

# “INSTALLING VIRTUOSO”

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Following are the instructions to install **Virtuoso-opensource-7.2.4.2** on a **Linux Operating System(Ubuntu 16.04)**

Open browser and search Virtuoso Open Source<?version>

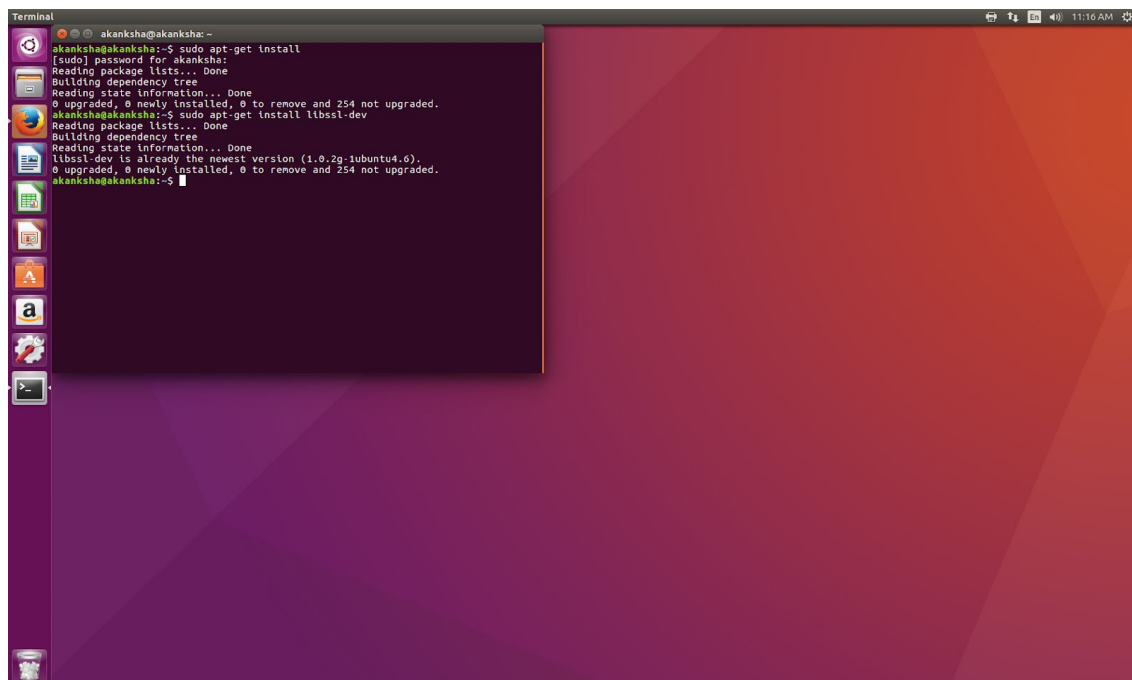
Or

go to this link <https://github.com/openlink/virtuoso-opensource/releases>

Download the latest version of virtuoso (**virtuoso-opensource-7.2.4.2.tar.gz/**  
**virtuoso-opensource-<version>.tar.gz**) and then **right click** and choose **Extract Here**

Now Open a terminal and type:

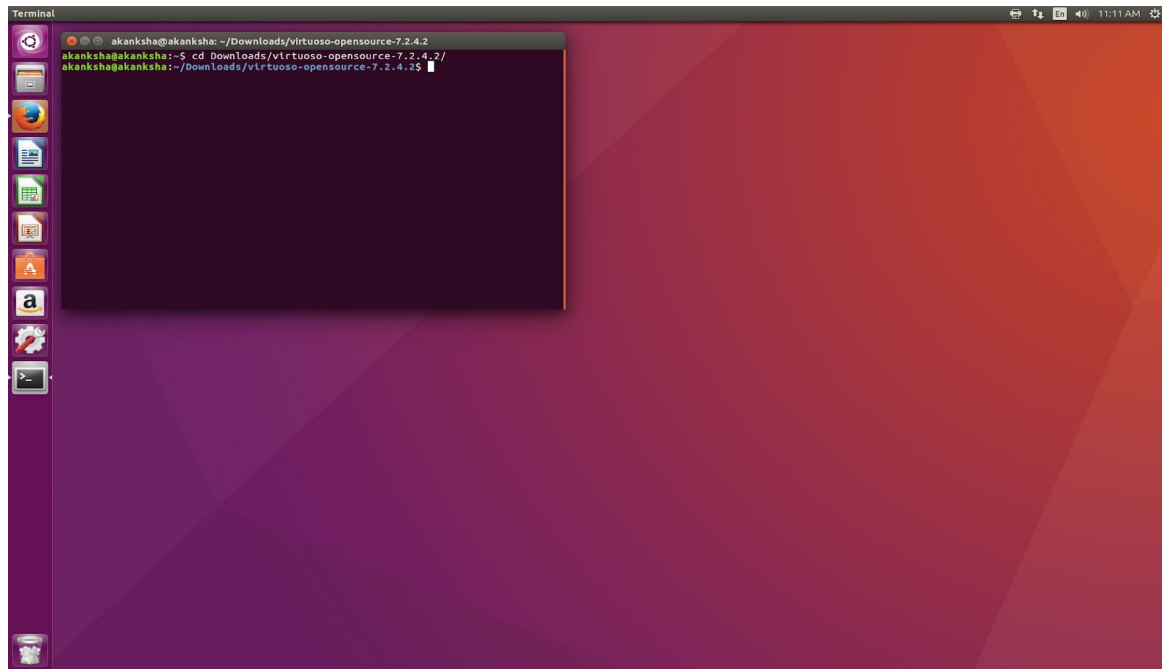
```
$ sudo apt-get install  
$ sudo apt-get install libssl-dev
```

A screenshot of a Linux desktop environment with a purple and red geometric background. A terminal window is open in the foreground, displaying the following text: 

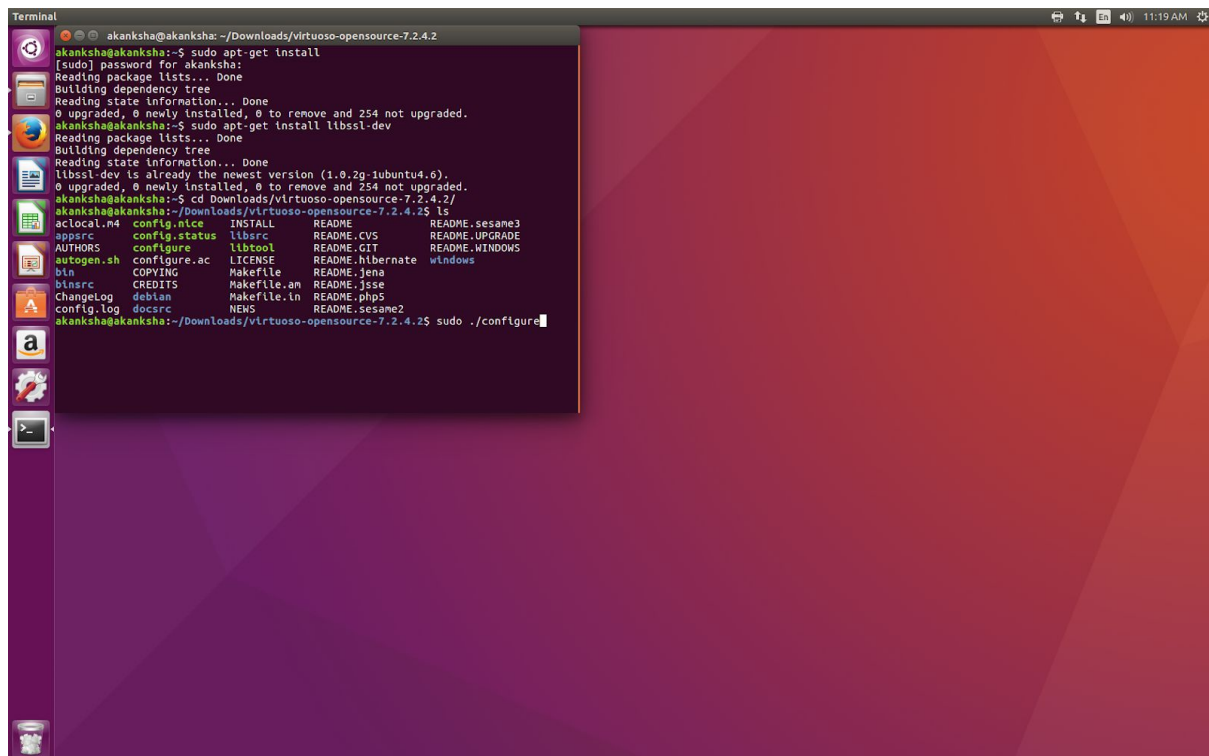
```
akanksha@akanksha:~$ sudo apt-get install  
[sudo] password for akanksha:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
0 upgraded, 0 newly installed, 0 to remove and 254 not upgraded.  
akanksha@akanksha:~$ sudo apt-get install libssl-dev  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
libssl-dev is already the newest version (1.0.2g-1ubuntu4.6).  
0 upgraded, 0 newly installed, 0 to remove and 254 not upgraded.  
akanksha@akanksha:~$
```

