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Subject: SqlArray Limit and Offset

Posted by [zsolt](#) on Thu, 10 Aug 2006 23:03:25 GMT

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I have implemented it. I don't know if this is a good interface or not, but I hope so.

SqlArray declaration private section (SqlCtrl.h):

```
unsigned int limit;
bool      limit_set;
int64    offset;
bool      offset_set;
```

SqlArray declaration public section:

```
SqlArray& SetLimit(unsigned int _limit)           { limit = _limit; limit_set = true; return *this; }
SqlArray& SetOffset(int64 _offset)                 { offset = _offset; offset_set = true; return *this; }
```

In SqlArray::SqlArray() and SqlArray::Clear()

```
limit_set = false;
offset_set = false;
```

In void SqlArray::AppendQuery(SqlBool where)

I have changed

```
sql * ::Select(cols).From(table).Where(where).OrderBy(orderby);
```

to

```
SqlSet set = ::Select(cols).From(table).Where(where).OrderBy(orderby);
if(limit_set)
    if(offset_set) set.Limit(offset, limit);
    else set.Limit(limit);
else
    if(offset_set) set.Offset(offset);
sql * set;
```

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Subject: Re: SqlArray Limit and Offset

Posted by [mirek](#) on Fri, 11 Aug 2006 06:35:42 GMT

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zsolt wrote on Thu, 10 August 2006 19:03I have implemented it. I don't know if this is a good

interface or not, but I hope so.

I do not like it too much, but I am unable to invent anything better

Well, in fact, what I would like to have is to make this compatible with Oracle somehow. Well, I believe, with "Limit" it is simple - ignoring in oracle is all we need.

Mirek

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**Subject: Re: SqlArray Limit and Offset**

Posted by [mirek](#) on Fri, 11 Aug 2006 07:05:13 GMT

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<http://www.petefreitag.com/item/451.cfm>

What about joining Limit and Offset into single command (in SqlExp)? You are unlikely to use Offset without the Limit...

E.g. Rows(offset, number) and Rows(number) overloads?

Select(FOO).From(BAR).Rows(100, 10);

Mirek

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**Subject: Re: SqlArray Limit and Offset**

Posted by [zsolt](#) on Fri, 11 Aug 2006 07:41:47 GMT

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Quote:Well, in fact, what I would like to have is to make this compatible with Oracle somehow. Well, I believe, with "Limit" it is simple - ignoring in oracle is all we need.

I don't think, ignorance is a good idea. It should be implemented on client side somehow. Maybe that Rows() method should not use the internal text variable, only some internal limit and offset variables. Sql class should put together a statement or implement limit/offset on client side based on SqlExp's internal limit/offset variables and Database capabilities.

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**Subject: Re: SqlArray Limit and Offset**

Posted by [zsolt](#) on Fri, 11 Aug 2006 07:50:28 GMT

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An other idea:

I think Limit(offset, limit) and Limit(limit) methods would be better than Rows() methods, because Limit() shows more cleanly what it's purpose is.

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Subject: Re: SqlArray Limit and Offset

Posted by [rbmatt](#) on Fri, 11 Aug 2006 16:36:10 GMT

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zsolt wrote on Fri, 11 August 2006 03:50An other idea:

I think Limit(offset, limit) and Limit(limit) methods would be better than Rows() methods, because Limit() shows more cleanly what it's purpose is.

I agree that this nomenclature is better. I know what it means to limit an sql query, but I would have no clue what Rows() would do.

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Subject: Re: SqlArray Limit and Offset

Posted by [mirek](#) on Fri, 11 Aug 2006 16:44:08 GMT

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OK!

Mirek

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Subject: Re: SqlArray Limit and Offset

Posted by [mirek](#) on Fri, 11 Aug 2006 21:47:19 GMT

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Added (not quite tested)

I will defer dialect-independent Limit to new SqlExp.

Mirek

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Subject: Re: SqlArray Limit and Offset

Posted by [zsolt](#) on Tue, 22 Aug 2006 12:10:13 GMT

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Some fixes:

1. changed SqlArray::Limit(int offset, int count); in SqICtrl.h to  
void Limit(int \_offset, int \_count) { offset = \_offset; count = \_count; }

The definition was missing.

2. changed a line in void SqlArray::AppendQuery(SqlBool where) method from  
sql \* ::Select(cols).From(table).Where(where).Limit(count).Offset(offset).OrderBy(orderby);  
to  
sql \* ::Select(cols).From(table).Where(where).OrderBy(orderby).Limit(count).Offset(offset);  
LIMIT and OFFSET have to be at the end of the SQL statement.

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Subject: Re: SqlArray Limit and Offset  
Posted by [mirek](#) on Tue, 22 Aug 2006 13:21:02 GMT  
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Applies (hopefully correctly this time)

Mirek

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Subject: Re: SqlArray Limit and Offset  
Posted by [fabio](#) on Wed, 20 Dec 2006 15:49:59 GMT  
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In oracle limit and offset not work.....

Is very hard implement oracle dialect version of .Limit() and .Offset() why original query be bound to encapsulated in another select.

.....  
SELECT \* FROM (original query....) WHERE ROWNUM BETWEEN my\_offset AND  
my\_offset+my\_limit;

.....

In SqlArray is possible to test Dialect and make another query (2 nested select) only for oracle dialect.

Any other idea ?

