ALTIBASE Tools & Utilities

Admin Center Users' Manual

release 5.3.3

ALTIBASE Application Development Stored Procedure User's Manual

Release 5.3.3

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Preface

About This Manual

This manual describes how to use Admin Center to manage Altibase database.

Target Users

This manual could be useful for the following Altibase users.

- Database administrators
- Application designers
- Programmers

Before reading this manual, understanding of following background knowledge is recommended.

- Basic knowledge required for computers, operating systems, and operating system command
- Experience in using the relational database or understanding of the database concepts
- Computer programming experience

Software Environment

This manual has been prepared assuming Altibase 5.3.3 will be used as the database server.

Organization

This manual has been organized as follows:

- Chapter 1. Installation

  This chapter shows you installation of the AdminCenter after installating of Altibase.

- Chapter 2. Connecting to a database

  This chapter shows you to help user to create objects in Altibase GUI.

- Chapter 3. Managing a database
- Chapter 4. Monitoring a Database Server
- Chapter 5. Interactive Query Window

  This chapter shows the existing feature of iSQL using the GUI.

Documentation Rule

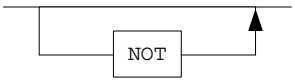
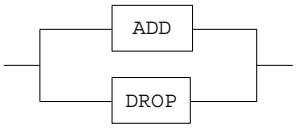
This chapter describes the rules of this manual. With understanding of this rule, it is easy to search information in this manual and other manuals.

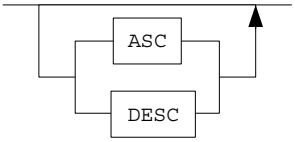
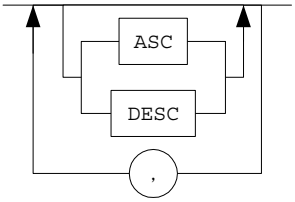
Rules are as follows:

- Syntax diagram
- Sample code rule

Syntax Diagram

This manual describes the command syntax using the diagram composed of the following elements:

Elements	Meaning
	The command starts. The syntax element which is not a complete command starts with an arrow.
	The command continues to the next line. The syntax element which is not a complete command terminates with this symbol.
	The command continues from the previous line. The syntax element which is a complete command starts with this symbol.
	End of a statement.
	Mandatory
	Optional
	Mandatory field with optional items. Only one field must be provided.

Elements	Meaning
	Optional field with optional item.
	Optional multiple fields are allowed. The comma must be in front of every repetition.

Sample Code Rule

The code example explains SQL, stored procedure, iSQL, or other command line syntax. The following table describes the printing rules used in the code example.

Rules	Meaning	Example
[ ]	Indicates optional fields.	VARCHAR [(size)] [[FIXED |] VARIABLE]
{ }	Indicates mandatory fields. Indicates to make sure to select at least one.	{ ENABLE | DISABLE | COMPILE }
|	Argument indicating optional or mandatory fields.	{ ENABLE | DISABLE | COMPILE }[ENABLE | DISABLE | COMPILE]
...	Repetition of the previous argument.Omit the example codes.	SQL> SELECT ename FROM employee; ENAME ---------- SWNO HJNO HSCHOI ... 20 rows selected.
Other symbols	Other symbols	EXEC :p1 := 1; acc NUMBER(11,2);
Italicicized words	Indicates variable or value that must be provided by user.	SELECT * FROM table_name; CONNECT userID/password;

Rules	Meaning	Example
Lower case words	Program elements provided by the user such as table names, column names, file names, etc.	SELECT ename FROM employee;
Upper case words	Elements provided by the system or keyword appeared in the syntax.	DESC SYSTEM_.SYS_INDICES_;

References

For more detailed information, see the following document list.

