Computer Aided Decision System
Industrial Practices using Big Analytics
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Lecture 16
More SQL Commands

Good evening, students and audience. Welcome to yet another lecture of the Web Based Decision Support System for practitioners and researchers and I am Doctor Deepu Philip from IIT Kanpur and we are going into the depth lectures of the Database Management System. We have already gone through Decision Support System (DSS) and we have seen different components of DSS and we have been now dealing with major aspects of Database Management System because data is one of the crux of the Decision Support System.

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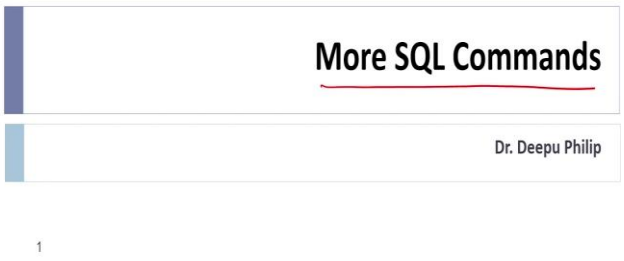

And today what we are going to learn is More SQL Commands. Today's topic is some of the major SQL Command not going to teach all SQL Commands, the most important SQL Commands and I expect that you use the available resources especially I will show you some tutorials that are available in the web for free, which you can use to learn the SQL Commands.

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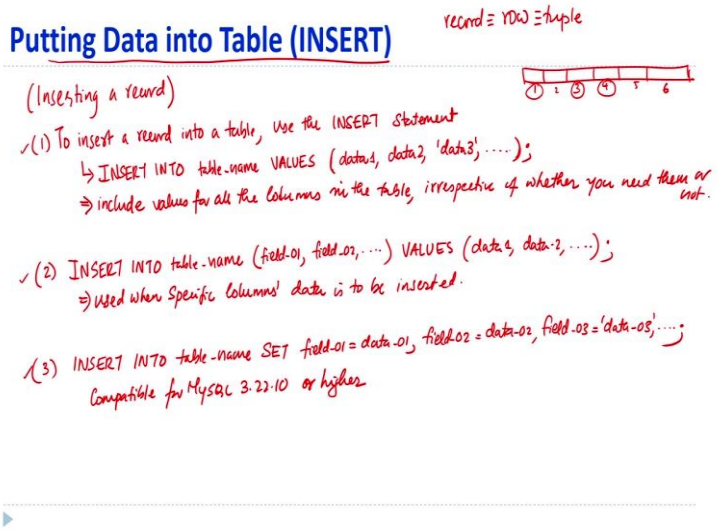

So, without further delay, let us get into the first most importantly used SQL Command that is called 'Putting Data into the Table' which is the (INSERT) Command. So, this is also known as Inserting a Record. Record-row-tuple, they all are kind of similar thing about as equal lance and there is some most of the time they all are used into the same format.

So, the first thing is:

1) To insert a record into the table, use the INSERT statement. And how do you do that?

➢ It is basically INSERT INTO then you have table name, whatever be the table name you provide whatever table name is values within (data 1, data 2, data 3 etc.) So, some data you can see it someone data with inverted commas. One important thing is:

- Include values for all the columns in the table' irrespective of whether you need them or not. So, let us say the database table for you have a table and you have 123456 like this 123456. Then you should have this within parenthesis. You will have 6 data values you will store them the idea is that how many ever are there whether it is needed or not needed, you are going to insert them it does not matter you need all of those values to be six values should be provided into this.

2) INSERT INTO table name. You have (field 1, field 2, etc.) VALUES (data 1, data 2, etc.)

- Used when specific columns' data to be inserted. So, this is used when you need to insert data of very specific columns you do not want to do. So, whichever columns if

you choose only 1, 3 and 4, then you put the field 1, field 2, field 3, those 3 values and put the values correspondingly and the DBMS will insert it into the appropriate one.

3) INSERT INTO table name SET you can do this, field 1 = data 1, field 2 = data 2, field 3 = data 3; So, instead of putting field and values in two separate things, you can just put the equated one (this is compatible for my SQL 3.2 2.10 or higher). So, all latest versions of MySQL or Maria DB supports this approach.

