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Database Management

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<u>Lab #1</u>

<u>Data vs. Information</u> - There is a distinct difference between Data and Information. Data is

essentially raw, unprocessed information, while information can be a result of various different

types of data. Say you wanted to create a Facebook account. All of the credentials you submit

when creating a Facebook account is your account information. Facebook's database will store

your account information (ex: email, password, name, etc.) as different data types in their

database. This database is storing various data for every user that has created an account. Data

could be something as simple as a user's email address. This is why data could be viewed as

"useless" in some cases because just an email address without context is useless information to

an outside viewer. However, an email address along with other user credentials (such as a name)

could make this data "useful", therefore making it information. Once you figure out the context

for all of your data, you can fully appreciate the value of that information. This is especially true

for most users. To users data is usually meaningless. This is the reason why everything in data

communication must be converted to information before it reaches a user.

<u>Data Models</u> - There are many similarities and differences between hierarchical, network, and

relations data models. A hierarchical data model consists of data organized into a tree like

diagram. For example, an animal kingdom hierarchical diagram would start with animals at the

top. It would then branch off to mammals, fish, birds, etc. and keep branching off into individual animals. This is very similar to the way a hierarchical diagram works in databases using this model. Network data models are similar and also different to hierarchical data models. The difference between the network and the hierarchical data model are the relationships. In a hierarchical data model the relationships are one-to-one, whereas network data models have many-to-many relationships. The many-to-many relationship in a database make it easier to access data within that database. This is one of the main advantages of the network model. Even though these two models are useful, both the hierarchical data model and the network data model are not as efficient as the relational data model. These models do not perform as efficiently as the relational data model is because the relational model uses tables to organize data that are combined together with other information. This allows admins and users to access information in the database much easier than in hierarchical or network models. The relational model is essentially taking the positive aspects from both the hierarchical and network models. This is why XML model diagrams are the perfect model for data storage. It uses the relational model and describes how each part of the database relates to another.

pgAdmin III

File   Edit   Plugins   View   Tools   Help

Object browser   ×

Server Groups
  Servers (1)
    PostgreSQL 9.5 (localhost:5432)

Properties   Statistics   Dependencies   Dependents

Properties

No properties are available for the current selection

←   Settings

⚙   ACCOUNTS

Your email and accounts

Sign-in options

Work access

Family & other users

Sync your settings

You need to activate Windows before you can personalize your PC.

Stephen Bohner
sbohner14335@gmail.com
Administrator

Billing info, family settings, subscriptions, security settings, and more

Manage my Microsoft account

You need to verify your identity.

Verify

Sign in with a local account instead

Your picture

SQL pane

Retrieving details on server localhost... Done.

I'm Cortana. Ask me anything