- Altibase Installation Manual
- Altibase Administrator's Manual
- Altibase Replication User's Manual
- Altibase Precompiler User's Manual
- Altibase ODBC User's Manual
- Altibase Application Program Interface User's Manual
- Altibase iSQL User's Manual
- Altibase Utilities User's Manual
- Altibase Error Message Reference

Online Manual

Korean and English versions of on-line manuals (PDF or HTML) are available from Altibase Download Center (http://atc.altibase.com/).

Altibase Welcomes Your Opinions!

Please send us your comments and suggestions regarding this manual. Your comments and suggestions are important, and they may be used to improve future versions of the manual. When you send your feedback, please make sure to include the following information:

- The name and version of the manual in use
- Your comments or suggestions regarding the manual
- Your name, address, and phone number

Please send your e-mail to the following address:

support@altibase.com

This address is intended to report any errors or omissions discovered in the manual. When you need an immediate assistance regarding technical issues, please contact Altibase Customer Support Center.

We always appreciate your comments and suggestions.

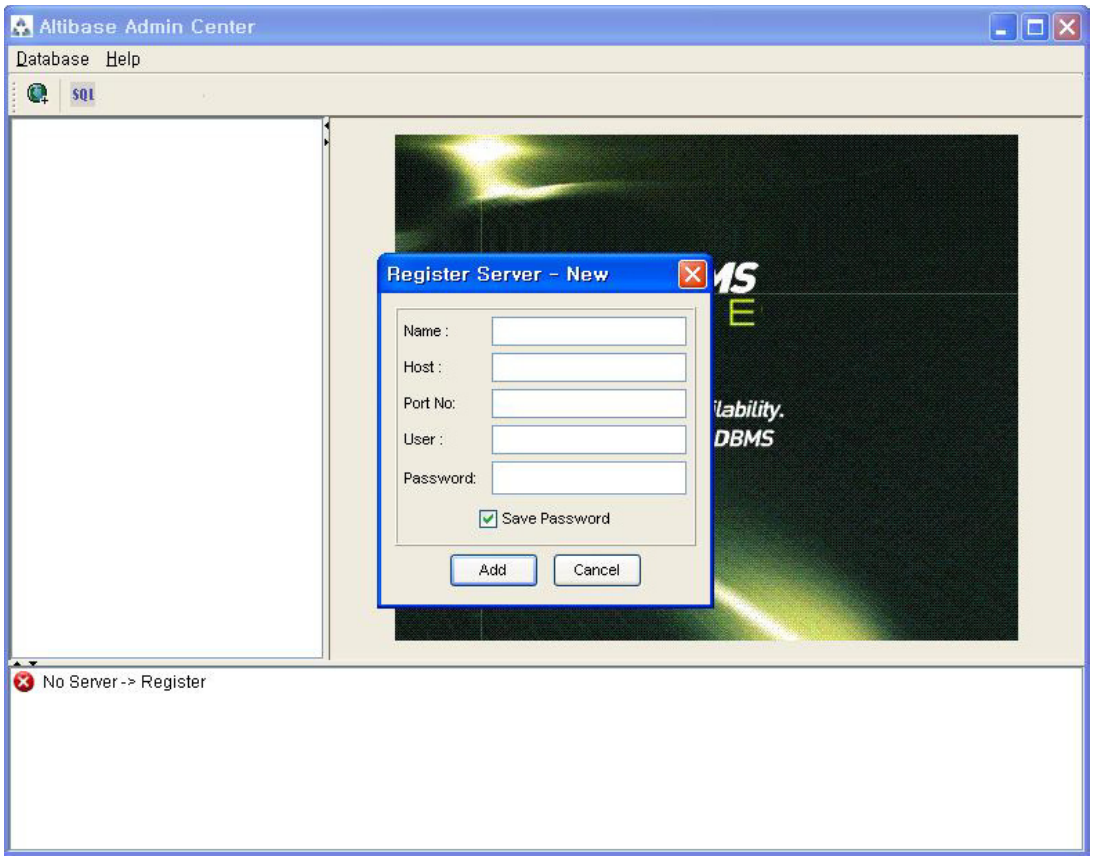
1 Installation

Installing AdminCenter

This section describes installation of the AdminCenter after installation of Altibase.