go to the extracted virtuoso folder since I extracted virtuoso in Download folder I will go to my location of virtuoso as `cd Downloads/virtuoso-opensource-7.2.4.2/`

```
$ cd <Download_folder>/virtuoso-opensource-7.2.4.2/
```



Continue typing virtuoso commands:



Execute all commands as a root user:

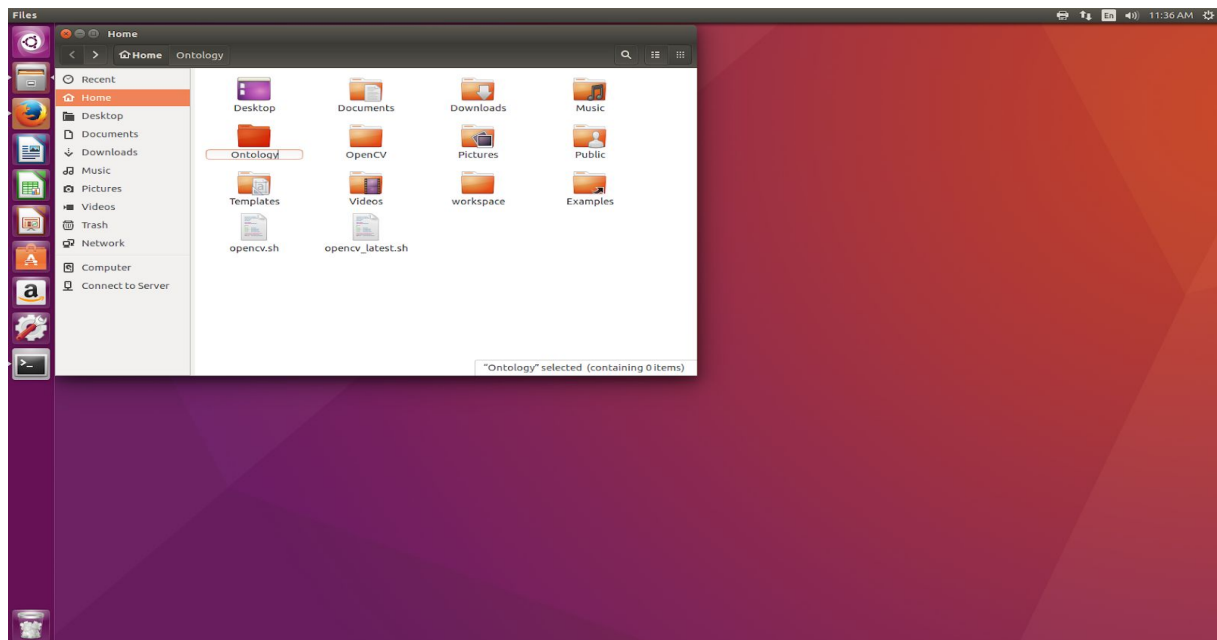
\$ **sudo ./configure**

