

Install Zabbix Server 5 on VM that includes:

- Zabbix Server
- Database
- Apache
- PHP
- Zabbix Server-Modules for Apache & Database
- Zabbix Frontend

For installing Zabbix and its dependencies(**Centos7**) we do as,

1. Install and Configure Apache:

```
yum -y install httpd
```

```
systemctl status httpd.service
```

```
systemctl start httpd.service
```

```
systemctl enable httpd
```

```
[root@server2 ~]# yum -y install httpd
Failed to set locale, defaulting to C
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: mirror.vanehost.com
 * extras: mirrors.huaweicloud.com
 * updates: mirror.vanehost.com
Package httpd-2.4.6-97.el7.centos.2.x86_64 already installed and latest version
Nothing to do
[root@server2 ~]#     systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
     Docs: man:httpd(8)
           man:apachectl(8)
[root@server2 ~]#     systemctl start httpd.service

[root@server2 ~]#     systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
```

2. Configure the required repos:

```
yum -y install epel-release
```

```
yum install
```

```
http://rpms.remirepo.net/enterprise/remi-release-7.rpm
```

```
yum-config-manager --disable remi-php54
```

```
yum-config-manager --enable remi-php72
```

3. Install PHP:

```
yum install php php-pear php-cgi php-common php-mbstring  
php-snmp php-gd php-pecl-mysql php-xml php-mysql  
php-gettext php-bcmath
```

```
perl-Storable           x86_64 2.45-3.el7           base      77 k
perl-Text-ParseWords    noarch 3.29-4.el7               base      14 k
perl-Time-HiRes         x86_64 4:1.9725-3.el7            base      45 k
perl-Time-Local         noarch 1.2300-2.el7              base      24 k
perl-constant           noarch 1.27-2.el7                base      19 k
perl-libs               x86_64 4:5.16.3-299.el7_9        updates  690 k
perl-macros             x86_64 4:5.16.3-299.el7_9        updates   44 k
perl-parent            noarch 1:0.225-244.el7           base      12 k
perl-podlators          noarch 2.5.1-3.el7              base     112 k
perl-threads            x86_64 1.87-4.el7               base      49 k
perl-threads-shared     x86_64 1.43-6.el7               base      39 k
php-process             x86_64 5.4.16-48.el7            base      56 k

Transaction Summary
=====
Install 2 Packages (+32 Dependent packages)

Total download size: 13 M
Installed size: 42 M
```

4. Install MariaDB:

```
yum install mariadb-server
```

```
systemctl start mariadb
```

```
systemctl enable mariadb
```

```
mysql_secure_installation
```

```

Verifying : 1:perl-Compress-Raw-Zlib-2.061-4.el7.x86_64 6/9
Verifying : perl-DBI-1.627-4.el7.x86_64 7/9
Verifying : perl-IO-Compress-2.061-2.el7.noarch 8/9
Verifying : perl-PlRPC-0.2020-14.el7.noarch 9/9

Installed:
  mariadb-server.x86_64 1:5.5.68-1.el7

Dependency Installed:
  mariadb.x86_64 1:5.5.68-1.el7

```

```

[root@server2 ~]# systemctl enable mariadb
[root@server2 ~]# systemctl status mariadb
● mariadb.service - MariaDB database server
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; vendor preset: disabled)
   Active: active (running) since Sat 2021-12-04 17:02:35 EST; 2min 17s ago
 Main PID: 10111 (mysqld_safe)
    CGroup: /system.slice/mariadb.service
            └─10111 /bin/sh /usr/bin/mysqld_safe --basedir=/usr
              └─10276 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mys...

Dec 04 17:02:33 server2 mariadb-prepare-db-dir[10029]: See the MariaDB Knowl...
Dec 04 17:02:33 server2 mariadb-prepare-db-dir[10029]: MySQL manual for more...
Dec 04 17:02:33 server2 mariadb-prepare-db-dir[10029]: Please report any pro...
Dec 04 17:02:33 server2 mariadb-prepare-db-dir[10029]: The latest informatio...
Dec 04 17:02:33 server2 mariadb-prepare-db-dir[10029]: You can find addition

```

By default, MariaDB comes with a database named 'test' that anyone can access. This is also intended only for testing, and should be removed before moving into a production environment.

```

Remove test database and access to it? [Y/n] y
- Dropping test database...
... Success!
- Removing privileges on test database...
... Success!

