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[Install a LAPP Stack \(Apache 2.4/PHP 7/PostgreSQL 10/MariaDB 10\) on openSUSE Tumbleweed](#)

Assume the Tumbleweed linux is ready.

I. Database Install the database first (PostgreSQL 10):

1. Install database

```
zypper install postgresql10 postgresql10-contrib postgresql10-server
```

2. Enable auto-start on boot

```
chkconfig -a postgresql
```

3. Start PostgreSQL

```
systemctl start postgresql.service
```

4. Set password for postgres

Switch user to postgres:

```
su postgres
```

```
psql
```

In the psql console, set the password:

```
\password postgres
```

5. Fine-tune performance

(1) Edit postgresql.conf

```
vi /var/lib/pgsql/data/postgresql.conf
```

(2) Set parameters

```
shared_buffers = 4GB
```

```
work_mem = 32MB
```

```
effective_cache_size = 8GB
```

shared_buffers: 1/4 of total memory is a reasonable starting value

effective_cache_size: 1/2 of total memory would be a normal setting

II. Web Server

1. Install apache2

```
zypper install apache2 apache2-mod_evasive
```

2. Add commonly-used modules

Add modules:

```
a2enmod php7
```

```
a2enmod rewrite
```

```
a2enmod headers
```

List apache loaded modules:

```
apachectl -M
```

3. Enable auto-start on boot

```
chkconfig -a apache2
```

4. Edit default-server.conf (/etc/apache2)

(1) Edit DocumentRoot to your own default website directory (e.g. DocumentRoot "/home/yoursite").

(2) Edit the <Directory> right below DocumentRoot.

(3) Add/Append the following directives:

```
ServerName website.com
```

```
ExtendedStatus On
```

```
TraceEnable Off
```

```
AddType image/x-icon .ico
```

5. Modify server-tuning.conf (/etc/apache2)

(1) Raise StartServers if necessary

(2) Raise MaxSpareServers if necessary

(3) Raise ServerLimit if necessary

(4) Raise MaxClients if necessary

III. Hypertext Preprocessor

1. Install php7

```
zypper install php7 php7-pgsql
```

2. Install commonly-used modules

```
zypper install php7-curl php7-fileinfo php7-gd php7-mbstring php7-openssl php7-zip php7-zlib
```

MariaDB

1. Install mariadb

```
zypper install mariadb mariadb-tools
```

2. Security setting

```
mysql_secure_installation
```

(all "yes" is preferred)

3. Enable auto-start on boot

```
chkconfig -a mysql
```

References:

[Install a LAPP server: openSUSE 42 / Apache 2.4/PostgreSQL 9.4/ PHP 5.6](#)

[How to Install PostgreSQL and phpPgAdmin on OpenSUSE Leap 42.1](#)

[Apache MPM prefork](#)

[Apache MPM Common Directives](#)

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