***FreeFalcon6 source code build manual with Microsoft Visual Studio 2010+2012***

* **Do not try to outsmart this guide. All instructions are there for a reason.**
* **The order of installation is crucial to the success of the entire process.**
* **This guide assumes a PC with Windows 8.1. Slight changes may apply for a different OS.**
* **This guide assumes installation of Microsoft Visual Studio 2010 Professional** **and Microsoft Visual Studio 2012 Professional. Other versions might be different.**
* **Anytime you are instructed to choose an installation folder, don’t select a long or deep path. This is proven to cause the sim to crash!!!**
* **Read the manual several steps ahead, before you actually act.**
* **Before you begin, make a full system image backup of your system drive. Trying to uninstall the development components will not work, because many folders and registry settings will stay and interfere in case you need to reinstall everything.**

**DOWNLOAD SECTION**

1. Please download all these files. You can download them all at once to save time.
   1. Download all 5 parts of **FreeFalcon6** installer from here:
   2. <http://www.mediafire.com/download/fht1chqt4is56y3/FF6Installer.part1.rar>
   3. <http://www.mediafire.com/download/weu8ioyh2dk47wq/FF6Installer.part2.rar>
   4. <http://www.mediafire.com/download/x84imkuaxpkaa1b/FF6Installer.part3.rar>
   5. <http://www.mediafire.com/download/s1o3k3dnayeisha/FF6Installer.part4.rar>
   6. <http://www.mediafire.com/download/v243nbhhksynfiz/FF6Installer.part5.rar>
2. Download **display.dsp** and **viper.pop** files here: <http://ge.tt/2oS3Hgz1?c>
3. Download **Windows SDK 7.1** from here: <http://www.microsoft.com/en-us/download/confirmation.aspx?id=8279>
4. Download **Windows SDK 8.1** from here: <http://www.darwinbots.com/numsgil/dx81sdk_full.exe>
5. Download **Microsoft Visual Studio 2010** **Professional** free 30 days trial version from here: <http://download.microsoft.com/download/D/B/C/DBC11267-9597-46FF-8377-E194A73970D6/vs_proweb.exe>
   1. Download **Microsoft Visual Studio 2010 Service Pack 1** from here: <http://www.microsoft.com/en-us/download/confirmation.aspx?id=23691>
   2. Download **Microsoft Visual Studio 2010 Service Pack 1 update** from here**:** <http://www.microsoft.com/en-us/download/confirmation.aspx?id=4422>
6. Download **Microsoft Visual Studio 2012 Professional** free 30 days trial version from here: <http://www.microsoft.com/en-us/download/details.aspx?id=30682>
   1. Download **Microsoft Visual Studio 2012 Update 4** from here: <http://www.microsoft.com/en-us/download/confirmation.aspx?id=39305>
   2. Download **Microsoft Visual Studio 2012** settings file from here: <http://ge.tt/9n3j9K02/v/0?c>
7. Download **WiX Toolset** from here: <https://wix.codeplex.com/releases/view/115492>
8. Download **GitHub for Windows** from here: <https://github-windows.s3.amazonaws.com/GitHubSetup.exe>