```

Reloading the privilege tables will ensure that all changes made so far will take effect immediately.

```

Reload privilege tables now? [Y/n] y
... Success!

```

Cleaning up...

All done! If you've completed all of the above steps, your MariaDB installation should now be secure.

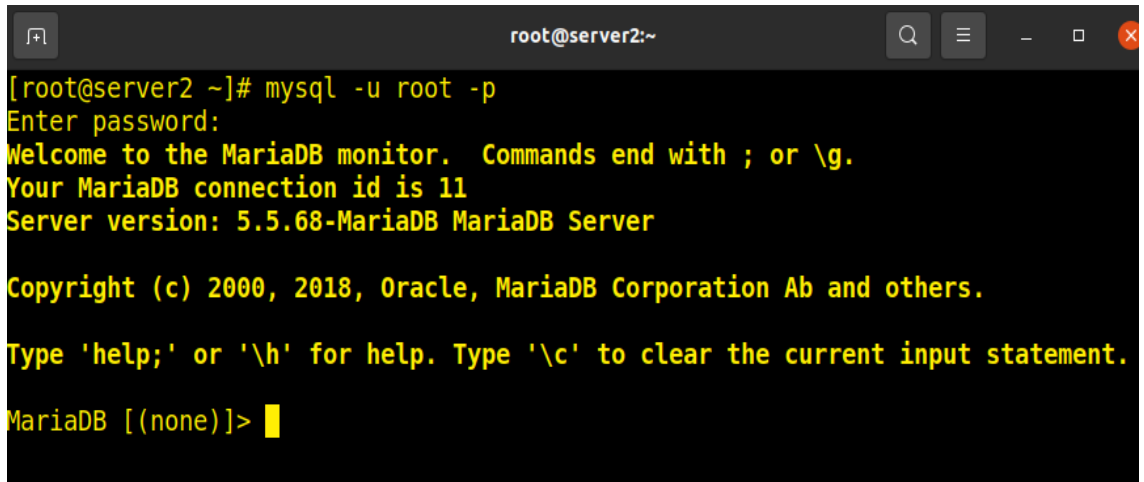
Thanks for using MariaDB!

```

[root@server2 ~]#

```

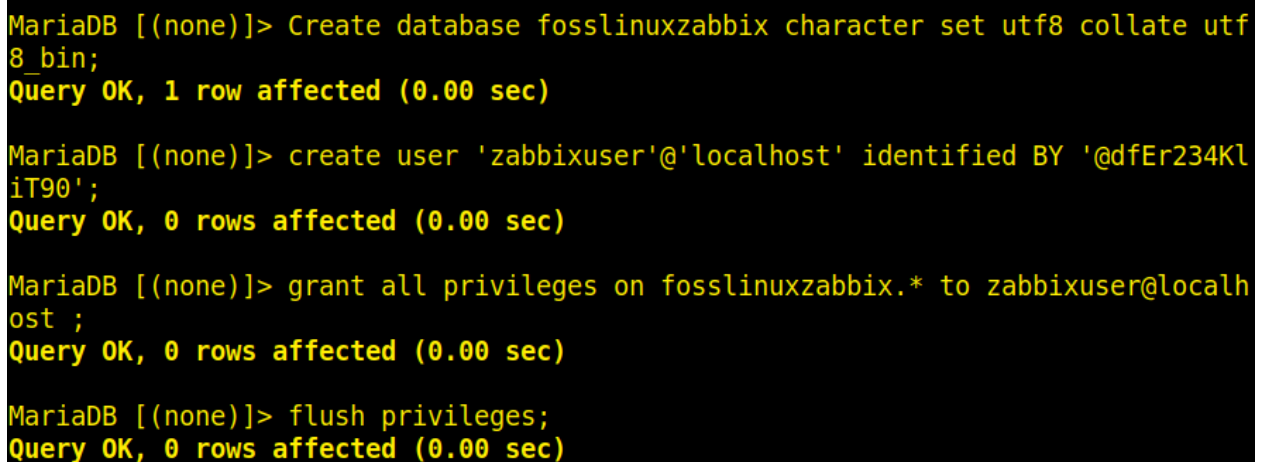
5. Run the below to verify:
mysql -u root -p

