



08:34:29 PDT

**Question:** from Argentina!!

**Answer:** bienvenido!

---

08:34:39 PDT

**Question:** good morning

**Answer:** Thanks for joining us!

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08:35:09 PDT

**Question:** Hi everyone!

**Answer:** Hi

---

08:35:36 PDT

**Question:** Minnesota, USA

**Answer:** Hi Wildchild!

---

08:35:55 PDT

**Question:** Good morning from San Antonio, TX

**Answer:** Welcome, Jim!

---

08:36:08 PDT

**Question:** Hi, Fabio i writing from Italy

**Answer:** Thanks for tuning in!

---

08:36:20 PDT

**Question:** Hello... from India

**Answer:** Hi Aj!

---

08:36:57 PDT

**Question:** Good morning - I'm viewing this on a 1366x768 display (I know, I know). How much will the lower portion of the screen (beneath the current poll) will be used? I hope there's not a lot of scrolling around

**Answer:** No need to worry. All the action happens above the poll 😊

---



08:37:12 PDT

**Question:** Good Morning from México!

**Answer:** Great to see you here today!

---

08:37:25 PDT

**Question:** Hello, From Colombia

**Answer:** Good turn out from Latin America today!

---

08:38:09 PDT

**Question:** Does the voucher shown on the slides only work after the conclusion of the presentation?

**Answer:** It should work now. There was a typo that we fixed. Be sure you are using QueryingSQL

---

08:41:30 PDT

**Question:** Where do you enter the voucher code?

**Answer:** There is a tab on your MVA dashboard "Redeem Your Voucher"

---

08:41:39 PDT

**Question:** Boa tarde, from Brazil!

**Answer:** Hi douglas!

---

08:41:57 PDT

**Question:** Will it be later available to see in MVA to see it again?

**Answer:** Yes, we will have the recordings available in about 2 weeks

---

08:42:09 PDT

**Question:** Good morning from Bosnia and Herzegovina!

**Answer:** Welcome Mirza!

---

08:42:38 PDT

**Question:** Where is voucher?

**Answer:** You can find it in the FAQ It is QueryingSQL

---

08:45:38 PDT

**Question:** can i record the session for later usage?

**Answer:** We will have the recordings available in about 2 weeks on MVA

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08:46:00 PDT

**Question:** I've already redeemed it. However, even though it's not a long URL, it would be easier if were in the event email so people could copy/paste. Just a thought.

**Answer:** Good idea, thanks for the feedback!

---

08:46:11 PDT

**Question:** Hi I am join

**Answer:** Welcome!

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08:46:47 PDT

**Question:** Hey everybody! I won't be here for the entire course, but I'll stick around for as long as I can.

**Answer:** Great to see you here. Even an hour of today should teach you a lot!

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08:46:56 PDT

**Question:** Good Morning

**Answer:** Hi Anesh!

---

08:47:10 PDT

**Question:** Good morning MVA team

**Answer:** Good morning Martin!

---

08:47:26 PDT

**Question:** Hi EVERYONE! THANK YOU TEACHERS , MICROSOFT , MVA and EVENT SUPPORT TEAM for this LESSON!

**Answer:** Welcome back POPA DAN!

---

08:47:42 PDT

**Question:** Hello my first MVA

**Answer:** Woohoooo! Glad you joined us

---

08:49:07 PDT

**Question:** me too. 1st course for me. it will be a long night in europe. till 2am in the morning.

**Answer:** I hope the coffee is strong!

---



08:49:22 PDT

**Question:** Hi, I'm Jose from Quito-Ecuador. Thanks

**Answer:** Bienvenido!

---

08:49:39 PDT

**Question:** Hello from Boca Raton, Florida

**Answer:** I love Boca!

---

08:49:58 PDT

**Question:** Hello from Gainesville Florida, My first MVA also!

**Answer:** Great to see everyone from Florida here today!

---

08:50:48 PDT

**Question:** Might as well add this is my first live event as well.

**Answer:** We've got more SQL coming in October. Hope to see you back then too!

---

08:50:59 PDT

**Question:** Alan from San Francisco here. First time MVA'er.

**Answer:** Welcome!

---

08:52:24 PDT

**Question:** will this be recorded for future viewing?

**Answer:** Yes, we will have the recordings available in about 2 weeks on MVA

---

08:53:00 PDT

**Question:** Hi everyone from Los Angeles Ca. First Mva as well ! Thank you for making this happen .

**Answer:** Thanks for joining today!

---

08:54:12 PDT

**Question:** Is MVA also planning 70-462 and 70-463 Jump Start Sessions also?

**Answer:** Stay tuned. We have those planned for mid-October. Registration will probably open next week

---



08:55:47 PDT

**Question:** Hi Matt, I'm Rashmi from UK. I m so excited. I'm attending first MVA live event- that too on my fav topic SQL Server 2012(others include MVC, ASP.NET, C#, jQuery etc).. are there any events on WCF?

**Answer:** I'll have to check our upcoming plans. We will have a great session on MVC4 on Tuesday

<http://www.microsoftvirtualacademy.com/liveevents/developing-asp-net-mvc4-web-applications-jump-start>

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08:56:01 PDT

**Question:** hiren from New Jersey first time MVA

**Answer:** The garden state!

---

08:57:00 PDT

**Question:** Hello all, that is fine that we can use the recoreded session, because i can't attend onl 10 minutes

**Answer:** Sorry to hear that. If you have any questions go ahead and ask. You will also be sent a copy of the Q&A transcript so you will likely get an answer

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08:57:19 PDT

**Question:** Hello from Des Moines, Iowa my first MVA course.

**Answer:** Hi dbsalve!

---

08:58:48 PDT

**Question:** Hello, Micheal from Mile High City and my first MVA course, thank you

**Answer:** Great to see you here!

---

08:59:50 PDT

**Question:** Hello from Ottawa Canada! First MVA course as well.

**Answer:** Hi Phillip!

---

09:04:47 PDT

**Question:** I just have SQL Server 2008 Installed, Can i still progress with this course?

**Answer:** Most of the subject should be applicable to 2008 as much as it is to 2012. But not all.

---

09:05:50 PDT

**Question:** Will the recording of this be available to watch later?

**Answer:** Yes as always, it will be made available soon, and you will get an email a.s.a.p 😊

---



09:05:58 PDT

**Question:** Will this session will be recorded and posted in MVA website?

**Answer:** Yes, we will have it posted in a couple weeks.

---

09:06:38 PDT

**Question:** I thought this was a jump start for beginners to SQL...is there a 100 level jump start for SQL Server?

**Answer:** Brian and I recorded a 100 level Database Fundamentals session yesterday that will be on-demand in a couple of weeks. I'm making a note that you'd like a SQL Server intro session. Thanks!

---

09:07:03 PDT

**Question:** Where is the voucher code?

**Answer:** In the FAQ tab

---

09:13:06 PDT

**Question:** Is Go statement same as semicolon ';' ?

**Answer:** No, GO is a batch command. Semi-colon is a statement terminator.

---

09:19:25 PDT

**Question:** what is the difference between Having and where clause?

**Answer:** Where clause is used to filter the results in the select query, whereas having is only used with group by clause. having will filter the group by results from the group by condition

---

09:21:20 PDT

**Question:** And as far as I know, semi-colon is optional

**Answer:** I can't find the original question anymore, but the semicolon is still optional, and is very different from GO. GO is a signal to the toolset that tells it to send the previous text to the server as an individual batch Semicolon is a statement terminator, so SELECT 1; SELECT 2 is two statements, but SELECT 1 GO SELECT 2 is two complete communications with the server.

---

09:21:32 PDT

**Question:** Where can I download the adventureworks database?

**Answer:** Here: <http://msftdbprodsamples.codeplex.com/releases/view/93587>

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09:22:38 PDT

**Question:** Is it possible to get the Test DB used in presentation so i can follow along with demos?

**Answer:** The AdventureWorks2012 database is on codeplex here:

<http://msftdbprodsamples.codeplex.com/releases/view/55330>. That's the DB being used in the demos...

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09:23:40 PDT

**Question:** i was under the impression that the semi-colon was always needed to confirm that the command is completed

**Answer:** No it is not required in the script window

---

09:24:07 PDT

**Question:** do we know any sql server dba concepts in this session?

**Answer:** This session focuses on TSQL, which encompasses an extremely wide variety of needs for every dba.

---

09:29:36 PDT

**Question:** When the GO statement becomes mandatory ?

**Answer:** GO isn't mandatory at all. It is there to split batches for "some" tools to work with. It is not a T-SQL command at all. If a tool doesn't support it (like for SSIS,) then GO will fail.

---

09:36:25 PDT

**Question:** How is GO different from BEGIN and END?

**Answer:** GO is a batch separator, and tells the toolset to break the text stream up into individual batches (communications) with the server. So things like variables lose scope, etc.

Begin End are scope operators, for things like IF (condition) BEGIN code END and the IF controls whether the code in the BEGIN END executes

---

09:37:52 PDT

**Question:** Missed the comment since connection lost, any difference between join and inner join?

**Answer:** Hey Petter! Good question. No. There is no difference. Saying INNER JOIN is the same as saying JOIN, but it's more clear.

---

09:39:51 PDT

**Question:** good explanation of all types of joins <http://blog.sqlauthority.com/2009/04/13/sql-server-introduction-to-joins-basic-of-joins/>

**Answer:** Sharing!

---

09:40:11 PDT

**Question:** is this presentation going to be available as a recorded presentation? and if so, when?

**Answer:** Yes, all attendees will be sent a link. It is usually 2 weeks but we are backlogged on video processing so could be a bit longer

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09:40:47 PDT

**Question:** developer question...i used to use aliases on all my tsq queries a few yrs a ago i got into HEATED debate as to correct standard....using aliases for queries or using the inner join outer join gobbledegook?

**Answer:** SaCoderZ, can you explain a little more what you mean by using aliases vs inner or outer joins?

---

09:40:48 PDT

**Question:** Do you think than is neccesary include a SELECT operation inside a transaction?

**Answer:** Hi Cristiam! 🤔 If you have just a straight-forward SELECT that is not dependent on an operation within the transaction, I would do it outside of the transaction in order to limit the duration of your transaction.

---

09:41:43 PDT

**Question:** can some one tell me the difference between Left and Right Join? Is it hypothetical to the position of the tables in the query designer?

**Answer:** Hi Paul, really common question. Yes, it mainly just refers back to which of the tables you are referencing as the outer part of the JOIN operation.

---

09:43:30 PDT

**Question:** I heard about performance difference between LEFT and RIGHT JOIN. Are there any?

**Answer:** In essence, there shouldn't be any performance issues between them. They somewhat do the same thing, and if you have tableA right outer join tableB, it is essentially the same as tableB left outer join tableA. Outer joins are slower than Inner joins, but the most important thing to do is to make sure you are solving the query problem first, and then tuning.

---

09:43:32 PDT

**Question:** is it better to have the criteria for the joined tables inside the ON clause or inside WHERE? Efficiency wise speaking.

**Answer:** I believe it typically results in the same execution plan either way. I prefer to put join criteria in the ON clause for clarity. However, LEFT/RIGHT JOINs are different, where you may want to put the search predicate (i.e. WHERE criteria) in the ON clause as well to get the results you want.

---

09:44:44 PDT

**Question:** Which is best practise and more efficient, to create an inner join or left outer join and where clause or is this situation dependent?

