

# **Projecte Final de Cicle Superior d'ASIX: Gestió Avançada de Proxmox**

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## 9. Monitoratge Centralitzat amb Zabbix

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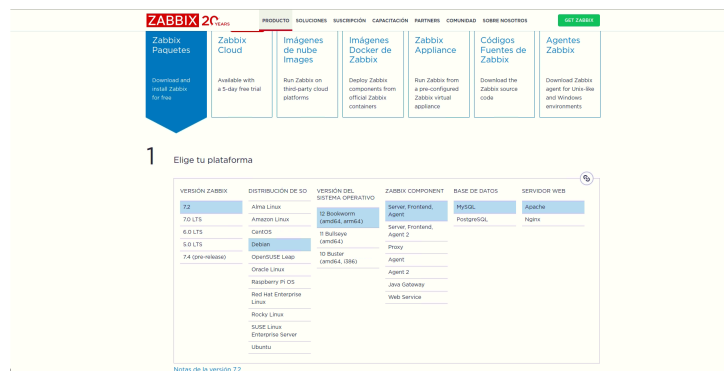
## 9. Monitoratge Centralitzat amb Zabbix

### 1. Descàrrega de Zabbix

Per començar, accedim a la web oficial de Zabbix: <https://www.zabbix.com>

Una vegada dins, cal anar a l'apartat **Download Zabbix**, on seleccionarem:

- La **versió** desitjada (en aquest cas, la 7.2)
- El **sistema operatiu** (Debian 12)
- Els **components** (servidor, frontend, agent)
- El tipus de **base de dades** (MySQL/MariaDB)
- El servidor web (Apache)



### 2. Instal·lació i configuració del servidor Zabbix

#### a. Instal·lació del repositori oficial

```
wget https://repo.zabbix.com/zabbix/7.2/release/debian/pool/main/z/zab-  
bix-release/zabbix-release_latest_7.2+debian12_all.deb  
dpkg -i zabbix-release_latest_7.2+debian12_all.deb  
apt update
```

```
zabbix@zabbix:~$ wget https://repo.zabbix.com/zabbix/7.2/release/debian/pool/main/z/zabbix-release/zabbix-release_latest_7.2+debian12_all.deb
2025-05-14 07:44:20-- https://repo.zabbix.com/zabbix/7.2/release/debian/pool/main/z/zabbix-release/zabbix-release_latest_7.2+debian12_all.deb
Resolving repo.zabbix.com (repo.zabbix.com)... 178.128.6.101, 2604:a880:2:d0::2062:d001
Connecting to repo.zabbix.com (repo.zabbix.com)|178.128.6.101|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 7096 (6.9K) [application/octet-stream]
Saving to: 'zabbix-release_latest_7.2+debian12_all.deb'

zabbix-release_latest_7.2+debian12 100%[=====] 6.93K --.-KB/s in 0s

2025-05-14 07:44:21 (233 MB/s) - 'zabbix-release_latest_7.2+debian12_all.deb' saved [7096/7096]

zabbix@zabbix:~$ dpkg -i zabbix-release_latest_7.2+debian12_all.deb
dpkg: error: requested operation requires superuser privilege
zabbix@zabbix:~$ sudo dpkg -i zabbix-release_latest_7.2+debian12_all.deb
[sudo] password for zabbix:
Selecting previously unselected package zabbix-release.
(Reading database ... 19279 files and directories currently installed.)
Preparing to unpack zabbix-release_latest_7.2+debian12_all.deb ...
Unpacking zabbix-release (1:7.2-1+debian12) ...
Setting up zabbix-release (1:7.2-1+debian12) ...
zabbix@zabbix:~$ sudo apt update
Hit:1 http://deb.debian.org/debian bookworm InRelease
Hit:2 http://deb.debian.org/debian bookworm-updates InRelease
Hit:3 http://security.debian.org/debian-security InRelease
Get:4 https://repo.zabbix.com/zabbix/7.2/release/debian bookworm InRelease [2424 B]
Get:5 https://repo.zabbix.com/zabbix-tools/debian-ubuntu bookworm InRelease [2476 B]
Get:6 https://repo.zabbix.com/zabbix/7.2/stable/debian bookworm InRelease [4660 B]
Get:7 https://repo.zabbix.com/zabbix/7.2/release/debian bookworm/main Sources [518 B]
Get:8 https://repo.zabbix.com/zabbix/7.2/release/debian bookworm/main all Packages [389 B]
Get:9 https://repo.zabbix.com/zabbix-tools/debian-ubuntu bookworm/main Sources [1166 B]
Get:10 https://repo.zabbix.com/zabbix-tools/debian-ubuntu bookworm/main all Packages [766 B]
Get:11 https://repo.zabbix.com/zabbix/7.2/stable/debian bookworm/main Sources [13.3 kB]
Get:12 https://repo.zabbix.com/zabbix/7.2/stable/debian bookworm/main amd64 Packages [23.4 kB]
Get:13 https://repo.zabbix.com/zabbix/7.2/stable/debian bookworm/main all Packages [4764 B]
Fetched 33.9 kB in 2s (32.4 KB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
59 packages can be upgraded. Run 'apt list --upgradable' to see them.
zabbix@zabbix:~$
```