A terminal window titled 'root@server2:~' showing the MySQL login process. The user enters the command 'mysql -u root -p'. The prompt 'Enter password:' is shown. The terminal displays the MySQL welcome message: 'Welcome to the MariaDB monitor. Commands end with ; or \g. Your MariaDB connection id is 11 Server version: 5.5.68-MariaDB MariaDB Server Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others. Type \'help;\' or \'h\' for help. Type \'c\' to clear the current input statement. MariaDB [(none)]>'.

```
root@server2:~  
[root@server2 ~]# mysql -u root -p  
Enter password:  
Welcome to the MariaDB monitor.  Commands end with ; or \g.  
Your MariaDB connection id is 11  
Server version: 5.5.68-MariaDB MariaDB Server  
  
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.  
  
Type 'help;' or '\h' for help. Type 'c' to clear the current input statement.  
MariaDB [(none)]>
```

6. Create a Database for Zabbix:

```
Create database fosslinuxzabbix character set utf8 collate  
utf9_bin;  
create user 'zabbixuser'@'localhost' identified BY  
'@dfEr234KliT90';  
grant all privileges on fosslinuxzabbix.* to zabbixuser@localhost  
;  
flush privileges;
```

A terminal window showing the execution of SQL commands to create a database and a user. The commands and their outputs are: 'Create database fosslinuxzabbix character set utf8 collate utf9_bin;' returns 'Query OK, 1 row affected (0.00 sec)'; 'create user 'zabbixuser'@'localhost' identified BY '@dfEr234KliT90';' returns 'Query OK, 0 rows affected (0.00 sec)'; 'grant all privileges on fosslinuxzabbix.* to zabbixuser@localhost;' returns 'Query OK, 0 rows affected (0.00 sec)'; 'flush privileges;' returns 'Query OK, 0 rows affected (0.00 sec)'.

```
MariaDB [(none)]> Create database fosslinuxzabbix character set utf8 collate utf9_bin;  
Query OK, 1 row affected (0.00 sec)  
  
MariaDB [(none)]> create user 'zabbixuser'@'localhost' identified BY '@dfEr234KliT90';  
Query OK, 0 rows affected (0.00 sec)  
  
MariaDB [(none)]> grant all privileges on fosslinuxzabbix.* to zabbixuser@localhost;  
Query OK, 0 rows affected (0.00 sec)  
  
MariaDB [(none)]> flush privileges;  
Query OK, 0 rows affected (0.00 sec)
```

7. Install now Zabbix and its dependencies as,

rpm -ivh

https://repo.zabbix.com/zabbix/4.0/rhel/7/x86_64/zabbix-release-4.0-1.el7.noarch.rpm

yum install zabbix-server-mysql zabbix-web-mysql zabbix-agent zabbix-get

```
[root@server2 ~]# rpm -ivh https://repo.zabbix.com/zabbix/4.0/rhel/7/x86_64/zabbix-release-4.0-1.el7.noarch.rpm
Retrieving https://repo.zabbix.com/zabbix/4.0/rhel/7/x86_64/zabbix-release-4.0-1.el7.noarch.rpm
Preparing... ##### [100%]
package zabbix-release-4.0-1.el7.noarch is already installed
[root@server2 ~]# yum install zabbix-server-mysql zabbix-web-mysql zabbix-agent zabbix-get
Failed to set locale, defaulting to C
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: centos.excellmedia.net
* epel: mirrors.nipa.cloud
* extras: centos.excellmedia.net
* remi-safe: remirepo.reloumirrors.net
* updates: centos.excellmedia.net
Package zabbix-server-mysql-4.0.36-1.el7.x86_64 already installed and latest version
Package zabbix-web-mysql-4.0.36-1.el7.noarch already installed and latest version
Package zabbix-agent-4.0.36-1.el7.x86_64 already installed and latest version
Package zabbix-get-4.0.36-1.el7.x86_64 already installed and latest version
Nothing to do
```