So, 2 and 3 are pretty much the same, but the 3 is much more you know, field data, So, you are matching them by field. So, it is much more elegant query compared to the previous one. So, these are the 3 aspects of 3 ways you can popularly insert command is used, there are other ways also people use insert command, but this is the important part.

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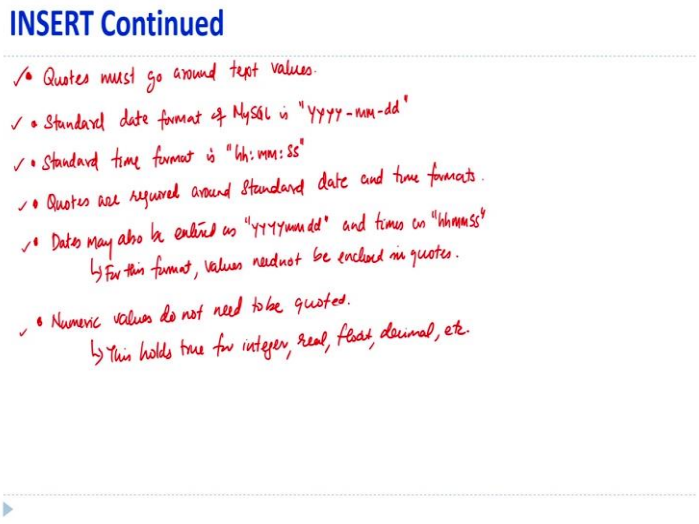

So, some other things because insert is the most important command of this. So, there are a few points that you need to remember:

- Quotes must go around text values. If you are using text values, you should use quotes.
- Standard date format of MySQL is YYYY – MM – DD. So, it is year, year, year, year, month and date that is a standard date format of this.
- Standard time format is HH : MM : SS.

- Quotes are required around standard day date and time format, you can see that as date and time format it require.

- Also, dates may also be entered as YYYY-MM-DD and times as HH-MM-SS.

➢ For this format, values need not be enclosed in quotes. You do not need quote to do this. I am just using these quote to demonstrate that is it.

- Numeric values, do not need to be quoted.

➢ This holds true for integer, real, float, decimal, etc. So, you do not need to use quotations for double quotes for numeric values. But the text values always require what he called us double quotes. So, just going through this again insert please remember these are the important rules that everybody makes mistake of quotes must go around the text values.

Then standard date format is YYYY-MM-DD, we are you always used to dd mm yy that is not what the format that the MySQL database takes, it takes a different format. So, remember that standard time format is our minute second. And if you are using this one with the hyphen in between our colon in between, you need quotes if you use it without the quotes then if you do it without the hyphen or colon in between, then that format you do not need to enclose them in quotes and numeric values, there is no need to put them in the quotes. So, these are the major things that you need to remember with that of the insert.

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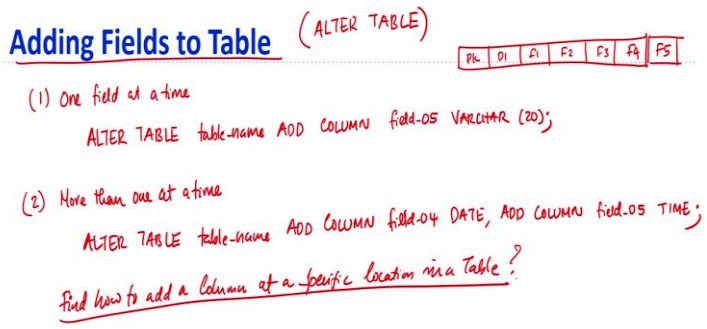

Now, adding fields to the table. So, now we talked about inserting data into the table now we are talking about adding fields into the table. This is also very famously known command as 'ALTER TABLE'. So, the two ways you can do this:

1) One field at a time at a time one at a time. So, here the command is ALTER TABLE, table name ADD COLUMN field-05 VARCHAR (20).

