

# Preparing Servers for Hydra

See our recommendations below for initial setup of Hydra servers. Depending on the level of difficulty of an installation, for the Hydra operation, it could be used either one or several servers (for example, there may be separate servers for the Main DB, web applications, a RADIUS server, etc.).

## Hardware Architecture

The recommendations of amount, purpose and hardware specs of servers for Hydra installation could be found in Hydra commercial proposal (CP).

Hydra could be installed on virtual servers instead of physical servers, however at the same time:

1. Hardware resources (amount and generation of CPU, RAM amount, amount and performance of disk) allocated for servers should not be lower recommended in CP.
2. Hardware-level virtualization should be used (*VMware ESXi*, *OpenStack*, *Xen*, etc.).

In general case it's **not recommended**:

1. Use of container-based virtualization (*LXC*, *OpenVZ*, etc.) due to difficulties with Docker Engine in this environment.
2. Placing main and standby server on the same hardware resources. So, it's wrong to host primary and standby servers as virtual servers on the same hardware server (or virtualization platform) or on common disks.
3. Union of production and testing installation on the same server.
4. Placing RADIUS/DHCP applications on the same server with other applications (databases, web applications, etc.).
5. Running production environment without uninterrupted power supply unit sufficient to databases graceful shutdown.

## RAID Configuration

The preferable option is to use RAID configuration with data mirroring for data storage fault tolerance. It's also recommended to use only direct data mirroring (RAID-1/RAID-10), while RAID-5 (RAID-6) is not recommended due to its lower performance and higher risks of data loss as compared with RAID-1/RAID-10.

## OS Distribution

Server Purpose	OS Distribution
Applications, RADIUS servers	<a href="#">Debian Linux 12 (Bookworm)</a>
Oracle Database (standalone or with applications)	<b>Oracle Linux 7</b>

All servers should have minimal, clean, and fully updated setup in **64-bit edition**.

All OS distributions should use **Linux kernel version 4 or higher**. For Oracle Linux 7 this [means](#) using the Unbreakable Enterprise Kernel (UEK).

## Disk Partitioning

Partition	Required Space	Notes
Swap	100% of RAM space but not more than 32 GB	Without the Swap, Oracle DB installer will not work
/	Main space	System, DB, application files
/var/log	For servers with Oracle database: 10–20% of the total disk space but not less than 20 GB For Mediation servers (including those for RADIUS and DHCP): 40–50% of the total disk space but not less than 60 GB	Log files
/tmp	5–10% of the total disk space but not less than 10 GB	For service purposes

We recommend using the **ext4** file system for partitions.

A partition for home directories (`/home`) can be created to your notice.

## Access Restriction

Network access to Hydra servers from the outside for all protocols and ports **must be closed from everywhere**. Exceptions are:

1. Networks from which users are expected to work (on the necessary protocols and ports)
2. Networks from which applications expected to receive requests (on the necessary protocols and ports)
3. IP addresses of Hydra team gateways (preferably without additional restrictions, but at least on the protocols and ports for all running applications):

51.38.127.51  
65.108.62.96