8. Edit the file and adjust the timezone;

vim /etc/httpd/conf.d/zabbix.conf

```
Require all granted

<IfModule mod_php5.c>
    php_value max_execution_time 300
    php_value memory_limit 128M
    php_value post_max_size 16M
    php_value upload_max_filesize 2M
    php_value max_input_time 300
    php_value max_input_vars 10000
    php_value always_populate_raw_post_data -1
    php_value date.timezone Asia/Kathmandu
</IfModule>
</Directory>

<Directory "/usr/share/zabbix/conf">
```

Provide screenshot of

- Running Zabbix Server service,
- Database config parameter in server config file
- Server Dashboard

Restart the services and check status,

systemctl restart httpd.service

sudo systemctl status zabbix-server.service

sudo systemctl start zabbix-server.service

sudo systemctl enable zabbix-server.service

sudo systemctl status zabbix-server.service



```
root@server2:~  
[root@server2 ~]# systemctl restart httpd.service  
[root@server2 ~]# sudo systemctl status zabbix-server.service  
● zabbix-server.service - Zabbix Server  
   Loaded: loaded (/usr/lib/systemd/system/zabbix-server.service; disabled; vendor preset: disabled)  
   Active: inactive (dead)  
[root@server2 ~]# sudo systemctl start zabbix-server.service  
[root@server2 ~]# sudo systemctl enable zabbix-server.service  
Created symlink from /etc/systemd/system/multi-user.target.wants/zabbix-server.service to /usr/lib/systemd/system/zabbix-server.service.  
[root@server2 ~]# sudo systemctl status zabbix-server.service  
● zabbix-server.service - Zabbix Server  
   Loaded: loaded (/usr/lib/systemd/system/zabbix-server.service; enabled; vendor preset: disabled)  
   Active: active (running) since Sat 2021-12-04 18:46:23 EST; 9s ago  
     Main PID: 10675 (zabbix_server)  
       CGroup: /system.slice/zabbix-server.service  
               └─10675 /usr/sbin/zabbix_server -c /etc/zabbix/zabbix_server.conf  
  
Dec 04 18:46:23 server2 systemd[1]: Starting Zabbix Server...  
Dec 04 18:46:23 server2 systemd[1]: Can't open PID file /run/zabbix/zabbix_...ry  
Dec 04 18:46:23 server2 systemd[1]: Started Zabbix Server.  
Hint: Some lines were ellipsized, use -l to show in full.  
[root@server2 ~]#
```

Now we change the server config file as,

```
cd /etc/zabbix
```

```
sudo nano zabbix_server.conf
```

```
DBName=fossilinuxzabbix

### Option: DBSchema
#       Schema name. Used for IBM DB2 and PostgreSQL.
#
# Mandatory: no
# Default:
# DBSchema=

### Option: DBUser
#       Database user.
#
# Mandatory: no
# Default:
# DBUser=

DBUser=zabbixuser

### Option: DBPassword
#       Database password.
#       Comment this line if no password is used.
#
# Mandatory: no
# Default:

DBPassword=@dfEr234KliT90
```

We added the password as **centos** in the server conf file.

