why linux based docker container not run on win ?

Linux-based Docker containers do not run directly on Windows because Windows and Linux use different kernel architectures and system libraries. Docker containers leverage features provided by the host operating system's kernel to create isolated environments for running applications. Since Windows and Linux have different kernel architectures, Linux-based Docker containers cannot run natively on Windows.

However, there are ways to run Linux-based Docker containers on Windows:

1. **Docker Desktop for Windows**:
   * Docker Desktop for Windows includes a built-in Linux kernel running in a lightweight virtual machine (VM) using Hyper-V technology. This allows Docker Desktop to run Linux-based containers on Windows by providing a Linux-like environment within the VM.
2. **Windows Subsystem for Linux (WSL)**:
   * Windows Subsystem for Linux allows you to run a Linux distribution natively on Windows without the need for a virtual machine. With WSL installed, you can run Linux-based Docker containers by interacting with the Docker daemon running inside the Linux subsystem.
3. **Docker Toolbox**:
   * Docker Toolbox is another option for running Docker on Windows systems that do not support Hyper-V, such as older versions of Windows 10 Home. It uses Oracle VirtualBox to create a Linux VM where Docker runs, allowing you to run Linux-based Docker containers on Windows.
4. **Cross-platform Docker Images**:
   * Alternatively, you can build cross-platform Docker images that are compatible with both Linux and Windows. These images are designed to work in any environment, allowing you to run the same container image on both Linux and Windows hosts.

By using one of these methods, you can run Linux-based Docker containers on Windows systems, enabling you to develop and deploy applications across different operating systems seamlessly.