Introduction

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1. Architectural Fundamentals

☐ PostgreSQL uses a client/server model.
☐ A PostgreSQL session consists of the following cooperating processes (programs):
 ■ A server process: manages the database files, accepts connections to the database from client applications, and performs actions on the database on behalf of the clients. The database server program is called postgres.
 ■ The user's client (frontend) application that wants to perform database operations.
  ☐ a text-oriented tool
  ☐ a graphical application
  ☐ A web server

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1. Architectural Fundamentals

☐ The client and the server can be on different hosts, which communicate over a TCP/IP network connection
☐ The PostgreSQL server can handle multiple concurrent connections from clients.
 ■ Starts a new process for each connection
 ■ the client and the new server process communicate without intervention by the original postgres process
 ■ the master server process is always running, waiting for client connections, whereas client and associated server processes come and go

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2. Creating a database

☐ A running PostgreSQL server can manage many databases.
☐ To create a new database named mydb, you use the following command: **createdb mydb**
 ■ If this produces no response then this step was successful

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Destroying a database

☐ If you do not want to use your database anymore you can remove it.
 ■ **dropdb mydb**

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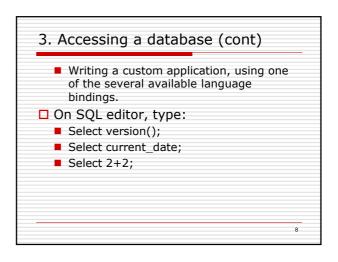## 3. Accessing a database

☐ Once you have created a database, you can access it by:
  ■ Running the PostgreSQL interactive terminal program, called psql, which allows you to interactively enter, edit, and execute SQL commands.
  ■ Using an existing graphical frontend tool like pgAdmin or an office suite with ODBC support to create and manipulate a database. These possibilities are not covered in this tutorial.

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3. Accessing a database (cont)

  ■ Writing a custom application, using one of the several available language bindings.
☐ On SQL editor, type:
  ■ Select version();
  ■ Select current_date;
  ■ Select 2+2;

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4. Some basic concepts

☐ PostgreSQL is a relational database management system (RDBMS).
  ■ It is a system for managing data stored in relations.
☐ Relation is essentially a mathematical term for table.
  ■ Each table is a named collection of rows.
  ■ Each row of a given table has the same set of named columns, and each column is of a specific data type.

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4. Some basic concepts (cont)

☐ Tables are grouped into databases, and a collection of databases managed by a single PostgreSQL server instance constitutes a database cluster.

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