Change to the zabbix directory and import sql dump as,

```
cd /usr/share/doc/zabbix-server-mysql-4.0.4/
```

```
zcat create.sql.gz | mysql -u zabbixuser -p fossilinuxzabbix
```

```
root@server2:/usr/share/doc/zabbix-server-mys... x lostinserver@lostinserver: ~ x
[root@server2 ~]# cd /usr/share/doc/zabbix-server-mysql-4.0.36/
[root@server2 zabbix-server-mysql-4.0.36]# zcat create.sql.gz | mysql -u zabbixu
ser -p fosslinuxzabbix
Enter password:
[root@server2 zabbix-server-mysql-4.0.36]#
```

Now restart the service with,

sudo systemctl restart zabbix-server.service

Allow the firewall rules for ports and http,https as below;

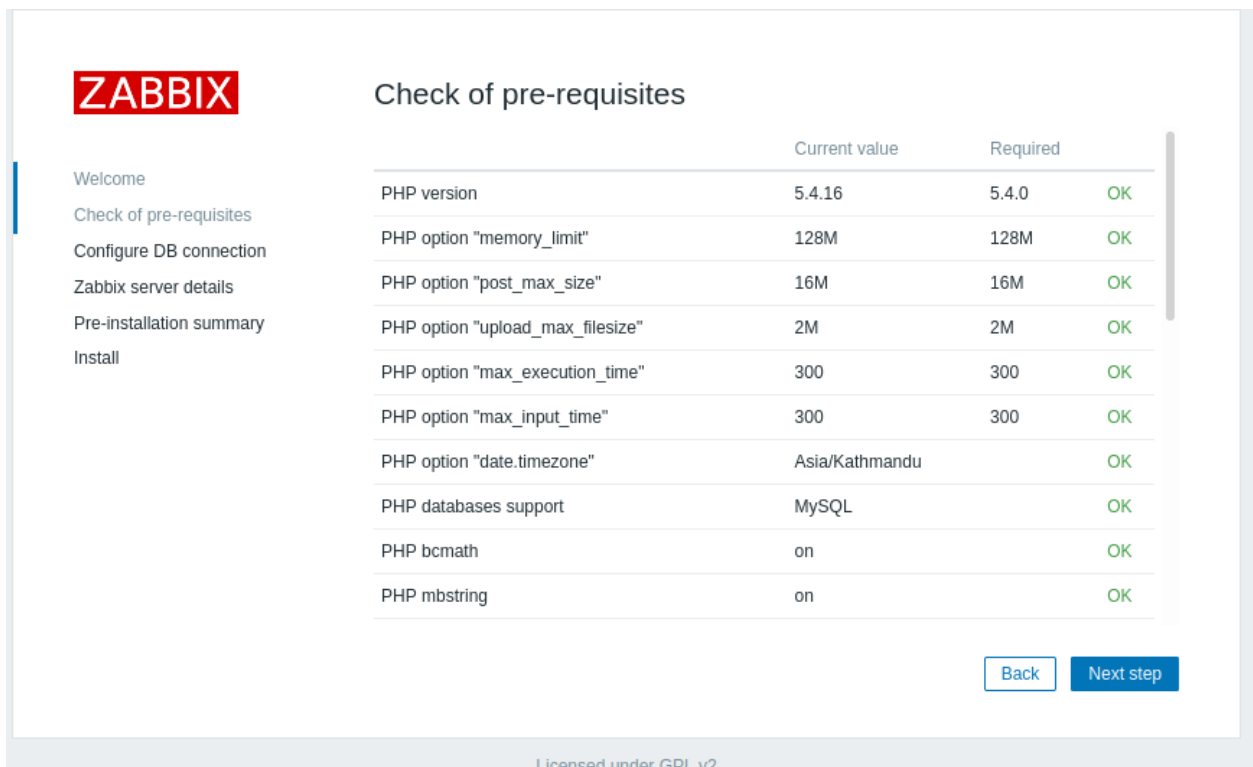
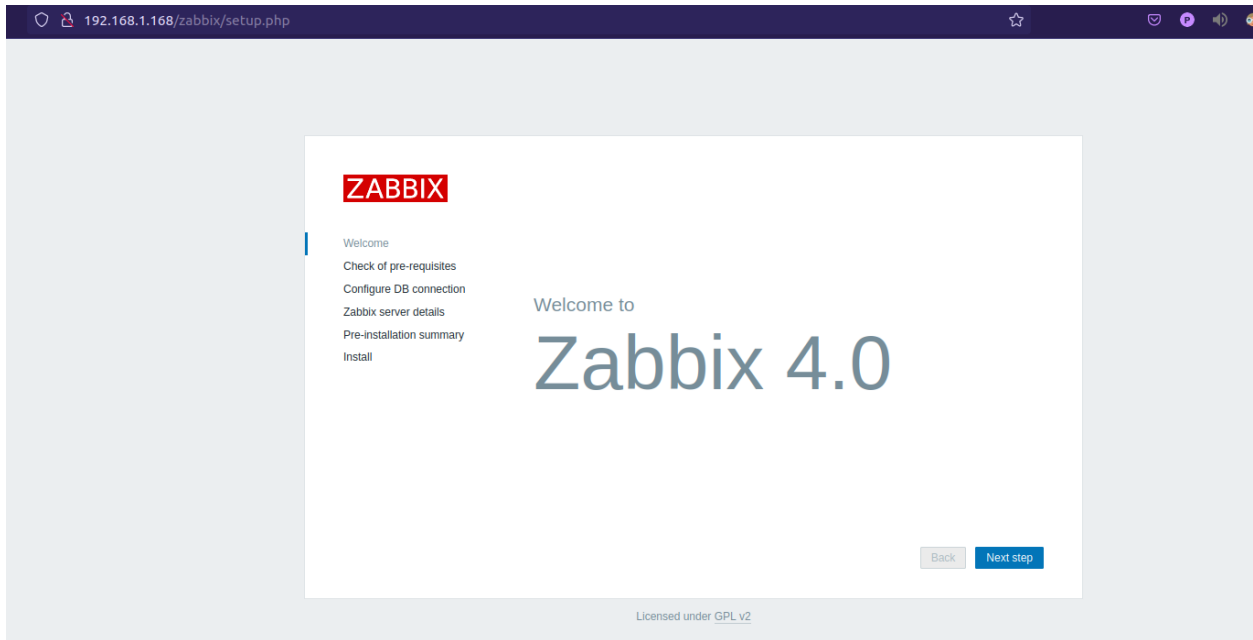
firewall-cmd --add-service={http,https} --permanent