**Answer:** It is situation dependent, based on what results you want to see.

---

09:45:02 PDT

**Question:** how can we delete duplicate rows from a table

**Answer:** Hi Ashish! Check out this KB and see if it helps: <http://support.microsoft.com/kb/139444>

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09:48:00 PDT

**Question:** Does anyone have a good example of cross join vs outer join?

**Answer:** Outer-Join: <http://technet.microsoft.com/en-us/library/ms187518%28v=sql.105%29.aspx> Cross-Join: <http://technet.microsoft.com/en-us/library/ms190690%28v=sql.105%29.aspx>

---

09:48:17 PDT

**Question:** how can we avoid duplicacy with out using primary key

**Answer:** You can create a unique constraint which will enforce uniqueness through a unique index, very similar to a primary key. You can, although I recommend against it, create a trigger to enforce unique values too.

---

09:48:43 PDT

**Question:** What exactly is Full Outer Join?

**Answer:** a FULL outer join gives you every row from both the right and left input. Much like a LEFT or RIGHT outer join works, but bi-directional. So TableA full outer join TableB on tableA.Akey = TableB.Akey, will give you all rows that match joined together like any join. For mismatches, you will get the rows in TableA with NULLs for the TableB values, and for TableB rows, all of the TableA values will be null.

---

09:50:33 PDT

**Question:** Is there performance improvement when filtering for NULLs in the WHERE clause using ISNULL function versus IS NULL

**Answer:** Great question SQLPrincezz. It really depends, but the main thing is ISNULL is a function. Applying that to columns will prevent indexes from getting used. IS NULL won't use indexes necessarily because you can't index the NULL value. But, it can reference indexes and statistics to get an understanding of how prevalent NULL values are, so it would be preferable in many situations.

---

09:52:27 PDT

**Question:**

> *Quoted answer:* You can create a unique constraint which will enforce uniqueness through a unique index, very similar to a primary key. You can, although I recommend against it, create a trigger to enforce unique values too.

**Answer:** Also using a unique filtered index you can enforce uniqueness if you want to allow some duplicates (like NULLs), but not for certain types of values

---

09:52:50 PDT

**Question:** what is doing first the On clause or the WHERE criteria?

**Answer:** Hi xelah. Logically the ON clause is resolved before the WHERE clause. But, since they're both filtering criteria, the optimizer can rearrange how they are used to resolve the query, at least for an INNER JOIN.

---



09:54:17 PDT

**Question:** What is main difference between a Candidate key and Alternate Key

**Answer:** I don't think there is one. Two terms for the same thing. A column or set of columns that could be the primary key for a table.

---

09:56:44 PDT

**Question:** what is composite key?

**Answer:** A key that consists of more than one column.

---

09:57:49 PDT

**Question:** Cristina, If you are using LEFT or RIGHT joins, you have to put your criteria in the ON part and not in WHERE. If you put them in WHERE clause sql server has to do a INNER join and ignores the left/right

**Answer:** Agreed. I missed the end of Tobias's explanation of query execution order, but you need to think about the order of application. The from clause comes before the where clause, so the stuff in the ON criteria applied to the join rows only. Once you get to the where clause, the NULLs that you see in the output for missing rows will be there, so the WHERE filter will (unless you are careful to understand what is going on), filter out the rows, where you may not want them to. So it is important to understand the flow of the query from a "mathematical" point of view to determine where the criteria goes, and what you expect it to do.

---

09:58:15 PDT

**Question:** If we have tables with a lot of records if we filter in the ON the records we need to filter in the WHERE condition is less and the query is faster?

**Answer:** For most inner joins, treat them like this, put the definitions for the JOIN into the ON clause and the filtering clauses that are not part of the JOIN into the WHERE clause.

---

09:59:11 PDT

**Question:** I know of INTERSECT and UNION. Is there a SET DIFFERENCE option?

**Answer:** SQL Server has an EXCEPT set operator that lets you remove rows from the first input where there are matches in the second input

---

09:59:29 PDT

**Question:** UNION ALL ; does it eliminates duplicates .

**Answer:** No, UNION ALL simply combines the output of the two queries. UNION acts as an aggregation function and will eliminate duplicates.

---

10:00:34 PDT

**Question:** is composite key related to primary key

**Answer:** A composite key can be a primary key as a composite key is a key that has been created with more than one column to create uniqueness in a row

---



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10:02:08 PDT

**Question:**

> *Quoted answer:* I don't think there is one. Two terms for the same thing. A column or set of columns that could be the primary key for a table.

**Answer:** Agreed. Candidate key is just some way to identify uniqueness. Primary key is the main one chosen to represent the row in foreign keys, and alternate keys (implemented as UNIQUE constraints) are the other uniqueness conditions you want to protect against. (You can connect a foreign key to a UNIQUE constraint too.)

---

10:07:48 PDT

**Question:** What is the subtle difference between a PK constraint and a clustered unique index on a column?

**Answer:** Not sure what you mean by "subtle difference", but you can reference a PK constraint with a foreign key. A PK can be or may not be Clustered.

---

10:09:19 PDT

**Question:** Does SQL 2012 still allow "SELECT \* FROM Table A, TableB" or do we have to use Inner Joins? I am still using SQL 2008, just curious.

**Answer:** Yes, the , is basically the same as a CROSS JOIN operator. Ideally using the INNER JOIN syntax is a lot cleaner, but it is available

---

10:10:28 PDT

**Question:** Does SQL 2012 still allow "SELECT \* FROM Table A, TableB" or do we have to use Inner Joins? I am still using SQL 2008, just curious.

**Answer:** Yeah, you can still do that. Even in 2012. What you can't do in 2012 is do an OUTER JOIN the old ANSI 89 way.

---

10:10:32 PDT

**Question:** I think a clustered Index is created if PK is created.

**Answer:** By default yes, but you can control whether the index created is clustered using the DDL for the CREATE or ALTER TABLE command used to add a PRIMARY KEY

---

10:12:50 PDT

**Question:** is composite key related to primary key

**Answer:** Hi Archana! 😊 Yes, a "composite key" is 2 or more columns that, together, make up the primary key.

---

10:12:55 PDT

**Question:** what is clustered Index?

**Answer:** Clustered INDEX contains the full set of data for the table, but organized by the INDEX.

---

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10:14:15 PDT

**Question:** What's the typical use for GUID?

**Answer:** Hi Chuckie! 😊 A GUID is typically used to enforce uniqueness across an application. I most frequently see it in web apps. GUIDs are not guaranteed to be unique, but are pretty darn close. Just make sure not to use them as a Primary Key in a table. 😊

---

10:14:28 PDT

**Question:** Is there sense of using PK without a clustered index on it ?

**Answer:** Absolutely. There may be a column or columns in the table that assist you in retrieving the data better than the primary key. There are a large number of caveats about the best place to put a clustered index, but there's no rule that says it always has to be the primary key.

---

10:14:43 PDT

**Question:** Is there sense of using PK without a clustered index on it ?

**Answer:** In some situations, it may be appropriate to have a non-clustered index for the PK, and a clustered index on other column(s). Clustered indexes are the best support for range searches.

---

10:15:22 PDT

**Question:** Is there sense of using PK without a clustered index on it ?

**Answer:** Absolutely. The concept of a primary key is used to define the logical format/relationships of the data semantically. Clustering an index is about performance tuning. So if it turns out that you are almost always querying the row from a different path than the primary key in a given usage, then putting the clustered index on a different column or column set is perfectly worth it. It just turns out that *most* of the time, the primary key is chosen because it is the most likely way to fetch a row...

---

10:15:51 PDT

**Question:** What's the typical use for GUID?

**Answer:** It's a unique identifier, so it's frequently either a primary key or a unique key. The attraction is that it can be generated in code. The problem is that it's very wide and unordered so it can lead to severe fragmentation.

---

10:16:26 PDT

**Question:** Would you please tell us some advantages and disadvantages of Clustered an Non Clustered Index.. How 'ld I Decide when to use Clustered and when Non Clustered.?

**Answer:** Clustered indexes best support search criteria where you wish a range of data, i.e., invoices for a date range.

---



10:17:00 PDT

**Question:** Ironical that GUID isn't truly unique but an incrementing integer (identity) is.

**Answer:** Actually, the identity isn't technically unique either. You can get duplicates if someone reseeds the identity value...

---

10:17:21 PDT

**Question:** Why there is a limit that Non clustered indexes should be only 999 (in SQL 2012)? Is there any specific reason to be limited to only 999 and not more than that?

**Answer:** I can't answer the reason for not having more than 999 NCIX, but I can tell you, you really don't want to come close to hitting that many. 😊 There is a lot of overhead and storage associated with each NCIX, so use them wisely to avoid bogging down the performance of your database.

---

10:20:36 PDT

**Question:** Thanks Louis. I had no idea. Now to research identity...

**Answer:** It is really rare for that sort of problem to occur, so it isn't something that is generally necessary to worry about. But it is one of those tiny details that bites people once in a while, usually while loading data into a table with SET IDENTITY\_INSERT ON, and then not resetting the identity value

---

10:21:18 PDT

**Question:** what is difference between char and varchar?

**Answer:** The CHAR data type is fixed length and will pad the values so something that is a CHAR(5) but has the value 'PIG' will actually store 'PIG '. VARCHAR on the other hand is variable length, so something that is VARCHAR(5) is limited to only five characters, but 'PIG' will be stored as 'PIG'

---

10:23:36 PDT

**Question:** What is the limitation of Auto generated incremental Identity Column

**Answer:** One per table. integer type (not bit) or numeric type with no decimal places. Cannot update the value once it is stored. Any limitation concerns you have in mind?

---

10:23:54 PDT

**Question:** Are those spaces/blank characters in your "will actually store" for CHAR(5), Grant? Like 'PIG\_\_' written another way?

**Answer:** They'll be blanks in SQL Server. I used spaces to simulate in this environment.

---



10:24:39 PDT

**Question:** Even without using IDENTITY\_INSERT ON, still getting the same identity value ? I don't know whether it is a bug to be fixed or not.

**Answer:** Hi Naresh! 😊 Check out sys.identity\_columns to see what the next seed value is. Someone may have reseeded or inserted using IDENTITY\_INSERT ON without you knowing. You can reseed yourself to fix the problem (DBCC CHECKIDENT).

---

10:25:33 PDT

**Question:** Is There Some Over head for variable length Data types?? If Yes Please elaborate How much it will take..

**Answer:** Yes, there is some overhead. SQL Server will have to store how much of the space is being used and resolve this. In general terms though, I've never worried about it in any meaningful way.

---

10:26:20 PDT

**Question:** Will i get a link to view this as a recording. i am missing too much information due to constant restarts

**Answer:** Yes, the URL for the recording will come out in a couple of weeks.

---

10:26:28 PDT

**Question:** when you use SELECT N'hej' what does the N stand for just curious. "not a number"??

**Answer:** Hi Marcos! 😊 The N prior to the single quote tells SQL Server to interpret the following expression as a Unicode string.

---

10:27:23 PDT

**Question:** What is the difference between % and \* for wild cards?

**Answer:** [%] represents any number of characters, and [\*] is a single character.

---

10:27:32 PDT

**Question:** what happen to clustered indexes storage wise when they are reorganised or rebuild? Do reorganise or rebuild index decrease the space the clustered index occupy?