**b. Instal·lació dels paquets principals** Instal·lem el servidor Zabbix, el frontend web amb Apache, els scripts SQL i l'agent:

```
apt install zabbix-server-mysql zabbix-frontend-php zabbix-apache-conf
↳ zabbix-sql-scripts zabbix-agent
```

```
zabbix@zabbix:~$ sudo apt install zabbix-server-mysql zabbix-frontend-php zabbix-apache-conf zabbix-sql-scripts zabbix-agent
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils fontconfig-config fonts-dejavu fonts-dejavu-core fonts-dejavu-extra fping
  libabsl20220623 libaom3 libapache2-mod-php libapache2-mod-php8.2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap
  libavif15 libbconf-inifiles-perl libcurl3-gnutls libcurl4 libdav1d6 libdbd-mariadb-perl libdbi-perl libde265-0 libdeflate0
  libevent-core-2.1-7 libevent-extra-2.1-7 libevent-pthreads-2.1-7 libfontconfig1 libfreetype6 libgavl-1 libgd3 libgpg-error0 libheif1
  libjpeg62-turbo liblerc4 libltdl7 liblua5.3-0 libmariadb3 libmodbus5 libncurses6 libnuma1 libodbc2 libonig5 libopenipmi0 libpci3
  libpng16-16 librav1e0 libsensors-config libsensors5 libsnmp-base libsnmp48 libsofipo2 libssh-4 libsvtavienc1
  libterm-readkey-perl libtiff6 libwebp7 libx11-6 libx11-data libx265-199 libxau6 libxcb1 libxcp6 libxpm4 libxslt1.1 libxv6
  mariadb-client mariadb-client-core mariadb-common mysql-common pci.ids php-bcmath php-common php-curl php-gd php-ldap php-mbstring
  php-mysql php-xml php8.2-bcmath php8.2-cli php8.2-common php8.2-curl php8.2-gd php8.2-ldap php8.2-mbstring php8.2-mysql
  php8.2-odbc php8.2-readline php8.2-xml psmisc snmpd
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser php-pear libltdb-perl libnet-daemon-perl
  libssl-statement-perl libgd-tools gpm odbc-postgresql tdsodbc lm-sensors snmp-mibs-downloader snmpttrapd zabbix-nginx-conf
  virtual-mysql-server
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils fontconfig-config fonts-dejavu fonts-dejavu-core fonts-dejavu-extra fping
  libabsl20220623 libaom3 libapache2-mod-php libapache2-mod-php8.2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap
  libavif15 libbconf-inifiles-perl libcurl3-gnutls libcurl4 libdav1d6 libdbd-mariadb-perl libdbi-perl libde265-0 libdeflate0 libevent-core-2.1-7
  libevent-extra-2.1-7 libevent-pthreads-2.1-7 libfontconfig1 libfreetype6 libgavl-1 libgd3 libjpeg62 libheif1 libjpeg62-turbo liblerc4 libltdl7 liblua5.3-0 libmariadb3 libmodbus5 libncurses6 libnuma1 libodbc2 libonig5 libopenipmi0 libpci3
  libpng16-16 librav1e0 libsensors-config libsensors5 libsnmp-base libsnmp48 libsofipo2 libssh-4 libsvtavienc1 libterm-readkey-perl libtiff6 libwebp7 libx11-6 libx11-data libx265-199 libxau6 libxcb1 libxcp6 libxpm4 libxslt1.1 libxv6
  mariadb-client mariadb-client-core mariadb-common mysql-common pci.ids php-bcmath php-common php-curl php-gd php-ldap php-mbstring php-mysql
  php-xml php8.2-bcmath php8.2-cli php8.2-common php8.2-curl php8.2-gd php8.2-ldap php8.2-mbstring php8.2-mysql php8.2-odbc
  php8.2-readline php8.2-xml psmisc snmpd zabbix-agent zabbix-apache-conf zabbix-frontend-php zabbix-server-mysql zabbix-sql-scripts
The following packages will be upgraded:
  libcurl3-gnutls
1 upgraded, 99 newly installed, 0 to remove and 58 not upgraded.
Need to get 56.7 MB of archives.
After this operation, 293 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

**c. Creació de la base de dades** Assegura't que el servidor de bases de dades (MariaDB o MySQL) està operatiu.

Accedim al client de MySQL per crear la base de dades i l'usuari:

```
mysql -uroot -p
```

```
CREATE DATABASE zabbix CHARACTER SET utf8mb4 COLLATE utf8mb4_bin;
CREATE USER zabbix@localhost IDENTIFIED BY 'password';
GRANT ALL PRIVILEGES ON zabbix.* TO zabbix@localhost;
```

```
SET GLOBAL log_bin_trust_function_creators = 1;
QUIT;
```

```
zabbix@zabbix:~$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 17
Server version: 8.0.42 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database zabbix character set utf8mb4 collate utf8mb4_bin;
Query OK, 1 row affected (0.02 sec)

mysql> create user zabbix@localhost identified by 'zabbix';
Query OK, 0 rows affected (0.03 sec)

mysql> grant all privileges on zabbix.* to zabbix@localhost;
Query OK, 0 rows affected (0.02 sec)

mysql> set global log_bin_trust_function_creators = 1;
Query OK, 0 rows affected, 1 warning (0.00 sec)

mysql> quit;
Bye
zabbix@zabbix:~$
```

**d. Importació de l'esquema de dades** Des del servidor Zabbix, importem l'esquema i les dades inicials:

```
zcat /usr/share/zabbix/sql-scripts/mysql/server.sql.gz | mysql
↪ --default-character-set=utf8mb4 -uzabbix -p zabbix
```

```
zabbix@zabbix:~$ zcat /usr/share/zabbix/sql-scripts/mysql/server.sql.gz | mysql --default-character-set=utf8mb4 -uzabbix -p zabbix
Enter password:
zabbix@zabbix:~$
```

Després, restaurem el valor per defecte de la directiva `log_bin_trust_function_creators`:

```
mysql -uroot -p
```

```
SET GLOBAL log_bin_trust_function_creators = 0;
QUIT;
```

```
zabbix@zabbix:~$ mysql -u root --password=Root_pass1
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 160
Server version: 8.0.42 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> set global log_bin_trust_function_creators = 0;
Query OK, 0 rows affected, 1 warning (0.01 sec)

mysql> quit;
Bye
zabbix@zabbix:~$
```

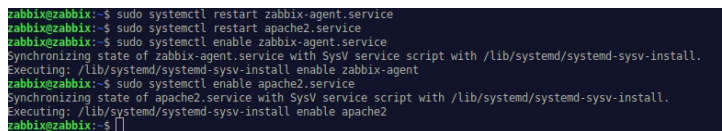
**e. Configuració del servidor Zabbix** Editem el fitxer de configuració del servidor `/etc/zabbix/zabbix_server.conf` i establim la contrasenya de la base de dades:

`DBPassword=password`



**f. Inici dels serveis** Reiniciem els serveis necessaris i els activem perquè s'iniciïn automàticament amb el sistema:

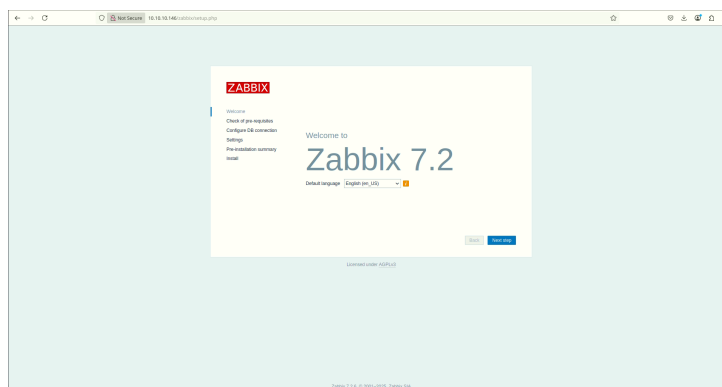
```
systemctl restart zabbix-server zabbix-agent apache2
systemctl enable zabbix-server zabbix-agent apache2
```



**g. Accés a la interfície web** Una vegada tot estiga operatiu, podem accedir a la interfície web de Zabbix des del navegador:

`http://IP_DEL_SERVIDOR/zabbix`

Des d'ací podrem finalitzar la configuració via web GUI.



Amb això, el servidor Zabbix queda instal·lat i llest per a ser utilitzat per a la monitorització centralitzada de la infraestructura.

