Server Installation & Setup Guide: The PureIoT Standard

Introduction

Proper server installation is the foundation of a reliable IT infrastructure. This guide provides a step-by-step process for setting up both Windows and Linux servers, focusing on best practices for hardware preparation and initial configuration.

1. Hardware Preparation and Pre-Installation

Before installing the Operating System (OS), ensure your hardware is ready.

- **Hardware Check:** Verify all components (CPU, RAM, RAID controller, network cards) are functioning and compatible with the chosen OS.
- **RAID Configuration:** Configure the hard drives into a **RAID array** (e.g., RAID 1 for mirroring, RAID 5 or 6 for performance and redundancy). This must be done in the BIOS/UEFI before OS installation.
- **Firmware Updates:** Update the server's BIOS/UEFI and all component firmware (RAID controller, network cards) to the latest stable versions.
- **Installation Media:** Create a bootable USB drive or mount an ISO for the chosen OS (e.g., Windows Server 2022, Ubuntu Server LTS, CentOS Stream).

2. Operating System Installation (Windows Server)

The Windows Server installation is typically graphical and straightforward.

- **Boot and Select:** Boot from the installation media and select the appropriate language and keyboard layout.
- **Edition Selection:** Choose the **Server Core** installation unless a graphical interface is absolutely required. Server Core has a smaller attack surface and uses fewer resources.
- **Partitioning:** Select the RAID volume you configured earlier. Create a small partition for the OS and a larger one for data.

- **Initial Configuration:** Set a strong Administrator password. Configure the static IP address, subnet mask, and DNS server settings.

3. Operating System Installation (Linux Server)

Linux server installations (e.g., Ubuntu Server) are often text-based and require careful partitioning.

- **Boot and Select:** Boot from the installation media. Choose the "Install Server" option.
- **Partitioning:** Use **LVM (Logical Volume Manager)** for flexible disk management. Create separate partitions for:
  - `/boot` (small, non-LVM)
  - `/` (root)
  - `swap` (typically 1-2x RAM size)
  - `/var` (for logs and web data)
- **SSH Installation:** Ensure the **OpenSSH server** is installed during setup for secure remote management.
- **Initial Configuration:** Create a non-root user for daily administration. Configure the static IP address via the network configuration file (e.g., `netplan` on Ubuntu).

4. Post-Installation Checklist

After the OS is installed, these steps are critical before deploying services.

Step	Action	Rationale
1. Update OS	Run Windows Update or `apt update && apt upgrade` (Linux).	Apply all critical security patches immediately.
2. Install Monitoring	Install the agent for your centralized monitoring and logging system.	Ensure the server is reporting health and performance data.
3. Configure Backup	Install the backup agent and run the first full backup.	Establish the server's recovery baseline.
4. Server Hardening		Minimize the attack surface.

Step	Action	Rationale
	Disable unnecessary services and apply security baselines (see Server Security Guide).	

Conclusion

A meticulous installation process prevents future stability and security issues. PureIoT provides expert server deployment and configuration services for all major platforms.