If it is successful you will see a brief Virtuoso Open Source Edition (Column Store) 7.2.4.2 configuration summary

\$ **sudo make**

\$ **sudo make install**

Now go to your **home** and create a **new folder** name it say **Ontology** this is where you will keep all your ontologies locally:



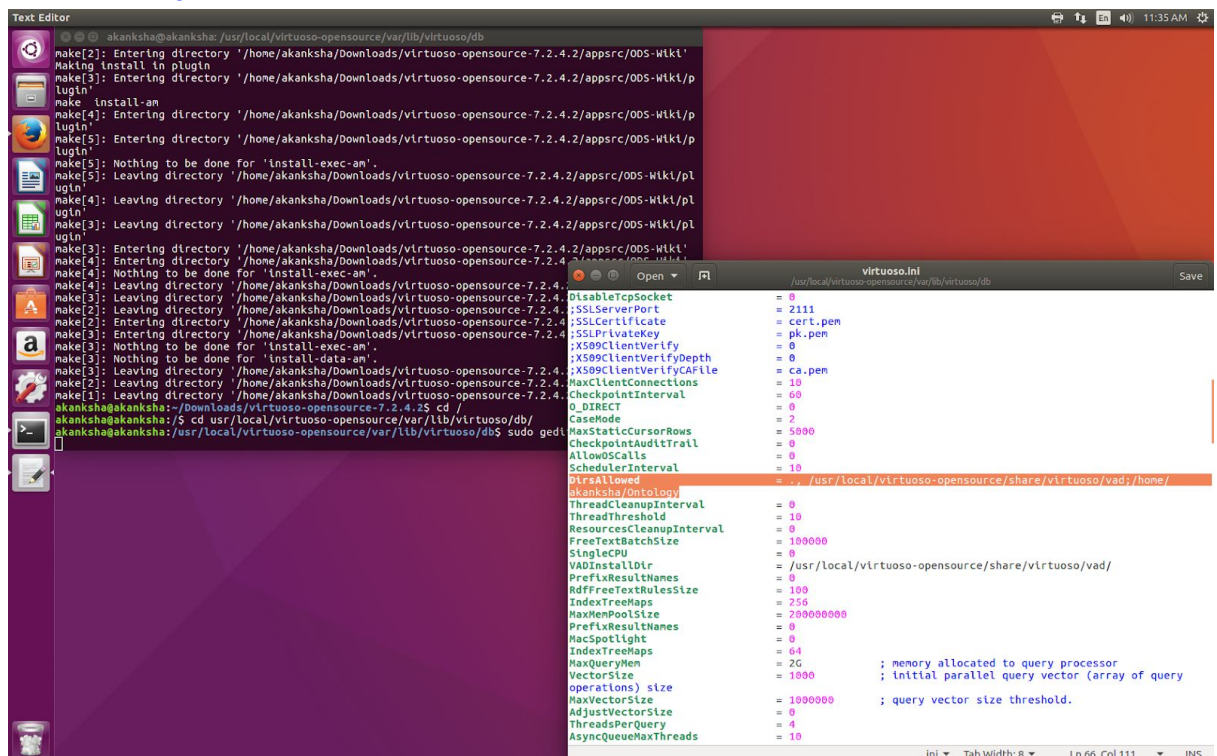
Now go to your root directory

```
$ cd /
```

Go and edit the virtuoso.ini file

```
$ cd /usr/local/virtuoso-opensource/var/lib/virtuoso/db/
```

```
$ sudo gedit virtuoso.ini
```



You can use any editors I feel editing in **gedit** is easier than **vi**

Go to the line **DirsAllowed** and add the **location** of your **Ontology** folder as

**./home/<usr>/<name\_of\_the\_folder>** //note: use **,** to separate directories

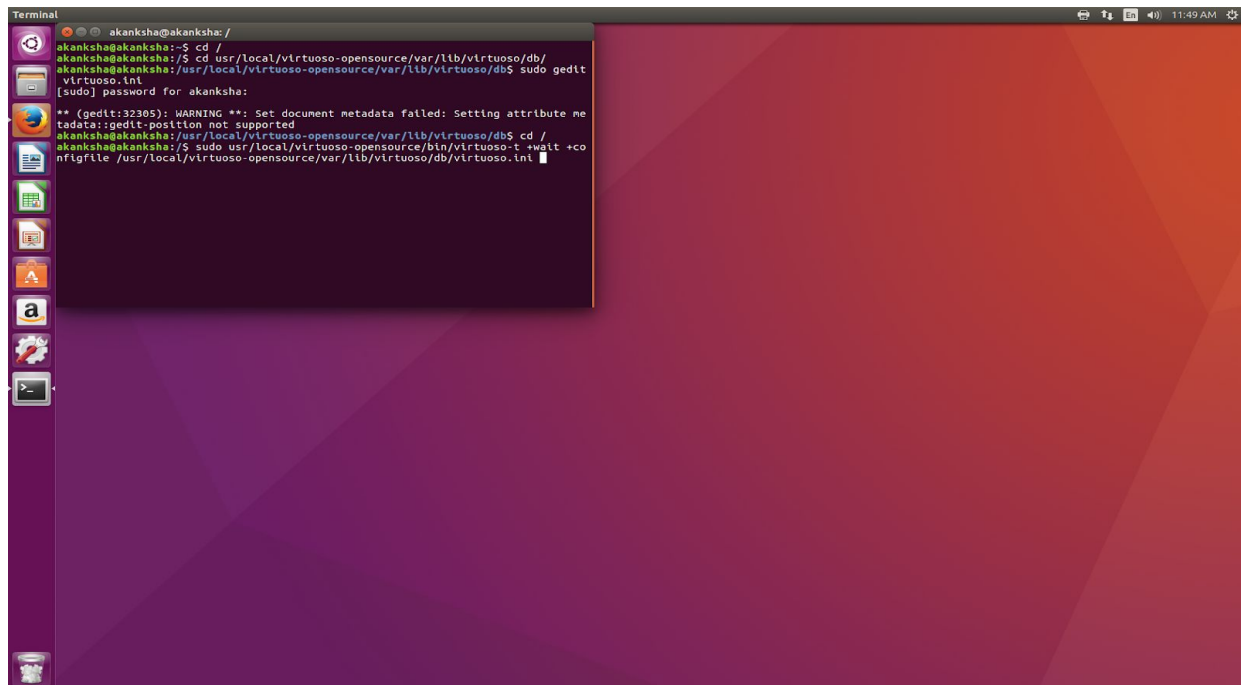
Save the changes and exit

Now again go to your root directory:

```
$ cd /
```

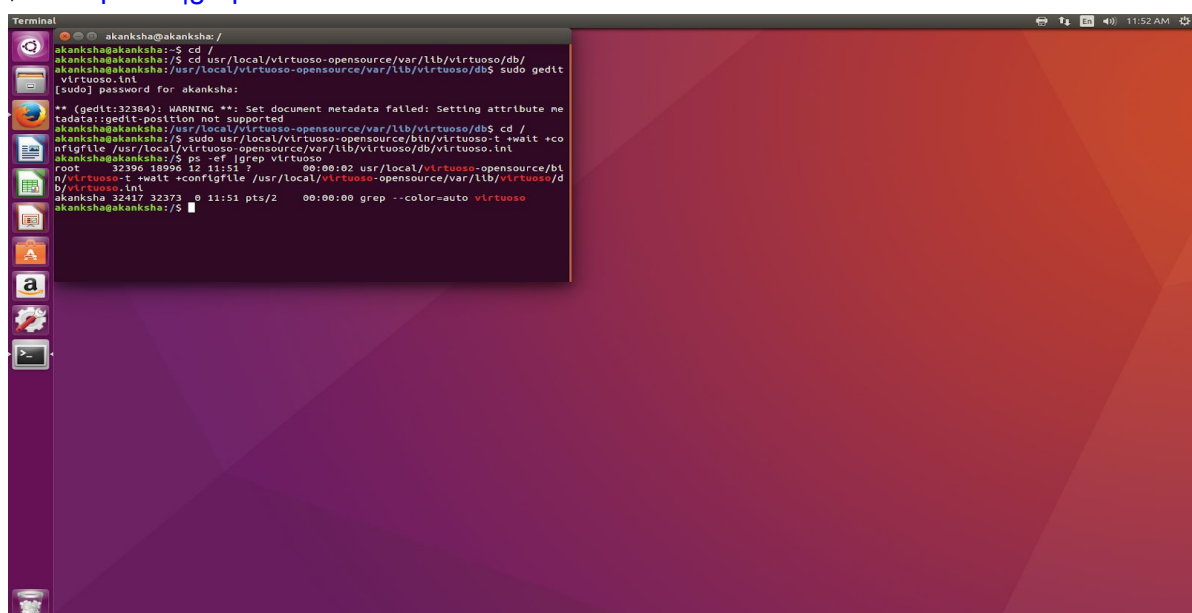
Now we will start virtuosos, always use this command to start virtuosos server:

```
$ sudo /usr/local/virtuosos-opensource/bin/virtuosos-t +wait +configfile  
/usr/local/virtuosos-opensource/var/lib/virtuosos/db/virtuosos.ini
```



This will initiate virtuosos to check if virtuosos is running in your system you can use command it will give you the process id as second string:

```
$ ps -ef |grep virtuosos
```



Now get a SQL prompt you type:

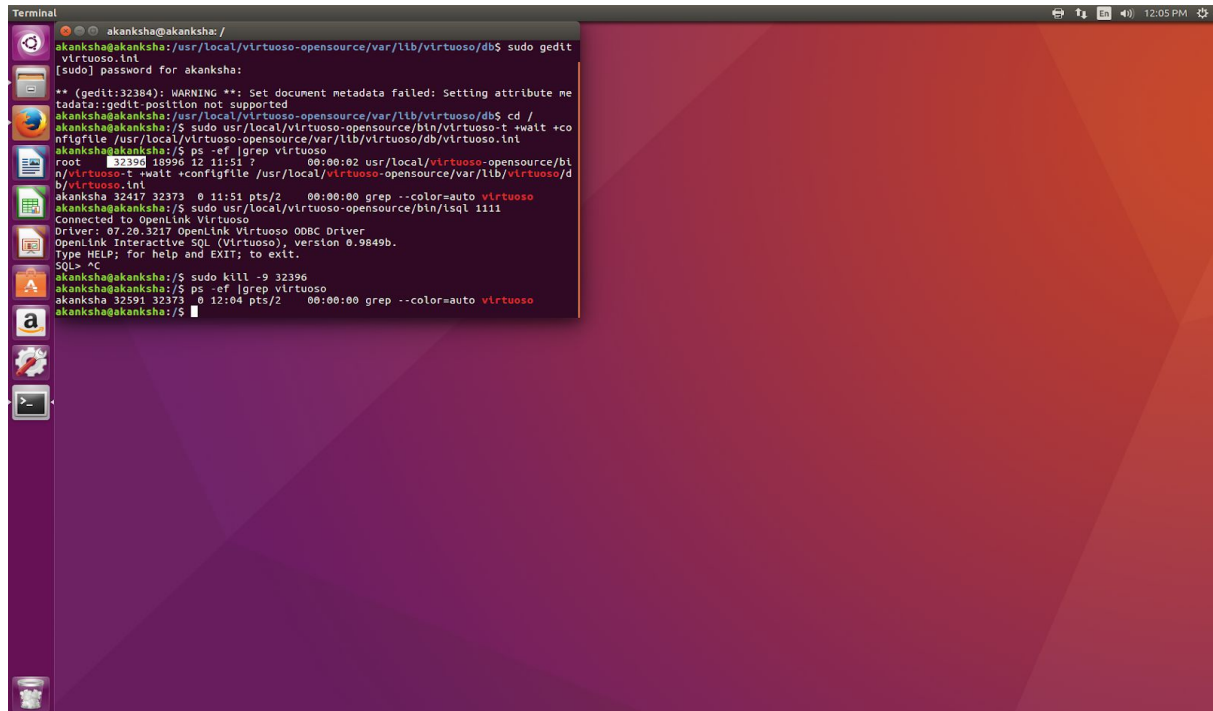
```
$ sudo /usr/local/virtuoso-opensource/bin/isql 1111
```

Do a cmd+C to get out of the SQL prompt.

And to terminate the virtuoso server type:

```
$ sudo kill -9 <process_ID>
```

You get the process id when you use the grep command to check virtuoso server state.



```
akanksha@akanksha: /
akanksha@akanksha: /usr/local/virtuoso-opensource/var/lib/virtuoso/db$ sudo gedit
virtuoso.ini
[sudo] password for akanksha:
** (gedit:32384): WARNING **: Set document metadata failed: Setting attribute me
tadata::gedit-position not supported
akanksha@akanksha: /usr/local/virtuoso-opensource/var/lib/virtuoso/db$ cd /
akanksha@akanksha: /usr/local/virtuoso-opensource/bin$ ./virtuoso-t +wait +co
nfigfile /usr/local/virtuoso-opensource/var/lib/virtuoso/db/virtuoso.ini
akanksha@akanksha: /usr/local/virtuoso-opensource/bin$ ./isql 1111
root 32396 10996 12 11:51 ? 00:00:02 usr/local/virtuoso-opensource/bi
n/virtuoso-t +wait +configfile /usr/local/virtuoso-opensource/var/lib/virtuoso/d
b/virtuoso.ini
akanksha 32417 32373 0 11:51 pts/2 00:00:00 grep --color=auto virtuoso
akanksha@akanksha: /usr/local/virtuoso-opensource/bin$ ./isql 1111
Connected to OpenLink Virtuoso
Driver: 07.20.3217 OpenLink Virtuoso ODBC Driver
OpenLink Interactive SQL (Virtuoso), version 0.9849b.
Type HELP; for help and EXIT; to exit.
SQL> ^C
akanksha@akanksha: /usr/local/virtuoso-opensource/bin$ sudo kill -9 32396
akanksha@akanksha: /usr/local/virtuoso-opensource/bin$ ps -ef |grep virtuoso
akanksha 32591 32373 0 12:04 pts/2 00:00:00 grep --color=auto virtuoso
akanksha@akanksha: /usr/local/virtuoso-opensource/bin$
```

Check again to see if virtuoso is still active:

```
$ ps -ef |grep virtuoso
```

If you don't see an active virtuoso server you have terminated it safely.

