

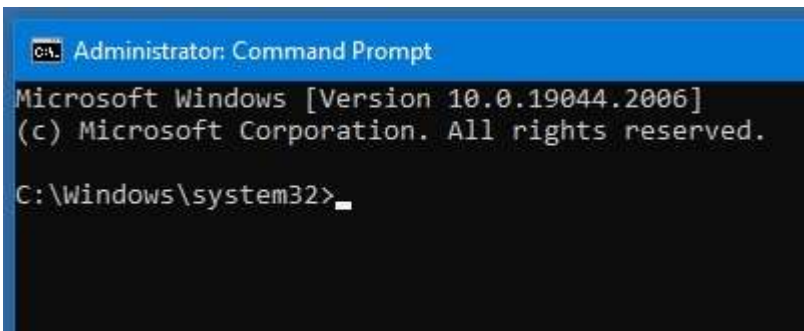
## Keeping Windows Running Properly

All versions of Windows contain a huge number of files – for example, *Windows 10 Pro* on my laptop has over 300,000 files. Not every file is essential, but there are a vast number that are vital. Without them or if they are corrupted or damaged, Windows will not run properly – or it may run, but then crashes unexpectedly. This may be signified by the presence of a blue screen with white text. This is commonly known as a BSOD – a ‘blue screen of death’ but Microsoft call it a Stop Error. By default, Windows automatically restarts under these circumstances, but this is not very helpful because the white text often explains about the error – but when the machine restarts, it is usually not possible to read the information. This is why I always reconfigure Windows so that it doesn’t restart. (*The method for doing this was outlined on the April meeting handout – let me know if you need a copy.*)

Thankfully, Microsoft has some built-in tools that allow us to repair damaged or corrupted system files, and using these can ensure that Windows runs more reliably, and this is what this handout covers.

### Accessing the Command Prompt

If you access the Start menu, start typing *command prompt* – this will bring up a link to the *Command Prompt*. You need to do a right-button click over it and select **More** followed by **Run as administrator**. When the window opens up, you will know whether it’s correct or not because it tells you in the title of the window – it should say **Administrator: Command Prompt**, like this:



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19044.2006]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>
```

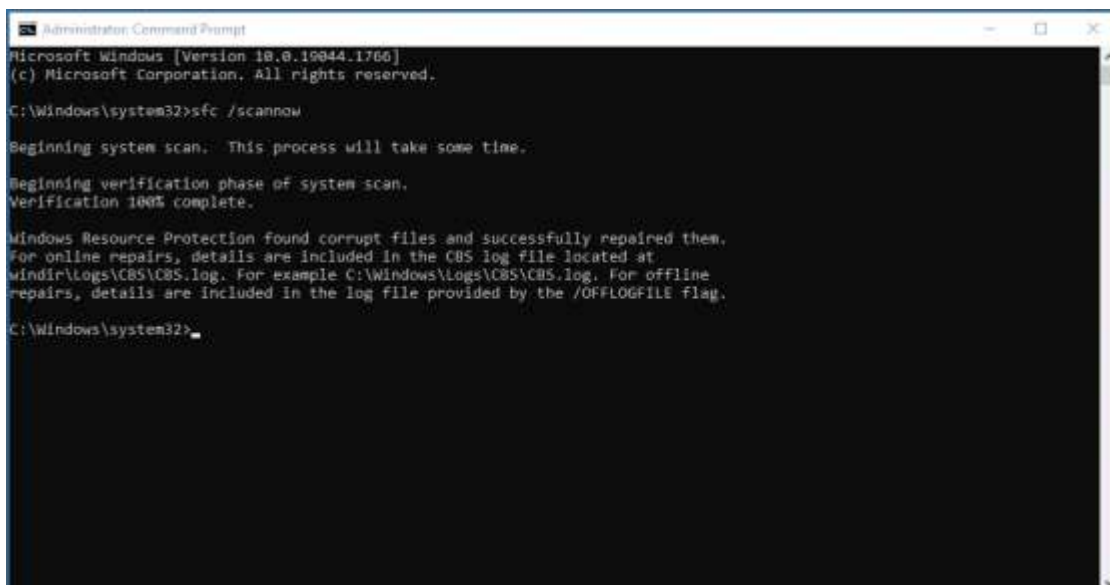
You can also see in the window that the cursor is flashing after telling you which folder it is in – it is **system32**, and if it says anything else, you slipped up!

Once you have this window open, you can get Windows to check itself for you, and it will also try to fix any problems it finds automatically in the process – this

is an essential command to use and can spare a lot of other potential problems further down the line.

### Commands to Use

The first command to use is **sfc /scannow** – this command tells Windows to run a *System File Check* (hence the sfc) and the part after the forward slash tells it to do it now! It will warn you that the process may take a long time – this depends on several factors, and I don’t advise doing this



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19044.1766]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>sfc /scannow

Beginning system scan. This process will take some time.

Beginning verification phase of system scan.
Verification 100% complete.

Windows Resource Protection found corrupt files and successfully repaired them.
For online repairs, details are included in the CBS log file located at
windir\Logs\CBS\CBS.log. For example C:\Windows\Logs\CBS\CBS.log. For offline
repairs, details are included in the log file provided by the /OFFLOGFILE flag.

C:\Windows\system32>
```

whilst trying to run anything else on your machine! Just leave it to do this and it’ll finish sooner.

Most of the time, this command will complete without any issues, and it will tell you that no issues were found. You might find that you get

something similar to the screenshot, which indicates that corrupt files *were* found, and that Windows Resource Protection successfully repaired them. This is a good sign as it shows that damage was found and corrected, and this should prevent more severe issues from occurring.

However, the third possibility is that Windows Resource Protection finds corrupted files and is *not* able to repair them. This indicates that there are damaged files within Windows and they can't be fixed – at least, not by this process.

### **Deployment Image Servicing and Management**

This is the second command we use. It works best if your machine is online, because the command instructs Windows to compare files stored on your machine with 'master' versions stored by Microsoft. If your versions are corrupted, the command will download and replace the damaged versions found by the **sfc** command. As before, you *must* have an Administrator Command Prompt window open (or you could just run this command after the **sfc** one, if it cannot fix everything), and the command to use is **DISM /Online /Cleanup-Image /RestoreHealthDISM** – it's a long command and it is easy to make errors. I usually find a website that details these commands, and then just copy and paste into the Administrator: Command Prompt window. This command can take quite a while to complete – it can appear as if it has 'stuck' especially around the 55% mark, so the best advice I can give you is to go and have something to eat and drink, and then just come back later.

Assuming the **DISM** command completes successfully, you should be able to close the Administrator: Command Prompt window and restart your machine. Running the **sfc** command now should show that everything is now fine, and no errors will be found.

**B K Jangra, October 2022**