows that a new Windows® shortcut was created and it now lists that short cut in the Configuration Manager for better on-going support.

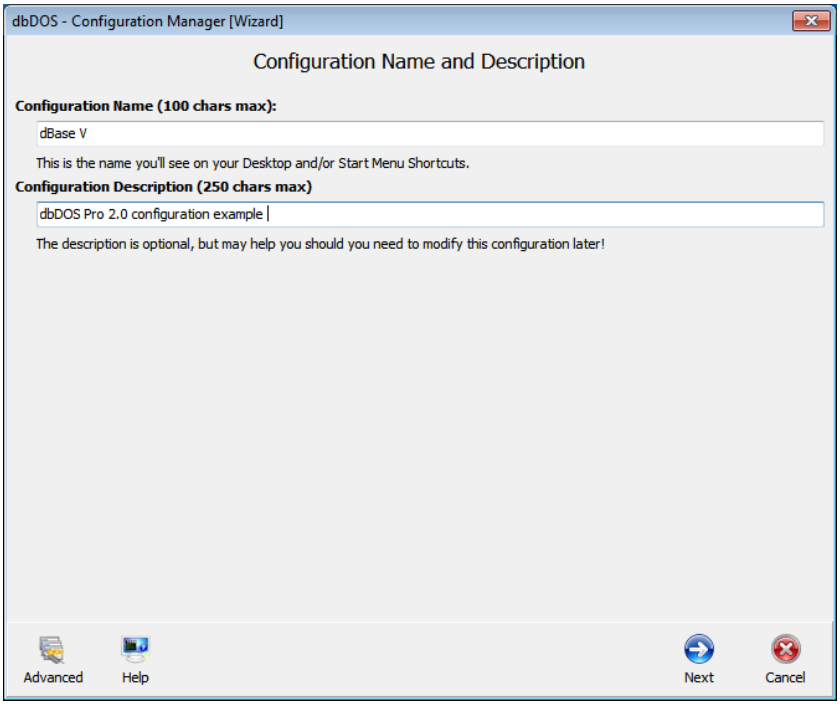
There are some additional Icons on the page that need to be defined.

	Pressing this icon will execute the shortcut
	Pressing this icon will allow you to Edit the selected configuration.
	[ADVANCED END-USERS] Pressing this icon will allow the end-user to edit the dbDOS™ configuration file, this is for advanced end-users only. The program will display a warning making sure you do want to edit the configuration as below:  Pressing the Yes button will take you into the configuration file.
	This icon represents the Export function, this will now allow you to export out a configuration and share it with other end-users
	This icon represents the Delete function and anytime it is pressed a confirmation dialog will be displayed asking the end-user if they are sure they do want to delete the configuration:  Pressing the Yes button will Delete and pressing the No button will return the end-

	user back to main screen.

New Configuration

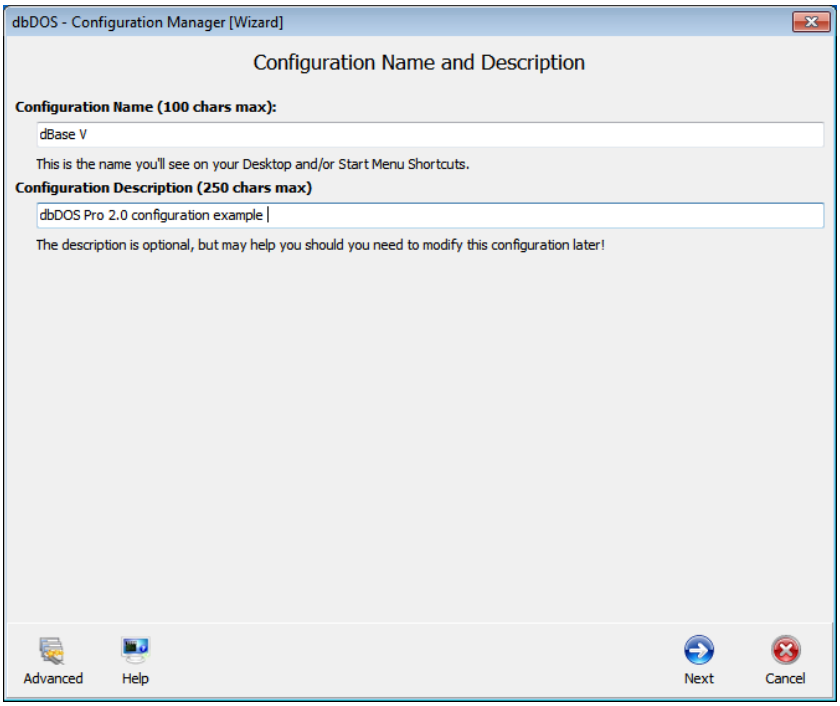
When you start a new configuration, the first step will always be the Configuration Name and the Configuration Description, as shown below. The name and the Description are used so that the end-user can easily see which configuration they are working with.



First Operation: Always have to define the name and description of the Configuration

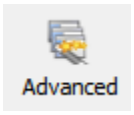
Wizard Approach to building a dbDOS™ Windows® shortcut:

Once the Name and Description of the dbDOS™ configuration has been defined, pressing the Next button will start the dbDOS Configuration Wizard. Keep in mind that the Configuration Name will be the name of the shortcut created.



Name and Describe the new configuration

Notice above, that the naming and description fields are available for text, also notice that at the bottom of the dialog there are three (3) buttons. The first button to the left is called Advanced



this button will take you to the single-page configuration screen found in the original dbDOS™ 1.0 product. If you want to learn more about the Advanced approach please go to the Advanced Approach to building a dbDOS™ Windows® shortcut section in this document.

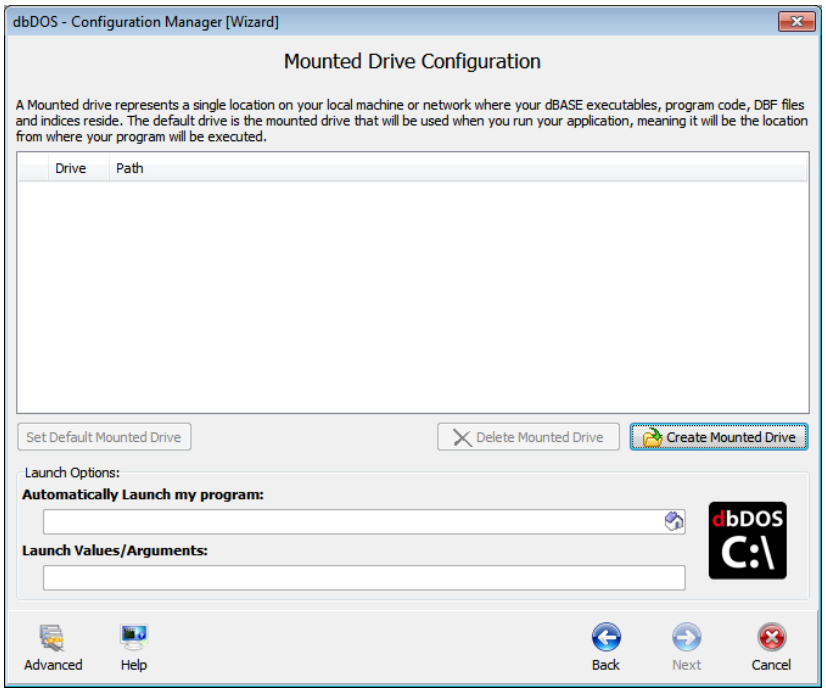
After the Advanced button, you will see a Next button

, which will take you to the first step in the Configuration Wizard and the Cancel button

, which will take you back to the New Configuration screen.

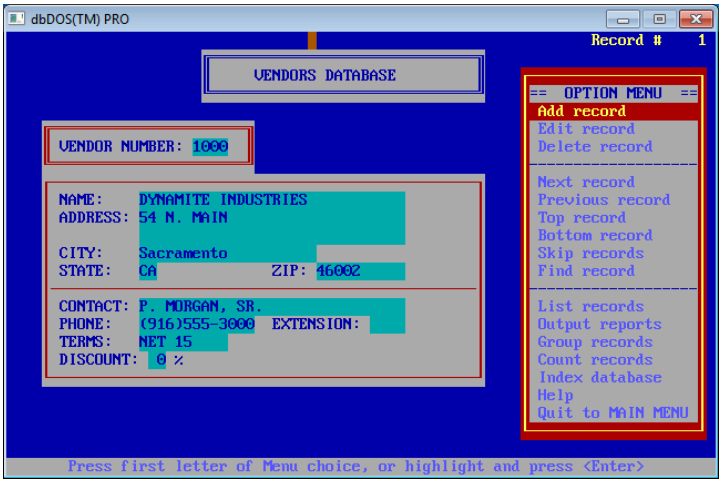
Step 1: Mounted Drive Configuration:

The next step in the wizard is the Mounted Drive Configuration as shown below:

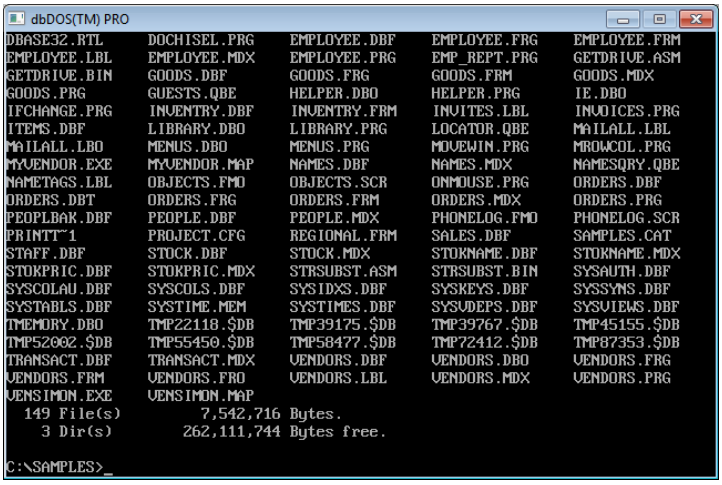


Configuration Type: This is where you choose an Executable or a Command-line Prompt

The above wizard page does many things. The main goal from this page is to define a configuration that calls a .BAT, .COM, or a .EXE file to be executed inside the dbDOS VM.



Or, the other option is to have a shortcut that takes the end-user to a command prompt:

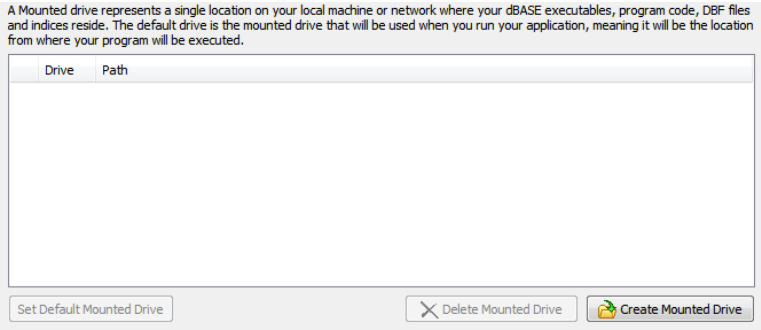


Step 2: Create a mounted drive

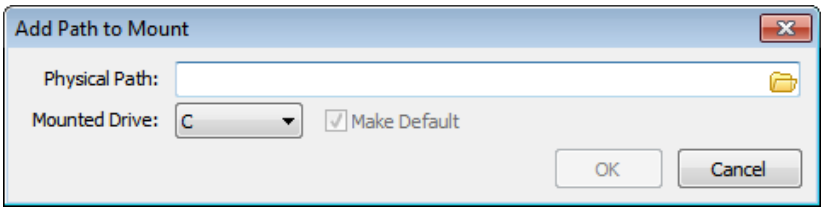
Depending on the information you put into the wizard page, it will determine if the configuration will be pointing to a DOS program or creating a configuration that takes you to a command prompt.

Mounted drives within dbDOS™ represent a location on either your local hard drive or a network mapped drive. Creating a Mounted Drive in dbDOS is the process of making a storage device on the host system, such as a hard drive, CD-ROM, or even a network drive, usable on the dbDOS VM system. You do not need to make every drive on your host system available to dbDOS. As an example, Microsoft Windows 7 would be the host system, the C: drive on Windows 7 would be the storage device you want to mount in dbDOS in order to make it available to the Virtual DOS machine.

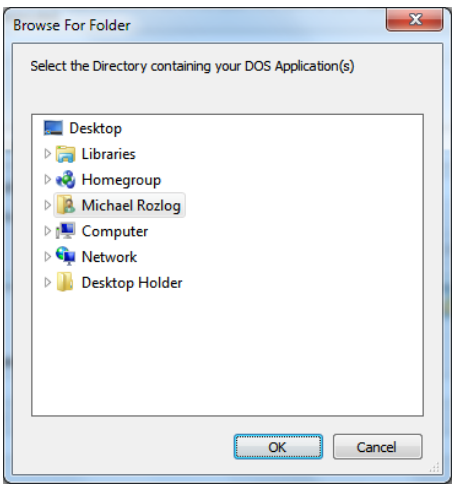
1. A Mounted drive represents a single location on your local machine or network where your dBASE executables, program code, DBF files, or indices reside.

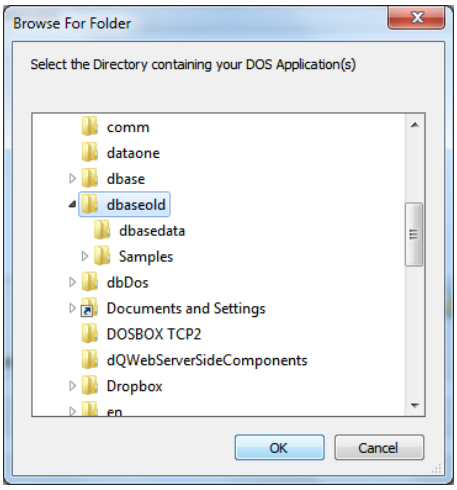


Clicking the Create Mounted Drive button will open the Path to Mount dialog:

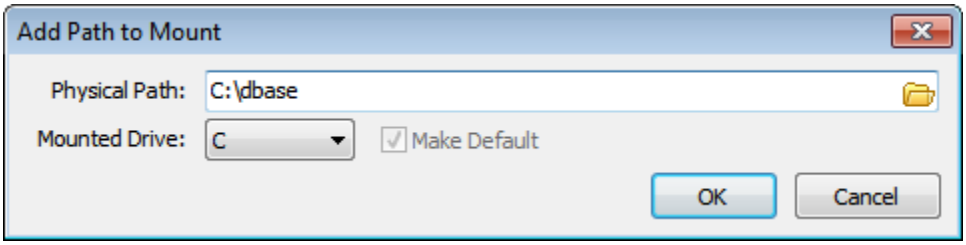


Clicking the Folder icon will open the Browser for Folder dialog as shown below:

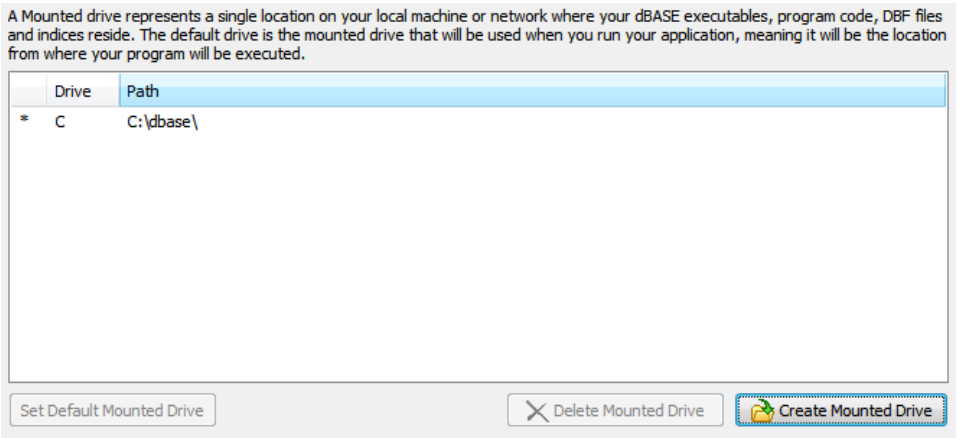




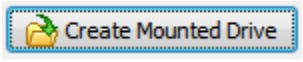
The above dialog shows that the C:\dbaseold path has been chosen and when you click the OK button is clicked, the following will be displayed:



The next option the end-user is to choose the Drive letter to represent the Physical Path from within dbDOS, for the above example a Mounted Drive: of C has been set as the default drive within dbDOS . Then press the OK when complete.

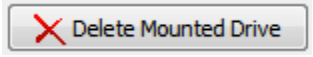


The dbDOS™ configuration now has defined a "C" drive in your dbDOS configuration and it points to the directory of C:\dbaseold\. From this point, you can choose to have the configuration run an Executable, COM, Bat or other file or start at the Mounted C:\ drive Command Prompt.



Press this button to create a new Mounted Drive. You can have multiple Mounted drives in dbDOS, just as you can have multiple drives on your local hard drive.

You can have up to 26 mounted drives and you can select exactly which drive letter (A-Z) that you want to use for each location.



Pressing this button will delete a Mounted Drive.

Press this button to set a Mounted Drive as default. The default Mounted drive will be the location that dbDOS is set to as soon as you run your configured dbDOS shortcut (similar to the way that C:\ is the default drive in Windows).

The default drive is the mounted drive that will be used when you run your application, meaning it will be the location from where your program will be executed and by default, the directory structure in which the application code, databases and indices must reside in.

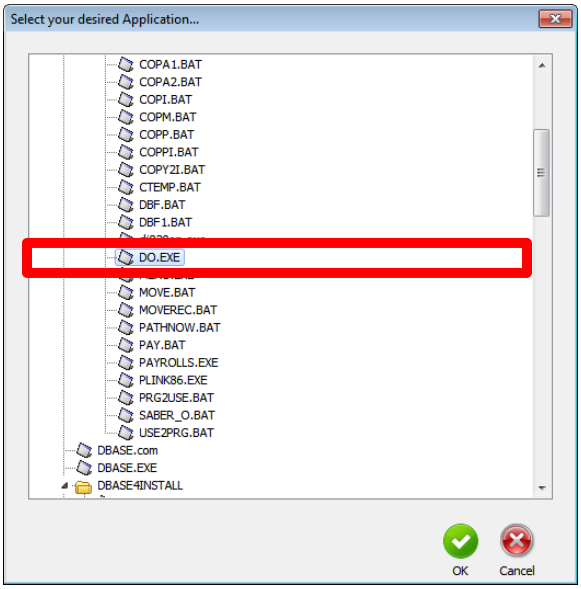
Any additional Mounted drives can be accessed within your dBASE DOS application (running in dbDOS) by using SET DIRECTORY TO "<mounted drive>" or by referencing the new Mounted drive when accessing files or folders under that directory in your code.

> ***Note:*** (e.x. do D:\filename.prg-- where D is the newly mounted drive and filename.prg is a program in that directory).

Creating an Executable configuration:

Once you have created a mounted drive, you can now set up the configuration to either run an Executable at startup or just go into a Command Line where you can then execute any exe or other runnable file by typing it in and hitting enter. In the following, the focus will be on generating a shortcut that runs an Executable at startup.

If you know the name of the program, you can type it into the Automatically Launch my program edit box. Alternatively, you can click the House icon and it will display the valid executables available in the Default Mounted Drive as shown below.



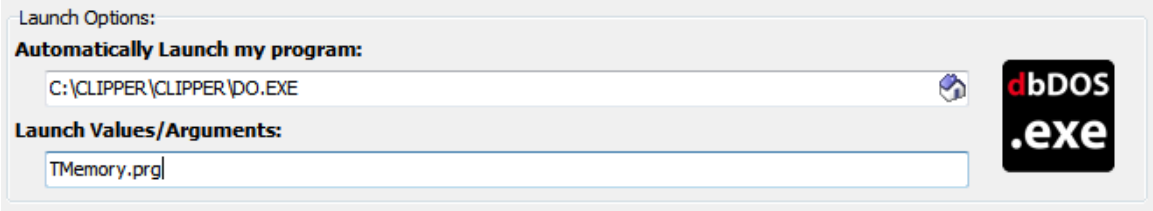
Select Application: this allows you to pick .bat, .com, or .exe

Now the only programs that will be displayed are the valid ones of .bat, .com, or .exe. Again, if you want to override this setting you can type anything into the edit box. Once you select the program, for this example ***do.exe*** (in older versions of dBASE the end-users used to rename dbase.exe to do.exe to make working with the dot-prompt easier), you can then press the **OK** button to continue. If you decide not to select an executable, they can click the **Cancel** button and it will return you to the prior dialog.

Notice a couple of things about the above portion of the dialog. The Automatically Launch my program edit box now has c:\do.exe and that the Icon to the right has changed to represent an executable configuration.

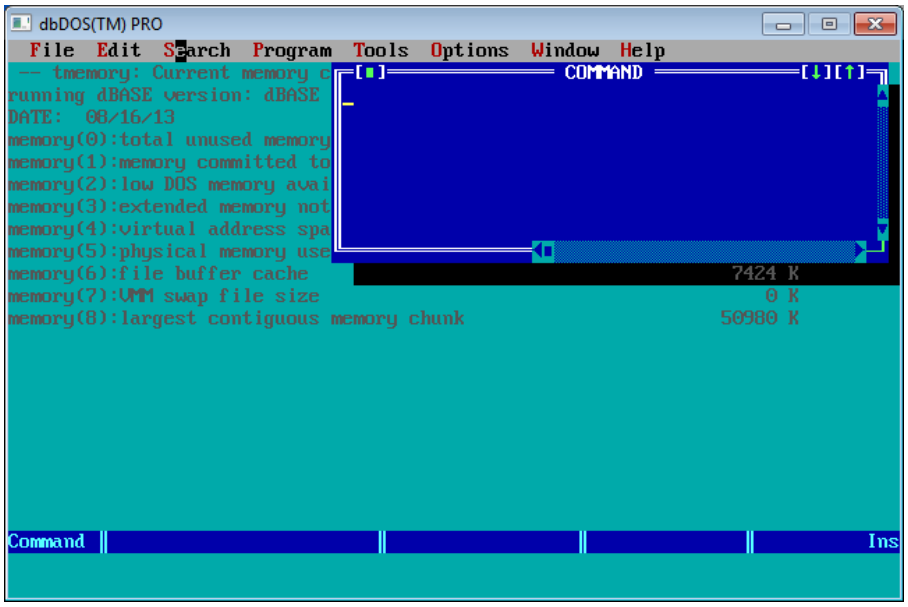
In addition, the Launch Values/Arguments: edit box is now editable.

This is where you can add any additional launch options that may be needed. For example, many people want the Windows® shortcut to load up an initial program on launch. Therefore, adding ***TMemory.prg*** to the Launch Values/Arguments will start dBASE for DOS and also load the TMemory.prg when the shortcut is executed:



Selected Application: Showing using the Launch Parameters

Here is the example of how this would execute using dBASE V for DOS calling the TMemory.prg as a Launch Parameter:

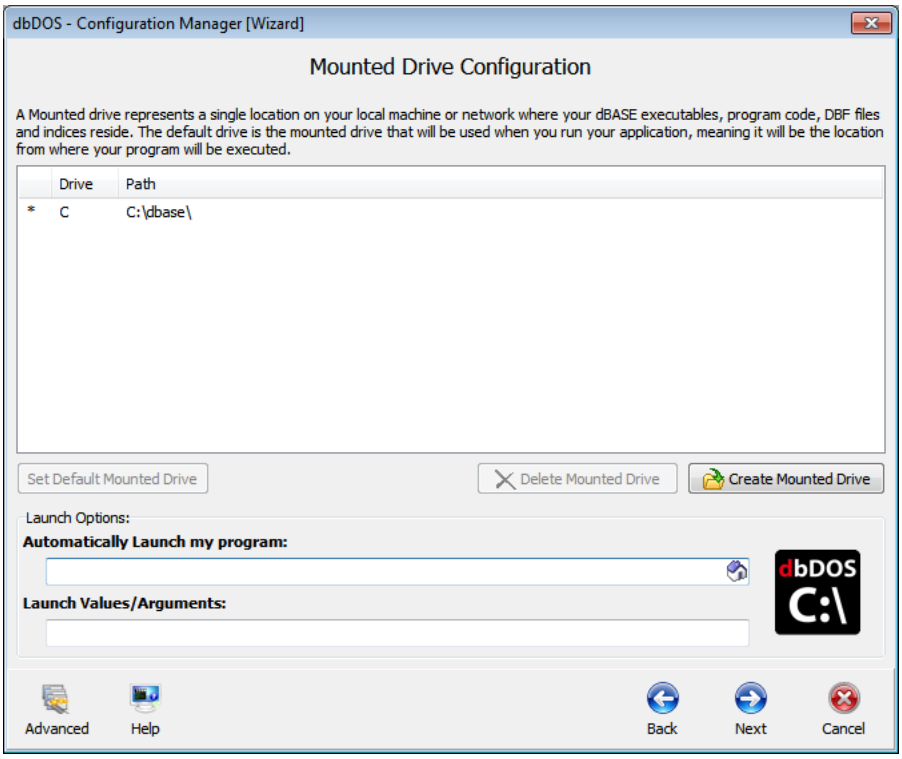


Example: Running dBASE V for DOS using a Launch Parameter

When you are done setting both of the options, you can click the Next button to continue to the next wizard page.

Creating a Command Prompt:

If you chose to create a configuration that simply starts a Command-prompt, it is very simple. Leave the 'Automatically Launch My Program' field blank then this dbDOS configuration will start in Command Window mode (with your default Mounted drive as the current directory).



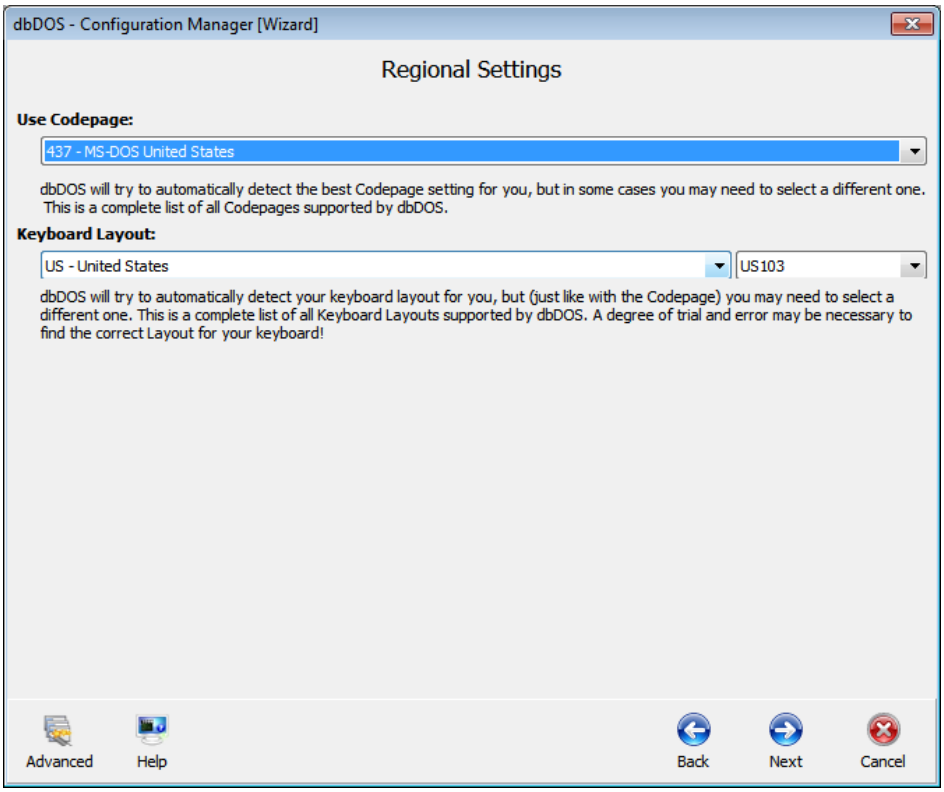
Creating a Command-Line configuration

Notice in the above dialog, the icon to the right of the Launch Options, it represents the Command-Line configuration.

When you are done setting the directory, you can click the Next button to continue to the next wizard page.

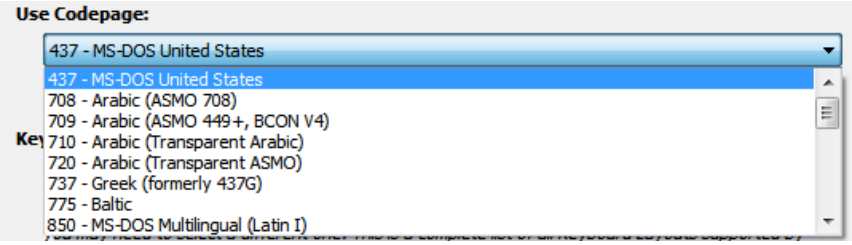
Step 3: Regional Settings:

One of the advances in dbDOS™ PRO 2 is better support for internationalization. This means dbDOS™ PRO 2 will be able to better handle the keyboard layout, character set used, and the printer characters used. The following is the dialog that will be displayed:



Regional Settings: Base wizard displayed

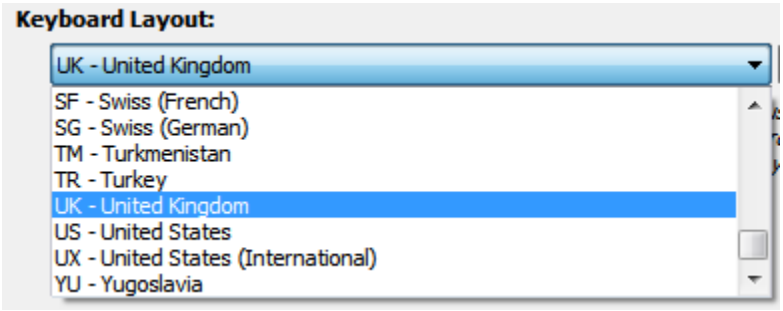
In the above wizard page, the Use Codepages will only show the valid Codepages on the machine.