firewall-cmd --add-port={10051/tcp,10050/tcp} --permanent

firewall-cmd --reload

```
[root@server2 zabbix]# firewall-cmd --add-port={10051/tcp,10050/tcp} --permanent
success
[root@server2 zabbix]# firewall-cmd --reload
success
[root@server2 zabbix]# firewall-cmd --add-service={http,https} --permanent
success
[root@server2 zabbix]# firewall-cmd --reload
success
[root@server2 zabbix]#
```

Now we check the browser at, **192.168.1.168/zabbix** as,





- Welcome
- Check of pre-requisites
- Configure DB connection
- Zabbix server details
- Pre-installation summary
- Install

Configure DB connection

Please create database manually, and set the configuration parameters for connection to this database. Press "Next step" button when done.

| | | |
|---------------|---|----------------------|
| Database type | <input type="text" value="MySQL"/> | |
| Database host | <input type="text" value="localhost"/> | |
| Database port | <input type="text" value="0"/> | 0 - use default port |
| Database name | <input type="text" value="fossilinuxzabbix"/> | |
| User | <input type="text" value="zabbixuser"/> | |
| Password | <input type="password" value="*****"/> | |

[Back](#)[Next step](#)

- Welcome
- Check of pre-requisites
- Configure DB connection
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- Pre-installation summary
- Install

Zabbix server details

Please enter the host name or host IP address and port number of the Zabbix server, as well as the name of the installation (optional).

| | |
|------|---|
| Host | <input type="text" value="localhost"/> |
| Port | <input type="text" value="10051"/> |
| Name | <input type="text" value="First-Server"/> |

[Back](#)[Next step](#)

ZABBIX

Welcome

Check of pre-requisites

Configure DB connection

Zabbix server details

Pre-installation summary

Install

Pre-installation summary

Please check configuration parameters. If all is correct, press "Next step" button, or "Back" button to change configuration parameters.