So, what happens here is it takes a table let us say there is a table like this something like this. And you have primary key then d1 field 1, field 2, field 3, field 04 etc. or something like that. And when you say field 04 and add it as a varchar what happens is it takes the end of the table and adds another field which is field 5 and calls it as a character at that point. So, this is the ID of ALTER TABLE. So, this is one field at a time.

2) More than one at a time. So, that is ALTER TABLE table name ADD COLUMN you will say field 04 DATE, ADD COLUMN field05 TIME. So, what happens is in this case, the date and time the field 04 and field 05 gets added that the again at the end of the column.

You can specify at a specific location, add column field 04 after a particular column we can give that also, but find how to add a column at a specific location in our table? So, you are supposed to find out how, find out how this is to be done using the ALTER TABLE only. But I request you guys to figure this out by yourself. So, this is the ALTER TABLE command.

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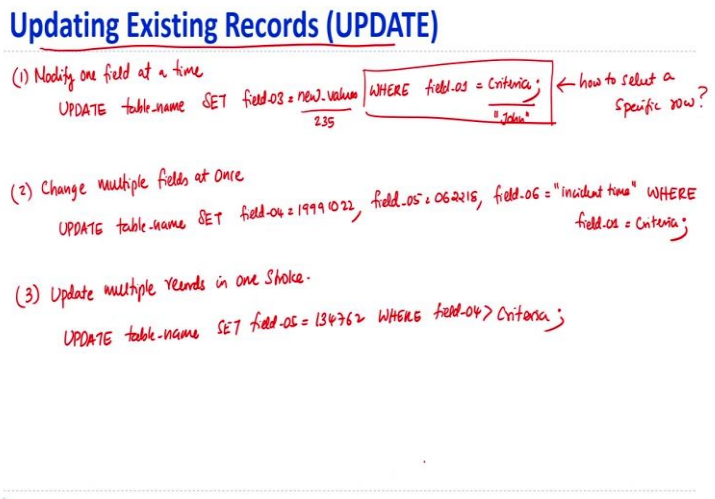

Now, comes the most heavily used SQL is update existing record or what we call as the update query. And again, there are 3 major implementations to this. And the first one is what we call as:

1) Modify one field at a time. And remember, quotes need to go around the text but not around that. So, the query is UPDATE table name SET field 03 = new value WHERE field 1 = to criteria.

So, what happens is let us say if you want to put a new value here, the new value is 235 numeric value just put the criteria something like say ‘John’ or something you want to say the number 235 against John then you can do it this way. So, the remember this way if it is a text field it needs to go around with quotes if it is a numerical field, you do not need to use it. So, this is this is the how to select a specific row. So, that is answered by this letter selection criteria of the update query alright.

2) Change multiple fields at once. So, if you want to change more than one fields how to do this? UPDATE table name SET field 04 = 1999 1022, let us say it is year or something like that field 05 = 62218, field 06 = “incident time” etc. Somewhere like this then WHERE the selection criteria you need to tell how to find where it is where field 01 equal to criteria whatever be the criteria is numeric or alphanumeric criteria.

So, if you are having multiple fields and what go then remember to put commas in between but no comma the last field. After the last field the where close there is no need for a comma.

3) Update multiple records fields or columns in one stroke this is a lot of the time people do this. So, the UPDATE table name SET field 05 = 134762 WHERE field 04 > criteria.

So, wherever the field 04 value is greater than 295 the field 05 values will be set to this particular one. So, it can be done for 1 row it can be done for 10 rows, whatever be available, it will be to that.

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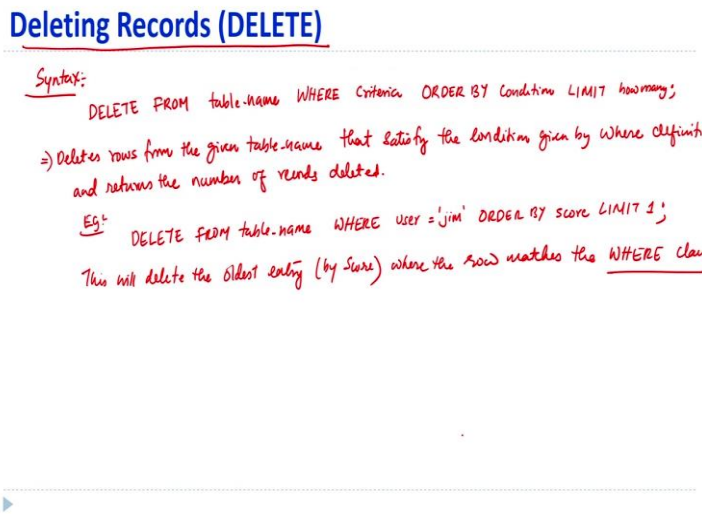