Available Codepages on the current machine

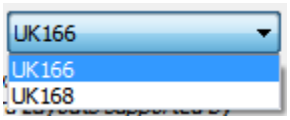
Select the proper Codepage for your location. In this example 437 – MS-DOS United States is being used as the standard CodePage. Once that option has been selected, the Keyboard layout

will be dictated from that selection. Only the valid Keyboard layouts will be displayed in the dropdown list box:



Possible Keyboard layout countries under the Codepage

Normally you would pick US – United States, but let's say, for example, the only option picked was the UK – United Kingdom. This will then cause only the proper keyboards supported by that Codepage as shown below:



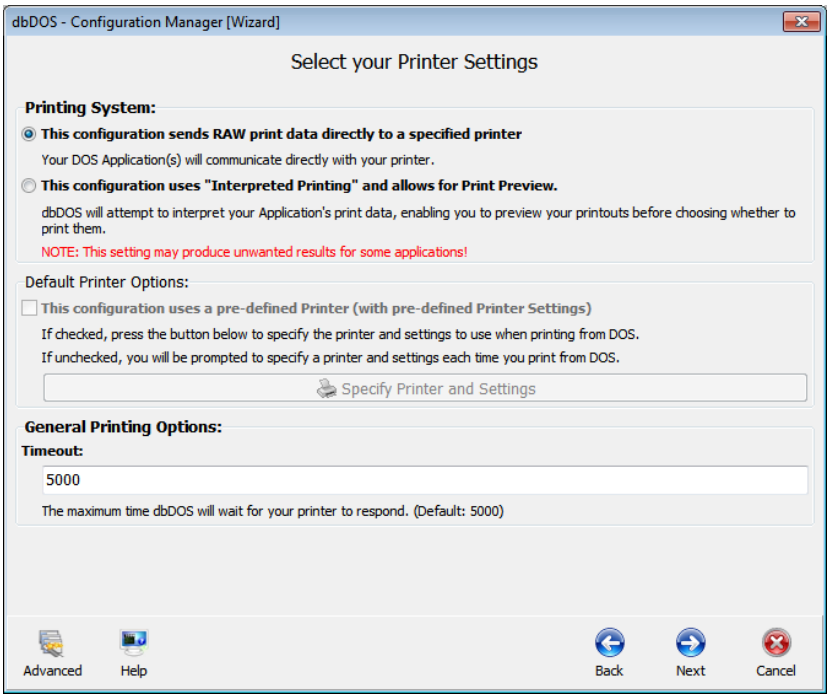
Pick the proper Keyboard support

> ***NOTE: if you don't know which Codepage or Keyboard you are using, it is recommended that you use Codepage – 437, pick the US – United States, and US103 for the keyboard.***

When you are done selecting the Regional Settings, you can click the Next button to continue to the next wizard page.

Step 4: Printer Settings:

Many advances have been made in the dbDOS™ PRO 2 product around printing. The new printing interface allows you to decide many more options than before. The following is the wizard page:



Printer Settings: Standard wizard page

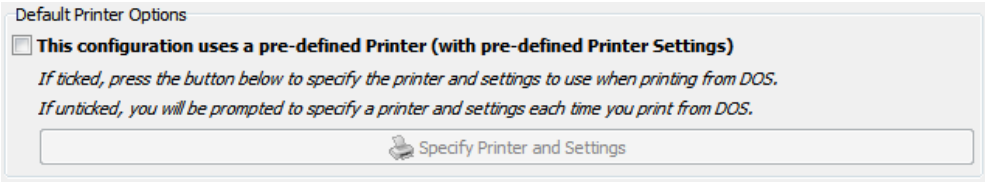
One of the first things we learned when we released dbDOS™ 1.0 is that many MS-DOS customers use customized reports. This makes total sense, as back in the DOS days, the printer functionality was very rudimentary. Our focus in the 1.0 release was to support general printing to Windows® printers, which we did.

If you select the Interpreted format, this will give you the standard Print Preview and the ability to select the Windows® Font you would like to select and then print. Interpreted print uses the Windows® Printer Driver so escape sequences will not be recognized, so the output may not look the way you desire. However, we believe that these two options give the best overall solution to our dbDOS™ PRO 2 end-users.

However, we wanted to figure out a way to support the specialized print that many dBASE for DOS developers had defined over the years. There are now two forms of printing supported in dbDOS™ PRO 2, the first option being the new RAW print and the second is the standard Windows printing called Interpreted.

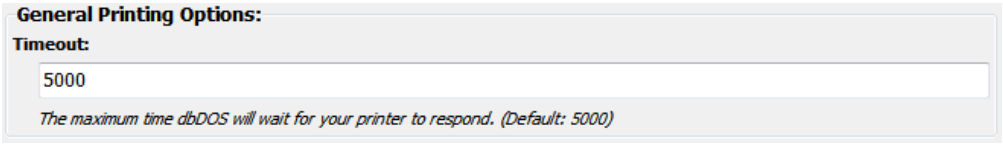
If you select the RAW option, this will send the "raw" unfiltered and un-interpreted stream of characters and escape sequences to the printer. This totally bypasses the Windows Printer Driver for the Printer you selected.

> **NOTE:** *Using RAW option will not allow for Print Preview, and the Escape sequences may not be supported or work at all on any printers other than the originally targeted printer make and model. In Addition, the RAW format needs to have the closest printer type selected with dbSetup.exe, since the codes are sent directly to the printer, the printer needs to understand those codes.* ***This feature is for advanced end-users and could require significant trial and error before getting it to work correctly!***



Pre-defined Printer settings

This allows you to select a standard printer per configuration and set any of the settings they may need for the configuration. This gives you ultimate flexibility and they will not have to always select the printer and its settings. This works for both RAW and Interpreted printing.



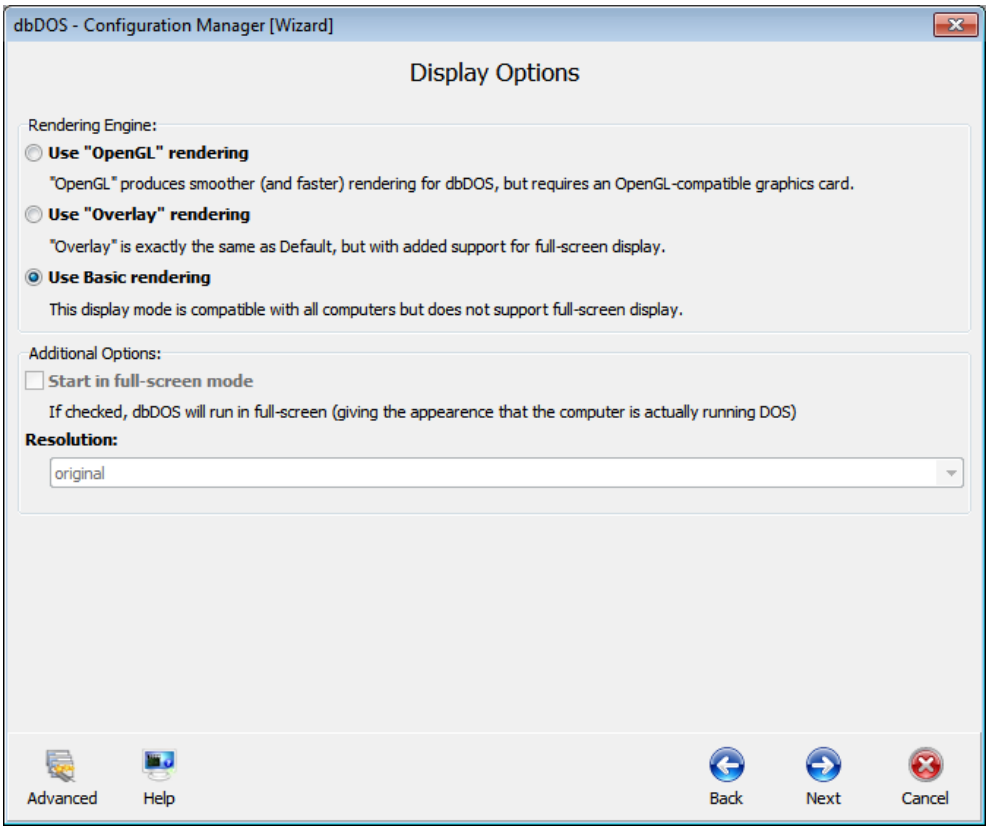
General Printing Options: set the timeout

The above is used to set the printer timeout. dbDOS is set to 5 seconds by default, this setting can be tweaked you as needed. Every 1000 represents 1 second of actual time.

When you are done, selecting the Printer Settings, you can click the Next button to continue to the next wizard page.

Step 5: Display options:

dbDOS™ PRO 2 offers a lot of new optimizations in the Display Options dialog. This optimization will help you on various hardware settings to figure out the best, most useful settings for the hardware when it comes to drawing the screen.

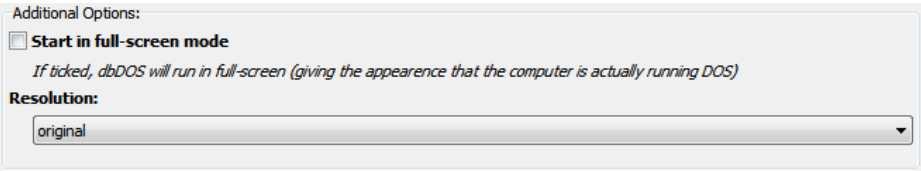


Display Options – this will help draw the screen in Windows and full-screen mode

Use "OpenGL" rendering The last option is OpenGL and ironically, it is the fastest and most supported, but it does require newer hardware because the processing is delegated to the Graphics Processor Unit (GPU) and it does support full-screen mode.

Use "Overlay" rendering Overlay is slightly more optimized but still has good backward hardware compatibility. This is a little faster than the Basic drawing and this setting does support full-screen mode.

Use Basic rendering Basic rendering is usually the most compatible with most hardware, however, Basic does not support full-screen mode on most hardware. This setting should be used when the other two (2) options do not work. *(Basic) is the default*

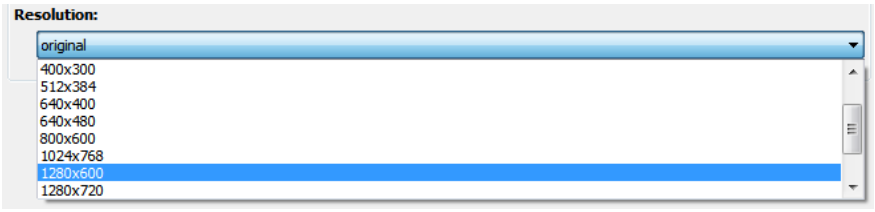


In the Additional Options section, it gives you two options if and only if the "Overlay" or the "OpenGL" options are picked. If and only if "Overlay" and "OpenGL" can set the configuration to start in full-screen mode. Select the Start in full-screen mode option and when the configuration is executed the windows will be full-screen and the underlying Windows® desktop will not be seen.

Alt-Enter – will take the dbDOS window from Full-Screen to Windows screen. If it is in a windowed setting pressing the Alt-Enter will take it back to full screen. Hitting the Alt-Enter again will put it back in to a windowed setting.

> **NOTE:** *Moving from full-screen mode to window and window to full screen mode may not always work with different graphics cards. This mode is supported but due to the differences in the way graphics cards work, the presentation may become unstable.*

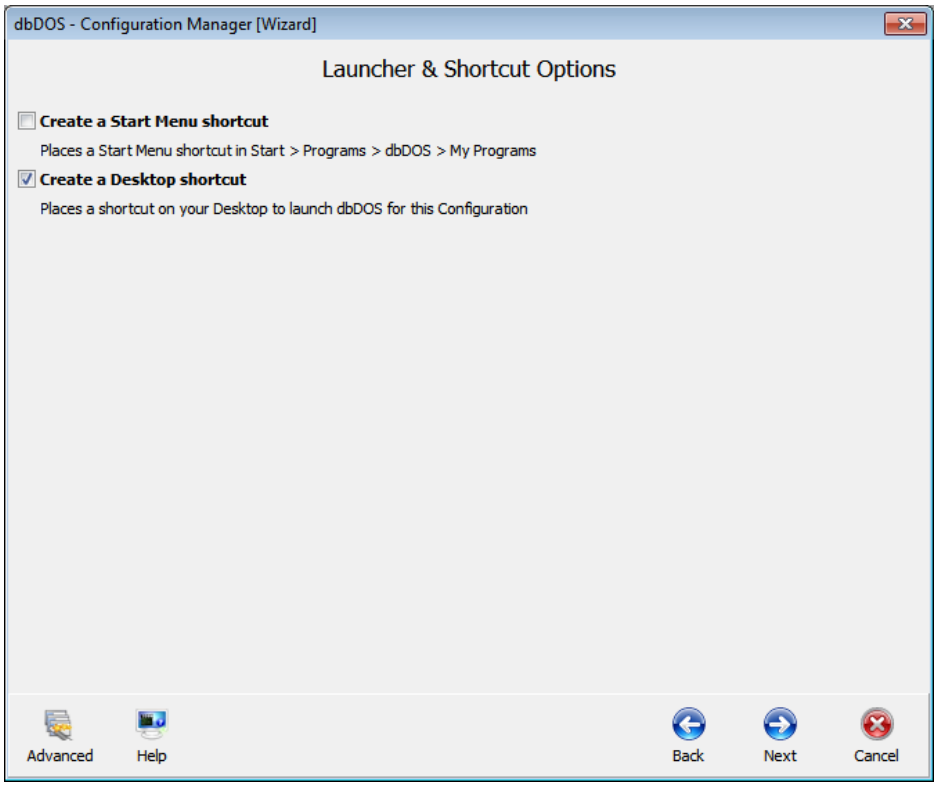
The second option besides full-screen is to pick the size of the screen you may want to use. dbDOS™ PRO 2 reads your hardware and shows only the valid options that you may pick. The default size is 640x480; however, you can pick the size you would like to start in:



> ***Note:*** *Picking a size from the Resolution dropdown does not mean the screen will look good. This option scales the size of the screen to the sized picked. Some sizes may look as good as the default and some may look much worse. This is a trial and error setting, and it depends on your hardware, screen size, and application being displayed.*

Step 6: Launcher & Shortcut Options:

These are additional options that can be set with the configuration to make the product run as desired. None of the following options are mandatory, but they can make your experience better.

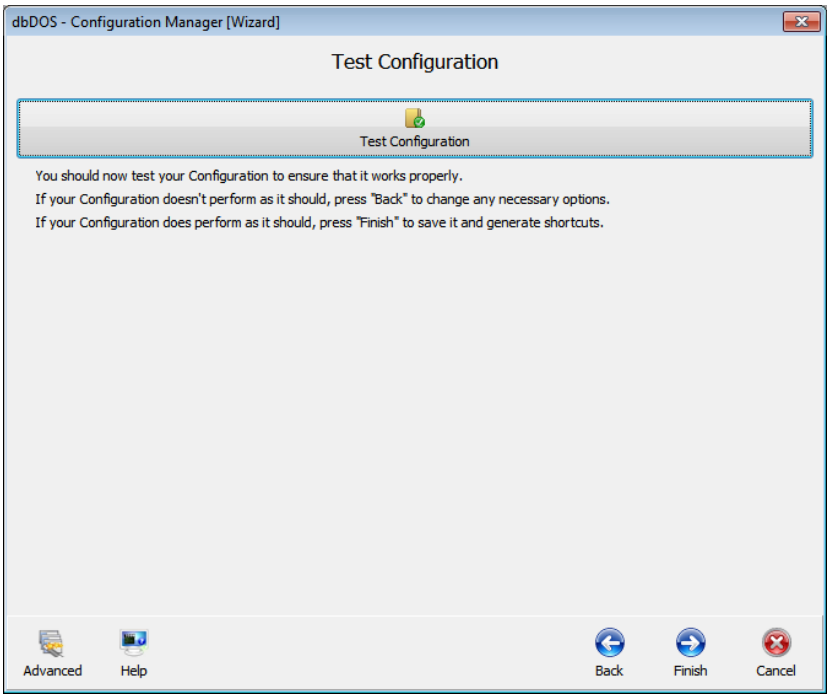


Launcher & Shortcut Options: Pick the ones you think will give the best experience

Create a Start Menu shortcut	This option will add a shortcut to the Windows shortcut menu.
Create a Desktop shortcut	This option will add a shortcut to the Windows Desktop and is selected by default. You must de-select to remove this option.

Step 7: Test Configuration:

The Test Configuration option is just that, after you have set all the options for the configuration, the program now gives you an opportunity to test to see if you like it. Press the Test Configuration button and the configuration will execute.



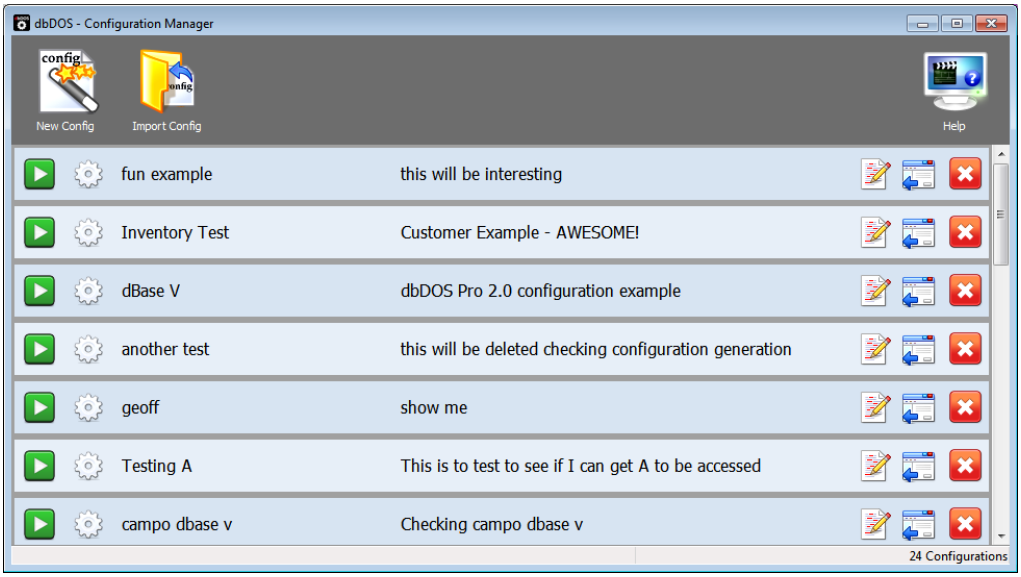
Test Configuration: Press the button to test

After you exit the test, if there was something you did not like, you can hit the back button until you reach the page containing the setting you wish to change. You can then make a change and retest as needed. You can then make a change and retest as needed. If everything works as defined, click the Finish button

to complete the wizard.

Returns to Main page:

After the wizard is complete, you will be taken back to the main page. On the main screen, you should see the new configuration you created in the prior wizard steps as shown below:

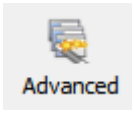


Configuration Manager: Showing the new configuration added

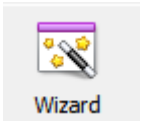
The shortcut created on the Windows® desktop

Configuration Wizard Footer-bar explained:

The bottom button bar, called the Footer-bar is where you control the process of the Configuration wizard.



This takes you to the single-page Advanced configuration manager. This button will be replaced with the Wizard button below when in the Advanced configuration manager.



This takes you to the Wizard configuration. This button will be replaced with the Advanced button above when in the Advanced configuration manager.

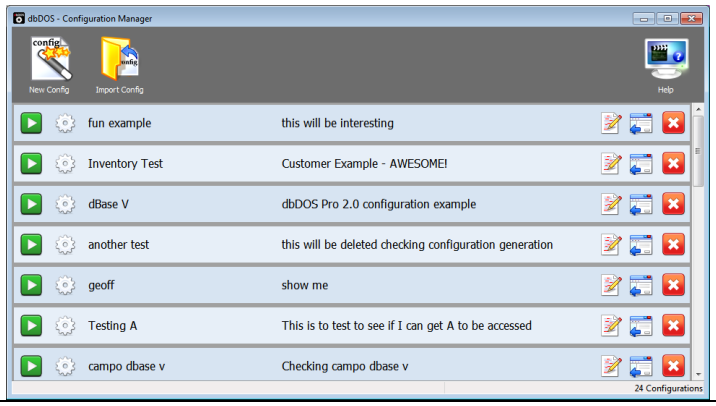
Clicking Help button will start the embedded how-to video on the wizard. This will open in the machines pre-defined media viewer, most likely a browser.

This button, if it is enabled, will take you back one step in the wizard.

This button, if it is enabled, will take you one step forward in the wizard

The Finish button will appear instead of the Next button on the final stage of the wizard. Pressing the Finished button will complete the wizard interface.

This button will return you back to the main screen, where you can create a new configuration, import a configuration, refresh a configuration, or exit the dbDOS Config program.

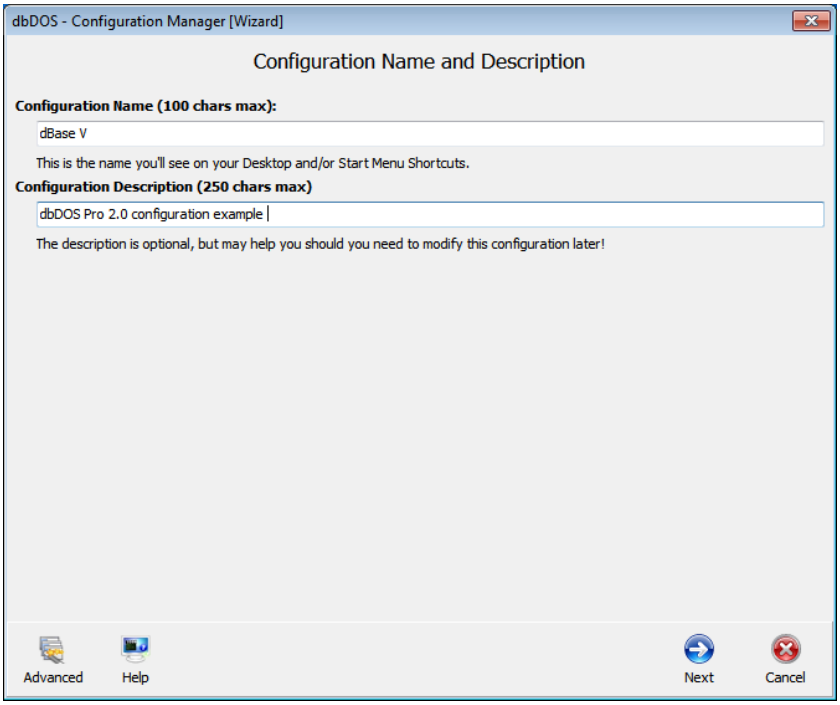


Advanced Approach to building a dbDOS™ Windows® shortcut:

The dbDOS_Config.exe Advanced interface is a very straightforward and easy to use single-page interface.

We added the wizard to help more novice end-users in a systematic fashion to create configurations.

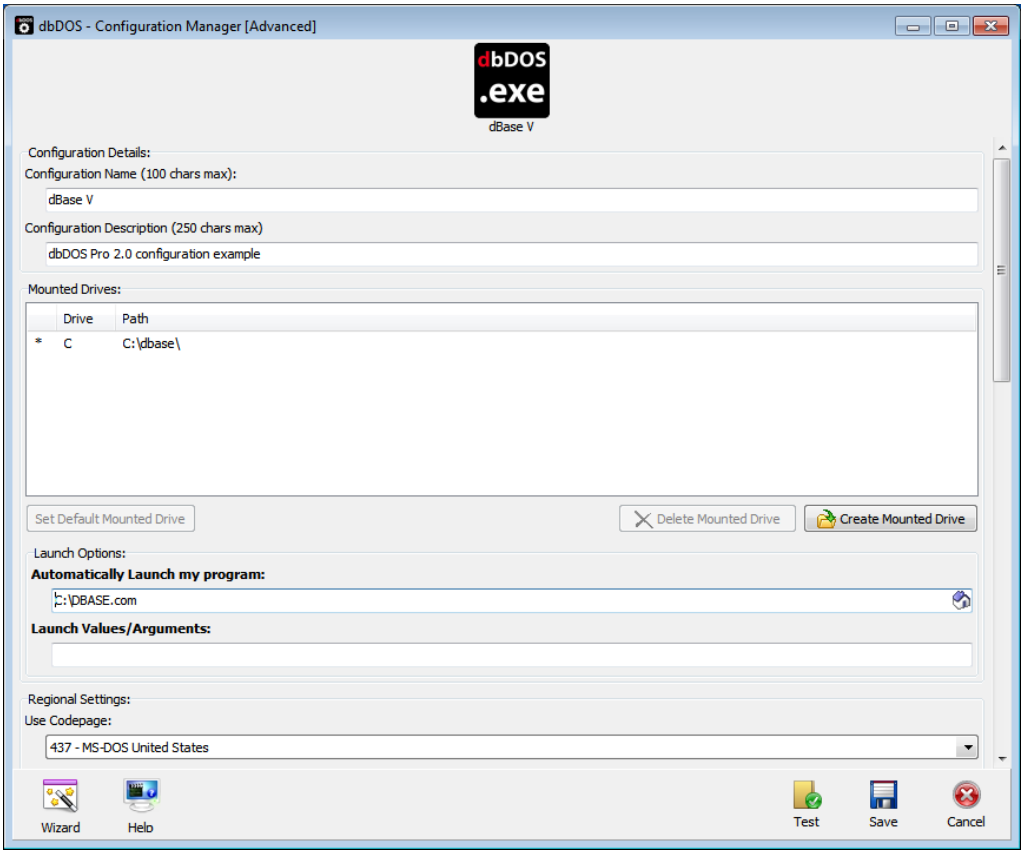
However, if you understand the options and settings for a configuration, the advanced single-page interface is very fast and as easy to use as the wizard. It also includes various additional items that can be set for greater flexibility and support. However, just like in the Wizard approach, the first page you will be shown is the Main configuration Manager page.



First Operation: Always have to define the name and description of the Configuration

Configuration Manager Advanced

As stated above, all of the options are available on this single page. The following section of this guide reviews the available options, and how to configure them.



Configuration Manager [Advanced] – Single page interface

There are four (4) sections to this interface and they include:

1. **Top panel –** it is responsible for picking the product you want to configure. It also is used to represent the shortcut icon on the desktop and an example of what the screen may look like. These things will change with the options selected.

or

2. **Configuration options and settings –** These options are on a scroll pane so you can set all the needed options and settings on one single page. For a review of those options and settings go to the Configuration Settings and Options section below.

3. **Footer-bar –** This is where the four (4) basic options come into play. You can go to the wizard, Test Configuration, Save Configuration, or Cancel out of the configuration wizard.

Footer-bar – this is the button bar of options.

Configuration Settings and Options:

This is really the heart of the single-page interface. This allows you to set any of the options that are required to create a configuration for dbDOS™ 1.5.

> **NOTE:** *If you used dbDOS™ 1.0 and created configuration using that version, those configurations will not work in version 1.5 of dbDOS. Please delete and recreate your configurations, as that will ensure proper execution of the dBASE for DOS products.*

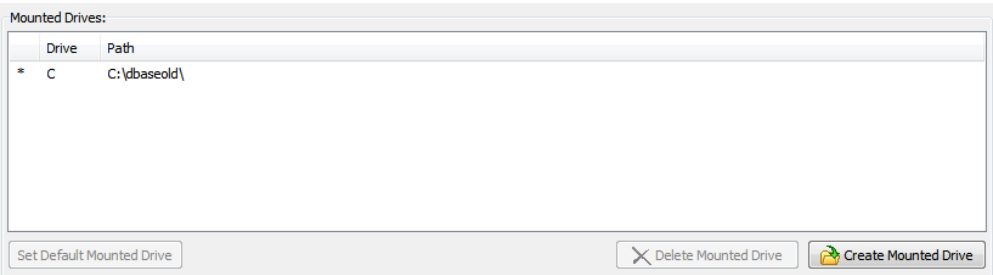
The following will break down each section of the Settings and Options:

Change Area 1: Configuration Details:

Configuration Details – put in the name of the configuration and a description

The above section will be filled in by you in the first page of the Configuration Manager, where you are asked to input the Name of the configuration and the Description. However, it should be pointed out that you can change these values at any time on this screen.

Change Area 2: Mounted Drives

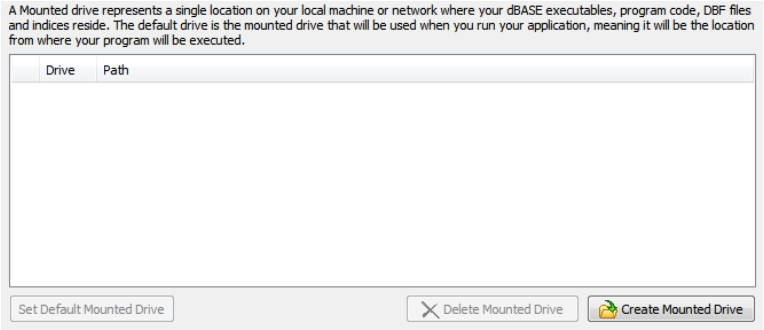


Mount Drives – Pick a Mounted Drive

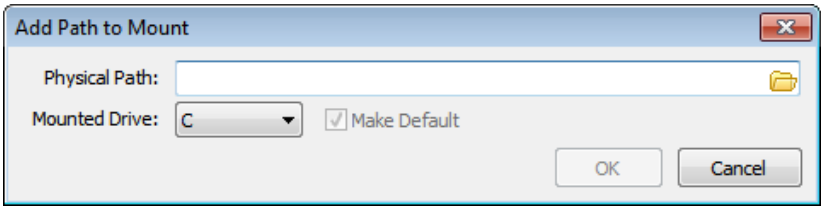
Depending on the type of configuration you are creating, you will have one of two possible Wizards screens displayed.

Mounted drives represent a location on either your local hard drive or a network mapped drive. Creating a Mounted Drive in dbDOS is the process of making a storage device on the host system, such as a hard drive, CD-ROM, or even a network drive, usable on the dbDOS VM. You do not need to make every drive on your host system available to dbDOS. As an example, Microsoft Windows 7 would be the host system, the C: drive on Windows 7 would be the storage device you want to mount in dbDOS in order to make it available to the dbDOS VM for DOS.

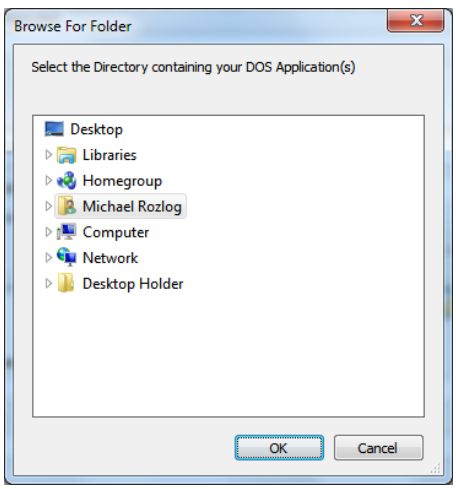
1. A Mounted drive represents a single location on your local machine or network where your dBASE executables, program code, DBF files, or indices reside.

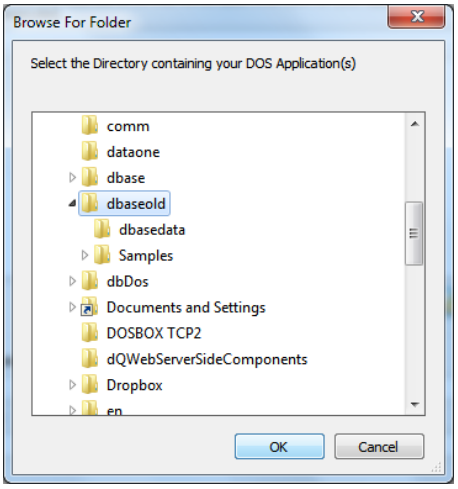


Clicking the Create Mounted Drive button will open up the Add Path to Mount dialog:

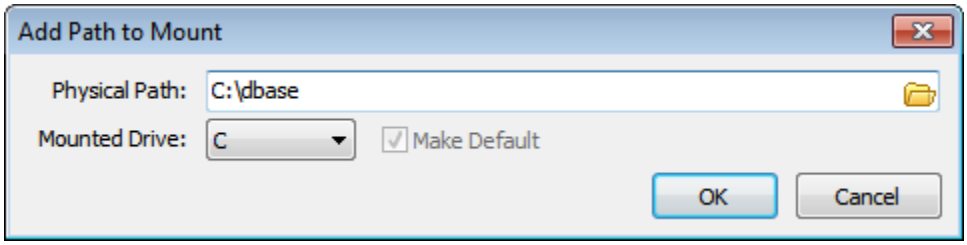


Clicking the Folder icon will open the Browser for Folder dialog as shown below:

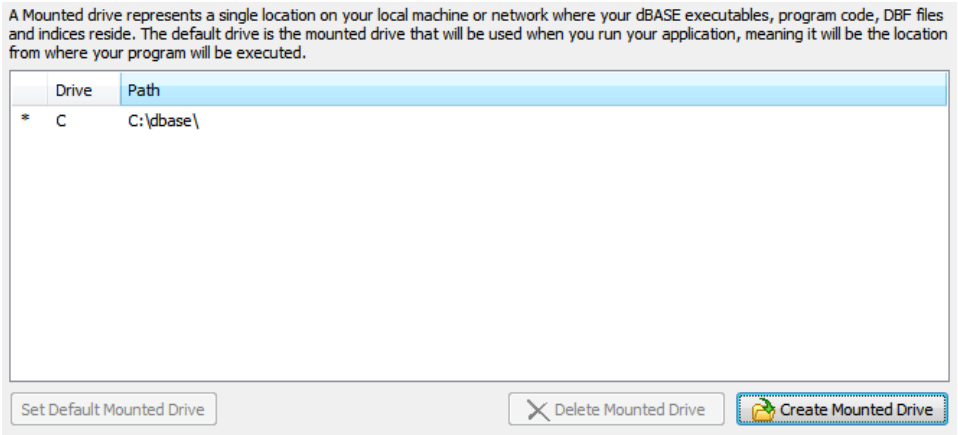




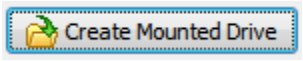
The above dialog shows that the C:\dbasegold path has been chosen and when you click OK, the following will be displayed:



The next option allows you to choose the Drive letter to represent the Physical Path within dbDOS, for the above example a Mounted Drive: of C is used to represent "c:\dbasegold'. Click OK when complete.



The dbDOS™ configuration now has defined a Mounted "C" drive which points to the directory of C:\dbaseold\. From this point, you can define if the configuration start an Executable or start a Command Prompt.



Press this button to create a new Mounted Drive. You can have multiple Mounted drives in dbDOS, just as you can have multiple drives on your local hard drive.

You can have up to 26 mounted drives and you can select exactly which drive letter (A-Z) that you want to use for each location.

Pressing this button will delete a Mounted Drive.

Press this button to set a Mounted Drive as default. The default Mounted drive will be the location that dbDOS is set to as soon as you run your configured dbDOS shortcut (similar to the way that C:\ is the default drive in Windows).

The default drive is the mounted drive that will be used when you run your application, meaning it will be the location from where your program will be executed and by default, the directory structure in which the application code, databases and indices must reside in.

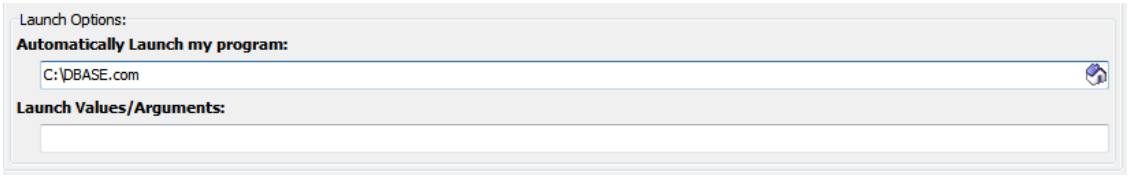
Any additional Mounted drives can be accessed within your dBASE DOS application (running in dbDOS) by using SET DIRECTORY TO "<mounted drive>" or by referencing the new Mounted drive when accessing files or folders under that directory in your code.

Note: (e.x. do D:\filename.prg-- where D is the newly mounted drive and filename.prg is a program in that directory).

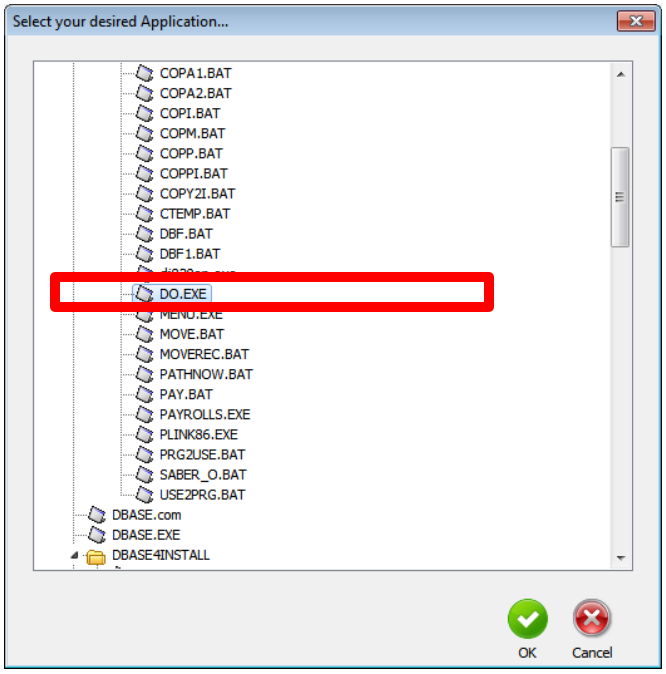
Now proceed to the next section of the Create Mounted Drive dialog where you can define the type of configuration you want, either starting dbDOS with an Executable or just with a Command-Line type.

Creating an Executable configuration:

In the following, the focus will be on generating an Executable type.

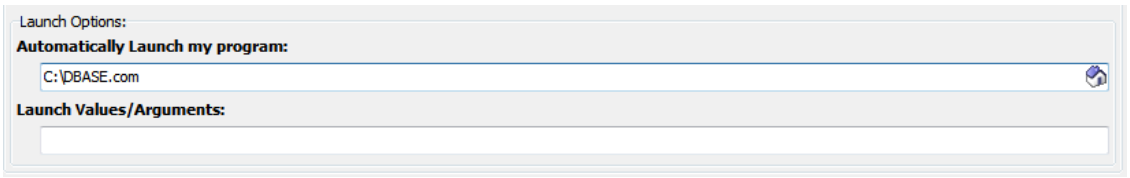


If you know the name of the program, you can type it into the Automatically Launch my program edit box. Alternatively, you can click the House icon and it will display the valid executables available in the Default Mounted Drive as shown below.



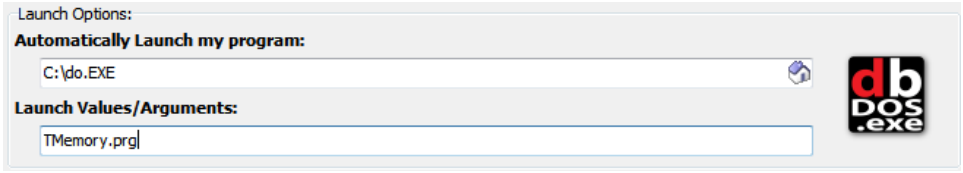
Select Application: this allows you to pick .bat, .com, or .exe

Now the only programs that will be displayed are the valid ones of .bat, .com, or .exe. Again, if you want to override this setting you can type anything into the edit box. Once you select the program, for this example do.exe (in older versions of dBASE the end-users used to rename dbase.exe to do.exe to make working with the dot-prompt easier), you can then press the OK button to continue. If you decide not to select an executable, they can click the Cancel button and it will return you to the prior dialog.



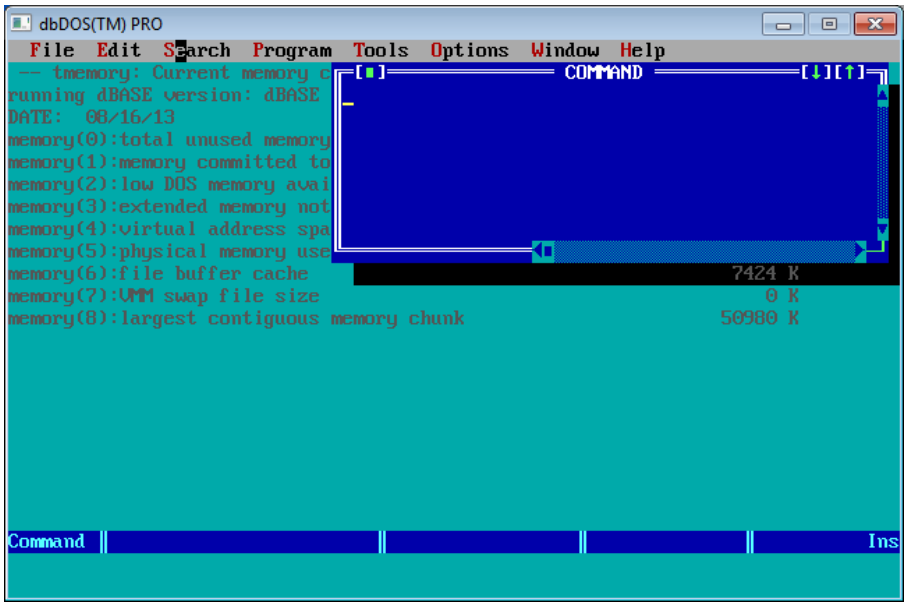
Notice a couple of things about the above changed portion of the dialog. The Automatically Launch my program edit box now has c:\do.exe and that the Icon to the right has changed to represent an executable configuration. In addition, the Launch Values/Arguments: edit box is now editable.

This is where you can add any additional launch options that may be needed. For example, many people want the Windows® shortcut to load up an initial program on launch. Therefore, Adding **TMemory.prg** to the "Launch Values/Arguments" edit box will start dBASE for DOS (the do.exe program) and also load the TMemory.prg when the shortcut is executed:



Selected Application: Showing using the Launch Parameters

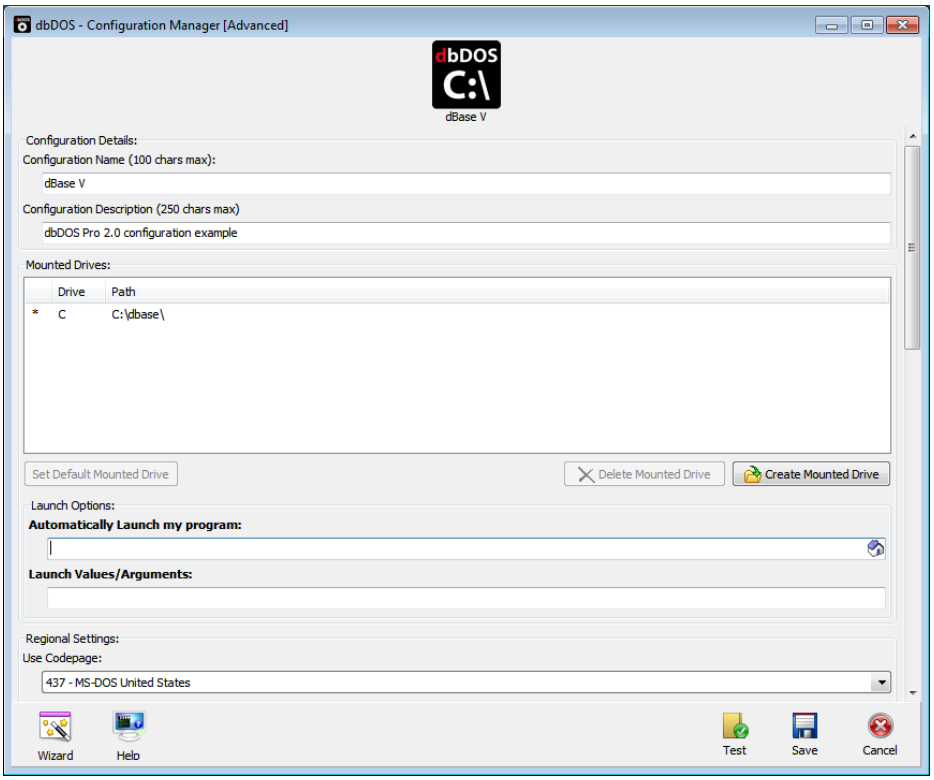
Here is the example of how this would execute using dBASE V for DOS calling the TMemory.prg as a Launch Parameter:



Example: **Running dBASE V for DOS using a Launch Parameter**

Creating a Command Prompt:

If you chose to create a Command-prompt configuration, it is very simple. If you leave, the 'Automatically Launch My Program' field blank then this dbDOS configuration will start in Command Window mode (with your default Mounted drive as the current directory).

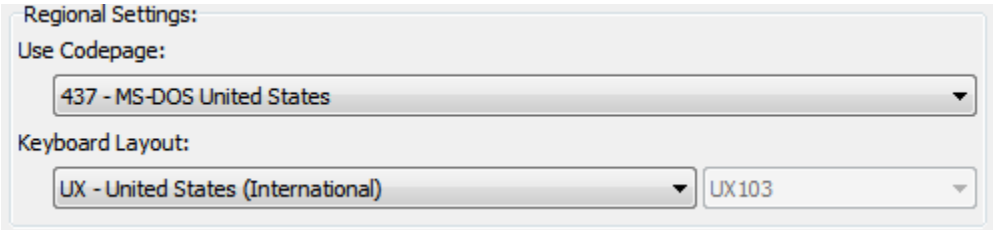


Creating a Command-Line configuration

Notice in the above dialog, the icon to the right of the Launch Options, it represents the Command-Line configuration.

