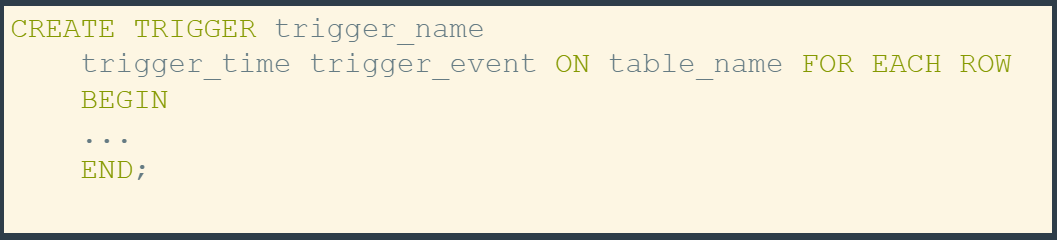
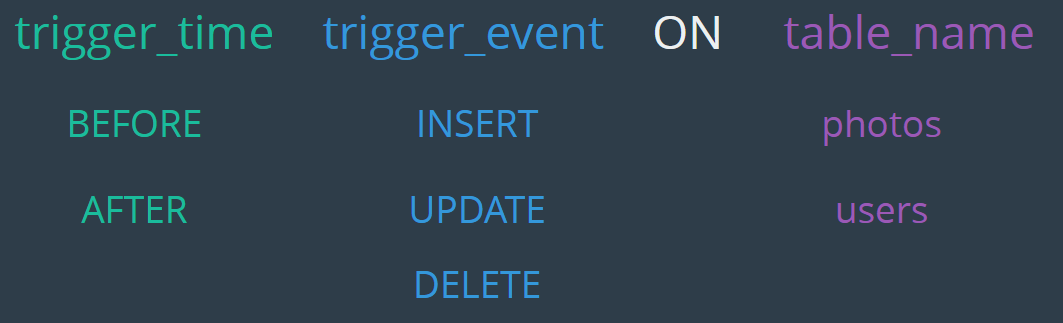
Section slides: <http://webdev.slides.com/coltsteele/mysql-113?token=uW3AQYWv>

# Introduction to Database Triggers

* **Database triggers** are SQL statements that are *automatically run* when a specific table is changes
  + Very useful in particular situations, but by no means central to MySQL
* The syntax for triggers



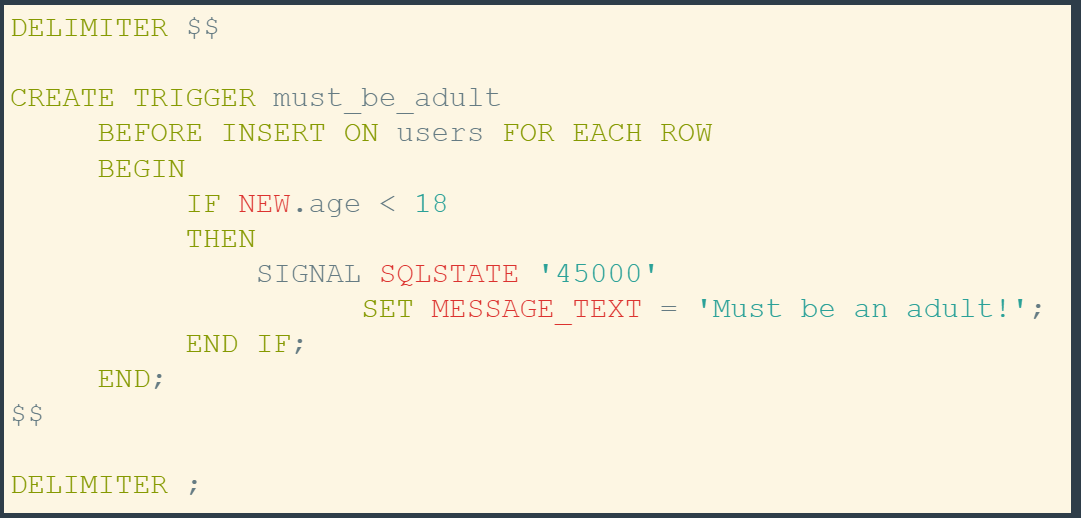
* + trigger\_time describes *when* a trigger is executed, and can either be BEFORE or AFTER the trigger\_event
  + trigger\_event describes the nature of the event that triggers, and can be INSERT, UPDATE, or DELETE
  + table\_name is just the name of the table
  + Example: We can run some code BEFORE we INSERT into a table called *photos*
  + Whatever code is sitting between BEGIN and END will be executed upon the trigger



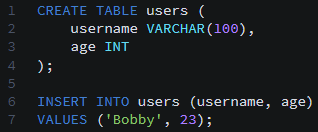
* What would you do with these triggers?
  + **Data validations** – you can enforce certain things on your data
    - You can accomplish this by running code before an INSERT statement is run
    - Example: You can prevent someone from being added to your table if they are below a certain age
    - This is not the greatest way to do this. You could also do this within your application or client-side code, which is oftentimes much easier because you can program those restrictions before you ever execute any SQL queries
  + Manipulating other tables relative to the “trigger table”
    - Example: If you have following relationships in Instagram, it might be helpful to know if someone *unfollows* something. This data could be useful for certain companies
      * By using a trigger, we can create a new row once a “follow” relationship is deleted

# Writing Our First Trigger Part 1

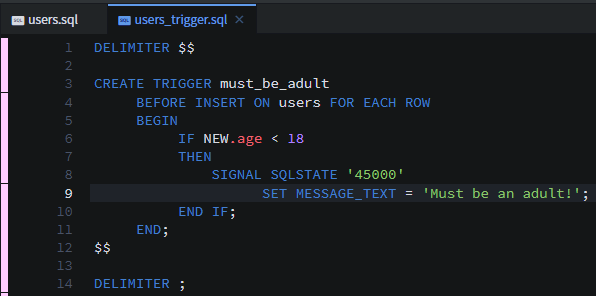
* Slides: <http://webdev.slides.com/coltsteele/mysql-113?token=uW3AQYWv#/4>
* Here we’ll run the code first, then ask questions later. This is a simple validation trigger. What it does is prevent a user from being created if their age is under 18



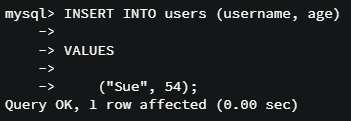
* Start by creating a new database called **trigger\_demo**
* Then within a SQL file, we’ll create a table called *users* and insert one user named Bobby

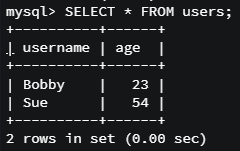


* Now let’s make the trigger, which will check if the new user is less than 18. If they are, we’ll throw an error and not allow the user to be inserted into the table. We use the code above in a new SQL file and then just source the file



* Let’s test it out!
  + Inserting a user who is over 18 works just fine

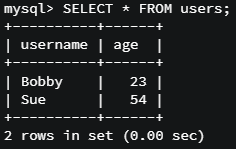




* + But inserting a user who is under 18 does not work, and that user is not added to the table







* Great! But there’s still a bunch of syntax in the code that we don’t understand. We’ll talk about it in the next lecture