Click on management tab on Environment menu of product at Altibase download center (http://adc.altibase.com/), and install after downloading the software (admin_center.bat, Query_Window.bat) in the same directory.

Figure 1-1 Initial Screen after Executing admin_center.bat



Copy JDBC Driver (Altibase.jar) in $ALTIBASE_HOME/lib directory created upon installation of Altibase to the same directory. Or change the default class path into the Altibase.jar file upon execution of admin_center.bat (or Querry_Window.bat.)

Download over JRE 1.4.x version from the http://java.com/

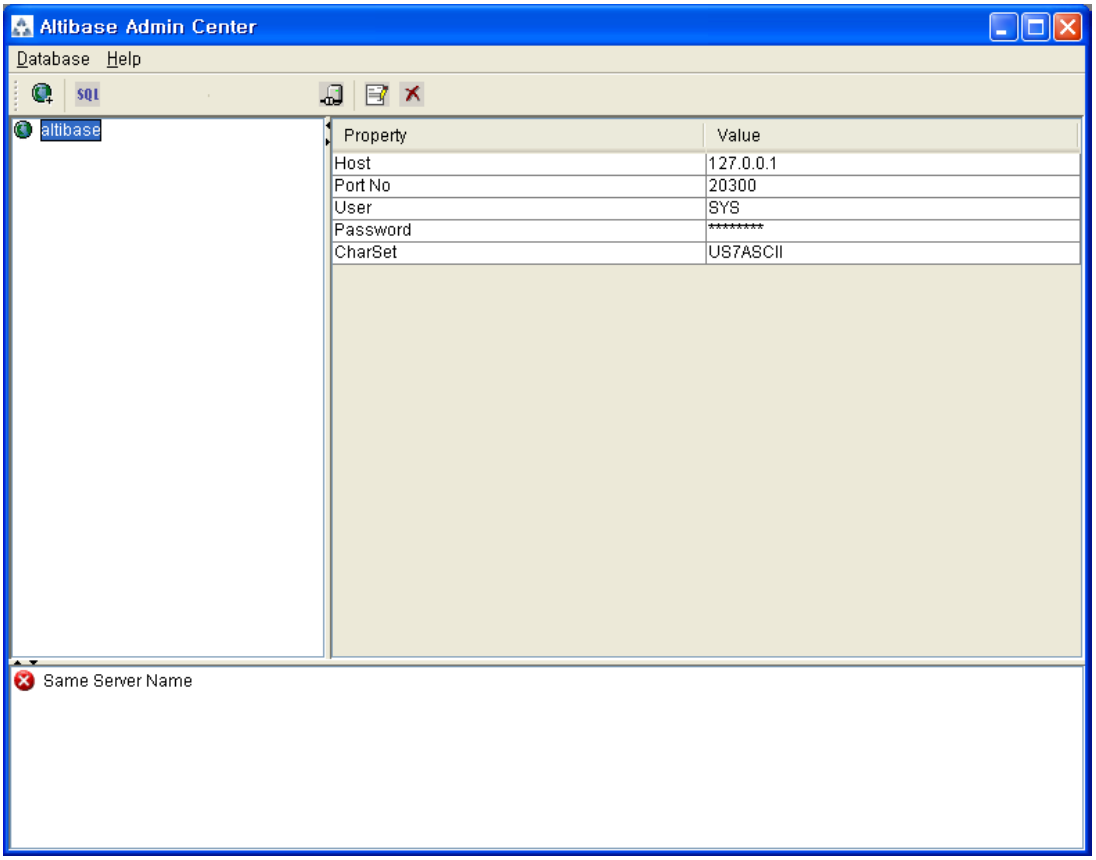
Execute admin_center.bat.