Database typeMySQL

Database serverlocalhost

Database portdefault

Database namefossilinuxzabbix

Database userzabbixuser

Database password*****

Zabbix serverlocalhost

Zabbix server port10051

Zabbix server nameFirst-Server

Back

Next step

Give the username as **Admin** and password **zabbix** to login as admin ;

ZABBIX

Username

Admin

Incorrect user name or password or account is temporarily blocked.

Password

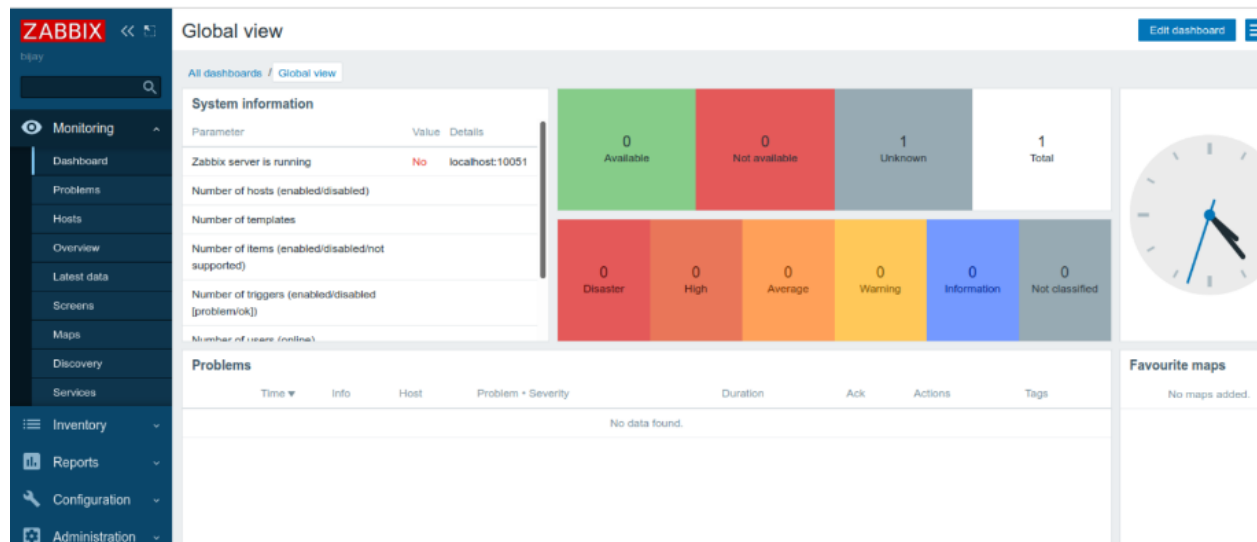
.....

☒ Remember me for 30 days

Sign in

[Help](#) • [Support](#)

Now we can successfully see the dashboard as below:



Install Latest Zabbix Agent on VM or host machine or server itself to fetch logs, steps include:

- **Run as active check agent**
- **Add a logging item to the same template for fetching /var/log/syslog(Ubuntu) or /var/log/messages (CentOS)**
- **Fetch those logs from the host (Make sure required permissions are set for zabbix-agent to pull logs)**
- **Provide agent configuration file & screenshots for target machine graph & logs**
- **Please check shared slides for any reference ***

Install as,

yum install zabbix-agent

As we have already added the zabbix repo before.

```
[root@server2 zabbix-server-mysql-4.0.36]# yum install zabbix-agent
Failed to set locale, defaulting to C
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: centos.mirrors.estointernet.in
* epel: mirrors.nipa.cloud
* extras: centos.mirrors.estointernet.in
* remi-safe: mirrors.thzhost.com
* updates: centos.mirrors.estointernet.in
Package zabbix-agent-4.0.36-1.el7.x86_64 already installed and latest version
Nothing to do
[root@server2 zabbix-server-mysql-4.0.36]#
```