**Answer:** Reorganizing the index will not reduce the space used, but rebuilding it can.

---

10:27:57 PDT

**Question:** can u inform us by mailing when this course will b post with url??

**Answer:** You will get a email with the URL for the recording.

---



10:28:25 PDT

**Question:** what is trunc?

**Answer:** TRUNCATE TABLE is a command to clean out a table, what was the context that was used?

---

10:30:22 PDT

**Question:**

> *Quoted question:* Is There Some Over head for variable length Data types?? If Yes Please elaborate How much it will take..

> *Quoted answer:* Yes, there is some overhead. SQL Server will have to store how much of the space is being used and resolve this. In general terms though, I've never worried about it in any meaningful way. Does it means I Don't have to worry about whether it's a varchar or a char when creating a table?

**Answer:** Just worry about the applicability of the data type for the functions you need. Don't use CHAR when you need VARCHAR or vice versa.

---

10:31:22 PDT

**Question:** which is preferable for concatenation among '+' and 'CONCAT()'

**Answer:** I use CONCAT when I need to output a string in the most simple manner without worrying about NULLs. So CONCAT('Hello',' ', NULL, 'World') will not be null. It is great for formatting an error message for example without having to write tons of COALESCE expressions. Definitely if you are not using 2012 exclusively for the code you are using (like a generic trigger or error handling template) it is not backwards compatible

---

10:31:29 PDT

**Question:** Is OFFSET going to replace TOP ??

**Answer:** No

---

10:31:33 PDT

**Question:** Grant, about the index rebuilding and reorganizing has the same effect?

**Answer:** Yes. The rebuild can make the index use less space because it can take pages that were sparsely filled because of DELETES or whatever, and eliminate them as it rebuilds the index.

---

10:32:22 PDT

**Question:** Is there any time you'd recommending using a unique constraint over a unique index?

**Answer:** Only from a documentation perspective (if someone looks for constraint the won't find the index only solution)

---

10:32:59 PDT

**Question:** can anyone tell me the difference between natural join and self join?

**Answer:** Natural join would automatically join on the keys without requiring the use of the ON clause.

---



---

10:33:03 PDT

**Question:**

> *Quoted answer:* Reorganizing the index will not reduce the space used, but rebuilding it can. Actually, once I had some performance issues and after I just changed the order of the columns in the composite clustered index, I gained 5-8 times better performance, which was amazing.

**Answer:** Of course. You rearranged the keys, which rebuild the index, and the statistics, and made it much more useful to your queries. The order of keys in an index really matters.

---

10:33:22 PDT

**Question:** Could Tobias slow down just a bit with his typing? Some of the demos are going by too fast for me to execute on my own while I follow along

**Answer:** Thanks for the feedback, can do 😊

---

10:33:40 PDT

**Question:** what happens when offset query is executed

**Answer:** How do you mean?

---

10:35:18 PDT

**Question:** wait wait. which was more efficient way? the union at itself with one sort or that one with two sorts..(select from.. )

**Answer:** It is not about efficiency but about correctness, depends on the result you want.

---

10:35:40 PDT

**Question:** According to what I have heard about the Certification Test, Lots of XML questions. Will this be covered today?

**Answer:** I will show two examples which should give you a good intro.

---

10:36:56 PDT

**Question:** Will there be a downloadable PDF of the presentation slides available along with the Archived Webinar?

**Answer:** Yes, check the FAQ above.

---

10:39:08 PDT

**Question:** Are some of those SQL date function (such as EOMONTH) available on SQL 2012 only and NOT on SQL 2008?

**Answer:** EOMONTH is definitely 2012 only. You can see them listed on this page (a bit low in the article)

<http://technet.microsoft.com/en-us/library/09f0096e-ab95-4be0-8c01-f98753255747>





---

10:41:39 PDT

**Question:** can we fetch the Row number for use in c#

**Answer:** Not sure what you mean here. It is returned with the tabular data set with the rest of the results. The row number is not, however a handle/pointer to the row, but it is a position in the set, based on the OVER clause

---

10:42:19 PDT

**Question:**

> *Quoted question:* What is the difference between % and \* for wild cards?

> *Quoted answer:* [%] represents any number of characters, and [\*] is a single character.

**Answer:** I made a typo in my previous response. The Wildcard [%] represents one or more characters, and [\_] (underscore) represents a single characters.

---

10:43:41 PDT

**Question:** Is the over a new feature of SQL Server 2012?

**Answer:** The OVER clause was introduced in 2005.

---

10:44:19 PDT

**Question:** this lecture recorded?

**Answer:** Yes, you will receive the URL in a couple of weeks.

---

10:45:08 PDT

**Question:** are we going to be able to download or view any material for this class?

**Answer:** Check the FAQ above.

---

10:45:52 PDT

**Question:** But using SUM() with OVER() is only allowed in SQL 2012 ?

**Answer:** No, but some things are new in SQL Server 2012 (ORDER BY)

---

10:46:05 PDT

**Question:** did you reboot your PC tobias

**Answer:** Just logged out :-|

---



10:46:46 PDT

**Question:** can we use a Special character for a colum name

**Answer:** You can use special characters (though it's often not a good idea) by enclosing the column name in delimiters, square brackets [] or double quotes ""

---

10:47:00 PDT

**Question:** Any link to give a comprehensive explanation about OVER and PARTITION?

**Answer:** [http://technet.microsoft.com/en-us/library/ms189461\(v=sql.110\).aspx](http://technet.microsoft.com/en-us/library/ms189461(v=sql.110).aspx)

---

10:47:17 PDT

**Question:** Can the [?] (question mark) also be used as a wild card for a single character in 2012?

**Answer:** No, \_ is used for this.

---

10:48:26 PDT

**Question:** Why ISNUMERIC(\$) returning 1 ?

**Answer:** You should probably use TRY\_CAST/TRY\_CONVERT/TRY\_PARSE instead of isnumeric. More accurate.

---

10:48:29 PDT

**Question:** What is the use of OFFSET over TOP

**Answer:** OFFSET allows you to skip rows of content where TOP will display the top n of items

---

10:49:06 PDT

**Question:** Performance wise, what is the best method to have pagination in SQL queries? is it using row count and over clause?

**Answer:** Typically OFFSET & FETCH is best but it can depend.

---

10:49:09 PDT

**Question:** are table variables still supported in 2012?

**Answer:** Yes they are.

---

10:49:53 PDT

**Question:** In that case in particular, using SUM() with OVER has some advantages that using with GROUP BY statement?

**Answer:** You can include aggregates with the detailed data. It can help you do more in a single request and avoid multiple server round trips.

---



10:50:26 PDT

**Question:** for a NVARCHAR(MAX), which goes up to 2<sup>32</sup> bytes, how is this 2<sup>32</sup> length stored in the 2 overhead bytes? This as 2 bytes can hold 1-64K. This has always puzzled me.

**Answer:** I mentioned that this isn't correct, we may use more than 2 bytes depending on the amount of data you store.

---

10:51:25 PDT

**Question:** But ISNUMERIC is not to convert, to check whether input is numeric or not, no ??

**Answer:** TRY\_  If that returns NOT NULL it worked (i.e. "is numeric")

---

10:51:38 PDT

**Question:** But ISNUMERIC is not to convert, to check whether input is numeric or not, no ??

**Answer:** ISNUMERIC() will return TRUE for any character that is a legitimate numeric component, such as +, -, \$, etc.

---

10:52:01 PDT

**Question:** how to use a aggregate function select max or min for more than one columns?

**Answer:** That is not supported, you may be able to combine the columns using an expression.

---

10:52:29 PDT

**Question:** Can you give some real-world examples in which offset would be useful? What kind of activity would that function help with?

**Answer:** Pagination on web sites is the common example.

---

10:52:51 PDT

**Question:** what is the diff b/w truncate & delete ?

**Answer:** TRUNCATE is not logged, and will fail if there are FK constraints on the table.

---

10:54:05 PDT

**Question:**

> *Quoted question:* what is the diff b/w truncate & delete ?

> *Quoted answer:* TRUNCATE is not logged, and will fail if there are FK constraints on the table.


**Answer:** Additionally, TRUNCATE will reset IDENTITY values to the starting defined value for the table.

---



10:55:12 PDT

**Question:** what is the query for fetching the row numbers of a table base on some field or cell

**Answer:** Do you mean COUNT() which would let you count the number of rows? SELECT COUNT  FROM dbo.MyTable WHERE SomeColumn = 'SomeValue';

---

10:57:45 PDT

**Question:** where are Binaries stored on the SQL Server?

**Answer:** Binaries?

---

10:58:09 PDT

**Question:** as the delete is Logged, is it possible to recover the rows which are deleted? If yes, How?

**Answer:** Restore

---

10:58:22 PDT

**Question:** I think TRUNCATE is logged see: <http://www.sqlperformance.com/2013/05/sql-performance/drop-truncate-log-myth>

**Answer:** Truncate is logged minimally, but yes it is logged. <http://technet.microsoft.com/en-us/library/ms177570.aspx>

---

10:58:23 PDT

**Question:** What is the performance effect of the LIKE predicate where col like '%sql2k12'. Will sql rely on index ordering for this query?

**Answer:** No, we need to scan.

---

10:59:25 PDT

**Question:** I think TRUNCATE is logged see: <http://www.sqlperformance.com/2013/05/sql-performance/drop-truncate-log-myth>

**Answer:** That a TRUNCATE occurred is logged is true, but every row deleted from the table is not persisted in the transaction log. It's a deferred logging process that is not available after the transaction is completed.

---

11:00:52 PDT

**Question:** Is it possible to make indexes start from the back, so that like '%blah' odoes use an index?

**Answer:** Not as such. But you could create a computed column as REVERSE(ColumnNme) and then index it, so you can search for 'halb%' if that is a very common need

---



11:01:08 PDT

**Question:** Do we have to reference a PK in foreign key or can we reference any type of key(unique) in foreign key?

**Answer:** Any unique index

---

11:02:25 PDT

**Question:** Is it possible to make indexes start from the back, so that like '%blah' odoes use an index?

**Answer:** Yes, you can tell an index to be ordered ASCENDING or DESCENDING when you create it. Read more about it here [http://msdn.microsoft.com/en-us/library/ms188783\(v=sql.105\).aspx/css](http://msdn.microsoft.com/en-us/library/ms188783(v=sql.105).aspx/css)

---

11:02:28 PDT

**Question:** I want to lock a row of a table for a specific task?

**Answer:** Not directly possible. It is possible, with effort, to create the functionality in your application by using flag columns or locking tables.

---

11:03:07 PDT

**Question:**

> *Quoted question:* Is it possible to make indexes start from the back, so that like '%blah' odoes use an index?

> *Quoted answer:* Not as such. But you could create a computed column as REVERSE(Column Name) and then index it, so you can search for 'halb%' if that is a very common need

**Answer:** Whoops. I understand that differently. Your answer is better.

---

11:03:53 PDT

**Question:**

> *Quoted question:* Do we have to reference a PK in foreign key or can we reference any type of key(unique) in foreign key?

> *Quoted answer:* Any unique index

**Answer:** I did not realize that! I knew you could do unique constraints, but not any indexes. Excellent!

---

11:04:54 PDT

**Question:** is anyone else have the issue with voice?

**Answer:** Yews, the audio is out of sync with the video

---

11:05:33 PDT

**Question:** What is the difference between count() and count\_big()?

**Answer:** COUNT will fail if the values are > the maximum integer value. count\_big goes up to maximum big integer value. Some operations (like indexed views) require count\_big

---



11:05:36 PDT

**Question:**

> *Quoted question:* is anyone else have the issue with voice?