Register the server through the GUI.

Figure 1-2 Server Registration Screen

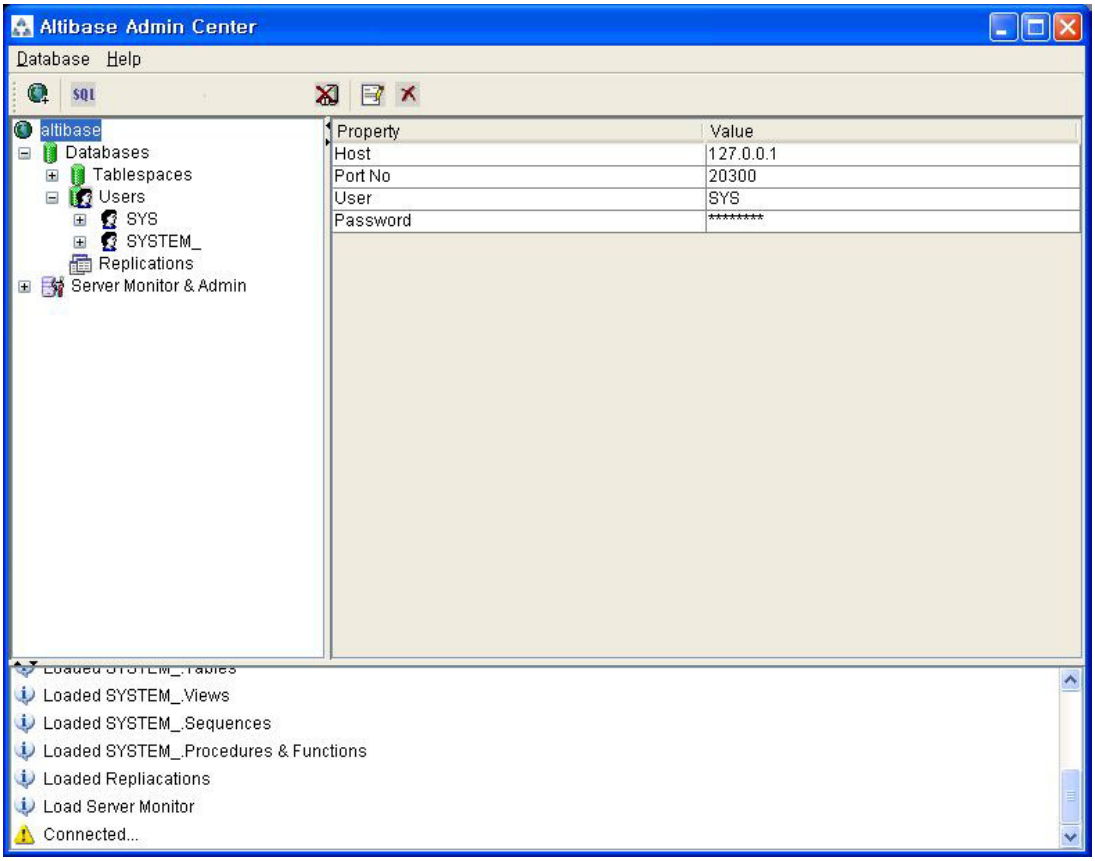
After the server is successfully registered, "Registered New Server" message will be displayed in the result message window.

Figure 1-3 Screen after Registering Server



To connect to the server right-click on the name field of the registered server, and than choose 'Connect' from the shortcut menu or click on the corresponding button in the tool bar.

Figure 1-4 Screen after Connecting to Server



When the server is connected, the user can use the Admin Center through GUI to manage (create or execute) Altibase objects, monitor the server, and execute the query.

Restrictions

In Admin Center access to server in SYSDBA mode is not available. SYSDBA mode process like on/off of the database is available only in server's console.

