Matthew Lonis

Jeff Whitmer

CSCI-A 290

14 April 2017

***MINI 3***

**Topic 1: What is an SQL stored procedure? Why is it important/useful? What are the advantages of stored procedures, if any?**

**3 URLs**

1. <http://stackoverflow.com/questions/459457/what-is-a-stored-procedure>
2. <https://www.essentialsql.com/what-is-a-stored-procedure/>
3. <http://searchoracle.techtarget.com/definition/stored-procedure>

**Precis of Sources**

Stored SQL procedures are a set of SQL statements that can be run in multiple different ways. The syntax of a stored procedure is sometimes DBMS specific; even then, some DBMS don’t support stored procedures. Stored procedures can accept input parameters that depend on how the parameter is defined. The execution of a stored procedure is based on SQL but can behave differently. For example, stored procedures can use conditional logic such as if-then statements and even perform loops that perform tasks. A stored procedure is also able to call on another stored procedure that exists in the database. A stored procedure can also return outputs such as a value or a set of rows and columns.

The benefit of a stored procedure is most notably in the realm of business where a stored procedure can be granted to a user to be utilized on a table or tables even if that user doesn’t have direct access to the underlying table or tables, enhancing security and capturing the business’ logic or best practices. One disadvantage of using stored procedures is that the SQL stored procedures don’t have a fluid version control in place making the stored procedures and code more difficult to maintain. Another disadvantage is that since every DBMS can use different syntax for their stored procedures, it makes a business’ set of stored procedures not easily transferrable, locking people into a current DBMS they are using.

**Summary of Topic**

SQL stored procedures are essentially pre-built SQL statements, sometimes even groups of statements, that can execute when called upon. The SQL stored procedure is useful because it can allow for better security within a database by allowing only certain users to access the stored procedures and by allowing some users to perform operations within a database that they may not specifically have direct access to. Stored procedures have very useful applications in a business by creating stored procedures to be used within a company, allowing the stored procedures to be maintained over time and utilize the company’s best programming practice for their particular DBMS. It is important to note that not all DBMS have stored procedures and even then, the syntax between DBMS may be different from DBMS to DBMS. This prevents easy portability of stored procedures. Imagine having 2,000 procedures, this wouldn’t be an easy transfer for a business.

**JIT 3**

What kind of stored procedures will we be using in this course?

**Topic 2: What is an SQL view? Why is it important/useful? What are the advantages of views, if any?**

**3 URLs**

1. <http://stackoverflow.com/questions/1278521/why-do-you-create-a-view-in-a-database>
2. <https://www.tutorialspoint.com/sql/sql-using-views.htm>
3. <http://beginner-sql-tutorial.com/sql-views.htm>

**Precis of Sources**

An SQL view is an SQL statement that creates a virtual table of sorts. An SQL view is usually stored in a database with an associated name and can be created using an SQL statement. Views allow users of the database to structure the data in the database or table in a way that the user sees fit without actually altering the contents of the underlying table or database. An SQL view also restricts access to the data stored in the database or table that can be seen or manipulated. This has the advantaged in a business to enhance security and only allow a user to access what they need to access. This also helps prevent mistakes from corrupting other parts of the database and can even prevent the alteration of a database entirely.

By preventing any data from being manipulated, a view can allow for the creation fo SQL reports that will summarize data from selected tables. Views do not actually contain data of their own and are primarily used to hide the complexity of the underlying data. The advantage of hiding the data complexity is that a view can be stored as a stored procedure, so that when a portion of the database needs to be accessed, which requires joining many tables or performing complex logic, the complexity is hidden and allows a user to view the view just like they would any other table within the database.

**Summary of Topic**

An SQL view can be thought of much like a virtual table. The SQL view can contain all or some of the rows from one or more tables within a database. The advantages to using views are that SQL views can allow a user or a team of people within a company to structure the data provided to them by the view in whatever way they see fit or in a way that works best for the user or the team. An SQL view allows for enhanced security by only showing a user or team the data they are allowed to see or only the data absolutely relevant to the work they need to perform. An SQL view also allows for the generation of SQL reports which can summarize data found within the view. Personally, part of my upcoming internship requires me to make SQL reports, so I wouldn’t be surprised if I will be generating the reports through a view I am allowed to access.

**JIT 3**

Can views be used to test out the insertion or deletion of data into a table without actually inserting or deleting the data from the underlying table?

**Topic 3: What is an SQL “dump”? Are there different dump options? When/where/why is it important to know about dumps? Are there any specific issues you need to be aware of or careful about when utilizing “dump?”**

**3 URLs**

1. <http://stackoverflow.com/questions/2512593/what-is-sql-dump-for>
2. <https://en.wikipedia.org/wiki/Database_dump>
3. <https://www.techopedia.com/definition/23340/database-dump>

**Precis of Sources**

An SQL dump, also referred to as a database dump, is a file that contains a copy of the tables and their structures and can even include the data from the database. An SQL dump is often referred to as a database dump because most database dumps are a list of SQL statements that can be used to recover a database when it is corrupted. An SQL dump is extremely vital due to its ability to back up an entire database to prevent data loss. Even corrupted databases can be recovered through by careful observation of a database dump. An important aspect of database dumps is that dumps can be written in various different formats. This is something to watch out for due to minor discrepancies between SQL syntaxes used by different DBMS.

The format of the database dump is important because the format has to be compatible with where the database dump is going to be used. If a database dump is going to be used for backing up or restoring a database on the same DBMS as where the dump was created, the format isn’t so much of an issue. However, if a database manager wishes to transfer the current state of the database to another DBMS or migrate to a new software, the format is extremely important to think about because it can lead to errors on the restoring of the database.

**Summary of Topic**

An SQL dump is a collection of different SQL statements. These statements can represent the structure of all the tables within a database and even the data within the database itself. An SQL dump is often referred to as a database dump because it’s a way to back up a database in order to preserve data or to recover a corrupted database. An SQL dump can come in various different formats. Since each DMBS can use a slightly different syntax of SQL, it is important to understand what the SQL dump is going to be used for. If the dump is going to be used to migrate over to an entirely different DBMS, careful consideration of the format needs to be considered in order to prevent any errors when creating import the SQL dump. We have already used an SQL dump in class. Within the first week or two, we have to download two files. Upon examination of the two files, I noticed the files had SQL code in them, which explains how the file was able to be used to import an entire set of tables and even their respective data into our own personal databases.

**JIT 3**

Will we be using an SQL dump for turning in assignments?