Fabio

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Subject: Re: SqlArray Limit and Offset  
Posted by [mirek](#) on Wed, 20 Dec 2006 20:00:37 GMT  
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fabio wrote on Wed, 20 December 2006 10:49In oracle limit and offset not work.....

Is very hard implement oracle dialect version of .Limit() and .Offset() why original query be bound to encapsulated in another select.

.....  
SELECT \* FROM (original query....) WHERE ROWNUM BETWEEN my\_offset AND  
my\_offset+my\_limit;

.....

In SqlArray is possible to test Dialect and make another query (2 nested select) only for oracle dialect.

Any other idea ?

Actually, dialects are gone. U++ is now able to "compile" SqlExp for each rdbms (well, able in sense that core of technology is there, but not all variants are implemented).

Anyway, in this case, it is indeed a problem because Oracle lacks this clause.

Mirek

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Subject: Re: SqlArray Limit and Offset

Posted by [fabio](#) on Thu, 21 Dec 2006 14:17:57 GMT

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The 2 level query work only for first time....

the solution is (from <http://www.oracle.com/technology/oramag/oracle/06-sep/o56asktom.html>)

... 3 level select.....

```
select * from ( select a.* , ROWNUM as row_num from (
select ..... from .... where ..... order by .....
) a where rownum <= offset+limit) where row_num > offset
```

Up working solution is ...

1) Change in file: upp\uppsrc\sql\SqlCtrl\SqlArray.cpp

SqlArray::AppendQuery() method:

```
sql * ::Select(cols).From(table).Where(wh).OrderBy(orderby).Limit(count).Offset(offset);
```

in:

```
sql * ::Select(cols).From(table).Where(wh).OrderBy(orderby).Limit(offset, count);
```

2) Change in file: upp\uppsrc\sql\Sql\SqlStatement.cpp

```
SqlSelect& SqlSelect::Limit(int64 offset, int limit) {
```

```
    text = SqlCase(ORACLE,"select * from ( select rownum_a.* , ROWNUM as row_num from ( )()
+ text +
    SqlCase(ORACLE,Format(") rownum_a where rownum <= %d ) where row_num > %d",

```

```
offset+limit,offset))  
    (Format(" limit %d, %d",offset,limit));  
  
return *this;  
}
```

this query use rownum reserved word, row\_num, rownum\_a user word and generate an extra column row\_num in the result.

3) optional ?

Remove SqlSelect::Limit(count)  
Remove SqlSelect::Offset(offset)  
for complete portability

Tested in oracle and sqlite, my be work in MySql (same syntax of sqlite).

Fabio

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#### File Attachments

1) [limit.zip](#), downloaded 416 times

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Subject: Re: SqlArray Limit and Offset

Posted by [mirek](#) on Thu, 21 Dec 2006 20:49:39 GMT

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Should not we rather store limit/offset and use it when final query is generated?

Mirek

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Subject: Re: SqlArray Limit and Offset

Posted by [fabio](#) on Sat, 23 Dec 2006 09:01:49 GMT

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I am sorry for delay.....

Limit(offset,limit) is for actual (complete) query, and work only if used at end of query.

Why store for future use?

I think not possible implement multi-level "limit" in oracle.

This Oracle eccentric method require 2 extra query with extra column (rownum as row\_num1...) with unique name. It is a hard work.

I can store not directly in "text" of SqlSelect class, but in new two string like "pre\_text" and "post\_text" (as in my first only-thinked version of Limit() method), but it also require an adjustment of SqlSelect class.

..... i am lazy .....

Fabio

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Subject: Re: SqlArray Limit and Offset

Posted by [mirek](#) on Sat, 23 Dec 2006 11:55:23 GMT

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fabio wrote on Sat, 23 December 2006 04:01 I am sorry for delay.....

Limit(offset,limit) is for actual (complete) query, and work only if used at end of query.

Why store for future use?

I think not possible implement multi-level "limit" in oracle.

This Oracle eccentric method require 2 extra query with extra column (rownum as row\_num1...) with unique name. It is a hard work.

I can store not directly in "text" of SqlSelect class, but in new two string like "pre\_text" and "post\_text" (as in my first only-thinked version of Limit() method), but it also require an adjustment of SqlSelect class.

..... i am lazy .....

Well, thinking about it even more...

Maybe we just stop at the fact that Oracle lacks support for these.

In fact, Oracle/U++ is my daily bread and I never really needed offset/limit. Somehow that is not how Oracle is used.

Mirek

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Subject: Re: SqlArray Limit and Offset

Posted by [fabio](#) on Wed, 27 Dec 2006 16:09:33 GMT

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You can implement "limit and offset" at fetch level.

Many objects (Java, VB...) fetch and discard rows, simulating (one-way) limit and offset.....

In oracle 10g (and 9) is present a new version of OCIStmtFetch for make a clean limit solution:

```
OCIStmtFetch2(stmthp, errhp, 1, OCI_FETCH_RELATIVE, fetchOffset, OCI_DEFAULT);
```

This fetches a row from the (scrollable) result set.

But, this oci function, and scrollable cursor feature, is not present in oci8.

Fabio

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Subject: Re: SqlArray Limit and Offset

Posted by [mirek](#) on Sun, 31 Dec 2006 08:27:58 GMT

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Well, I am still a bit puzzled about what is limit/offset useful for... (Must be all these years with Oracle 7)

Mirek

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