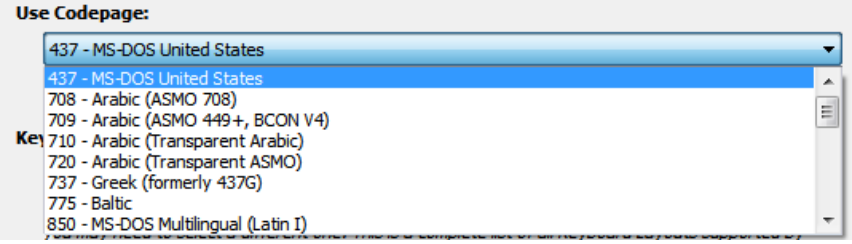
Change Area 3: Regional Settings:

One of the advances in dbDOS™ PRO 2 is better support for internationalization. This means dbDOS™ PRO 2 will be able to better handle the keyboard layout, character set used, and the printer characters used. The following is the dialog that will be displayed:



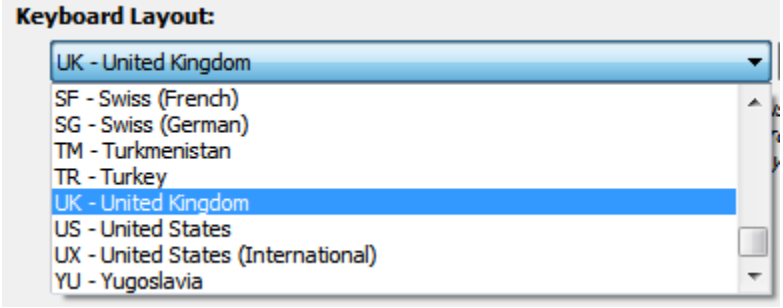
Regional Settings: Base wizard displayed

In the above area, the "Use Codepages" option will only show the valid Codepages on the machine.



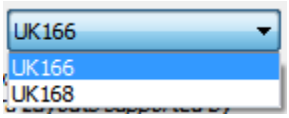
Available Codepages on the current machine

Select the proper Codepage for the end-users location. In this example 437 – MS-DOS United States is being used as the standard CodePage. Once that option has been selected, the Keyboard layout will be dictated from that selection. Only the valid Keyboard layouts will be displayed in the dropdown list box:



Possible Keyboard layout countries under the Codepage

As for this example, normally the end-user would pick US – United States, but in this example, the only option picked was the UK – United Kingdom. This will then cause only the proper keyboards supported by that Codepage to be available, as shown below:



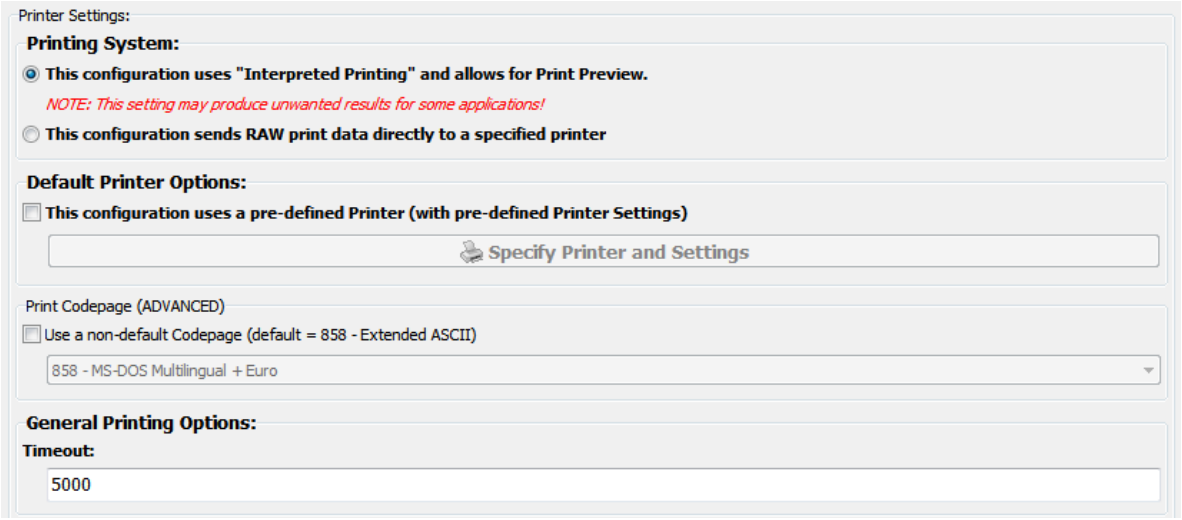
Pick the proper Keyboard support

> **NOTE:** *if you don't know which Codepage or Keyboard you are using, it is recommended that you use Codepage – 437, pick the US – United States, and US103 for the keyboard.*

When you are done selecting the Regional Settings, you can move down to the next areas of the single page interface.

Change Area 4: Printer Settings:

Many advances have been made in the dbDOS™ PRO 2 product around printing. The new printing interface allows you to decide many more options than before.



Printer Settings: Standard wizard page

> **NOTE:** *In the single page interface, you may have to scroll down to see all of the options on the scroll pane. Click the scroll bar and pull down with the mouse.*

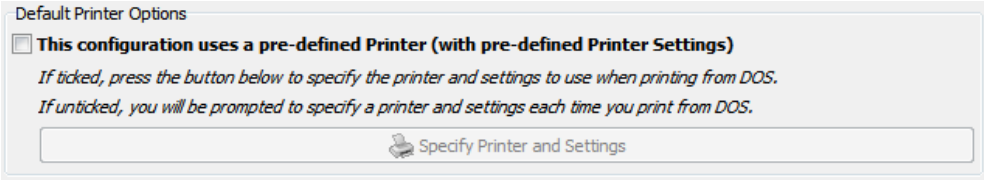
One of the first things we learned when we released dbDOS™ 1.0 is that many MS-DOS customers use customized reports. This makes total sense, as back in the DOS days, the printer functionality was very rudimentary. Our focus in the 1.0 release was to support general printing to Windows® printers, which we did.

If you select the Interpreted format, this will give you the standard Print Preview and the ability to select the Windows® Font you would like to select and then print. Interpreted print uses the Windows® Printer Driver so escape sequences will not be recognized, so the output may not look the way you desire. However, we believe that these two options give the best overall solution to our dbDOS™ PRO 2 end-users.

However, we wanted to figure out a way to support the specialized print that many of you had defined over the years. There are now two options for printing supported in dbDOS™ 1.5, the first option being the new RAW print and the second is the standard Windows printing called Interpreted.

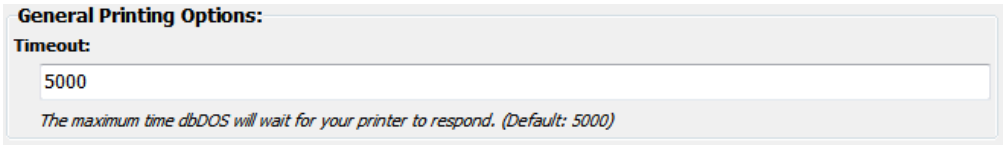
If you select the RAW option, this will send the "raw" unfiltered and un-interpreted stream of characters and escape sequences to the printer. This totally bypasses the Windows Printer Driver for the Printer you selected.

> ***NOTE:*** Using RAW option will not allow for Print Preview and does not allow for a default printer to be set. The Escape sequences may not be supported or work at all on any printers other than the originally targeted printer make and model. In Addition, the RAW format needs to have the closest printer type selected with dbSetup.exe, since the codes are sent directly to the printer, the printer needs to understand those codes. This feature is for advanced end-users and could require significant trial and error before getting it to work correctly!



Pre-defined Printer settings

This allows you to select a standard printer per configuration and set any of the settings they you need for the configuration. This gives ultimate flexibility to you and you will not have to always select the printer and its settings. This works for both RAW and Interpreted printing.



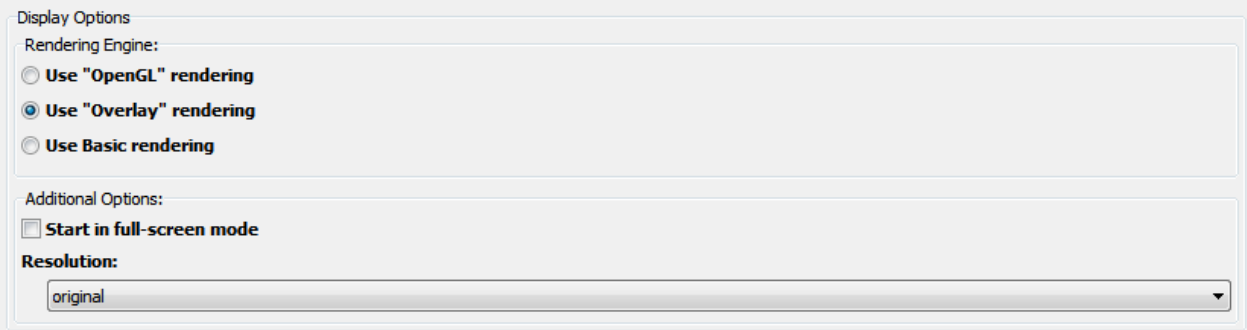
General Printing Options: set the timeout

The above is used to set the printer timeout. dbDOS is set to 5 seconds by default, this setting can be tweaked by you as needed. Every 1000 represents 1 second of actual time.

When you are done selecting the Printer Settings, you can move to the next area on the single page interface.

Change Area 5: Display Options:

The dbDOS™ PRO 2 offers a new optimization called display options. This optimization will help you on various hardware settings to figure out the best, most useful settings for that hardware when it comes to drawing the screen.



Display Options – this will help draw the screen in Windows and also full-screen mode

Use "OpenGL" rendering The last option is OpenGL and ironically, it is the fastest and most supported, but it does require newer hardware, because the processing is delegated to the Graphics Processor Unit (GPU) and it does support full-screen mode.

This is also, where you can set if the configuration should start in full-screen mode. Click the Start in full-screen mode and when the configuration is executed the windows will be full-screen and the underlying Windows® desktop will not be seen.

Use "Overlay" rendering Overlay is slightly more optimized but still has good backward hardware compatibility. This is a little faster than the Surface drawling and this setting does support full-screen mode.

Use "Basic" rendering Basic is usually the most compatible with most hardware, however, Basic does not support full-screen mode on most hardware. This setting should be used when the other two (2) options do not work.

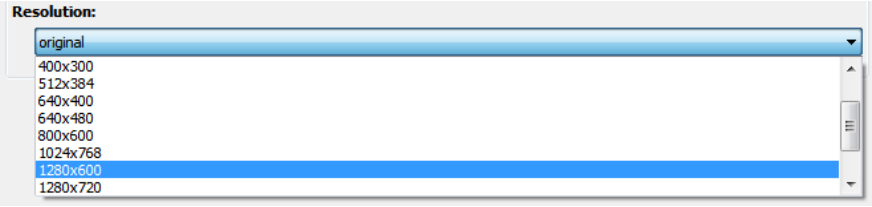
In the Additional Options section, it gives you two options if and only if the "Overlay" or the "OpenGL" options are picked. If and only if "Overlay" and "OpenGL" can set the

configuration to start in full-screen mode. Select the Start in full-screen mode option and when the configuration is executed the windows will be full-screen and the underlying Windows® desktop will not be seen.

Alt-Enter – will take the dbDOS window from Full-Screen to Windows screen. If it is in a windowed setting pressing the Alt-Enter will take it back to full screen. Hitting the Alt-Enter again will put it back in to a windowed setting.

> **NOTE:** *Moving from full-screen mode to window and window to full screen mode may not always work with different graphics cards. This mode is supported but due to the differences in the way graphics cards work, the presentation may become unstable.*

The second option besides full-screen is the resolution of the screen you may want to use. dbDOS™ PRO 2 reads your hardware and shows only the valid options that you may pick. The default size is 640x480; however, you can pick the size you would like to start in:



> ***Note***: Picking a size from the Resolution dropdown does not mean the screen will look good. This option scales the size of the screen to the sized picked. Some sizes may look as good as the default and some may look much worse. This is a trial and error setting, and it depends on your hardware, screen size, and application being displayed.

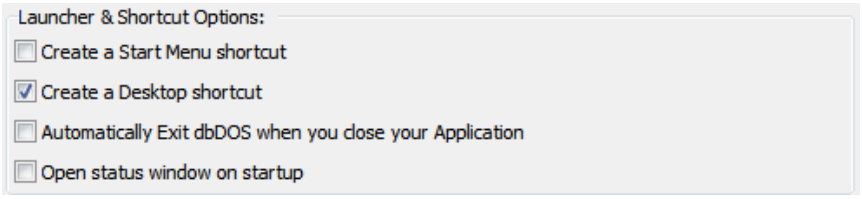
When you are done with selecting the Display Options, they will be ready to move to the next area.

Change Area 6: CPU Options:

In dbDOS™ PRO 2 we have added a new option for CPU Options, these allow use to customize the instruction set used by the CPU to maximize performance. This new exposure reduces the need for a 3rd Party Memory Management product to be included, which drastically reduces hardware conflicts and better memory management.

Change Area 7: Launcher & Shortcut Options:

These are additional options that can be set with the configuration to make the product run as desired. None of the following options are mandatory, but they can make the experience better for you.



Launcher & Shortcut Options: Pick the ones you think will give the best experience

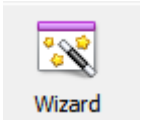
Create a Start Menu shortcut	This option will add a shortcut to the Windows shortcut menu.
Create a Desktop shortcut	This option will add a shortcut to the Windows Desktop and is selected by default. You must de-select to remove this option.
Automatically Exit dbDOS when you close your Application	When an application is executed and then closed if this option is not selected it will return to a command-prompt. If you want to close the command prompt, clicking the red 'x' or type in exit at the prompt and hitting return will close the session.
Open status window on startup	When this option is selected, an additional status window will be opened. This window displays additional information from the dbDOS™ VM. This is primarily used for advanced debugging purposes.

Change Area 7: Footer-bar

The bottom toolbar is the location where you can complete the single interface configuration manager.

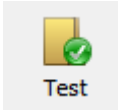
Footer-bar: All the options for completing a configuration

Now to explain what each button on the footer-bar does:



This takes you to the Wizard configuration. This button will be replaced with the Advanced button above when in the Advanced configuration manager.

Clicking Help button will start the embedded how-to video on the wizard. This will open in the machines pre-defined media viewer, most likely a browser.

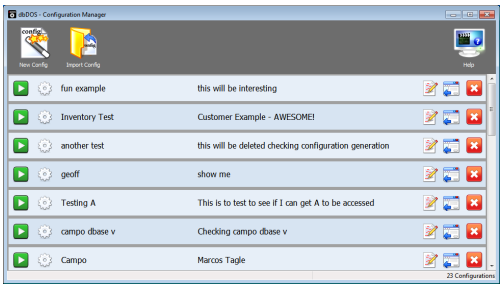


The Test Configuration option is just that, after you have set all the options for the configuration, the program now gives you an opportunity to test to see if you like it. Press the Test Configuration button and the configuration will execute.

After you exit the test, if there was something you did not like, you can change the settings, then retest if needed. If everything works as defined, click the Save Configuration to complete the task.