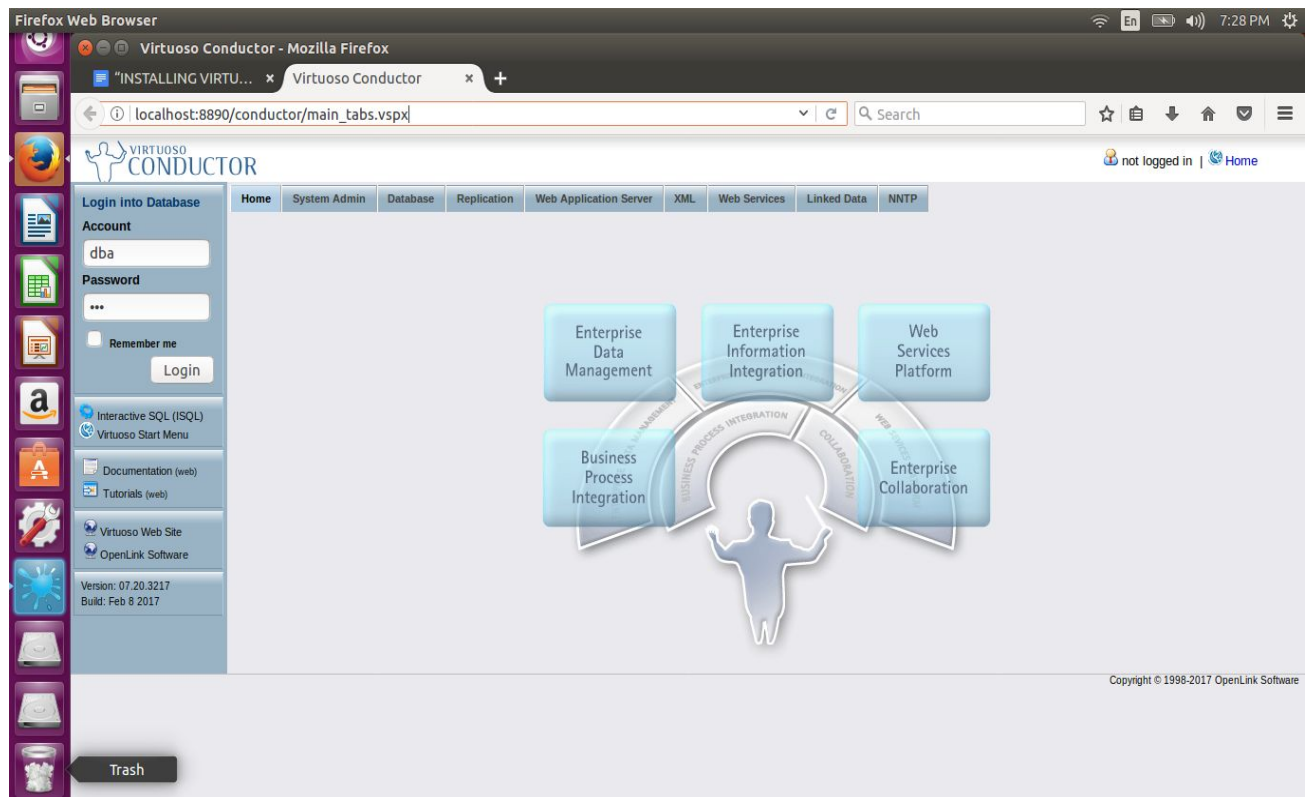
Or to check if virtuoso is up and running simply go to your browser and type

```
$ http://localhost:8890/conductor/
```

Login using default login ID and Password

Login ID: dba

Password: dba



when you get sql prompt

load the rdf

<folder containing ontology in local system, type, uri of your ontology described in \*.graph file>

```
sql/> ld_dir('/home/username/ontologies','*.owl','http://myonto');
```

to see all the graphs in virtuoso

```
sql/> select * from DB.DBA.load_list;
```

to load the rdf into virtuoso

```
sql/> rdf_loader_run();
```

Note:

All commands following \$ in blue are for command prompt.