> *Quoted answer:* Yews, the audio is out of sync with the video

**Answer:** And it is being investigated now.

---

11:07:25 PDT

**Question:** I am having a repeat of prev session

**Answer:** Switch between high and standard quality. it may re-sync for you.

---

11:07:54 PDT

**Question:** When can we get the recorded session?

**Answer:** Check the FAQ above.

---

11:08:50 PDT

**Question:** You guys should close the Object Explorer window so we can see the entire query & results panes

**Answer:** Good point, done 😊

---

11:09:10 PDT

**Question:** is row\_number() over a 2012 function?

**Answer:** No, it is available from SQL Server 2005.

---

11:09:38 PDT

**Question:** I am also receiving the audio from a previous module.

**Answer:** Switch between high and standard quality. it may re-sync for you.

---

11:09:53 PDT

**Question:** what is partition used for ??

**Answer:** Specyfing grouping, so should the row numbers be generated for the entire set or per for example customer

---

11:10:03 PDT

**Question:** I've used the row\_number feature, but didn't know how to apply it to WHERE clause. The example cleared it up for me. Thanks

**Answer:** Great!

---



11:10:50 PDT

**Question:** what kind of join is it when you do-not use the "join" keyword... ex. select \* from table t1, table2 t2 where t1.fkid=t2.pkid

**Answer:** It is the same i.e. INNER JOIN. Both are ANSI SQL syntax. It doesn't matter which one you use, the plans will also be identical since Query Optimizer will resolve the joins irrespective of keywords / syntax. It is a question of readability & consistency.

---

11:11:14 PDT

**Question:** Sql server2012 support windows Azure?

**Answer:** You can def. run SQL Server 2012 in Azure VMs if that is what you are asking.

---

11:11:17 PDT

**Question:** what difference btwn clustered index an non cluster index?

**Answer:** A clustered index stores the data of the table at the leaf level of the index, meaning the data is logically sorted by the index itself. A non-clustered index just stores the index information and any columns that are defined through the INCLUDE statement at the leaf level. One other point, for a table with a clustered index, the key for that cluster is stored with the non-clustered index as a mechanism for looking up the data.

---

11:11:46 PDT

**Question:** what is the use of partition??

**Answer:** PARTITION is similar to GROUP BY in the sense it is used to compute the window function / calculation over a set of rows within the entire rows being generated/returned from the query.

---

11:12:01 PDT

**Question:** row\_number() available from SQL Server 2005

**Answer:** Yes.

---

11:12:24 PDT

**Question:** Does where clause affect the windows function? (over clause)

**Answer:** Yes, they are executed after WHERE

---

11:12:26 PDT

**Question:** Does where clause affect the windows function? (over clause)

**Answer:** Yes, the window function works on the set of rows returned by the query.

---



11:13:57 PDT

**Question:** how come you don't use the where operation?

**Answer:** How do you mean?

---

11:14:34 PDT

**Question:** In group by and having clause, why you didn't used the "cnt" in having clause and you used count(\*) instead?

**Answer:** Column aliases are not available in HAVING, they are generated in SELECT which happens just before ORDER BY but after HAVING

---

11:15:04 PDT

**Question:** what does 'As','IN' keyword do?

**Answer:** The main use of AS is used to alias columns like SELECT columnName AS AliasName IN is a comparison operator that check for an input in a set of values. so value IN ('value1','value2',...) or value IN (select value from valueTable)

---

11:15:51 PDT

**Question:** Is it possible to store indexes to the own storage group and file group - separate to files where to tables are stores?

**Answer:** IT is possible, but normally not a good idea. Creates more management issues, and more complexity to DR strategies.

---

11:16:35 PDT

**Question:** Are subqueries and derived tables similar?

**Answer:** Yeah, they're basically the same thing but different terms. I prefer derived tables when referring to subqueries that are used to define a table.

---

11:16:43 PDT

**Question:** If you have multiple clauses that would need a case-when, would it be more efficient to create multiple queries with where clauses and use UNION ALL?

**Answer:** Please give an example. I do not understand the exact question.

---

11:17:37 PDT

**Question:** Any performance difference between exists(select \*) and Exists(Select top 1 cust)

**Answer:** No

---





11:18:10 PDT

**Question:** for performance is not better to query like EXISTS (SELECT top 1..)

**Answer:** No

---

11:18:27 PDT

**Question:** if i have to stop the duplicate insert into table which option would be better stored procedure or instead of trigger

**Answer:** It depends on your scenario. You can use MERGE also for example to insert or update the row. Typically, you would do it in the SP to reduce usage of the inserted/deleted tables.

---

11:19:37 PDT

**Question:** What is the best practice(performance wise)? convert, cast or parse?

**Answer:** CAST/CONVERT are the same, if you need PARSE functionality you should use PARSE

---

11:20:01 PDT

**Question:** can we fetch the Row number for use in c#

**Answer:** Sure, if you put the ROW\_NUMBER in the SELECT list & return to client. It is just a computation that you perform on the query results.

---

11:21:30 PDT

**Question:** Is EXISTS preferred over IN?

**Answer:** Where it makes senses, yes. EXISTS is a lot more flexible, allowing you to look for multiple columns. It is particularly better if you need to do a NOT EXISTS versus a NOT IN, as NOT IN will never return a value if there is even one NULL in the set you are checking. In reality, the optimizer does a pretty awesome job with both methods to turn the query into something that makes sense for it to work with

---

11:21:48 PDT

**Question:** queries work on sql server 2010?

**Answer:** Did you mean SQL Server 2012? There is no 2010 version.

---

11:22:29 PDT

**Question:** What is the main use of binary type?

**Answer:** Storing hex data, blobs & so on.

---

11:23:47 PDT

**Question:** Could have used a join to SalesTerritory. Why use EXISTS, instead?

**Answer:** In some cases the EXISTS operation in that situation will work faster than a JOIN. I would test both.

---



---

11:24:11 PDT

**Question:** CASE WHEN ACCOUNT IN ('1000', '2000') THEN 1 WHEN ACCOUNT IN ('3000', '4000') THEN 2 WHEN ACCOUNT BETWEEN 5000 AND 6000 THEN 3 WHEN ACCOUNT IN ('9000') THEN 4 And we are having millions of lines data and we need to have calculation to different columns based on the category of the account as in case-when

**Answer:** I would strongly suggest myself that you want to consider adding a new column to your table that stores the value rather than using a case expression like this. But you can also use a computed column in your table with that expression, use the PERSISTED option and it will be automatically managed

---

11:24:16 PDT

**Question:** Too bad it is not called UChar for "Unicode"

**Answer:** N stands for National so nchar is National Character. In fact, you can use the keyword "declare @s national character," or "declare @s national character varying;" instead of nchar/nvarchar.

---

11:25:15 PDT

**Question:** if the same cte is repeated isnt it better to use table variables to avoid overheads

**Answer:** No. A CTE is nothing but a query. A table variable is actually a storage space within tempdb. They are not the same in any way.

---

11:26:05 PDT

**Question:** what are the advantages of using "as" statement

**Answer:** It just allows you to alias objects making your typing easier while still keeping the code nice, clear, and easy to read.

---

11:27:36 PDT

**Question:** If you are in SQL Management Studio testing queries for SQL 2012 is there a quick way of verifying that the syntax will also work in SQL 2008 or do you have to go back and test against a 2008 database?

**Answer:** You can check MSDN to see what functions/commands are new to SQL Server 2012. These would not work in 2008. Otherwise they should work on 2008.

---

11:27:52 PDT

**Question:** In the current demo does the "query" in a get run every time it is referenced or only once? I.e are the results calculated and then further queries are run against said results.

**Answer:** If he were to show the execution plan, you could see it. It resolves it within a single query, not as two queries with temporary storage in between.

---



11:27:58 PDT

**Question:** isn't it better to use join instead of subquery for this terr 10 query for example

**Answer:** So I don't exactly know what the example was. But if you are just filtering out rows from a set, then using a subquery with EXISTS can be faster (and a lot cleaner) because you don't get the columns of the filtering table dragged around in the results, meaning that the query processor knows that the goal is simply filtering out rows. It also means that you don't need to worry about the cardinality (number of rows) in the table you are filtering with. So if you have a table with values 1,1,1,1,1,3, joining the set 1,5 to that will return 5 rows, one for each 1 in the first set. But if you just want rows from the 1,5 set row where there is a row in the 1,1,1,1,1 set, you only want the 1 row, not 5 copies (which people then add distinct to to eliminate the duplicates, really not helping performance)

---

11:28:11 PDT

**Question:** so can cte needs to be used again query would run again or not internally?

**Answer:** Depends on the query.

---

11:28:23 PDT

**Question:** btw, why can i use CTE only in the next following sql statement?

**Answer:** COrrrect, it is part of the statement.

---

11:28:32 PDT

**Question:** Tobias, can you go a tad slower. Your screen is getting cut off.

**Answer:** Can do

---

11:28:55 PDT

**Question:** where are the blobs are stored or how it is possible to find and delete it?

**Answer:** They are deleted using DELETE or UPDATE SET col = NULL

---

11:29:29 PDT

**Question:** In this example how do I not use the cursor? --VÁRIÁVEIS DA NOTIFICAÇÃO DECLARE  
@vnot\_mensagem VARCHAR(4000) DECLARE @vnot\_destinatarios VARCHAR(8000) DECLARE @vperador INT -  
-DECLARA O CURSOR DECLARE notificacao\_usuarios CURSOR FAST\_FORWARD FOR --A OPÇÃO  
FAST\_FORWARD É PARA CONSTRUIR UM CURSOR MAIS RÁPIDO, ONDE VOCÊ SÓ PODE IR PARA FRENTE  
(99% DAS VEZES) --BUSCA TODOS OS COLABORADORES QUE POSSUEM PERMISSÃO DE VALIDAÇÃO DE  
FERIADOS SELECT ppu\_fk\_usu\_id FROM colsuporte.dbo.pro\_permissao INNER JOIN  
colsuporte.dbo.pro\_permissao\_usuario ON ppu\_fk\_per\_id = per\_id WHERE per\_codbusca = 'sip\_fer\_val'

```
--ABRE O CURSOR - CRIA O RECORDSET  
OPEN notificacao_usuarios
```

```
--VAI PARA O INÍCIO DO CURSOR (RECORDSET)  
FETCH NEXT FROM notificacao_usuarios INTO @vperador
```



```
-- INÍCIO DO LOOP - FAÇA ENQUANTO NÃO FOR ERRO (OU FIM DE ARQUIVO)
WHILE (@@FETCH_STATUS = 0)
BEGIN

    SET @vnot_destinatarios = CAST(@vperador AS
varchar(20))+',' +ISNULL(@vnot_destinatarios, '')

    -- BUSCA O PRÓXIMO REGISTRO
    FETCH NEXT FROM notificacao_usuarios INTO @vperador
END
--FIM DO LOOP

CLOSE notificacao_usuarios
DEALLOCATE notificacao_usuarios

--LOOP - NÃO PODE TERMINAR COM VÍRGULA
WHILE RIGHT(@vnot_destinatarios,1) = ','
BEGIN
    SET @vnot_destinatarios = LEFT(@vnot_destinatarios,
LEN(@vnot_destinatarios) - 1)
END

SET @vnot_mensagem = 'INFORMAMOS QUE EXISTEM FERIADOS DO ANO DE
'+CAST (DATEPART (YYYY,DATEADD (YYYY,1,@agora))AS CHAR(4))+ ' PENDENTES QUE
NECESSITAM SEREM VALIDADOS.'

IF (ISNULL(LTRIM(RTRIM(@vnot_destinatarios)), '') <> '')
BEGIN
    EXEC colservico.dbo.srv_sp_gravarnotificacao
    -- -----
    -----
    -- Parâmetros de Entrada:
    1100, -- @vnot_fk_tipo int,
-- srv_notificacao_tipo.snt_id
    255, -- @vnot_fk_rotina int,
-- colsuporte.pro_permissao_rotina.rot_id
    NULL, -- @vnot_fk_dinamico int,
-- ID da tabela a que se refere a Rotina
    NULL, -- @vnot_fk_contexto int,
    @vnot_mensagem, -- @vnot_mensagem
varchar(4000),
    @vnot_destinatarios, -- @vnot_destinatarios
varchar(1000), -- colsuporte.pro_usuario.usu_id separados por vírgula
    2, -- @vnot_fk_operador int,
-- colsuporte.pro_usuario.usu_id
    -- Parâmetros de Saída:
    @RET OUTPUT -- @vnot_id_out int
OUTPUT

    IF (@RET <= 0)
    BEGIN
        --Problemas ao enviar notificação.
    
```

```

        SET @vcob_id_out = -9
    END
    ELSE
    BEGIN
        SET @vcob_id_out = 9
    END
END

