# Setting Up TechCafe Games on an Ubuntu Machine Running 12.10

# Preparing the PostGres Database for use with TechCaFE Games

#### Do I Already have PostGres Installed on my Machine?

In order to determine if PostGres is already installed, run the command below to see if it is already running.

```
ps ax | grep postgres
```

If the output displayed is similar to that shown below, then PostGres is already running.

```
1186 ? S 0:00 /usr/lib/postgresql/9.1/bin/postgres -D /var/lib/postgresql/9.1/main -c config_file=/etc/postgresql/9.1/main/postgresql.conf
1301 ? Ss 0:00 postgres: writer process
1302 ? Ss 0:00 postgres: wal writer process
1303 ? Ss 0:00 postgres: autovacuum launcher process
1304 ? Ss 0:00 postgres: stats collector process
5013 pts/0 S+ 0:00 grep --color=auto postgres
```

For complete Installation of PostGresSQL version 9.X see the reference below.

#### References

How to Install PostgreSQL 9.1 on Ubuntu 12.10 Linux

#### Ruby

To see which version of Ruby is installed on your machine, enter the following command below.

You will see the following similar output listing the version of Ruby.

```
ruby 1.9.3p194 (2012-04-20 revision 35410) [x86 64-linux]
```

#### Setting up the DB After Ruby and Rails are Installed

Assuming Ruby and Rails are Installed, enter the command below.

rails server

and if the database TeacherPortal\_development does not exist, it will be indicated by the error below.

```
=> Booting WEBrick
=> Rails 3.2.13 application starting in development on http://0.0.0.0:3000
=> Call with -d to detach
=> Ctrl-C to shutdown server
Exiting
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/postgresql adapter.rb:1216:in
`initialize': FATAL: database "TeacherPortal development" does not exist (PG::Error)
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection_adapters/postgresql_adapter.rb:1216:in `new'
    from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/postgresql adapter.rb:1216:in
`connect'
   from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection_adapters/postgresql_adapter.rb:324:in
`initialize'
    from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/postgresql adapter.rb:28:in `new'
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/postgresql adapter.rb:28:in
`postgresgl connection'
    from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:315:in
`new connection'
```

```
from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:325:in
`checkout new connection'
    from
/usr/lib/ruby/qems/1.9.1/qems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:247:in
`block (2 levels) in checkout'
    from
/usr/lib/ruby/qems/1.9.1/qems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:242:in
`loop'
    from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:242:in
`block in checkout'
    from /usr/lib/ruby/1.9.1/monitor.rb:211:in `mon synchronize'
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:239:in
`checkout!
   from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:102:in
`block in connection'
    from /usr/lib/ruby/1.9.1/monitor.rb:211:in `mon synchronize'
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:101:in
`connection'
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection pool.rb:410:in
`retrieve connection'
    from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection specification.r
b:171:in `retrieve connection'
    from
/usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/connection adapters/abstract/connection specification.r
b:145:in `connection'
    from /usr/lib/ruby/gems/1.9.1/gems/activerecord-3.2.13/lib/active record/railtie.rb:88:in `block in <class:Railtie>'
    from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/initializable.rb:30:in `instance exec'
    from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/initializable.rb:30:in `run'
    from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/initializable.rb:55:in `block in run initializers'
    from /usr/lib/ruby/qems/1.9.1/qems/railties-3.2.13/lib/rails/initializable.rb:54:in `each'
    from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/initializable.rb:54:in `run initializers'
    from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/application.rb:136:in `initialize!'
```

```
from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/railtie/configurable.rb:30:in `method missing'
from /home/ggiger/projects/cs15239/TechCafeGames/TeacherPortal/config/environment.rb:5:in `<top (required)>'
from /usr/lib/ruby/gems/1.9.1/gems/activesupport-3.2.13/lib/active support/dependencies.rb:251:in `require'
from /usr/lib/ruby/gems/1.9.1/gems/activesupport-3.2.13/lib/active support/dependencies.rb:251:in `block in require'
from /usr/lib/ruby/gems/1.9.1/gems/activesupport-3.2.13/lib/active support/dependencies.rb:236:in `load dependency'
from /usr/lib/ruby/gems/1.9.1/gems/activesupport-3.2.13/lib/active support/dependencies.rb:251:in `require'
from /home/ggiger/projects/cs15239/TechCafeGames/TeacherPortal/config.ru:3:in `block in <main>'
from /usr/lib/ruby/gems/1.9.1/gems/rack-1.4.5/lib/rack/builder.rb:51:in `instance eval'
from /usr/lib/ruby/gems/1.9.1/gems/rack-1.4.5/lib/rack/builder.rb:51:in `initialize'
from /home/ggiger/projects/cs15239/TechCafeGames/TeacherPortal/config.ru:in `new'
from /home/ggiger/projects/cs15239/TechCafeGames/TeacherPortal/config.ru:in `<main>'
from /usr/lib/ruby/gems/1.9.1/gems/rack-1.4.5/lib/rack/builder.rb:40:in `eval'
from /usr/lib/ruby/gems/1.9.1/gems/rack-1.4.5/lib/rack/builder.rb:40:in `parse file'
from /usr/lib/ruby/gems/1.9.1/gems/rack-1.4.5/lib/rack/server.rb:200:in `app'
from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/commands/server.rb:46:in `app'
from /usr/lib/ruby/gems/1.9.1/gems/rack-1.4.5/lib/rack/server.rb:304:in `wrapped app'
from /usr/lib/ruby/gems/1.9.1/gems/rack-1.4.5/lib/rack/server.rb:254:in `start'
from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/commands/server.rb:70:in `start'
from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/commands.rb:55:in `block in <top (required) > '
from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/commands.rb:50:in `tap'
from /usr/lib/ruby/gems/1.9.1/gems/railties-3.2.13/lib/rails/commands.rb:50:in `<top (required)>'
from script/rails:6:in `require'
from script/rails:6:in `<main>'
```

If this occurs you need to enter the following command to create the DB.

```
rake db:create
rake db:migrate
```

#### After running the second command you will see output similar to that below:

```
-- create table(:answers)
NOTICE: CREATE TABLE will create implicit sequence "answers id seq" for serial column "answers.id"
NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "answers pkey" for table "answers"
 -> 0.1252s
-- create table(:content sets)
NOTICE: CREATE TABLE will create implicit sequence "content sets id seq" for serial column "content sets.id"
NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "content sets pkey" for table "content sets"
 -> 0.1480s
-- create table(:question contents)
NOTICE: CREATE TABLE will create implicit sequence "question contents id seq" for serial column "question contents.id"
NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "question contents pkey" for table "question contents"
 -> 0.1367s
-- CreateUsers: migrating -----
-- create table(:users)
NOTICE: CREATE TABLE will create implicit sequence "users id seq" for serial column "users.id"
NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "users pkey" for table "users"
 -> 0.3590s
-- add column(:content sets, :user id, :integer)
== AddUserIdToContentSets: migrated (0.0019s) ===================================
-- add column(:content sets, :active, :boolean)
 -> 0.0006s
```

```
-- create table(:roles)
NOTICE: CREATE TABLE will create implicit sequence "roles id seq" for serial column "roles.id"
NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "roles pkey" for table "roles"
 -> 0.1061s
-- create table(:roles users, {:id=>false})
 -> 0.0012s
== UsersHaveAndBelongToManyRoles: migrated (0.0013s) ===========================
-- add column(:users, :role, :string)
 -> 0.0007s
-- create table(:categories)
NOTICE: CREATE TABLE will create implicit sequence "categories id seq" for serial column "categories.id"
NOTICE: CREATE TABLE / PRIMARY KEY will create implicit index "categories pkey" for table "categories"
 -> 0.1180s
-- add column(:questions, :category id, :integer)
 -> 0.0007s
== AddCategoryIdToQuestions: migrated (0.0008s) =================================
```

# TechCafe Teacher Portal (Running the Server)

Note: This tool is best accessed with Google Chrome on Windows and Chromium on Linux

1) In Ubuntu, open up a command prompt and change into the Teacher Portal directory for TechCafe

```
ggiger@JimmyOlsen:~$ cd projects/cs15239/TechCafeGames/TeacherPortal/
ggiger@JimmyOlsen:~/projects/cs15239/TechCafeGames/TeacherPortal$
```

#### 2) Run the command rails server as shown below

ggiger@JimmyOlsen:~/projects/cs15239/TechCafeGames/TeacherPortal\$ rails server

#### You will see the following output

```
=> Booting WEBrick

=> Rails 3.2.13 application starting in development on http://0.0.0.0:3000

=> Call with -d to detach

=> Ctrl-C to shutdown server

[2013-06-05 15:15:55] INFO WEBrick 1.3.1

[2013-06-05 15:15:55] INFO ruby 1.9.3 (2012-04-20) [x86_64-linux]

[2013-06-05 15:15:55] INFO WEBrick::HTTPServer#start: pid=6966 port=3000
```

The server can be accessed on the local machine by entering the following in your browser's URL field

http://localhost:3000

### Or if running on a different machine

http://<ip address>:3000

You will then see the main page for the Teacher's Portal.

## Configuring the Brain Race Game to Connect to the Teacher Portal

Before running the Brain Race game open the file node\_techcafe.js in the Brain Race subdirectory modules. Change the contents of the file to reflect your own server running the teacher portal.

```
var options = {
   host: 'www.myserver.com',
   method: 'GET',
};
```

If you are running the Teacher Portal on the same machine as the Brain Race game use the following settings below.

```
var options = {
   host: 'localhost',
   port: '3000',
   method: 'GET',
};
```

Once you made these changes save the file.

### Starting the Mongo DB (on Linux)

For the Brain Race game the Mongo DB needs to run as a stand alone server and not as a service. To check if the Mongo DB is running as a service run the following command.

```
ps ax | grep mongodb
```

If you get the output as shown below, then Mongo DB is running as a service and must be shutdown.

#### [TODO: ADD OUTPUT FOR ABOVE COMMAND HERE]

In order to shut down Mongo DB running as a service enter the following command at the command prompt.

```
sudo service mongodb stop
```

This will stop the MongoDB from running as a service. Before starting the MongoDB as a standalone application, ensure the following directory exists off your root directory (you may need sudo access to do this).

Once it has been verified that the directory exists, the Mongo DB can be started. Change into the directory /usr/bin where the binary for the Mongo DB exists. Once you are in this directory run the command sudo ./mongod, which will start Mongo DB as a standalone application. See below for an example.

```
ggiger@JimmyOlsen:~$ cd /usr/bin
ggiger@JimmyOlsen:/usr/bin$ sudo ./mongod
```

This will start Mongo DB, if it starts correctly you will see output in your command window similar to the output below:

```
./mongod --help for help and startup options
Wed Jun 5 18:04:10 [initandlisten] MongoDB starting : pid=10581 port=27017 dbpath=/data/db/ 64-bit host=JimmyOlsen
Wed Jun 5 18:04:10 [initandlisten] db version v2.0.6, pdfile version 4.5
Wed Jun 5 18:04:10 [initandlisten] git version: nogitversion
Wed Jun 5 18:04:10 [initandlisten] build info: Linux batsu 3.2.0-23-generic #36-Ubuntu SMP Tue Apr 10 20:39:51 UTC 2012
x86_64 BOOST LIB VERSION=1 49
Wed Jun 5 18:04:10 [initandlisten] options: {}
Wed Jun 5 18:04:10 [initandlisten] journal dir=/data/db/journal
Wed Jun 5 18:04:10 [initandlisten] recover: no journal files present, no recovery needed
Wed Jun 5 18:04:15 [initandlisten] preallocateIsFaster=true 56.56
Wed Jun 5 18:04:19 [initandlisten] preallocateIsFaster=true 51.44
Wed Jun 5 18:04:24 [initandlisten] preallocateIsFaster=true 45.38
Wed Jun 5 18:04:24 [initandlisten] preallocateIsFaster check took 13.768 secs
Wed Jun 5 18:04:24 [initandlisten] preallocating a journal file /data/db/journal/prealloc.0
        650117120/1073741824
                                60%
       754974720/1073741824
                                70%
        943718400/1073741824
                                87%
Wed Jun 5 18:04:44 [initandlisten] preallocating a journal file /data/db/journal/prealloc.1
        608174080/1073741824
       796917760/1073741824
                                74%
        954204160/1073741824
                                888
Wed Jun 5 18:05:05 [initandlisten] preallocating a journal file /data/db/journal/prealloc.2
        639631360/1073741824
                                59%
                                72%
       775946240/1073741824
        985661440/1073741824
                                91%
Wed Jun 5 18:05:25 [websvr] admin web console waiting for connections on port 28017
```

### Running the Brain Race Game

Open up another command window and change into the Brain Race folder in order to run the Brain Race game. If you have not already done so, please run the command below from the Brain Race folder.

```
npm install
```

This will install express and mongoose which are both required by the Brain Race game. Next enter the command below in order to begin the Brain Race game.

```
node server.js
```

Opened up a browser (Chromium preferred on Linux and Chrome on Windows) and entered the URL <a href="http://localhost:8080/desktop.html">http://localhost:8080/desktop.html</a> in the address bar. The Brain Race intro screen will be displayed. Click on the start button to choose a content set and to begin the game. When selecting a content set you should see the content sets that were previously entered using the Teacher Portal.