OS

**Windows Server Installation:**

**Step-01: Windows Server 2022 Hardware Requirements:**

* **Processor:** 1.4 GHz 64-bit processor Compatible with x64 instruction set. Supports NX and DEP, CMPXCHG16b, LAHF/SAHF, and prefetch.
* **Memory/RAM:** 512 MB (2GB for Server with Desktop Experience installation option). ECC (Error Correcting Code) type or similar technology, for physical host deployments.
* **Disk Space:** Minimum 32 GB (Windows Server 2022 using the Server Core installation option).
* **Network Requirements:** An Ethernet adapter capable of at least 1 gigabit per second throughput. Compliant with the PCI Express architecture specification
* **Additional requirements:** UEFI 2.3.1c-based system and firmware that supports secure boot; Trusted Platform Module; Graphics device and monitor capable of Super VGA (1024 x 768) or higher-resolution.

**Step-02: Windows Server 2022 Installation Options:**

1. **Server Core –** In many cases, this is the recommended installation option. Server Core is a more minor installation that includes the core components of Windows Server and supports all server roles. However, it does not have a local graphical user interface (GUI). It is primarily used for remotely managed deployments usually through PowerShell, Windows Admin Center, or other server management tools.
2. **Server with Desktop Experience –** If you want a complete installation, including a full GUI, this is your option. This option has a larger footprint than the server core. It is the most preferred option by organizations.

**Step-03: Step-By-Step Guide to Windows Server 2022 Installation:**

* **Download the Windows Server 2022 ISO.**
* **Make the bootable ISO image for Windows Server 2022.**
* **Install Windows Server 2022.**
* **Configure your network on Windows Server 2022.**

**Basic OS configuration:**

1. **Hostname:** The name given to a computer or device on a network. It helps identify the system in a network environment.
2. **IP Address:** A unique numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication.
3. **Network Settings:** Configuration options related to network connectivity, including IP address assignment, DNS settings, subnet masks, and gateway addresses.
4. **Time and Date Settings:** Configuration of the system's time zone, clock synchronization with NTP (Network Time Protocol) servers, and adjustment of date and time formats.
5. **Users and Groups:** Creation and management of user accounts and groups with appropriate permissions and privileges.
6. **Security Settings:** Configuration of security-related settings such as firewall rules, antivirus software, and user access controls.
7. **File System:** Formatting and partitioning of storage devices, setting up file systems (e.g., NTFS, ext4), and configuring disk quotas.
8. **Updates and Patches:** Configuration of automatic or manual updates and installation of software patches to keep the operating system secure and up to date.
9. **Remote Access:** Enabling remote access protocols such as SSH (Secure Shell) or Remote Desktop for managing the system remotely.
10. **Hostname Resolution:** Configuration of DNS (Domain Name System) settings to translate human-readable domain names into IP addresses.
11. **Localization and Language Settings:** Setting the default language, locale, and keyboard layout for the system.
12. **Power Management:** Configuring power-saving features, such as sleep mode, hibernation, and display brightness settings.
13. **User Environment:** Customizing the user interface, desktop background, themes, and screen resolution.
14. **Services and Startup Applications:** Managing system services that start automatically during boot and configuring startup applications.
15. **Backup and Recovery:** Setting up backup solutions, defining backup schedules, and configuring recovery options.
16. **Logging and Monitoring:** Configuring logging levels, event notifications, and monitoring tools to track system health and diagnose issues.
17. **Authentication and Authorization:** Setting up user authentication methods (e.g., passwords, biometrics) and managing permissions and access control lists (ACLs) for files and resources.
18. **System Performance:** Monitoring system resources, adjusting performance settings, and optimizing resource allocation for better performance.
19. **Software Installation:** Installing and updating software packages and applications required for the system's intended use.
20. **Shutdown and Restart:** Configuring shutdown and restart behavior, including graceful shutdown of applications and services.

**Program Installation (.net Core, URL rewrite, etc.):**

**IIS Install in Windows Server (With Features):**