**INSTALL SECTION**

1. Wait for all 5 **FreeFalcon6 .rar** parts to finish downloading before proceeding to the next step.
   1. Decompress the **part1.rar** file, using your favorite decompressor (**WinZip**, **WinRar** etc…).
   2. Do not decompress other **.rar** parts. The decompressor will take care of that automatically.
   3. After the decompressor finishes, you can delete the **.rar** files if you need to save disk space.
2. Run the **freefalcon6.0\_installer.exe**.
   1. Continue and select a folder to install. Keeping the default installation path is preferable.
   2. Continue and make sure all 4 checkboxes are selected.
   3. At the last screen, uncheck the box **Launch FreeFalcon6 Config Editor**.
   4. Click **Finish**.
   5. Do not run **FreeFalcon6!** We want the sim to stay with all its defaults for the initial debugging!
   6. Copy **display.dsp** and **viper.pop** files to your **FreeFalcon6\config** folder. Default is **C:\FreeFalcon6\config**.
3. Run the **Windows SDK 7.1** installer **winsdk\_web.exe**.
   1. Continue and select your favorite installation folders. Keeping the default is preferable.
   2. Continue until you get to the list of components to install.
   3. Deselect the following checkboxes: **Samples**, entire **.NET Development** group, **Microsoft Help** **System**, **Application** **Verifier** and **Windows Performance toolkit**.
   4. Continue the installer and wait for it to finish. This is a web installer so it will take time!
4. Run the **Windows SDK 8.1** installer **dx81sdk\_full.exe**.
   1. Select your favorite decompression folder.
   2. Click **Unzip**.
   3. Wait for the **Unzip** to finish.
   4. Click **Close** to close the **Unzip**.
   5. Browse to the decompression folder.
   6. Browse to the **DXF** folder.
5. Run the **setup.exe**.
   1. Continue and select a folder. Keeping the default installation path is preferable.
   2. Continue until you get to the list of components to install.
   3. Deselect the 4 top checkboxes (samples and documentations).
   4. Finish the installation.
   5. Restart your computer so everything will be ready for the next step.
6. Run **Microsoft Visual Studio 2010 Professional** installer **vs\_proweb.exe**.
   1. Continue and select a folder. Keeping the default installation path is preferable.
   2. Select **Custom** and click **Next >**.
   3. Deselect everything.
   4. Select only the **Visual C++** group.
   5. Continue and wait patiently for the installation to finish.
   6. Don’t install the documentation.
   7. Exit the installer.
7. Run **Microsoft Visual Studio 2010 Service Pack 1** installer **VS10sp1-KB983509.exe**.
   1. Continue and wait for the installer to finish. This is a web installer so it will take some time!
   2. Finish the installation.
   3. Run **Microsoft Visual Studio 2010 Service Pack 1 update** installer **vc-compiler-kb2519277.exe**.
   4. Finish the installation.
   5. Restart your computer so everything will be ready for the next step.
8. Run **Microsoft Visual Studio 2012 Professional** installer **vs\_professional.exe**.
   1. Continue until the components selection menu.
   2. Deselect everything. Select only **Microsoft Foundation Classes for C++**.
   3. This is a web installer so wait patiently for the installation to finish.
   4. Do not click **LAUNCH**, just exit the installer.
   5. Run **Microsoft Visual Studio 2012 Update 4** installer **VS2012.4.exe**.
   6. Continue and wait for the installer to finish. This is a web installer so it will take some time!
   7. Don’t click **LAUNCH**, just exit the installer.
9. Install **WiX Toolset** installer **wix**xx**.exe**. It will automatically register itself with **MSVS2012**.
10. Restart your computer.

**REPOSITORY SECTION**

1. Sign up for **GitHub** here: <https://github.com/>
   1. Complete the email verification.
   2. Setup all **GitHub** settings to your liking.
2. Run **GitHub for Windows** installer **githubsetup.exe**.
   1. If you get a security warning, approve it.
   2. This is a web installer so wait for it to finish.
   3. **GitHub for Windows** will run automatically so just sign in and confirm the email setting.
   4. The **Find local repositories** window opens. Click **Skip**.
   5. The **Get started by adding a repository** window opens. Disregard and click the **settings** icon at the top right.
   6. Click **Options** and set whatever you like. Click **Update**.
3. **Git** defaults to generating **CR** and **LF** automatically. This is known to cause errors.
   1. Run **Git Shell** from your desktop or here: **Start menu – Programs – GitHub, Inc** group.
   2. In the command line, paste this command: **git config --global core.autocrlf false** and press **ENTER**. The command prompt will appear without anything else.
   3. To make sure it works, paste this command: **git config --global core.autocrlf** and press **ENTER**. The result should be **false**.
   4. Close **Git Shell**.
4. Browse to this repository: <https://github.com/FreeFalcon/freefalcon-central>
   1. Make sure you are logged in by looking at your username at the top right of the screen.
   2. Click the **Fork** button in the top right. This will create your own repository.
   3. Save that new **URL** in your browser’s bookmarks.
   4. Click the **Clone in Desktop** icon at the lower right of the screen.
   5. Approve the security warning.
   6. After few seconds, a window will appear asking you where to save the repository.
   7. Choose a folder, not too deep. Choosing D:\ is great. After few seconds the repository will be cloned to your drive.
   8. Wait for the repository download to finish.