```

**Answer:** It seems like you are generating a comma separated list. The popular way to do that in SQL Server is to use FOR XML construct. Other options are SQLCLR aggregate, traditional SQL way using ROW\_NUMBER. Below are some examples:

use AdventureWorks; go select QUOTENAME(SCHEMA\_NAME(o.schema\_id)) + N'.' + QUOTENAME(o.name), STUFF( (select ',' + CAST(QUOTENAME(c.name) AS varchar(max)) AS [text()] from sys.columns AS c where c.object\_id = o.object\_id order by c.name for xml path (''), 1, 1, '') as col\_list from sys.objects AS o where o.type = 'U' go

You can also do this with ROW\_NUMBER and PIVOT like: select QUOTENAME(SCHEMA\_NAME(o.schema\_id)) + N'.' + QUOTENAME(o.name), (select [1] + coalesce(',', [2], '') + coalesce(',', [3], '') + coalesce(',', [4], '') + coalesce(',', [5], '')/.../ from (select quotename(c.name) as name , row\_number() over(order by name) as rn from sys.columns as c where c.object\_id = o.object\_id ) as t pivot (min(t.name) for t.rn in ([1], [2], [3], [4], [5] /.../)) as pt ) as col\_list from sys.objects as o where o.type = 'U'; In Denali, you can use CONCAT scalar function instead of COALESCE: select QUOTENAME(SCHEMA\_NAME(o.schema\_id)) + N'.' + QUOTENAME(o.name), (select concat([1], ',' + [2], ',' + [3], ',' + [4], ',' + [5])/.../ from (select quotename(c.name) as name , row\_number() over(order by name) as rn from sys.columns as c where c.object\_id = o.object\_id ) as t pivot (min(t.name) for t.rn in ([1], [2], [3], [4], [5] /.../)) as pt ) as col\_list from sys.objects as o where o.type = 'U';

11:29:34 PDT

**Question:** Is it possible to suppress rows with NULL values

**Answer:** WHERE col IS NOT NULL or did you mean something else?

11:30:48 PDT

**Question:**

> *Quoted answer:* No. A CTE is nothing but a query. A table variable is actually a storage space within tempdb. They are not the same in any way.

**Answer:** I think what is being asked is if the query that uses the CTE references it multiple times, can it be better to use a table variable (or local temp table with some indexes), right? In some complex queries that can be the case, but generally, it is a best practice to start out with the derived table/CTE and see if the optimizer can do a great job without trying to force it to work your way, and then consider using a temp table.

11:31:03 PDT

**Question:** Since view is a like a virtual table, can we set Indexing to a View?

**Answer:** Yes, you can create an INDEX for a VIEW.



11:31:03 PDT

**Question:** There is a practice to improve the store procedures performance, by creating them dynamically based on the conditions in an nvarchar variable and executing them inside another store procedure. Do you recommend this approach? If you have used this approach before, are there any limitations to it?

**Answer:** Please look at the article from Erland (SQL MVP). He covers various techniques, pros & cons in detail:

<http://www.sommarskog.se/dyn-search.html>

---

11:31:38 PDT

**Question:** Can you join multiple views together in a query like you would a real table?

**Answer:** Yes, you can use view in all places in DML statements where a table can appear.

---

11:32:17 PDT

**Question:** Is there a way to reuse the CTE with multiple statements..? In real life situation I find it a bit awkward what it can only be used in 1 sql statement...?

**Answer:** No. You need to refactor CTE into a view or inline table-valued function & use those instead.

---

11:32:22 PDT

**Question:** How to i evaluate when to use CTE, @table variable #temporary table and view ?

**Answer:** CTE when you use once, view if freq. used in many queries. temp table you may try if you are having performance issues.

---

11:32:29 PDT

**Question:** can deterministic functions be used inside UDF's in 2012

**Answer:** Yes

---

11:33:03 PDT

**Question:** If i wanted to re-use a CTE much after it was declared, I will not be able to do that and I will have to use a temp table here right?

**Answer:** If you mean in a second statement, yes. You can only refer to a CTE in the following statement.

---

11:33:37 PDT

**Question:** If i wanted to re-use a CTE much after it was declared, I will not be able to do that and I will have to use a temp table here right?

**Answer:** Depends on what you are doing, query pattern & performance. You can create view or inline table-valued function & reference that in multiple statements. Temporary table helps in case where you do not want to re-run the query in the CTE multiple times. You need to look at your query patterns/performance & decide.

---



11:34:07 PDT

**Question:**

> *Quoted question:* Can you join multiple views together in a query like you would a real table?

> *Quoted answer:* Yes, you can use view in all places in DML statements where a table can appear.

**Answer:** But, it's worth noting that JOIN on views can create some really bad execution plans seriously impacting performance. I would be cautious with this approach.

---

11:34:39 PDT

**Question:** Yes i meant a second statement..

**Answer:** A second distinct statement -No. Sometimes, it may be possible to nest one CTE within another to accomplish the need. But care should be exercised for performance.

---

11:35:26 PDT

**Question:** any limitation of using views ?

**Answer:** You cannot index any view, there are restrictions. Using views in multiple levels (view referencing a view referencing another & so on) can increase compilation times, possibly generate bad query plans & so on. However, it is a great mechanism to refactor & share commonly used queries.

---

11:35:52 PDT

**Question:** CTE works directly on the hd?

**Answer:** A CTE is just a query. It pulls data the same way as any other query pulls data. Don't get confused by the name including the word Table. This is not any kind of data storage.

---

11:37:52 PDT

**Question:** for a NVARCHAR(MAX), which goes up to 2<sup>32</sup> bytes, how is this 2<sup>32</sup> length stored in the 2 overhead bytes? this as 2 bytes can hold 1-64K

**Answer:** I suggest that if you can get a hold of the Inside SQL Server book that goes into detail on the page structures. It is hard to explain in this forum. Books Online also has some details on the pages. Note that blob types are stored as separate data pages typically.

---

11:39:07 PDT

**Question:** i have heard that the table-valued functions usually bad for performance... is this true?

**Answer:** no, but then as you probably know it depends on what you are doing

---

11:39:16 PDT

**Question:** are there any functions in sql to convert an incoming datetime to a specific time zone? (day light savings)

**Answer:** No. You have to build your own using a combination of a calendar table, switchoffset function. Another option is to use a SQLCLR function.

---

---

11:39:33 PDT

**Question:** i have heard that the table-valued functions usually bad for performance... is this true?

**Answer:** It depends on the type of UDF we're talking about the. The inline table valued function works just fine in most situations. The multi-statement table valued function works using table variables, has no statistics, and can therefore be quite problematic if you're working with more than a very small set of data.

---

11:39:37 PDT

**Question:** you can use between for where date clause

**Answer:** Yes, but you have to remember the time in this case since the column was of DATETIME data type

---

11:40:23 PDT

**Question:** <http://msdn.microsoft.com/en-us/library/ms191432.aspx> Mentions you can create an index on a view can you explain how this works?

**Answer:** Well, I as going to post that link too 😊 Basically, you just create a clustered index on the view, which then materialized the table on disk like a normal table. There are a lot of caveats, and how it is used varies on the version of SQL Server you are using too.

---

11:41:27 PDT

**Question:** Declare @Rate as money; Declare @ProductName as varchar(100); set @Rate=NULL; set @ProductName='aa'; select COALESCE(@Rate,@ProductName,5) Why do I get an error? Msg 235, Level 16, State 0, Line 6 Cannot convert a char value to money. The char value has incorrect syntax.

**Answer:** COALESCE & CASE expression determines the type of the return value by analyzing the THEN clauses. In this case, money has higher precedence than char types so error is expected.

---

11:42:35 PDT

**Question:** Does DATALENGTH return the actual bytes used for Unicode variables as opposed to character count?

**Answer:** Yes

---

11:43:12 PDT

**Question:** Performance wise, in queries with enormous amount of data, is it better to avoid functions and do the functions within the query or they won't have any impact on the performance?

**Answer:** By functions you mean user defined functions? Again, it depends on the type of function in-line or multi-statement, and how it's written. For large data sets, I would avoid multi-statement like the plague.

---





11:44:10 PDT

**Question:** is in the select group DQL or DML? this always confuses my students.

**Answer:** DML is SELECT, INSERT, UPDATE, DELETE, MERGE, CURSOR operations. This is how ANSI SQL defines these terms for example.

---

11:47:40 PDT

**Question:** CREATE TABLE #TEMP1( ID INT IDENTITY(1,1), NAME VARCHAR(10) ) CREATE TABLE #TEMP2( ID INT IDENTITY(1,1), NAME VARCHAR(10) ) INSERT INTO #TEMP1(NAME) SELECT 'John' UNION ALL SELECT 'Roger' SELECT SCOPE\_IDENTITY()--Here inserting data so scope\_identity() returns 2 INSERT INTO #TEMP2(NAME) SELECT NAME FROM #TEMP1 WHERE 1= 2 SELECT SCOPE\_IDENTITY()-- Here inserting nothing so scope\_identity() should return 1 or null This is the case I'm saying that getting wrong identity.

**Answer:** This is by design. The 2nd INSERT is not inserting any row so no identity value is generated & by definition the function returns the last generated value in the batch.

---

11:47:59 PDT

**Question:** Is there any planned support for a GROUP\_CONCAT() type of aggregate function?

**Answer:** No plans right now.

---

11:48:46 PDT

**Question:** Can we create a Grouped Aggregate function without using cursor or any inbuilt Grouped Aggregated Function

**Answer:** Not sure what you mean by grouped aggregate function. But you can build your own SQLCLR aggregate function - this facility is available today.

---

11:49:15 PDT

**Question:** I've never seen RANK before. Not sure when it would be useful.

**Answer:** Ranking test results, race results & so on.

---

11:50:12 PDT

**Question:** How can I migrate MCTS SQL Developer 2008 to 2012?

**Answer:** <http://www.microsoft.com/learning/en-us/mcsa-sql-certification.aspx> you need to pass 70-457 & 70-458

---

11:52:20 PDT

**Question:** why the input values (expression1, expression2, expressionN, etc.) for COALESCE will be evaluated multiple times?