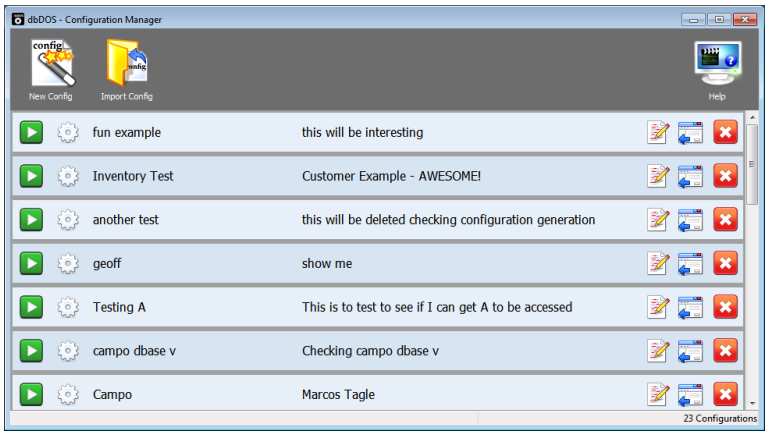
The Save Configuration button allows you to Save the configuration settings at any point. Pressing the Save Configuration button will complete the interface.

This button will return you back to the main screen, where you can create a new configuration, import a configuration, refresh a configuration, or exit the dbDOS Config program.



Returns to Main page:

After the wizard is complete, the wizard will take you back to the main page. On the main screen, you should see the new configuration you created in the prior wizard steps as shown below:



Updated after creating a configuration using the Single Page approach

The shortcut created on the Windows® desktop

Running dBASE DOS after the dbDOS Configuration Utility

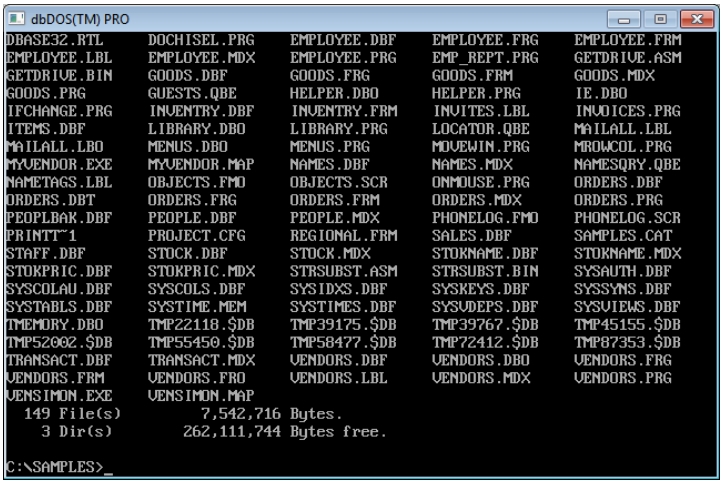
(dbDOS_Config.exe)

Once the dbDOS™ Configuration Utility has been completed, you should now see icons on your Windows desktop. There can be four different icons for dbDOS:

This icon represents the dbDOS™ product (without any configuration settings). Used internally in the dbDOS™ VM.

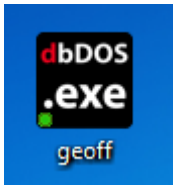
This icon represents the specific configured programs' command-prompt. It is found on the Windows® desktop and menu shortcuts and will be used to start a dbDOS™ session. Double-clicking on the icon from the Windows® desktop will start the program's command prompt. From there you can execute various DOS commands.

Example: *You have configured dbDOS™ to work with dBASE V DOS. Double-clicking this will take you to {drive}:\> (which is actually pointing to the root folder of the dBASE V DOS program) if you execute a DIR command the directory contents are shown; if you type in dbase.exe the dBASE program will execute.*

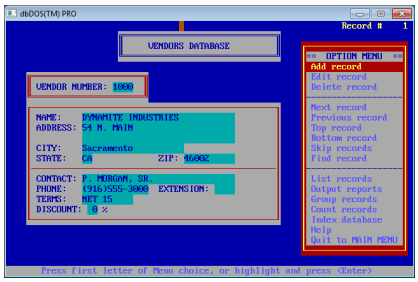


This icon is used to represent a specific executable program configured to run inside the dbDOS™ VM. This will usually have a name under the icon on the desktop or on the start menu, which describes what program will be executed when selected.

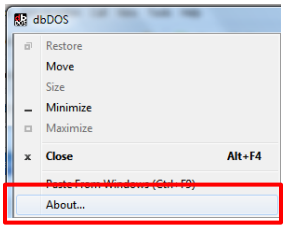
For Example:



double-click – executes:



This icon represents the dbDOS™ Configuration Utility, by double-clicking on this icon, the dbDOS™ Configuration Utility will be executed and run. Once in the configuration utility, you can make additional shortcuts to other programs, those programs will be assigned one of the above icons depending on if you are starting from a DOS prompt or executing a program.

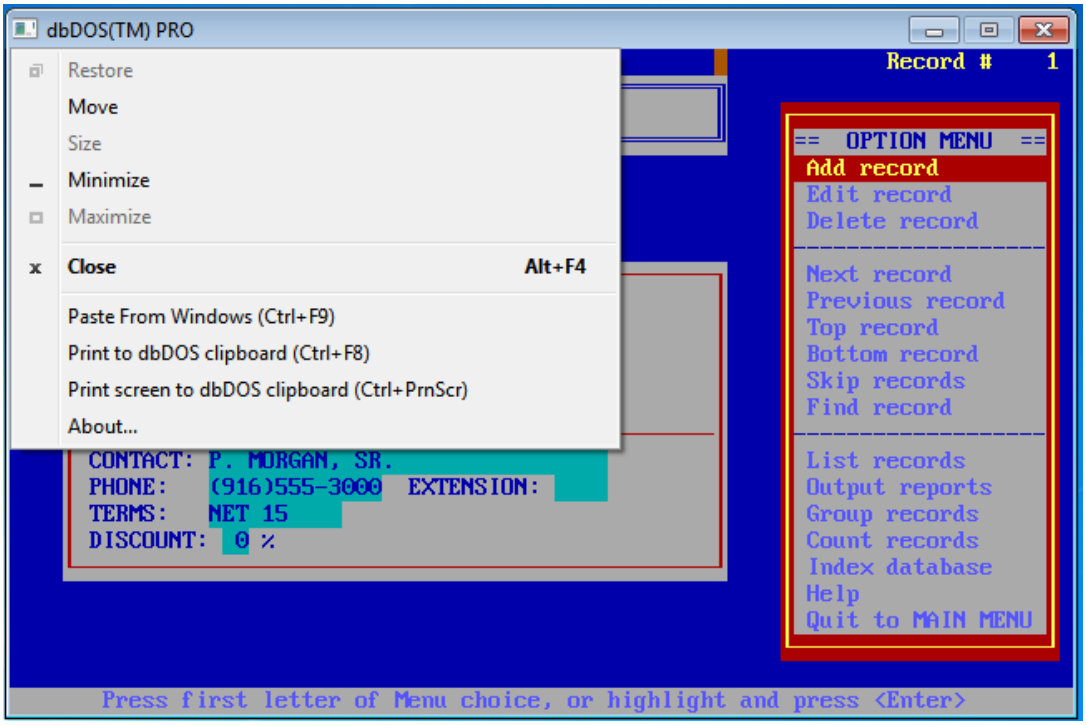


The About… menu item is available on the system menu of the dbDOS window. Clicking the menu item will show you the about box, with information of the release.

Note: Please watch the video on configuring dbDOS, this will answer many of the questions and show you exactly how the program works and can be configured.

New Features for dbDOS™ 2

By clicking the system menu button in the dbDOS PRO 2 VM you get the following menu:



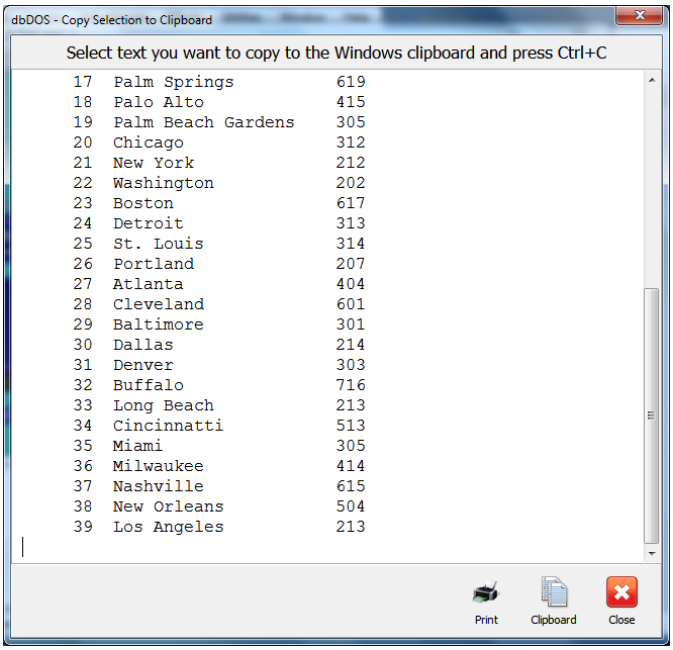
System Menu: Mouse click the top icon for advanced features

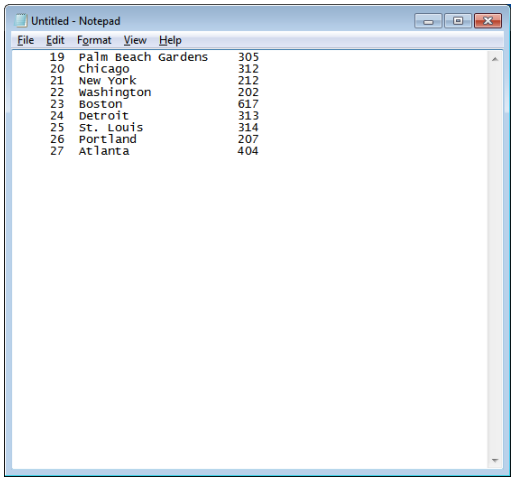
Paste From Windows (CTRL|F9)

From Windows if you copy text, usually Ctrl-c in a windows application you can paste that text into the dbDOS™ system by pressing Ctrl-F9 or clicking the dbDOS™ PRO 2 VM System menu as shown above and select the option from the menu.

Print to dbDOS clipboard (Ctrl-F8).

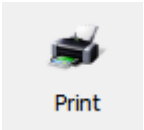
dbDOS™ PRO 2 adds a new capability to copy from the dbDOS™ PRO 2 environment to the Windows environment. This is not as easy as one would think, as DOS did not have a clipboard support. The way that dbDOS™ accomplishes this is from a suggestion from on our dbDOS™ users. The system accomplishes this task by capturing any output to the printer in a windows buffer and allowing users to copy from the popup window into the Windows OS. This option can be turned on, and left on, as long as you can print Interpreted using the Print option. ALL output when this option is on is put into the popup window, as shown below:



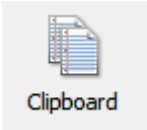


Copy contents from dbDOS - *Paste into a Windows Program*

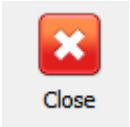
There are some limitations to this approach, one you must be able to use the Print features that will be captured out in the new buffer. We have implemented multiple windows for multiple outputs, so you need to keep track of all the output windows.



This will allow for the Print of the buffer using the Interpreted Print functionality.



Pressing this button will put the contents of the display into the standard Windows® clipboard feature. This can then be copied like any other clipboard item.

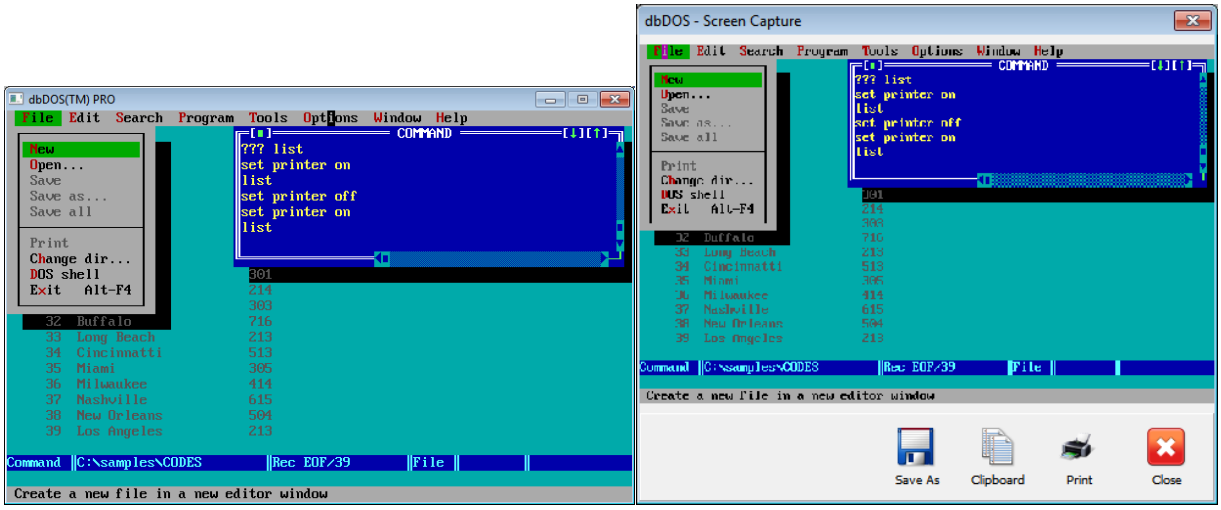


This will close the window and clear the clipboard buffer.

Print screen to dbDOS Clipboard (Ctrl-PrnScr)

The next feature has been requested since the introduction of dbDOS™. In the old DOS based programs, there was the ability to print the screen contents to a printer. We have now implemented that functionality in dbDOS™ PRO 2.

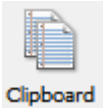
Pressing the Ctrl-PrnScr button or clicking the dbDOS™ PRO 2's System menu and selecting the menu item will take a screen shot of the current screen.



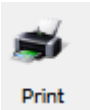
Actual Screen – *Screen Print Interface*

Notice that the Screen Capture interface has four options:

dbDOS™ PRO 2 gives the ability for the user to save the picture for future review or printout.



dbDOS™ PRO 2 gives the ability to copy the contents of the screen capture into the Windows clipboard feature and can be used as any other item in the Windows clipboard.