2 Connecting to a Database

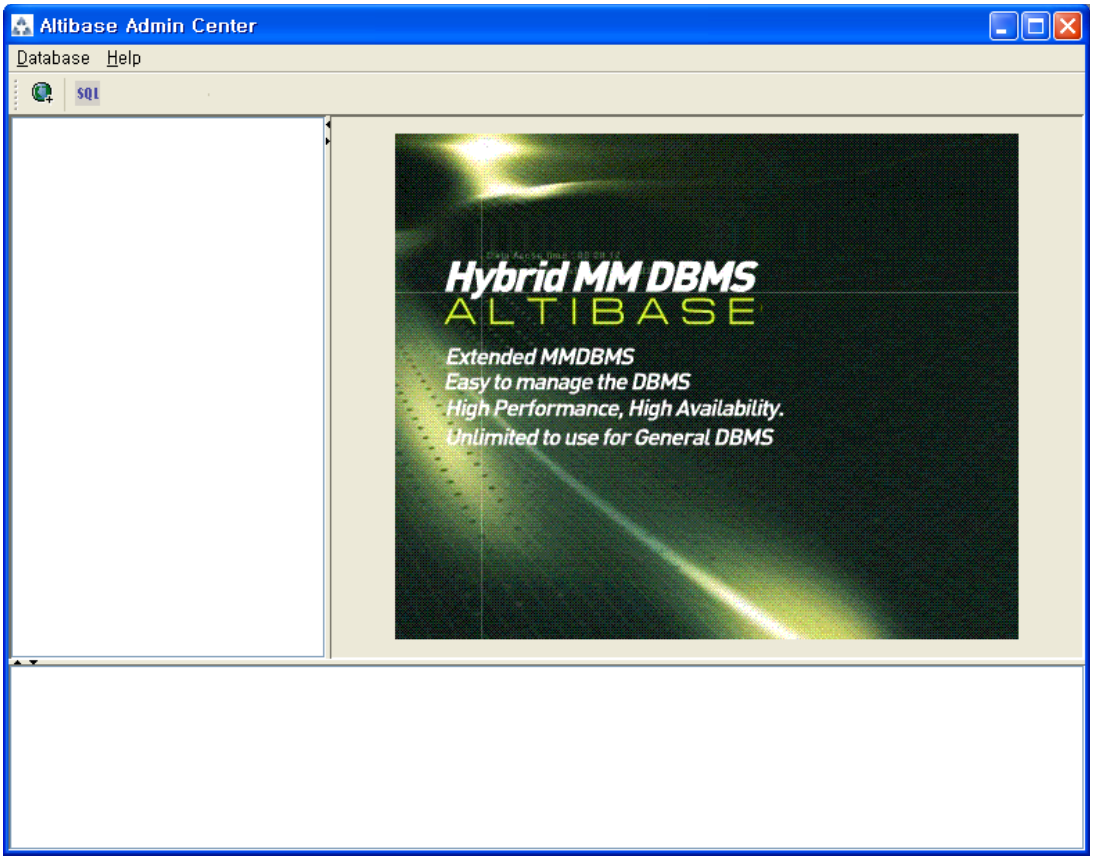
This tool is provided to help users to create object (table, sequence, replication, procedure, etc.) in Altibase using GUI.

Getting Started

The following is when the program starts. On the left side of the screen, the registered databases will be displayed. By clicking on each database, the details of the database will be displayed on the right side of the screen.

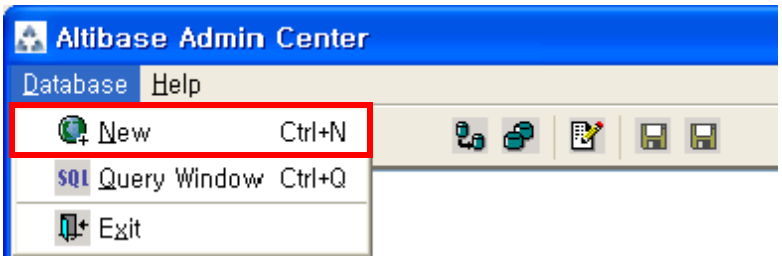
You can select each item from the object tree or from the tool bar. You can also right-click on the name field of the object tree, and than choose 'Connect' from the shortcut menu.