Now comes the another major part, which is what we call as the DELETE query, how do we delete the records? And this is also very important, and the syntax of delete, remember, when you are deleting you need to be extremely careful what the hell you are going to delete. Sometimes once you delete from a database, it is very difficult to retrieve. So, the rule is this:

Syntax:

DELETE FROM Where criteria ORDER BY condition LIMIT how many. So, let us give an example. So, what happens is, it deletes rows from the given table name that satisfy the condition given in this way the condition given by where definition and returns the number of records deleted.

Eg: DELETE FROM table name WHERE user = Jim ORDER BY score LIMIT 1. So, what happens here is for this one, it says this will delete the oldest entry (by score) where the row matches the WHERE clause or the selection clause. So, wherever the selection clause is matched, it will for the user Jim, it will order all the scores and then the oldest score the last one that the topmost oldest score gets because of the limit 1 if I say limit 2, it will delete 2 of the oldest 2 scores. So, that is the ID of Delete.

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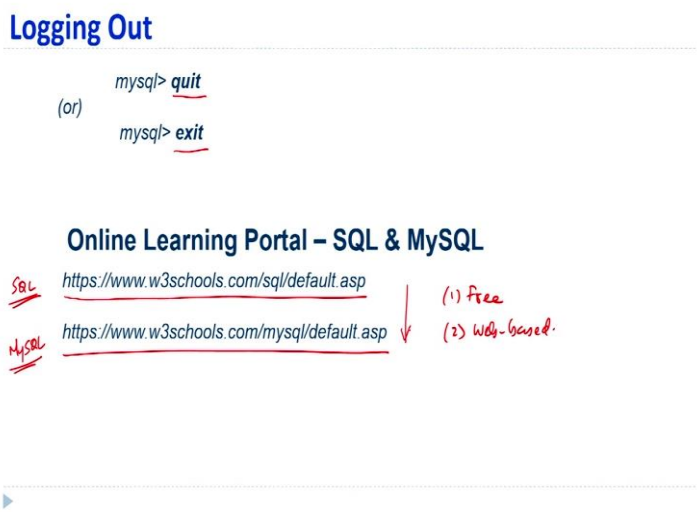

Now, the last part is, how do we get out of the MySQL? So, when you are in the MySQL, you can type the command either quit or exit, and you will come out of the MySQL prompt. So, how can you learn SQL and MySQL more aspects of it? So, there are two ways, I suggest you guys go to this online tutorial.

1) They are free.

2) They are web based.

So, you do not need to install anything, you all you need to do is just use a browser and deal with it. So, the W3 schools.com SQL default dot ASP, it will teach us you the SQL, Structured Query Language aspects of it.

Link 1- https://www.w3schools.com/sql/default.asp

Link 2- https://www.w3schools.com/mysql/default.asp

And the second one, this is for the SQL, the first one is for the SQL. Second one is for the MySQL. So, I given you the MAJOR, INSERT, UPDATE, DELETE, ALTER TABLE, and I show you how to create a table in the previous lecture.

So, some of the major commands of creating the database is given to you or not taught you the select command where you are actually retrieving you are querying the database, because that will also happen when we are dealing with the user interface or the application program. So, with that in mind, we would be able to.

So, I request you guys to go through this website, learn all of these things, practice that they give you a portal for practicing and with that, we will call it good today now and we will come with the in the next session we will meet and we will introduce what we call us big data quickly. And then after that DR. Amandeep Singh will take you with the details of big data and some of the major practices and stuff associated with the big data. Thank you very much.