**Assignment 1.5**

**Brief**

This assignment will be a research assignment.

Choose one topic and discuss with your group the following:

1. What is the difference between CMD and Powershell?
2. What are the other features in Windows that are available to administrators?
3. What is the system registry and how can it be accessed in Windows?
4. What is the difference between Windows 10 and 11?

**Submission**

* Submit the URL of the GitHub Repository that contains your work to NTU black board.
* Should you reference the work of your classmate(s) or online resources, give them credit by adding either the name of your classmate or URL.

**Q1) What is the difference between CMD and Powershell?**

|  |  |
| --- | --- |
| **PowerShell** | **CMD** |
| It is a task-based command line interface and scripting environment based on .Net framework | It is the command link interpreter for the Microsoft Windows operating systems. |
| It uses much more powerful functions called cmdlets. | It is mostly string-based and is the older batch language with a standard set of functions |
| It can interpret both Batch commands and PowerShell commands | It can only interpret Batch commands |
| The output generated is not just a stream of text but a collection of objects | The output generated is just a stream of text. |

**Q2) What are the other features in Windows that are available to administrators?**

1. New Deployment Strategies - When administrators are tasked with rolling out a new operating system, the easiest way to work with new systems is to load the operating system on a new machine and transfer all of the user's files over the network. Windows 10 deployment plans allow us to preserve user configurations, color schemes and preferences while deploying the operating system as an upgrade across the network.

2. Windows 10 Data Loss Protection - Microsoft has introduced DLP (data loss protection) to overcome some of the security flaws in password protection. Windows 10 files will now attempt to connect to the original computer before allowing another user to open a protected file. It's a new way to protect files without requiring users to remember passwords. It also protects users from standard viruses such as keyloggers and backdoors that give unauthorized users access to the local machine.

3. Automatic Updates - One main upgrades to Windows 10 from older Windows operating systems is that updates are now automatic and the operating system is much more cloud-based. Microsoft is on board with cloud applications, and it has introduced Azure to integrates nicely with Windows 10, but Microsoft also automatically updates the operating system over the cloud (though this can be seen as an advantage or a disadvantage from users’ point of view).

4. Hyper-V Support - Now, Windows 10 has Hyper-V support included, meaning that developers can run VMs natively without using other applications. It also enables administrators to work with several VMs from their own desktop. With Windows Server 2016, this is an added benefit. They both integrate with each other, so having Windows Server 2016 and Windows 10 will be beneficial to administrators.

5. New Interface - Administrators must get used to the new "tiled" Start Menu, especially if you come from a Windows 7 background. Administrators should definitely install Windows 10 on a machine of their own before deploying it across the network. The interface is a hybrid between Windows 7 and Windows 8 and takes some getting used to.

**Q3) What is the system registry and how can it be accessed in Windows?**

The Windows registry stores all the information, options and settings about the operating system. It is possible to open the registry and edit the registry settings through the regedit command. The registry contains vital data and any change in the settings could lead to a configuration error or even a system crash.

It is advisable to back-up the registry before trying to open it up and making changes in the registry settings. The regedit command must be run from the command prompt. The registry window will open, listing all the information in a easily accessible and editable format.

There are two ways of opening the Registry in Windows 10.

* In the search box on the taskbar, type regedit. Then, select the top result for Registry Editor (Desktop app).
* Press and hold or right-click the Start button, then select Run. Enter regedit in the Open: box and select OK.

**Q4) What is the difference between Windows 10 and 11?**

1. Windows 11 brings a brand-new, more Mac-like interface to the OS. It features a clean design with rounded corners and pastel shades. The [iconic Start menu](https://www.cnet.com/tech/computing/windows-11-microsoft-moved-the-start-menu-its-first-significant-revamp-in-6-years/) also moves to the center of the screen along with the Taskbar.
2. [Android apps are now available for Windows 11](https://www.cnet.com/news/windows-11-is-adding-android-apps-next-month/) through the [Microsoft Store](https://www.cnet.com/tech/services-and-software/microsoft-unveils-new-microsoft-store-for-windows-11-lets-developers-keep-all-the-money/), via the Amazon Appstore.
3. Windows 11 lets us [set up virtual desktops](https://www.cnet.com/tech/computing/windows-11-launches-today-take-a-look-at-the-new-desktop-customization-tricks/) in a way that's similar to on a Mac. It allows us to toggle between multiple desktops at once for personal, work, school or gaming
4. It's easier to group different sets of windows and apps together and move between a desktop and a monitor thanks to Snap Layouts and Snap Groups.
5. Microsoft Teams is built directly into the Taskbar in Windows 11 for easier video calling.
6. Launch widgets from the Taskbar in Windows 11 to see at-a-glance information like weather, news and stocks.
7. With the improvement for touch tech, Microsoft made Windows 11 easier to use on tablets than Windows 10.
8. Windows 11 brings some tech additions from the Xbox for better gaming.
9. The new features PWABuilder3 along with WebView2 enable developers to build their web app faster in a more secure way.
10. The Window App SDK make it easier to integrate Window 11 features into apps.