Using Regmon, Filemon, and Portmon for SX-Key IDE Troubleshooting

1. Download the following applications from **http://www.sysinternals.com**:
   Regmon - Real-time registry monitor
   Filemon - Real-time file system monitor
   Portmon - Real-time serial / parallel port monitor

2. Unzip the files to a convenient location, such as the Windows desktop. The .exe files require no installation, and can be run directly by double-clicking.

3. Start **Regmon**, and configure the filter as follows:
   Select **Options > Filter/Highlight**
   Match the following dialog settings (note **SX*.exe**):
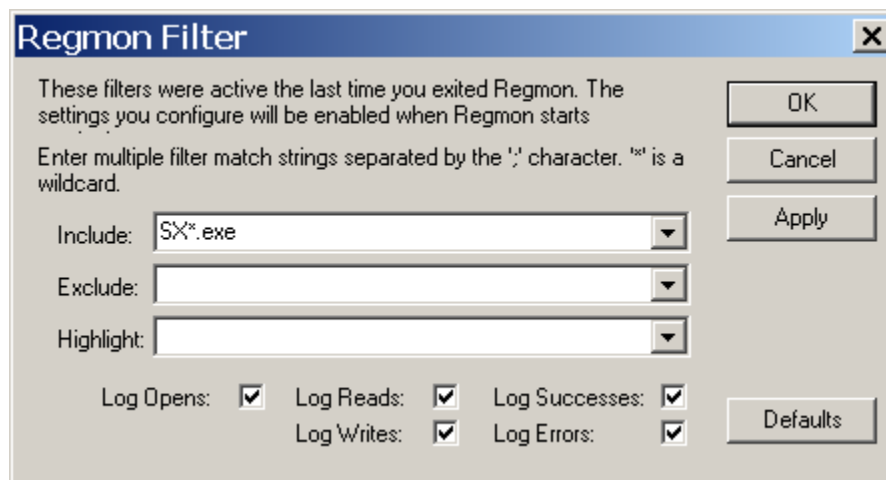
4. Start **Filemon**, and configure the filter as follows:
   Select **Options > Filter/Highlight**
   Match the following dialog settings (note **SX*.exe**):
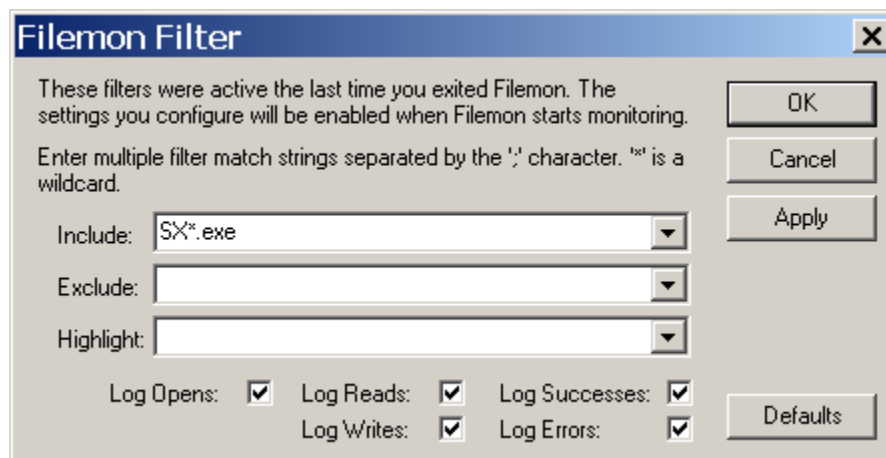
5. Start **Portmon**, and configure the filter as follows:
   Select **Edit > Filter/Highlight**
   Match the following dialog settings (note **SX*.exe**):
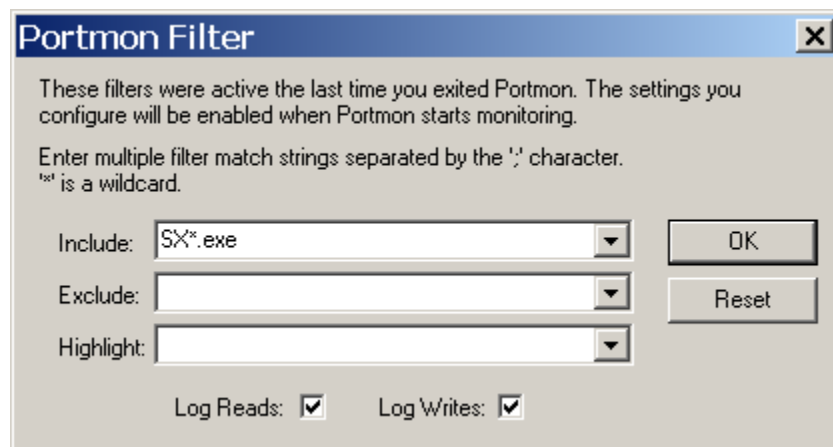
6. The three applications are now performing real-time logging for all processes that match the filter parameter **SX*.exe**. At this point, you can minimize them if necessary to avoid screen confusion, or you can view activity in real-time. You can turn off the auto-scroll feature for easier interactive viewing by clicking the button on the toolbar.

7. Start the SX-Key IDE.

8. Perform normal activity in the SX-Key IDE until it crashes in the usual manner.

9. At this point, maximize the three programs, and save the capture logs by choosing **File > Save As...**

10. At this point you should have a record of all registry, file system, and serial port activity for the SX-Key IDE from process creation to process termination. The logs can now be analyzed for unusual activity, such as errors or access denied conditions.

11. This process can also simultaneously log multiple instances of the SX-Key IDE, since each instance will have unique process IDs. Note, however, that at this time Portmon doesn't display the process ID with the process name, as Regmon and Filemon do. This makes it difficult to distinguish the individual processes.

12. If you want to view detailed process information, such as memory usage, while the SX-Key IDE is running, you can use **Process Explorer**, also available from **http://www.sysinternals.com**.