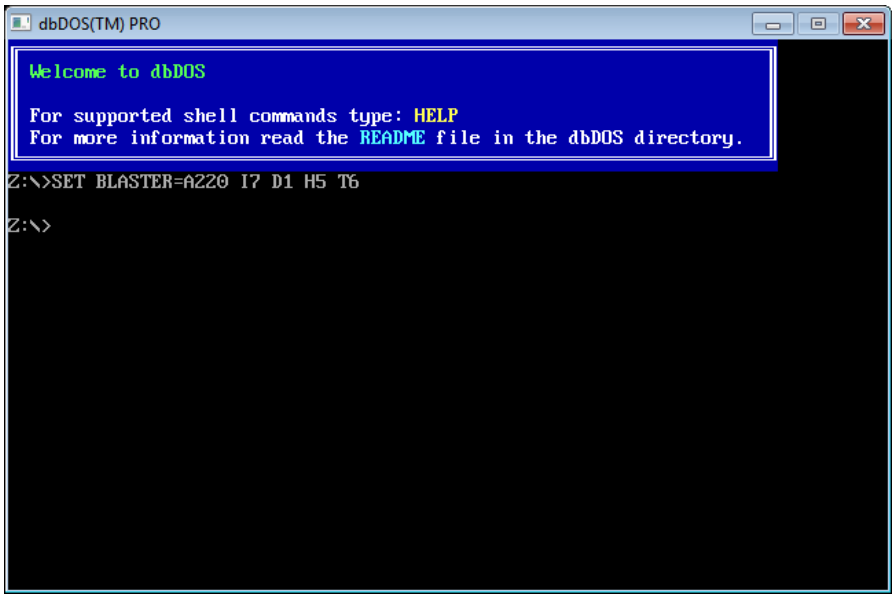


dbDOS™ PRO 2 gives the ability to Print the Screen Capture to a printer

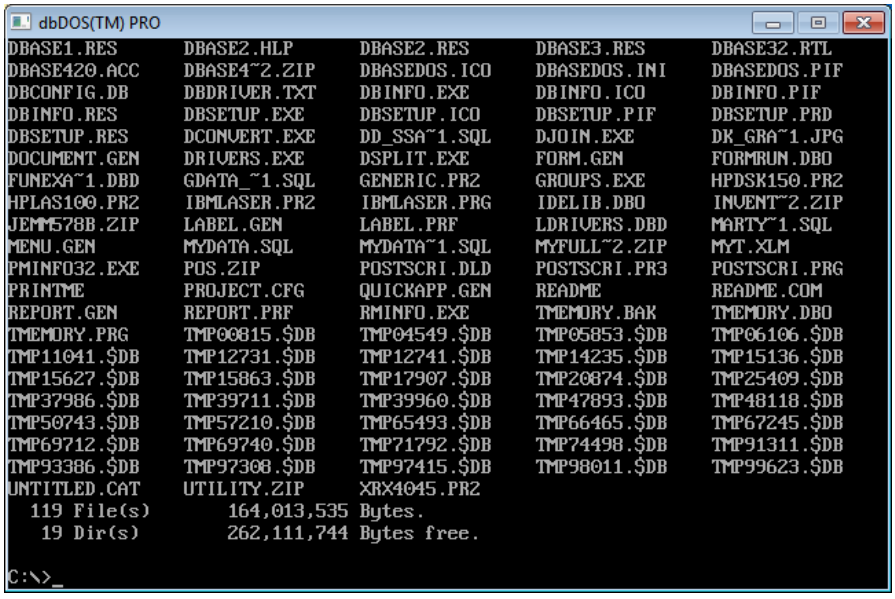
dbDOS™ PRO 2 gives the ability to close the picture and it will be discarded from memory.

Here is an example of how to use dbDOS Command prompt (configured to use dBASE V DOS)

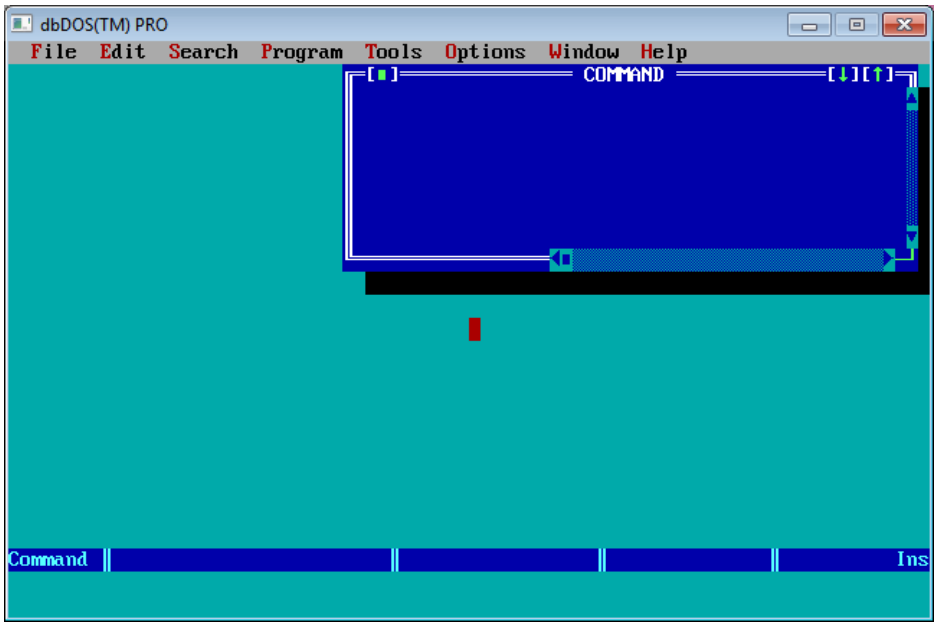
Double-clicking on the will take you to the {drive}:\> as shown below:



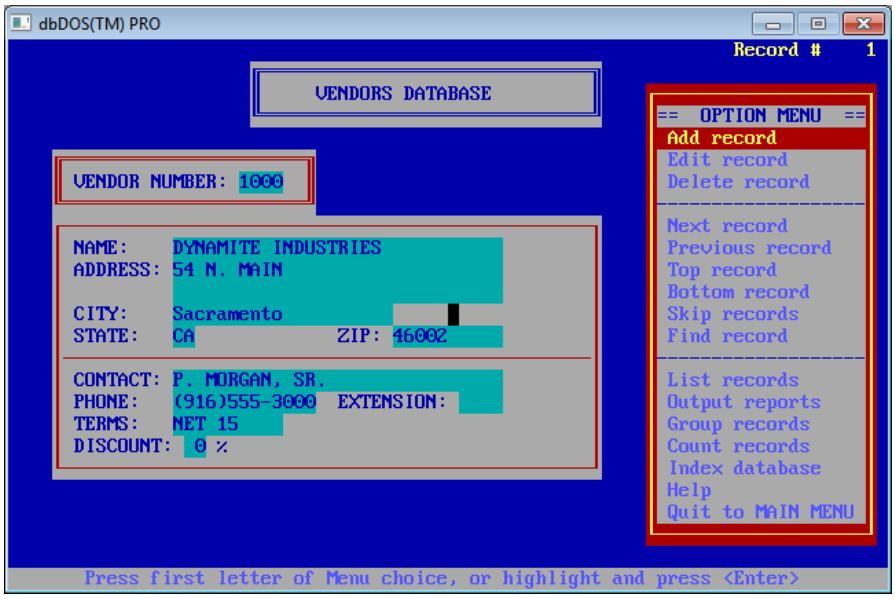
Execute a DIR command and the following displays:



As you can see this is the main directory from dBASE V DOS and if the dbase.exe command is executed the following will appear:

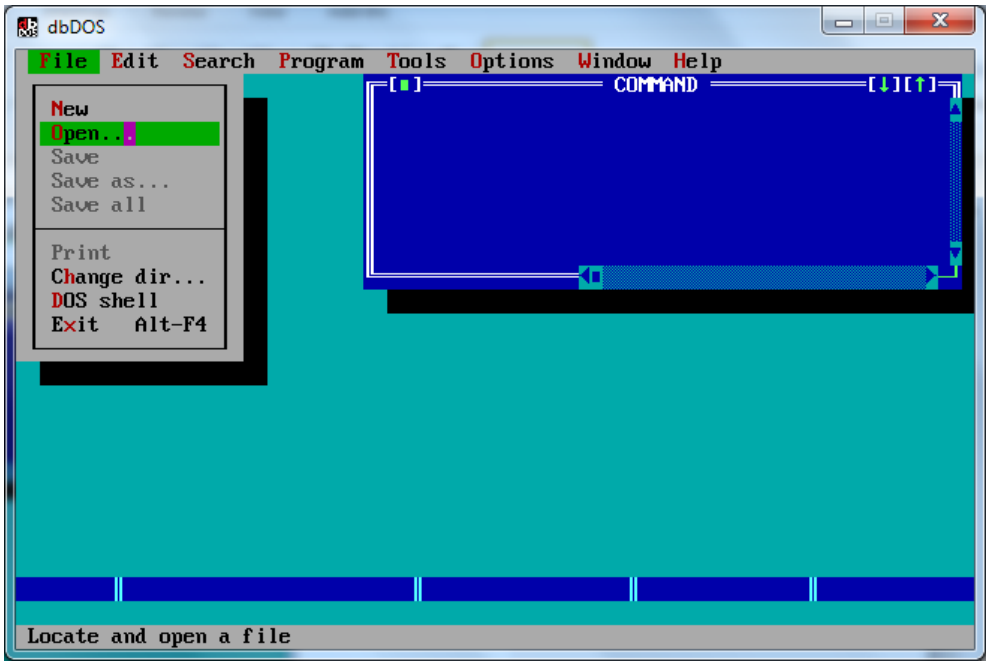


dBASE V executes as expected. Keep in mind that **NO** changes have been made to dBASE DOS and all functions that you normally have in a dBASE V DOS running on a Microsoft DOS machine will work in dbDOS's VM. As you can see below the AREACODE.PRG is ready for modification:

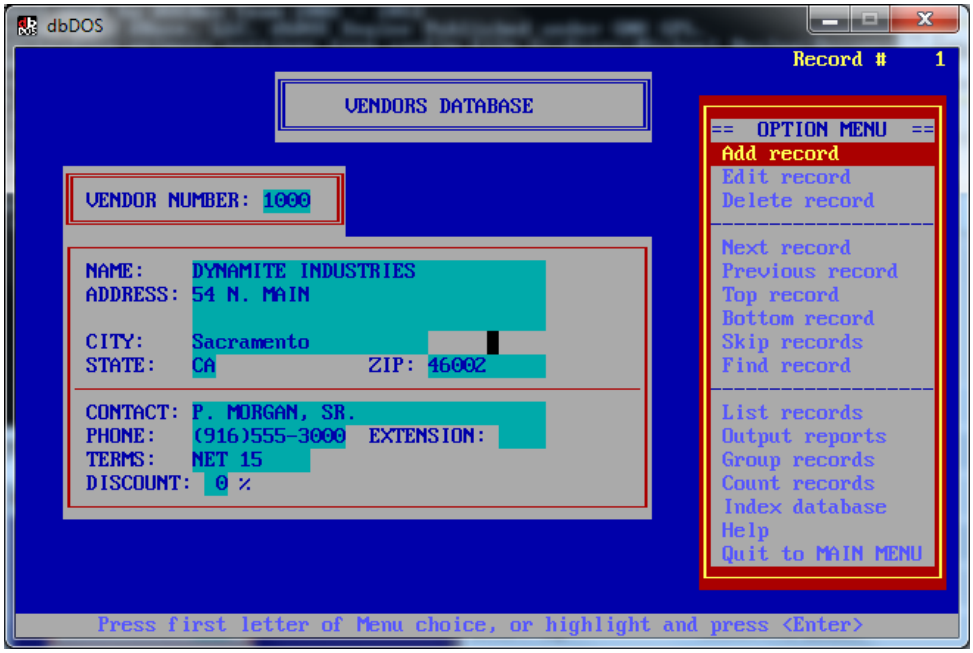


Using the mouse with dbDOS™ PRO 2 is automatic, If you click with the mouse inside the window; dbDOS™ will properly show the mouse cursor inside the window. If you want to exit

the mouse in the window, press the CTRL-F10 and the mouse will be returned to the Windows® operating system. An example is shown below:



Also be aware that all dBASE "." commands work as expected. This is essentially running the dBASE program in a DOS window. You can also run Compile, Debug, Run, and Link dBASE programs as you normally would. Example of the Areacode.exe sample shown:



Quick Keyboard shortcuts

dbDOS™ supports a number of different keyboard shortcuts that end-users can use to make the experience with dbDOS™ even better. All the standard keyboard commands of MS-DOS are supported, and some additional ones listed below:

- **Alt-Enter** – This will take the end-user from Full-Screen to Windows screen. If end-user is in a windowed setting pressing the **Alt-Enter** will take the product full screen. Hitting the **Alt-Enter** again will put the end-user back in to a windowed setting.

  Note: *Moving from full-screen mode to window and window to full screen mode may not always work with different graphics cards. This mode is supported but due to the differences in the way graphics card word, the presentation may become unstable.*

  Activate: Hold the **Alt** key down and press the **Enter** key

- **CTRL-F9** – This will KILL the dbDOS™ windows or session. If for some reason the end-user needs to exit or kill the running program pressing the CTRL-F9 key combination, will close the dbDOS™ window and thus will kill the dbDOS™ session as well.

  ***Please be aware the closing a window with CTRL-F9 could cause corruption as the window/session is automatically killed with no regard to open files or mid-process, use with caution.*

  Activate: Hold the **CTRL** key down and press the **F9** key

- **CTRL-F10** – This will enable or release the mouse. If you have mouse control for the DOS application and the end-user would want to escape back to the Windows OS, press the **CTRL-F10** and the mouse control will be released from the dbDOS™ window. While on a dbDOS™ window, if **CTRL-F10** is pressed the mouse will be activated inside that window.

  Activate: Hold the **CTRL** key down and press the **F10** key

Glossary of Terms:

- **Microsoft DOS® or MS-DOS®**
  This is reference to Microsoft Disk Operating System or DOS environment. Microsoft DOS and MS-DOS can be used interchangeably and is sometimes shorted to just DOS. dbDOS™ PRO 2 is designed to run MS-DOS application from version 3.0 – 6.0.

- **dbDOS™ PRO 2**
  dbDOS™ PRO 2 is a complete approach to running MS-DOS based application and specifically dBASE version of the DOS programs. dbDOS™ PRO 2 comes with the DOS emulation virtual machine, a configuration program, and the ability to print either local or networked based printers.

- **dbDOS™ PRO 2 VM or VM**
  The dbDOS™ VM or VM stands for Virtual Machine and with dbDOS™ it is a MS-DOS emulation that allows products developed for DOS based application to run inside the virtual machine. The VM supports the Windows® Operating Systems (XP, 2003, Vista, 2008, 7) in either 32 or 64-bit editions.

- **DOS Compatible software**
  Software that was compiled to run specifically on the DOS system.

- **Program Executable**
  On a DOS based system this could be either a file name with the extension of .com or .exe

- **Program Command-Prompt**
  The base directory where the Program Executable would be located. Using dBASE V for DOS as an example it was usually installed on the main drive under the en directory. Therefore, the Program Command-Prompt for dBASE.exe would be {drive}:\en\>

- **Windows Shortcut to Program Command-Prompt**
  This is an Icon or menu item that points to a program's default or executable directory. Double-clicking on the shortcut will take the end-user to the Command-Prompt for that

directory. dbDOS_Config.exe can be used to create this shortcut.

- **Windows Shortcut to Program Executable**
  This is an Icon or Menu item that points to the Program itself and when double-clicked to execute that program. dbDOS_Config.exe can be used to create this shortcut.

- **Local Print**
  dbDOS™ PRO 2 will allow you to print to a local printer. In the DOS days this printer would be referred to as LPT1. dbDOS™ allows you to print to any connected Printer.

- **Network Print**
  dbDOS™ PRO 2 will allow for network printing as well. When you create a shortcut for a program you can assign the networked printer's IP address. (advanced end-users only)

- **dbDOS_Config.exe**
  The main program for building shortcuts in dbDOS™ 1.5. This program will allow you to configure each shortcut with specific options to optimize the end-users experience.

- **Program Directory**
  The directory on the Windows based machine that has the needed executable (.com or .exe).

- **Data Directory**
  The directory on the Windows based machine that has the program or application data.

- **Program & Data Directory**
  The directory on the Windows based machine that has the needed programs and data located.