Now edit the config file using,

cd /etc/zabbix

sudo nano zabbix_agentd.conf

```
# Server=

Server=127.0.0.1,192.168.1.168
```

Now restart the services as,

Sudo systemctl start zabbix-agent.service

Sudo systemctl enable zabbix-agent.service

Sudo systemctl status zabbix-agent.service

```

[root@server2 zabbix]# sudo systemctl status zabbix-agent.service
● zabbix-agent.service - Zabbix Agent
   Loaded: loaded (/usr/lib/systemd/system/zabbix-agent.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
[root@server2 zabbix]# sudo systemctl start zabbix-agent.service
[root@server2 zabbix]# sudo systemctl enable zabbix-agent.service
Created symlink from /etc/systemd/system/multi-user.target.wants/zabbix-agent.service to /usr/lib/systemd/system/zabbix-agent.service.
[root@server2 zabbix]# sudo systemctl status zabbix-agent.service
● zabbix-agent.service - Zabbix Agent
   Loaded: loaded (/usr/lib/systemd/system/zabbix-agent.service; enabled; vendor preset: disabled)
   Active: active (running) since Sat 2021-12-04 20:36:11 EST; 7s ago
   Main PID: 23954 (zabbix_agentd)
   CGroup: /system.slice/zabbix-agent.service
           └─23954 /usr/sbin/zabbix_agentd -c /etc/zabbix/zabbix_agentd.conf
             └─23955 /usr/sbin/zabbix_agentd: collector [idle 1 sec]
               └─23956 /usr/sbin/zabbix_agentd: listener #1 [waiting for connection]
                 └─23957 /usr/sbin/zabbix_agentd: listener #2 [waiting for connection]
                   └─23958 /usr/sbin/zabbix_agentd: listener #3 [waiting for connection]
                     └─23959 /usr/sbin/zabbix_agentd: active checks #1 [idle 1 sec]

Dec 04 20:36:11 server2 systemd[1]: Starting Zabbix Agent...
Dec 04 20:36:11 server2 systemd[1]: Can't open PID file /run/zabbix/zabbix_agentd.pid: No such file or directory
Dec 04 20:36:11 server2 systemd[1]: Started Zabbix Agent.
Hint: Some lines were ellipsized, use -l to show in full.
[root@server2 zabbix]#

```

Add **zabbix** user to **adm** group as,

```

[root@server2 zabbix]# sudo usermod -aG adm zabbix
[root@server2 zabbix]#

```

Now we create host under **Configuration->Hosts->Create Host** as,

Select the below host grps:

Host groups ✕

☐

Name

☐

Discovered hosts

☐

Hypervisors

☒

Linux servers

☐

Templates

☐

Templates/Applications

☐

Templates/Databases

☐

Templates/Modules

☐

Templates/Network devices

☐

Templates/Operating systems

☐

Templates/Server hardware

☐

Templates/Virtualization

☐

Virtual machines

☒

Zabbix servers

Select

Cancel

Hosts

Host

Templates

IPMI

Macros

Host inventory

Encryption

* Host name

New Host

Visible name

Host created by pririt

* Groups

Linux servers ✕ Zabbix servers ✕

type here to search

Select

* At least one interface must exist.

Agent interfaces

| IP address | DNS name | Connect to | Port | Default |
|------------|----------|------------|-------|---|
| 127.0.0.1 | | IP DNS | 10050 | <input checked="" type="radio"/> Remove |

Add

SNMP interfaces

Add

JMX interfaces

Add

IPMI interfaces

Add

Description

Monitored by proxy

(no proxy) ▾

Enabled

☒

Add

Cancel

We can now see the active host as below;

| <input type="checkbox"/> | Name ▲ | Applications | Items | Triggers | Graphs | Discovery | Web | Interface | Template |
|--------------------------|------------------------|-----------------|----------|-------------|-----------|-------------|-----|------------------|----------|
| <input type="checkbox"/> | Host created by prerit | Applications | Items | Triggers | Graphs | Discovery | Web | 127.0.0.1: 10050 | |
| <input type="checkbox"/> | Zabbix server | Applications 11 | Items 76 | Triggers 46 | Graphs 11 | Discovery 2 | Web | 127.0.0.1: 10050 | Template |

0 selected

Enable

Disable

Export

Mass update

Delete

Now we see the graphs as below:

