

Discussion Class 1: Installing Postgres

ECS 165A

Database Systems

Discussion Session 1

Installing Postgres

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(based on material by Parisa Kianmajd)

Discussion Class 1: Installing Postgres

Outline

- Postgres Setup on the CSIF
- Installing Postgres on your own computer
 - Windows
 - MAC OS X
 - Linux
- Examples
 - CREATE/DROP Database
 - CREATE Table
 - INSERT

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Computer Science Instructional Facility (CSIF)

- A set of Linux machines named **pc1.cs.ucdavis.edu** through **pc60.cs.ucdavis.edu** in the basement of [Kemper Hall](#).
- You will need to log in to them using your campus **Kerberos username and password** either physically at the machines themselves, or remotely as follows ...

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- Connect via SSH
ssh username@pcXX.cs.ucdavis.edu
 - For Windows machines use
 - Cygwin
 - PuTTY
- Note:** you will have access to the same instance of your home directory ~/ that contains your files regardless of which machine you log into.
- * Upload a file or directory using SCP.

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Quick Set up Commands

create your local ~/postgres directory:

mkdir ~/postgres

Now add the following environment variables to your ~/.cshrc file

```
echo 'setenv LOCAL_DB ~/postgres' >> ~/.cshrc
echo 'setenv PGHOST $LOCAL_DB' >> ~/.cshrc
echo 'setenv PGDATA $LOCAL_DB/data' >> ~/.cshrc
echo -n "alias start_postgres 'pg_ctl -w -l ~/server.log start" >> ~/.cshrc
echo -n "-o "-c listen_addresses=" >> ~/.cshrc
echo -n "-c unix_socket_directories=$LOCAL_DB" >> ~/.cshrc
echo "" >> ~/.cshrc
echo "alias stop_postgres 'pg_ctl stop'" >> ~/.cshrc
source ~/.cshrc
initdb
```

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Start and Stop Postgres

- Any time you log in, you can start and stop the server with the
 - start_postgres
 - and
 - stop_postgres
 - commands.

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Using Postgres (1)

•By default, Postgres creates a database named "postgres".

•Once your server is started, you can access the "postgres" database with psql (the PostgreSQL interactive terminal) by typing:

•psql postgres

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Using Postgres (2)

•If you want to create a different database, named, say, "test", you can type:

•createdb test

•and connect to it via:

•psql test

•To get out of postgres type: test=> \q

•To delete the database named, say, "test", type:

•dropdb test

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Important Note

•The server will remain running on your CSIF machine even after you log out, so you should shut it down if you don't intend to come back to your CSIF machine after you log out with the stop_postgres command.

•However, the nightly reboot of the CSIF machines will stop it if you forget!

•Note also that the server is running only on the CSIF machine that you start it on, and if you move to another machine you'll need to stop it on the first machine and start it on the new machine. Failing to stop the old server first doesn't seem to produce any ill effects other than "stranding" the original process: if you move back to the original machine you'll have to restart the server there again.

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CSIF Disk Quota

•Your disk quota on the CSIF is limited. If you run low on space you will be unable to create new files, which includes new databases.

•To see your current usage, type:

•quota

•Note that the CSIF provides a script to help clean out common cache files, etc. from your home directory. If you're low on space, type:

•mquota.pl

•and follow the prompts.

•If you still don't have enough free space, even after deleting unused files, we can ask the CSIF staff to increase your disk quota.

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Regarding the "FATAL: could not create shared memory segment" error message

•If you get this error message when trying to start the Postgres server with start_postgres, deleting your ~/postgres folder and starting over seems to fix it:

•rm -rf ~/postgres

•mkdir ~/postgres

•initdb

•You'll need to re-create any databases you had afterwards, of course.

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•Examples

•CREATE Database

•CREATE Table

•INSERT

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Overview

- All of PostgreSQL installation is based on the [PostgreSQL Official Website](#).
- PostgreSQL is an open-source object-relational database management system.
- Also, PostgreSQL provides "pre-built" binary packages for easy installation on a number of different operating systems: [FreeBSD](#), [Linux](#), [Mac OS X](#), [Solaris](#), [Windows](#).

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PostgreSQL

The world's most advanced open source database.

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Windows installers

The Windows installers for PostgreSQL includes the PostgreSQL server, [pgAdmin III](#); a graphical tool for managing and developing your databases, and StackBuilder; a package manager that can be used to download and install additional PostgreSQL applications and drivers.

One click installer

The one click installer is designed to be as straightforward as possible and the fastest way to get up and running with PostgreSQL on Windows.

[Download](#) the installer from EnterpriseDB for all supported versions.

Advanced users can also download a [zip archive](#) of the binaries, without the installer. This is not recommended for normal installations, it is intended for users who wish to include PostgreSQL as part of another application installer.

pgInstaller

pgInstaller is a Windows Installer package that offers advanced configuration options. pgInstaller packages are only being maintained for PostgreSQL 8.3.

[Download](#) pgInstaller from the win32 subdirectory of the version you require from our file browser.

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Installer version 9.2.1

Linux x86-32 Linux x86-64 Win x86-32 Win x86-64 Mac OS X

Installer version 9.1.6

Linux x86-32 Linux x86-64 Win x86-32 Win x86-64 Mac OS X

Installer version 9.0.10

Linux x86-32 Linux x86-64 Win x86-32 Win x86-64 Mac OS X

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Windows

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Setup - PostgreSQL

Welcome to the PostgreSQL Setup Wizard.

PostgreSQL

Packaged by:

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Setup

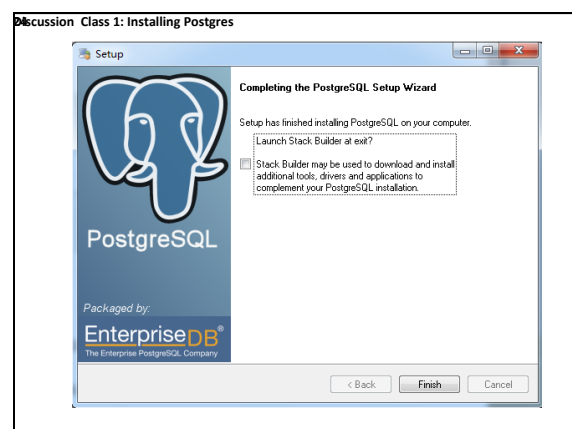
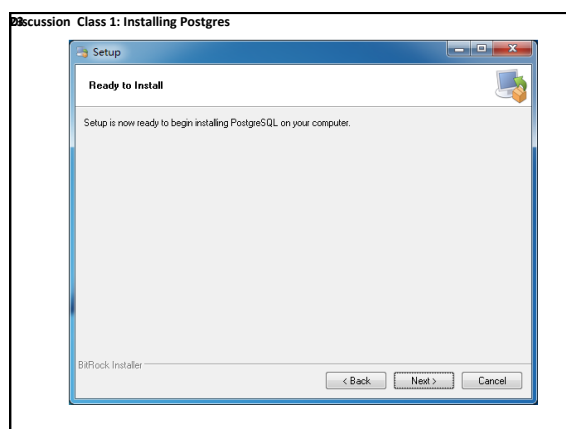
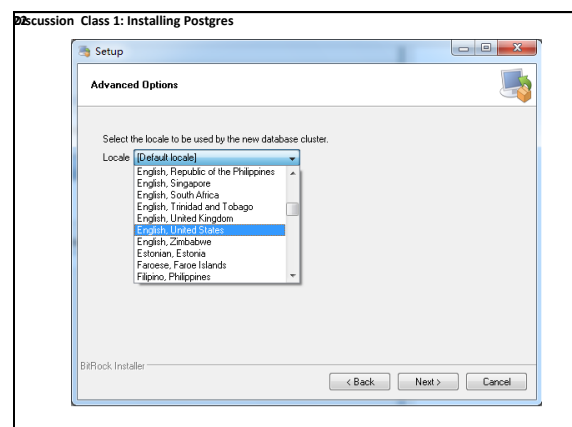
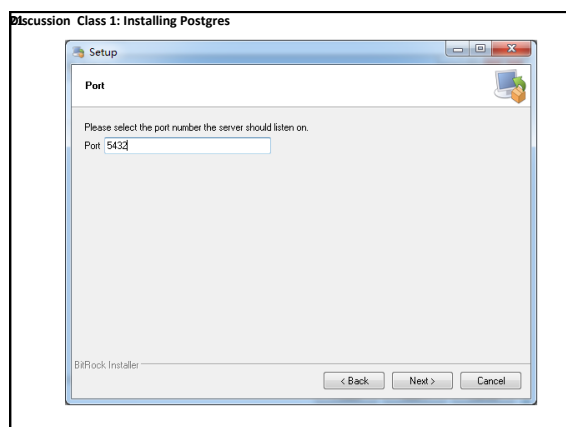
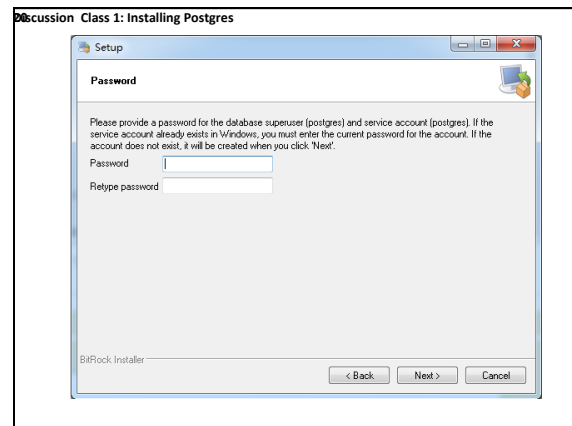
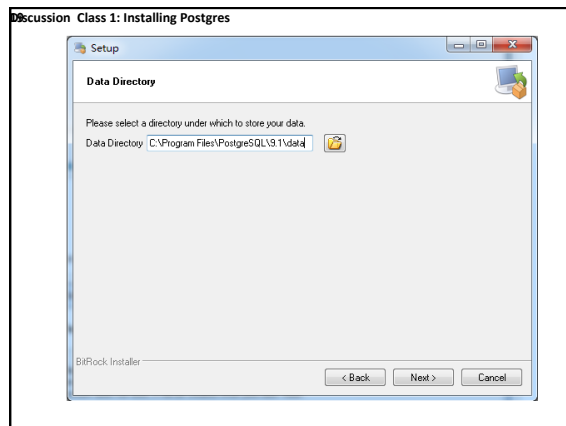
Installation Directory

Please specify the directory where PostgreSQL will be installed.

Installation Directory: C:\Program Files\PostgreSQL\9.1\

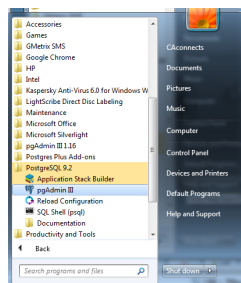
BitRock Installer

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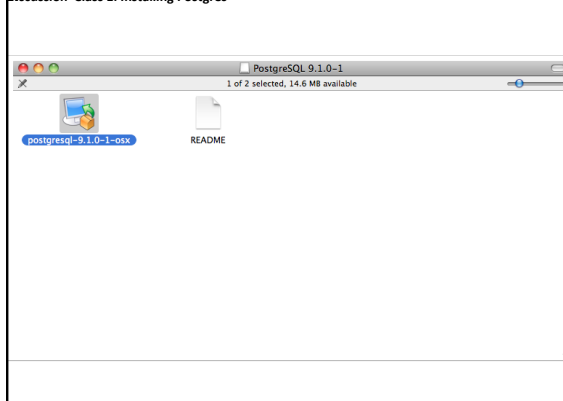
pgAdmin : Graphical Management SQL Shell (psql): Terminal



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MAC OS X

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Questions?

If you have question about installation, please
post to the [class mailing list](#) by sending
email to: 165a-fq13@googlegroups.com