**CONFIGURE SECTION**

1. To setup the environment variable of the **DX SDK**, go to **Control Panel – System - Advanced system setting – Advanced - Environment Variables**.
   1. In the lower pane, click **New**.
   2. Copy this **DX81\_SDK** (make sure not to copy the space) to the variable name box.
   3. Copy this **C:\DXSDK\** (make sure not to copy the space) to the variable value box.
   4. Click **OK**.
2. Go to **Control Panel - Windows Update** and search for new updates.
   1. Install all the optional updates. This will install all the critical and important updates too.
   2. Restart your computer so the changes will take effect.
   3. Run **Windows Update** for the second time, search for new updates and install everything.
   4. Restart your computer so the changes will take effect.
   5. Repeat running **Windows Update** until no updates are left to install.
   6. If any updates were installed, restart your computer.
3. Run **Visual Studio 2012** )not 2010).
   1. If you downloaded the trial version, click **Cancel** when asked for the product key.
   2. Choose your default environment settings as: **Visual C++ Development Settings**.
   3. When asked about downloading help content, choose **No**. You can do that later.
   4. If a popup windows appears on your **taskbar** about **Visual Studio** updates, do it.
4. Go to **TOOLS – Import and Export Setting.**
   1. Choose the **Import selected environment settings** radio button.
   2. Click **Next** **>**.
   3. Click **No, just import new settings, overwriting my current settings** radio button.
   4. Click **Next** **>**.
   5. Click **Browse**.
   6. Select the file **exported-**yyyy-mm-dd**.vssetting**.
   7. Click **Open**.
   8. Click **Next**.
   9. Click **Finish**.
   10. Click **Close**.
5. Click **FILE – Open - Project/Solution**.
   1. Browse to your repository folder\**freefalcon-central\src\FreeFalcon.sln** and click **Open**.
   2. In your **Solution Explorer** window, scroll down to the **FFViper** project and click to select it.
   3. Right click it and select **Set as StartUp Project**.
6. Click **VIEW - Property Manager**. If you don’t find it, try **VIEW -** **Other Windows - Property Manager**.
   1. After few seconds, scroll down in your **Property Manager** window, to the **FFViper** project.
   2. Click the little arrow to its left. This will open two options.
   3. Click the little arrow to the left of the **Debug | Win32** line.
   4. Under the **Debug | Win32 line**, Click the line **Microsoft.Cpp.Win32.user**.
   5. Right click it and select **Properties**.
   6. In the left pane, the **Common Properties** menu will be open. Select **VC++ Directories**.
   7. In the right pane, select the **Include Directories** line.
   8. Copy this **$(IncludePath);$(DX81\_SDK)Include (without the space) to replace whatever is in that line.**
   9. In the right pane, select the **Library Directories** line.
   10. Copy this **$(LibraryPath);$(DX81\_SDK)Lib (without the space) to replace whatever is in that line.**
   11. Click **OK** to close the main window.
7. Select the **Debug | Win32** line and scroll a bit down.
   1. Hold your keyboard **Ctrl** key and select the **Release** **| Win32** line**.** Now both lines are selected**.**
   2. Right click it and select **Properties**.
   3. In the left pane, the **Common Properties** will be open. Select **Debugging**.
   4. In the right pane, select the **Working Directory** line.
   5. Click the little down arrow in the right and select **Browse** from the menu.
   6. Select the root folder of your **FreeFalcon6** sim you installed before. Default is **C:\FreeFalcon6**.
   7. Click **OK** to close the properties window.
8. Select only the **Debug** **| Win32** line. Right click it and select **Properties**.
   1. In the left pane, the **Common Properties** will be open. Select **Debugging**.
   2. In the right pane, select the **Commands Arguments** line.
   3. Add the command **-window** and click **OK**. This will make the sim run in a window for easy debugging.
   4. Click **FILE - Save All**.
   5. Quit **Visual Studio 2012.** You will be prompted to save your changes, so approve it.

**BUILD SECTION**

1. Run **Visual Studio 2012**. Your project will be loaded automatically.
2. Click **BUILD - Rebuild Solution**.
   1. This will take time. You should get the following result:

67>Build FAILED.

========== Rebuild All: 66 succeeded, 1 failed, 0 skipped ==========

* 1. The entire code should compile with only 2 errors. Those are related to **WiX** for the **Release** branch and will be fixed once the code is ready to be released.
  2. If you get a lot of errors, it means you did not follow the instructions precisely!

1. At certain screen resolutions, the sim will occupy the entire height of the screen. This will make switching between the sim’s **UI** buttons very difficult. Right click your **taskbar** and select **Properties**. Check the **Auto-hide the taskbar** box. Click **OK**.
2. Click **DEBUG - Start Debugging** to run the sim.
3. Now you can install any help files you may need.
4. Uninstall any components you do not need. Make sure it does not affect **FreeFalcon6**, by rebuilding the entire project, after each component removal.
5. Now you are ready to start fixing bugs!
6. If you have any feedback about this guide, or think it can be done better, please email me: [dannycoh@gmail.com](mailto:dannycoh@gmail.com)