**Answer:** This is by design. COALESCE is just a short hand for CASE WHEN @expr1 IS NOT NULL THEN @expr1 WHEN @expr2 IS NOT NULL THEN @expr2.... END. So we generate an expression tree in the expanded form. If you do not want to re-evaluate the expressions then you need to use ISNULL or other refactoring.

---

11:52:57 PDT

**Question:** is View suitable for large data set ? Would it consume a lot of memory in this case ?

**Answer:** No difference from not using a view 😊

---

11:52:57 PDT

**Question:** There is any best approach to manage the insertion of about 17 million records from text files?

**Answer:** Bulk Insert should help.

---

11:56:15 PDT

**Question:** why the input values (expression1, expression2, expressionN, etc.) for COALESCE will be evaluated multiple times ? For example, when the code COALESCE((subquery), 1) is executed, the subquery is evaluated twice. As a result, you can get different results depending on the isolation level of the query. For example, the code can return NULL under the READ COMMITTED isolation level in a multi-user environment. To ensure stable results are returned, use the SNAPSHOT ISOLATION isolation level, or replace COALESE with the ISNULL function.

**Answer:** COALESCE(@expr1, @expr2....) is short form for CASE WHEN @expr1 IS NOT NULL THEN @expr1 WHEN @expr2 IS NOT NULL THEN @expr2 ...END. This is by design & also defined the same in ANSI SQL standards. So you need to refactor or use other mechanisms like you suggested.

---

11:58:55 PDT

**Question:** What recommended techniques do you suggest to validate the performance of queries as well steps to optimize? I ask this question in the context of increasing size and complex of today's data sets as well as using SQL Server to bridge the world between Large Data and truly Big Data (unstructured and structured).

**Answer:** Start by looking at your physical schema design (types, indexes, constraints & so on) first. After that, you can look at plans for a representative sample of your queries. Also look at the whitepapers - plan cache & statistics, troubleshooting performance in MSDN.

---

12:21:48 PDT

**Question:** What about Performance when snapshot is set on, are index and statistics in use?

**Answer:** I assume that you mean the database snapshot, then performance will be will be (not significantly but) slower as the normal database, if you query for data that has changed in between the snapshot and the current moment.

---

12:35:09 PDT

**Question:** how can I quickly see the execution plan or cost of a query while prototyping it?

**Answer:** Use can use the "Estimated Execution Plan" Symbol in the menu of SSMS. If the database is empty, results might differ from the actual production database with data in it. If you already have a database with data in it, but it is too big or you are not allowed to fully use it, you can also create a script which just includes the schema as well as the statistics. This will enable you to see a production like result with the setting mentioned above. See <http://support.microsoft.com/kb/914288> for more information

---

12:35:31 PDT

**Question:** could you give us the file of the demos?

**Answer:** The demo files will be made available and accessible from the page hosting the recorded version of the class

---

12:37:10 PDT

**Question:** Any performance difference between exists(select \*) and Exists(Select top 1 cust)

**Answer:** The old question which one is better, the engine is smart enough to figure that out, that you don't have any Performance penalty 😊

---

12:38:17 PDT

**Question:** Tobias: Bara lite fosterlandskänsla: ÅÄÖäö! Härligt va? Har du bakgrund i Mimer eller mySQL?

**Answer:** Bakgrund i SQL Server sa klart! 😊

---

12:38:38 PDT

**Question:** Did we cover COUNT\_BIG?

**Answer:** Same as COUNT just returns BIGINT instead of INT (for very large data sets)

---

12:44:15 PDT

**Question:** You use AS when using alias on table names in FROM statements, but this is not required. What is best practice?

**Answer:** I use aliases all the time, this will make it quite easy to extend the query when needed. Imagine you have two table containing columns with the same name, once you include the second table in the query, you will have to specify the intent of the queried column anyway as the two tables would have the same column names and the query would bring back that the columns names are ambiguous.

---

12:47:00 PDT

**Question:** When I use a range of dates in the WHERE clause where the date type is SMALLDATETIME, and seconds from the final date is equal to or greater than 30 seconds, the result also returns data the next day. Why this happens?

**Answer:** The precision for SMALLDATETIME is up to the Minute, so seconds are ignored. See <http://technet.microsoft.com/library/ms182418.aspx>

---

12:47:23 PDT

**Question:** When I use a range of dates in the WHERE clause where the date type is SMALLDATETIME, and seconds from the final date is equal to or greater than 30 seconds, the result also returns data the next day. Why this



happens? according to the documentation will round to the next day from 59 seconds.

**Answer:** SMALLDATETIME is up to the precision of a Minute: <http://technet.microsoft.com/de-de/library/ms182418.aspx>

---

12:48:21 PDT

**Question:** What is your take on the difference between Estimated execution plan and actual execution plan?

**Answer:** Estimated doesn't execute the query, it just determines and displays the overhead involved in running it. The actual will execute the query and provide the information.

---

12:55:22 PDT

**Question:** how do i chat publicly?

**Answer:** It's not so much a CHAT, but a Q&A window, and when you ask a question, it is public.

---

12:57:18 PDT

**Question:** Can we get the Q&A log, I will miss most of the next sessions, would like learn from the questions

**Answer:** Yes, check the FAQ above.

---

12:58:10 PDT

**Question:** hi everyone. Will we get the power point slides for this webinar?

**Answer:** Yes, check the FAQ above.

---

12:58:17 PDT

**Question:** Supports MSSQL2012 regular expression functions?

**Answer:** No natural SQL ones, only through CLR. Though some of the basi within the LIKE Operator. See <http://technet.microsoft.com/library/ms179859.aspx> for more Information

---

12:58:52 PDT

**Question:** Truncate Table is used to clean the table without logging

**Answer:** Hi Andrea, it actually logs some data. Minimal information about the pages and extents that were deallocated.

---

13:00:58 PDT

**Question:** So intersect finds the matched records in the two tables, correct?

**Answer:** That is correct!

---



13:01:02 PDT

**Question:** truncate is used to remove the spaces ,right?

**Answer:** If you mean TRUNCATE as in TRUNCATE TABLE, then n, this is used to clear the table without doing a TLOG Operation: See <http://technet.microsoft.com/library/ms177570.aspx> for mroe Information

---

13:04:27 PDT

**Question:** Thank you Louis. Is there a clause that will find the records that do not appear in either table? Basically find unmatched.

**Answer:** Do mean find rows that only exist in one but not the other? If so, then I am pretty sure not directly. Rather you would need to build a query using two EXCEPTS (so find the rows in tableA that aren't in tableB, and then the opposite) and then UNION them

---

13:06:49 PDT

**Question:**

> *Quoted question:* Thank you Louis. Is there a clause that will find the records that do not appear in either table? Basically find unmatched.

> *Quoted answer:* Do mean find rows that only exist in one but not the other? If so, then I am pretty sure not directly. Rather you would need to build a query using two EXCEPTS (so find the rows in tableA that aren't in tableB, and then the opposite) and then UNION them

**Answer:** If you are doing a cross join and you have specify JOIN criterias, you could also check if the join criteria is NULL on any of the both tables finding the non-existing data on both tables.

---

13:08:46 PDT

**Question:** When they say Windows Functions what does the Windows refer too, the OS?

**Answer:** No, it has nothing to do with the OS.

---

13:09:06 PDT

**Question:** When they say Windows Functions what does the Windows refer too, the OS?

**Answer:** No, it is merly a data window, you could see that as an intermediary subelect Statement

---

13:10:11 PDT

**Question:** what is the window in the query "SELECT CustID, TotalDue, SUM(TotalDue) OVER (PARTITION BY CustomerID) AS TotalOrderDetailsFROM Sales.SalesOrderDetails".... This is new to me and it confuse me.

**Answer:** The window is the following "SUM(TotalDue) OVER (PARTITION BY CustomerID)"

---

13:16:02 PDT

**Question:**

> *Quoted question:* Jenn

> *Quoted question:* Thank you Louis. Is there a clause that will find the records that do not appear in either table?

Basically find unmatched.

> *Quoted answer:* Do mean find rows that only exist in one but not the other? If so, then I am pretty sure not directly. Rather you would need to build a query using two EXCEPTS (so find the rows in tableA that aren't in tableB, and then the opposite)

> *Quoted answer:* If you are doing a cross join and you have specify JOIN criterias, you could also check if the join criteria is NULL on any of the both tables finding the non-existing data on both tables.

**Answer:** Thanks for pointing that out. I was just thinking in the context of set operators. You can use a FULL OUTER JOIN too, using all columns for the join criteria, and then filter on a not null column in both inputs. But for joins you don't end up with the data in the same columns.

---

13:17:23 PDT

**Question:** Is there any default order column?

**Answer:** No, unless you specifically specify a column in a ORDER BY clause, the rows will come back in whatever order is easiest for the query optimizer/processor.

---

13:17:36 PDT

**Question:** Canada uses CELSIUS!!

**Answer:** Of course! 😊

---

13:18:00 PDT

**Question:** It should be "Window functions" o "windowing".

**Answer:** Correct

---

13:19:26 PDT

**Question:** where i can get the slides?

**Answer:** Check the FAQ on the primary page by the Q&A. First question. Thanks!

---

13:20:59 PDT

**Question:**

> *Quoted question:* What is your take on the difference between Estimated execution plan and actual execution plan?

> *Quoted answer:* Estimated doesn't execute the query, it just determines and displays the overhead involved in running it. The actual will execute the query and provide the information.

**Answer:** And the final execution plan includes stuff like parallelism, actual rowcounts, etc that are calculated at execution time.

---

13:22:13 PDT

**Question:** In which situations you would this PIVOT instead of SSRS or SSAS? Any examples?

**Answer:** If you have key/value tabs that you want to translate in another Format to query it easier. (as an example)

---



13:23:39 PDT

**Question:** Does this new queries using PIVOT can be used in the queries to create Cubes is SSIS?

**Answer:** It has nothing to do with, this can be a bit confusing.

---

13:23:52 PDT

**Question:** Can we get the 'demo' queries'? Tobias is showing a few things that are not in the slides. Thanks.

**Answer:** We are working on that 😊

---

13:25:15 PDT

**Question:**

> *Quoted question:* Is there a tool available to export execution plans to Visio? Arnie Rowland replied privately: You might wish to explore the Plan Explorer tool (Free) from SQL Sentry.

**Answer:** In Addition to thi the plan can be saved as a file, right clicking and saving this as a .sqlplan file which is XML and therefore transportable. Another user can open it up easily without having the database on the Server. (Offline)

---

13:26:39 PDT

**Question:** what is the difference between ON and where?

**Answer:** If you mean in Terms of JOINING, then it is just another way of writing, which is a much cleaner syntax actually.

---

13:27:53 PDT

**Question:** i have one question, where grouping set it will useful for me

**Answer:** grouping sets allows you to do what they were doing with CUBE and ROLLUP but with control over the levels you want to group by. SO if you have 30 columns being returned, you might end up with 30 levels with a ROLLUP, but you with a grouping set, you could choose just the few values you want to group on rather than all of the possible groupings

---

13:28:47 PDT

**Question:** Where can i get DB example to practice the query

**Answer:** I believe that the demo code is using the AdventureWorks database.

---

13:30:57 PDT

**Question:** how do you get sql developer editon?

**Answer:** Through MSDN if I am not mistaken

---



13:31:09 PDT

**Question:** Yes, In terms of joining. Thanks Jens

**Answer:** For an OUTER JOIN, it make a big difference. in the ON criteria of an outer join, it will not filter out NULL rows. But when you are in the WHERE clause, you may filter out the NULL values produced in the FROM clause's OUTER JOIN

---

13:31:34 PDT

**Question:**

> *Quoted question:* how do you get sql developer edition?

