

What is difference between unique key with 'not null' constraint and primary key?

Asked 5 years, 11 months ago Active 5 years, 9 months ago Viewed 21k times



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I want to know difference between these two key.

When the Unique key with `not null` constrain in terms of how they are stored in database

and what difference are there when we making `Select, Insert, Update, Delete` operation for these keys.

sql

sql-server-2008

edited Dec 5 '13 at 16:07

asked Dec 5 '13 at 16:01



Bhavesh Kachhadiya

3,335 3 11 20

stackoverflow.com/questions/1308593/... – Ric Dec 5 '13 at 16:07

possible duplicate of [difference between primary key and unique key](#). – Tom Thomas Dec 5 '13 at 16:09

4 Answers



18



A primary key must be unique and non-null, so they're the same from that standpoint. However, a table can only have one primary key, while you can have multiple unique non-null keys.

Most systems also use metadata to tag primary keys separately so that they can be identified by designers, etc.

What are the differences between a primary key and a Unique key with not null constrain in terms of how they are stored in database

If both are either `CLUSTERED` or `NON CLUSTERED` then the only difference is metadata in most systems to tag a index as a PK.

what difference are there when we making `Select` , `Insert` , `Update` , `Delete` operation for these keys

None.

edited Dec 5 '13 at 16:14

answered Dec 5 '13 at 16:07



D Stanley

129k

10

131

193

@D Stanley is there changes in how the primary and unique key are stored in database in sqlserver-2008? – Bhavesh Kachhadiya Dec 5 '13 at 16:12

can we apply auto increment on Unique key? – Bhavesh Kachhadiya Dec 5 '13 at 16:13

@BhaveshKachhadiya Well, technically you apply it to the *column*, not the *index*, but yes - and you can only have one `IDENTITY` column per table. – D Stanley Dec 5 '13 at 16:15

To answer you comment, Yes! In general there is one huge difference in how unique keys and primary keys are stored in SQL Server 2008.

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A unique key **by default** (you can change that) will be created as a non-clustered index and a PK will be created as a clustered index **by default** (you can change that also).

Non-clustered means it will be stored in a structure "attached" to the table and will consume disk space.

Clustered means the records will be actually stored in that physical order, no consuming disk space, and that's why your table can own just one clustered index. (Just if you are wondering... no, you cannot get 2 non-clustered PK in a table, PK are unique even if they are non-clustered.)

edited Dec 5 '13 at 18:21

answered Dec 5 '13 at 16:29



Andriy M

66.2k

15

81

135



jean

3,403

4



25

41

+1 for how it is stored in database. – Bhavesh Kachhadiya Dec 5 '13 at 16:31

One more huge difference. As a rule of thumb inserts are slower and selects faster using clustered indexes (your mileage can vary). and using clustered indexes is a bad idea with GUID fields, using random unordored values ill cause table splits for inserts. – jean Dec 5 '13 at 16:44

@jean: I must say that what you are saying in the comment, while possibly true, is tangential to the original question, which was about the difference between a primary key and a unique constraint, not about the difference between a clustered and a non-clustered index. – Andriy M Dec 5 '13 at 18:28

 @andriy-m please see OP question at the comments and my answer. It happened the question about diff between unique and PK leads to the question about diff between clustered and nonclustered and since the OP is learning basic concepts about indexes and choosing what to use I felt its important to comment about those things. Maybe the OP can open another question to stop this derivation. – [jean](#) Dec 5 '13 at 19:12 



Primary key cannot be null, there can be only one per table.

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Unique keys can contain nulls, and you can have more than one per table.

answered Dec 5 '13 at 16:07



[Andrew](#)

6,265 1 17 39

Seems the OP already knows this... Hence -1 – [Muthu Ganapathy Nathan](#) Jun 8 '16 at 6:08



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a. Both primary key and unique key enforce uniqueness of the column on which they are defined. But by default, the primary key creates a clustered index on the column, whereas unique key creates a non-clustered index by default. Another major difference is that primary key doesn't allow NULLs, but unique key allows one NULL only.

answered Jan 28 '14 at 7:59



[Glen Joseph](#)

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