What is a Database?

-organized collection of data

-way to store information in a computer

-way to persist information

currently we can’t do this except through writing files

-have been around long before web-dev

-extremely efficient way to store and process data

Howe Do We interact with Database?

Indirectly

-we interact with databases everyday

amazon product page

sms

imdb

JSON

-PHP, web applications

-DB<->DBMS<->Programming Language (or several)<->users

Directly

-DBMS:database management system

-many different types:relational, document-store, graph

-postgreSQL, MySQL, MariaDB, Microsoft SQL Server, SQLite, MonogDB, Neo4j, etc

-relational is the most popular by far

-Relational Databases: Spreadsheets on Steroids

-databases + tables

-SQL: Structured Query Language

-common to most relational DBs, with a few different quirks, different dialicts

-ALL CAPS

-CRUD: Create, Read, Update, Delete

-We’ll use MySQL for this class

-Database runs on our vagrant box, not mac, this is because when we deploy our code to a real live production, it doesn’t matter since the server in San Francisco won’t talk to laptop 24 /7 so we put this where we store our php files

MySQL supports different users with different permissions:

Why?

See who we are

1. Start the mysql client

#from your mac cd ~/vagrant-lamp

vagrant ssh

#in the vagrant box

mysql –u vagrant -p

1. Run a sql command

Select current\_user;

SELECT

note the @localhost

Command L to clear screen and control c to get you out

Listing users

SELECT user, host, password FROM mysql.user;

-note that passwords are hashed

-SELECT

we’ll get into more detail later

SELECT things FROM database.table;

Creating a user

Create user ‘billy’@’localhost’ identified by ‘billySecreP@ass123’;

Create user ‘sally’@’192.168.77.1’ identified by ‘passwordForSally321’;

Host Wildcards

Create user ‘sally’@’192.168.%’ identified by ‘passwordForSally321’;

Crate user ‘sally’@’%’identified by ‘passwordForSally321’;

Be careful here

Are commands case sensitive? Convention for sql as well as single quotes

To connect as vagrant user do :

mysql -u vagrant -p

password: vagrant

To connect as joe:

mysql -u joe -p

password : joesSecretP@ass123

To create a user that can connect to multiple hosts, create two different user statements for each host with the same username

Anne’s password is password

Jean password : password1

Database users – finish :

Left off Create a new user named jean that can connect from **any** host, and from localhostspecifically. Give jean a sensible password.

1. Give jean read-only permissions to the entire database server.

Database info:

Username is codeup

Password: the usual

new database called codeup\_test\_db and user codeup\_test\_user

password: the usual