libvirt Networking Handbook

This guide demonstrates the most common aspects of libvirt networking, whether running virtual machines (VMs) on a dedicated server or within a home lab.

How to choose a network type

On a dedicated server — where VMs often need to be publicly accessible — a *Bridged network* is ideal and allows each VM to bind to its own public IPv4 and IPv6 addresses. If bridging is not possible, create a *Routed network*. If the server has limited public IPv4 addresses, a *NAT-based network* that

forwards incoming connections may be the only option.

Inside an intranet or home lab, a _NAT-based network_ gives VMs outbound network access. If VMs are running services that must be accessible from other systems on the LAN, create a _Bridged network_ (for an Ethernet connected libvirt host) or a _Routed network_ (for a wirelessly connected libvirt host).

If you want to prevent libvirt from automatically inserting iptables rules, create a _Bridged network_, _Custom routed network_, or _Custom NAT-based network_.

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