> *Quoted answer:* Through MSDN if I am not mistaken

**Answer:** You can also purchase from several retailers.

---

13:34:52 PDT

**Question:** how does the injection command work in sql?

**Answer:** DO you mean SQL injection ? That is not a command, it is more a security vulnerability you will have to make sure to protect your code against

---

13:39:01 PDT

**Question:** How can I pivot a table if I don't know my data? for example if I don't know that I have information for the years 2007, 2008 and 2010?

**Answer:** You will need to use some form of dynamic SQL to create a statement based on the data that is returned. A quick web search for dynamic pivot will give you several examples to start from

---

13:45:23 PDT

**Question:** where I can get the demo's files?

**Answer:** We are still looking into how to share them.

---

13:52:35 PDT

**Question:** sequences, what happens with delete? can that sequence be reused

**Answer:** Absolutely. A delete will not affect the sequence at all, as it is a completely separate object from the table (and when you truncate the table that is using the sequence, it will not be reset either). For the sequence object in 2012, the sequence object can be reset, restarted, and pretty much redefined except for datatype on the fly (it also allows for the values to cycle, so you might have a sequence that starts at 0 and ends at 1 and cycles, so every fetch to the object returns either 1 or 0.

---





14:02:26 PDT

**Question:** why do you use '@'

**Answer:** Since no one else has an answer, I will say that it says in this document [http://technet.microsoft.com/en-US/library/ms345122\(v=SQL.90\).aspx](http://technet.microsoft.com/en-US/library/ms345122(v=SQL.90).aspx) that it is the syntax for the different axis'. I am no expert in XML, but it seems that you can do more than just get an attribute in that value method

---

14:03:05 PDT

**Question:** Thanks Tobias! The XML example was awesome.

**Answer:** Agreed!

---

14:09:28 PDT

**Question:** How does delete \* from t1 and truncate table t1 differ ?

**Answer:** Basically how they are logged. Every row is logged for a DELETE, but (the quick version is) for a TRUNCATE it only logs that the operation occurs. Kalen Delaney wrote a blog about this that can help make it clearer [http://sqlblog.com/blogs/kalen\\_delaney/archive/2010/10/12/tsql-tuesday-11-rolling-back-truncate-table.aspx](http://sqlblog.com/blogs/kalen_delaney/archive/2010/10/12/tsql-tuesday-11-rolling-back-truncate-table.aspx)

---

14:12:13 PDT

**Question:** delete \* creates a transaction for each delete operation, while a truncate executes in a single transaction

**Answer:** This is not quite true. It creates a log record for every row deleted, but they are all part of the same transaction. If you have deleted 1000 rows and the 1001th row fails, all of the rows will roll back.

---

14:13:15 PDT

**Question:** If you realize you should have a foreign/complex key but it wasn't implemented in the beginning, what's the best way to find the rows that don't fit the constraint?

**Answer:** use an exists subquery like: select \* from child where not exists (select \* from parent where child.parentKey = parent.parentKey)

---

14:13:45 PDT

**Question:** if i want to delete unique index which is on Primary key, is it possible to delete index without deleting primary key

**Answer:** You would Need to drop the Primary Key and create a unique index then

---

14:15:55 PDT

**Question:** Truncate also resets the identity column, delete doesn't

**Answer:** Correct Jacob 😊

---



14:16:45 PDT

**Question:** truncate resets the seed value to original

**Answer:** Yes it does Vera

---

14:16:58 PDT

**Question:** Fro check constraint, [0-9] means a range from 0 to 9, while [0] means only 0, am I correct ?

**Answer:** Yes, in a LIKE comparison, the brackets mean one of the values between the brackets, and the - means a range. So [12367] would mean one character 1, 2, 3, 6 or 7. [1236-9] is any character 1,2,3,6,7,8,9. [0] would be just 0.

---

14:27:08 PDT

**Question:** How to upload picture binary data to a column in table, and what is the preferred data type for that0? and is it a good idea to upload picture to database, or it's better to store and access it from regular files?

**Answer:** Data Type would be VARBINARY as the older types like IMAGE are deprecated. Uploading data is done by a Client implementation or using BULK INSERT if you do it on a adhoc Basis.

---

14:29:00 PDT

**Question:** español

**Answer:** The more englishier, the more likely you will get an answer as fo the most of the answerers, english is much more common 😊

---

14:30:35 PDT

**Question:** in the answer from Lois Davidson, does values between brackets need a comma "," to separate values

**Answer:** Unless you don't specifiy ranges (with "-"), this is correct.

---

14:31:18 PDT

**Question:** Is there a link available where I could find detailed Information about XML functionality

**Answer:** There is great Information about this in the MSDN documentation (BOL = Books online)

---

14:35:10 PDT

**Question:** stored procedure or instead of insert trigger which is better for stopping duplicate insert into table

**Answer:** A stored procedure is much more transparent and easy to use as you can check your logic upfront before actually having the engine kick in.

---



14:35:42 PDT

**Question:** if I write a few select, insert, update statements together without a GO between each, is this effectively one batch?

**Answer:** If you execute them at once, yes.

---

14:36:13 PDT

**Question:** if I write a few select, insert, update statements together without a GO between each, is this effectively one batch?

**Answer:** Exactly. And I imagine that they will be discussing how it works with a error in a statement later in this module.

---

14:37:18 PDT

**Question:** I think there is a new feature in SQL2012 to define a column as file and link to a file, i.e. for image, right?

**Answer:** You would probably use FILESTREAM for this. Without going into the very Details, this will store the file behind the scenes on disk (as a file) and will provide transactional consistency.

---

14:37:37 PDT

**Question:** It would be great to see "SELECT FOR UPDATE" demos too

**Answer:** Is there something specific you are looking for?

---

14:38:33 PDT

**Question:**

> *Quoted question:* if I write a few select, insert, update statements together without a GO between each, is this effectively one batch?

> *Quoted answer:* Exactly. And I imagine that they will be discussing how it works with a error in a statement later in this module.

**Answer:** Jens' answer made the good point that you can execute them separately, but SSMS, when executing statements in a file will break conversations on the GO command (which is just a tool convention that can be changed to something else in SSMS' options(I am almost 100% sure of that))

---

14:39:36 PDT

**Question:** Do not put GO into a procedure

**Answer:** Seems to work now, try refreshing.

---

14:39:57 PDT

**Question:**

> *Quoted question:* sars42 posted: if I write a few select, insert, update statements together without a GO between each, is this effectively one batch?

> *Quoted answer:* Exactly. And I imagine that they will be discussing how it works with a error in a statement later in this module.

> *Quoted answer:* Jens' answer made the good point that you can execute them separately, but SSMS, when executing statements in a file will break conversations on the GO command (which is just a tool convention that can be changed to something else in SSMS' options(I am almost 100% sure of that)

**Answer:** Louis is right on the Point, this is just a Client implementation, knowing for the client when to pack a Batch and send it individually. The Option is called "Batch separator"

---

14:39:59 PDT

**Question:**

> *Quoted question:* I think there is a new feature in SQL2012 to define a column as file and link to a file, i.e. for image, right?

> *Quoted answer:* You would probably use FILESTREAM for this. Without going into the very Details, this will store the file behind the scenes on disk (as a file) and will provide transactional consistency.

**Answer:** And you can also use filetable to give you access to the files as a windows share with full read write capabilities (though not complete transaction integrity however)

---

14:40:37 PDT

**Question:** I mean sometimes I have to do a lot of complex data processing, usually started by some selects, and starting there I'd like that data to be locked until the processing is finished. I know it can be achieved with kinda fake update in the beginning of transactions, but it would be good to see a more elegant way

**Answer:** Ok, you may be looking for WITH(UPDLOCK) or WITH(XLOCK)

---

14:44:52 PDT

**Question:** My Colleague told me that behind the scenes the WHILE works exactly like a Cursor. I always thought WHILE was superior to Cursor performance wise.

**Answer:** WHILE has nothing to do with cursors... You may use cursors inside a WHILE loop.

---

14:45:01 PDT

**Question:** in the answer from Lois Davidson, does values between brackets need a comma "," to separate values

**Answer:** Assuming we are talking about like if you put a comma in the bracket it will match the ,. Examples: SELECT CASE WHEN '7' LIKE '[36-8]' THEN 1 ELSE 0 END /\* RETURNS 1 / SELECT CASE WHEN ',' LIKE '[36-8]' THEN 1 ELSE 0 END / RETURNS 0 \*/

SELECT CASE WHEN '7' LIKE '[3,6-8]' THEN 1 ELSE 0 END /\* RETURNS 1 / SELECT CASE WHEN ',' LIKE '[3,6-8]' THEN 1 ELSE 0 END / RETURNS 1 \*/

---



14:49:55 PDT

**Question:** I never use cursors, ever unless they twist my arms.

**Answer:** Well, in some cases they Need to be used like executing a stored procedure, based on a cursored set for example.

---

14:50:28 PDT

**Question:** My Colleague told me that behind the scenes the WHILE works exactly like a Cursor. I always thought WHILE was superior to Cursor performancewise.

**Answer:** I wonder if your colleague was referring to deep internally, that each row needs to be checked for a TRUE or otherwise value, just like a cursor does. If that was his point, then yes, that is sort of true. But the similarities at a very high level are the ONLY thing they share in common. For a cursor, you are stepping through each row one at a time doing a comparison. In a WHERE clause, the engine can choose from a plethora of paths to make the operation way faster than you can a cursor. WHILE is FAR superior to cursor in 99.99999999% of cases that exist (yes, that many nines at least!) because you are not forcing the optimizer to work a certain way.

---

14:51:31 PDT

**Question:** Throw is great, I need to read more about this. Seems so much simpler.

**Answer:** It really is a lot better for sure.

---

14:53:41 PDT

**Question:** when you use select into statement, then table is created in the default filegroup, is it possible to specify it can be created in a different one?

**Answer:** No.

---

14:53:45 PDT

**Question:** not sure if I perhaps missed it, but what would happen if you use a try block and don't have a catch block?

**Answer:** YOu will get a parsing error.

---

14:54:11 PDT

**Question:** Wow, this if...else...then and while...end is so similar with C#

**Answer:** Very true! It is just basic control of flow language. The big difference is that usually you can usually get better performance from T-SQL the more you can do within a SQL DML statement and not using looping or whatever..

---

14:54:59 PDT

**Question:** Regarding WHILE and CURSOR, would you suggest any method to avoid copy/pasting FETCH INTO from before the loop to its end when using cursor? I really like nice clean code without duplicates, and all examples that I could see use such duplicate. Theoretically it's possible with WHILE, however I don't know if it has any bad impact on the performance.

**Answer:** You can do:

```
declare @c cursor ...; set @c = cursor ...; open @c; while(1=1) begin fetch @c into @v1, @v2...; if @@fetch_status < 0 break; .. end;
```

---

14:55:03 PDT

**Question:** Are the semicolons necessary after each statement?

**Answer:** After each one? No. They have to terminate the last statement prior to the declaration of a CTE. Personally, I'm just in the habit of using them now.

---

14:55:15 PDT

**Question:** Are the semicolons necessary after each statement?

**Answer:** No, not at the Moment, but they are Standard and should be used. Might be needed somehow in the future if the other Syntax is deprecated.

---

14:55:38 PDT

**Question:** Are the semicolons necessary after each statement?

**Answer:** No. But it is good practice to use it. It is required for some of the new constructs/keywords & also resolves ambiguities in some cases.

---

14:56:04 PDT

**Question:** I was looking forward to here Tobias say Raiserror! He so loves that word

**Answer:** That his favorite feature. 😊

---

14:56:30 PDT

**Question:** Yes, he was referring to deep internaly rbar

**Answer:** Yeah, that kind of thinking is dangerous 😊. SQL is a declarative language and the goal is to let the engine do the work for you. If you start equating internals to the kind of interpreted code you can write in T-SQL, you dig yourself a hole! Thanks!

---



14:58:40 PDT

**Question:** can you tell us about Columnstore Indexes. Thanks

**Answer:** Columnstore stores data in columns with a different compression algorithm i.e., each column is stored separately as opposed to rowstore. Moreover columnstore execution is optimized for new CPU architecture, data locality, CPU caches & so on. It is good for crunching through large volumes of data & there is a new mode of execution for the operator (batch mode) that provides significant scalability.

---

14:58:54 PDT

**Question:** Is there a way to specify the filegroup where is created the table in the select into statement?

**Answer:** No

---

15:00:32 PDT

**Question:** Are the semicolons necessary after each statement?

**Answer:** I don't think I am the first to chime in, but statements not ending with a semicolon is on the deprecated list for sql 2012: <http://technet.microsoft.com/en-us/library/ms143729.aspx>

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15:01:25 PDT

**Question:** is 'Throw' backward compatible?

**Answer:** No, it is new for 2012. (And once you get used to it, it is hard to go back to Raiserror!)

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15:02:07 PDT

**Question:** Does Throw also Rollback or do you need to explicitly write it in the catch block?

**Answer:** If SET XACT\_ABORT setting is ON then THROW will rollback the transaction.

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15:02:30 PDT

**Question:**

> *Quoted question:* Does Throw also Rollback or do you need to explicitly write it in the catch block?

> *Quoted answer:* If SET XACT\_ABORT setting is ON then THROW will rollback the transaction.

**Answer:** Hey, you seem to know this stuff 😊

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15:03:35 PDT

**Question:**

> *Quoted question:* Coz posted: Does Throw also Rollback or do you need to explicitly write it in the catch block?

> *Quoted answer:* If SET XACT\_ABORT setting is ON then THROW will rollback the transaction.

> *Quoted answer:* Hey, you seem to know this stuff

**Answer:** Yes, he doesn't seem to need to verify his answers as much as some of us do.

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15:05:01 PDT

**Question:** Any examples for nesting TRAN?

**Answer:** The outer transaction is the transaction that counts. I.e. rollback rolls back all the way out.

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15:05:45 PDT

**Question:** Any examples for nesting TRAN?

**Answer:** Nesting TRAN is Quite easy. With every BEGIN TRAN you increase the TRANCOUNT by 1 with every COMMIT you decrease it by one. ROLLBACK will rollback (also all nested Transactions) bringing the TRANCOUNT to 0

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15:06:06 PDT

**Question:** Can transactions be nested in 2012?

**Answer:** Yes, see the answer above about the TRANCOUNT

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15:06:09 PDT

**Question:** With ColumnStore you have got more indexes maintenance so use it when the advantage is clear. Drop and rebuild all indexes is a must with ColumnStore. I am not sure yet how to best use this.

**Answer:** ColumnStore is useful for data warehousing.

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15:10:32 PDT

**Question:** what is purpose of inner nested transactions if only outer counts for rollback?

**Answer:** It is a bit of an overstatement to say they don't count at all. When you nest code, begin transaction may be called multiple times. There is technically only one transaction started, but the nested count is incremented. One rollback rolls back the entire transaction, but you then have to be very careful with all of your code to know that you expected to be in a transaction if things are running. Hence, using THROW to throw the error to the caller so it too goes to the error handler etc to make sure you don't execute code that you do not want to (And I just saw your nevermind, but I was just about finished typing this one 😊)

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15:11:11 PDT

**Question:** what is merge replication?

**Answer:** Hi Farhan, I am not sure how familiar you are with replication but hopefully this link gives you the insight that you need <http://technet.microsoft.com/en-us/library/ms152746.aspx>

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15:12:59 PDT

**Question:** Is this example safe in case balance is modified from other thread after initial select but before update?

**Answer:** He is currently picking that up.

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15:22:17 PDT

**Question:** Is UPDLOCK the same as changing the Isolation Level to Repeatable Reads?

**Answer:** No. REPEATABLE READ only prevents writes/modifications from happening on the rows you are reading. Multiple transactions can read the same row.

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15:24:24 PDT

**Question:** How can we get Tobias examples??

**Answer:** They will be made available for download when the course is published.

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15:24:57 PDT

**Question:** Are we saying UPDLOCK should never be used and there are means to avoid it for performance issues

**Answer:** Not necessarily. It depends on your requirement. Using UPDATE directly does provide code path optimizations since you execute less statements, take less locks. Using set-based logic, it is always efficient to do less work, less statements so you can scale better.

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15:26:09 PDT

**Question:** Do triggers provide the same consistency as having a couple of updates in a transactions block?

**Answer:** Sure. But it is more work since triggers are executed after the modifications are done. However, logical constraints like foreign keys, check constraints help perform the business logic before doing the more costly operations - making changes to the data.

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15:26:59 PDT

**Question:** Are you supposed to have several TRY-blocks, but only one CATCH-block, in which you choose action depending on the error code or -message? Or are the TRY and CATCH blocks always paired together?

**Answer:** The construct is a TRY...CATCH - this is one atomic block. So you cannot have multiple TRY & one catch block.

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15:27:36 PDT

**Question:** I missed the second code when it got minus balance. where was the difference between the first example and the second?

**Answer:** It performed the balance check & used UPDATE to reduce the balance by the amount needed as opposed to setting the final value.

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15:32:55 PDT

**Question:** Can you use PowerShell as a client to run scripts in SQL Server? That is have scripts depending on information caught by PowerShell outside of SQL, and used in sql statements injected to SQL-Server by PowerShell?

**Answer:** Absolutely. It's one of the strengths of Powershell and its integration with SQL Server.

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15:39:28 PDT

**Question:** is it suggested to use sp\_executeSQL and not EXEC to avoid SQL injection?

**Answer:** Yes, though it is a bit deeper than this. You can do exactly the same things with EXEC and sp\_executeSQL with a raw string, but sp\_executeSQL gives you the ability to parameterize the statement. Using sp\_executeSQL parameterization will make it much safer/easier to avoid sql injection because the parameter values are not just concatenated into the string value.

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15:44:43 PDT

**Question:** What authorization needed to run the DMV queries? \

**Answer:** It depends on the DMV, but they generally require either view server state or view database state.

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15:46:18 PDT

**Question:** sent to Team: I was thinking it was suggested to not use the information schema because the schema name could be reported incorrectly in some cases?

**Answer:** No, why. That would be a bug. The INFORMATION\_SCHEMA views just go against the catalog tables sys.objects, sys.schemas, sys.columns & so on.

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15:47:10 PDT

**Question:** Whats the correct procedure to pass multivalues to a store proc?

**Answer:** XML or Table Valued Parameters

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15:51:34 PDT

**Question:** are the old performance tips regarding the database files locations still valid? I know we can't control Azure, but on local SQL installations we still get to manage MDF/LDFs.

**Answer:** I'm not sure what "old" tips you're referring to, but there are a lot of dependencies around disks and file placement. Are you on a SAN, NAS, local disks? Each of these has different rules for how you should lay out the disks, files and file groups.

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15:52:19 PDT

**Question:** Is there or will there ever be a Package type in SQL Server? Oracle uses this to group stored procedures based on commonality. For example you might have a Products Package that contains all of the CRUD stored procedures. It is a nice means of organizing SP's.

**Answer:** We are aware of this feature request but not looking at it right now.

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15:55:28 PDT

**Question:** "old" means from SQL2000 age, regarding RAID levels and splitting files over multiple disks. I wanted to know if something changed dramatically on 2012 regarding the physical files.

**Answer:** It's basically the same, but the underlying infrastructure has changed which affects how you need to lay out the disks. If you're on a SAN, especially one where you're on shared disks, simply blindly applying old rules of file placement really won't help, and could hurt performance.

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15:55:33 PDT

**Question:** Why not just use schemas for this sp grouping?

**Answer:** Because you wouldn't want to create a different schema for each table.

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15:56:57 PDT

**Question:** We work with an MS ERP solution and are not allowed to change the underlying database structure. What tools can I use to evaluate the performance of the server to maximize the performance of the ERP solution?

**Answer:** You need to focus on performance monitor metrics and wait statistics within SQL Server since you can only, primarily, modify the server and server settings.

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15:57:06 PDT

**Question:** Any recommendations to help in organizing SP's. I suppose naming conventions will help...

**Answer:** I personally use schemas and naming standards to group objects. Schemas for high level groupings, a prefix of the object name to group like procedure together, and a suffix of the type/function of procedure. There are a lot of different naming standards around though...

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15:58:28 PDT

**Question:** When creating reports, I create a dataset that provides the drop-down list of, say customers. Then I give the clients the option to select more than one customer to render on report. I have to the SQL code in the report or use a VIEW for the multivalues to work. When I use a SP instead of a view, the SP won't accept multivalues, it would only accept the first value from the drop-down list. Hope that was clear.

**Answer:** You should probably use a TVP

---

16:01:29 PDT

**Question:** When creating reports, I create a dataset that provides the drop-down list of, say customers. Then I give the clients the option to select more than one customer to render on report. I have to the SQL code in the report or use a VIEW for the multivalues to work. When I use a SP instead of a view, the SP won't accept multivalues, it would only accept the first value from the drop-down list. Hope that was clear.

**Answer:** Absolutely. And that is a good point. The typical parameter of a stored procedure will not accept more than one value. There are several methods that people use, and like Tobias just typed, using a table valued parameter is the "best" way to go if you can. If you want a really deep discussion on that topic, Erland Sommarskog's website is one of the best places to read up on the subject. <http://sommarskog.se/arrays-in-sql-perftest-2009.html> He covered TVPs, as well as passing XML, or a comma delimited list to a stored procedure...

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16:02:34 PDT

**Question:** What are the best practices to resolve over estimation in execution plan?

**Answer:** The primary thing you can do to get the best estimates within a plan is maintain the statistics. They're the principal means of establishing cost estimates. After that, it depends on the objects involved, the query statements used, that sort of thing.

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16:07:10 PDT

**Question:** @juleswalker I would avoid prefixing procedures with "sp\_" string, because those are the sql default ones. use another prefix to be able to quickly find your procs.

**Answer:** Honestly, unless you really are going to be looking at your procedures in a list with other types of objects, I don't suggest using a prefix that identifies the object as a procedure (and the same goes for tables too). For other object types, I generally do use a prefix, partially because you do see other object types in lists together, but also because names have to be unique within a schema, so you can get name clashes at times). Of course, naming is really a personal thing that you need to do to meet your requirements and standards...

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16:22:36 PDT

**Question:** Scripts for other Mods? (besides 4-6)?

**Answer:** Refresh 😊