Figure 2-1 Initial screen after executing Admin Center



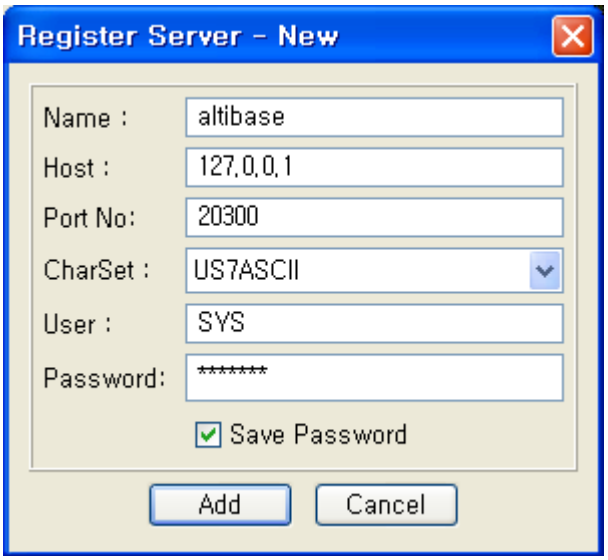
Registering a Database Server

If there is no registered server when the program starts, a popup window where the user can register a new server will automatically appear. To register a new server, click on Database and New or select the corresponding button from the tool bar menu.



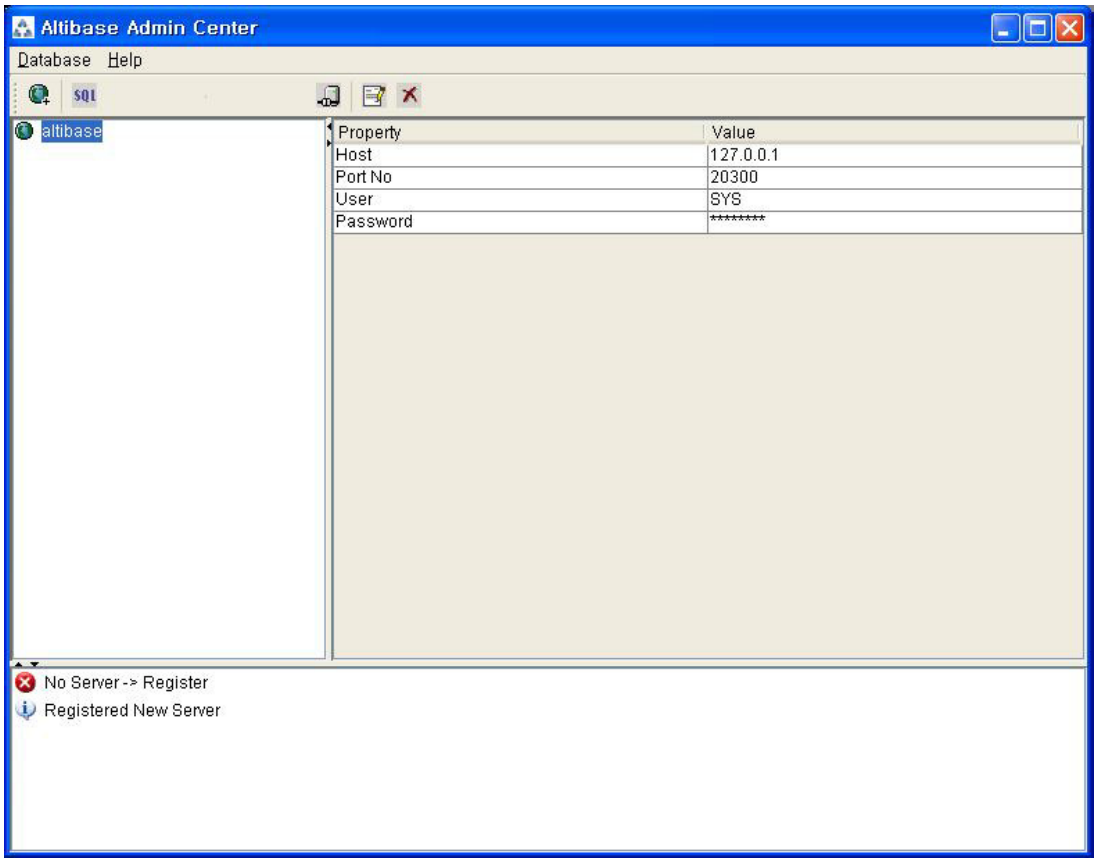
Or

Figure 2-2 Server Registration Screen



- Name : the name of server specification information currently specified
- Host : IP address of database server for connection
- Port No : Database server's port No for connection
- User/Password : User name and Password for access to server. Select Add button after typing each item. Then, the server data will be automatically read upon next connection.

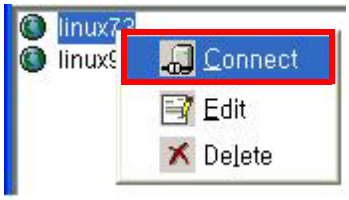
Figure 2-3 Screen after Registering Server



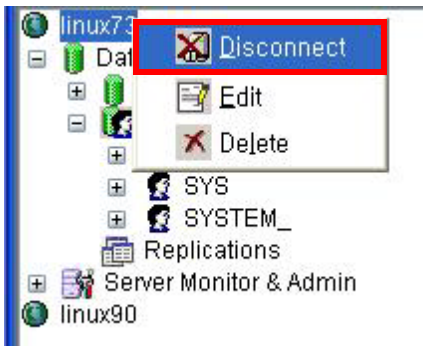
Managing Database Connections

Connecting to a Database

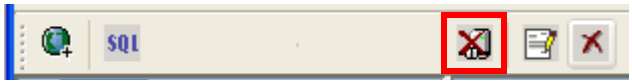
When a new server is registered, the name of the registered server will be displayed in the object tree window on the left. Right-click on the item and select Connect from the shortcut menu, or select the corresponding button from the tool bar. After the connection is established, the corresponding menu will be changed into Disconnect.



or



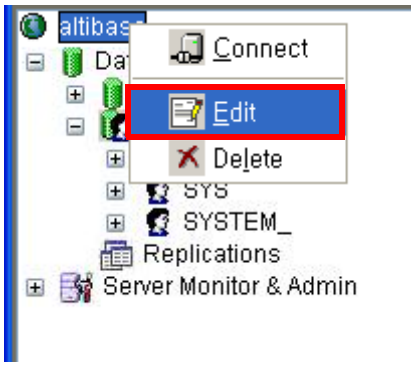
or



Modifying the Connection Information

This menu is to change information about the registered server. If the user selects Edit, the following popup screen will appear.

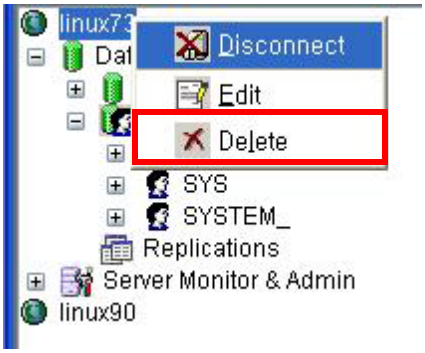
Figure 2-4 Modifying Information of Server Registration



After changing connection information, select Apply button to store new data.

Delete the Connection Information

This menu is to delete the registered server.

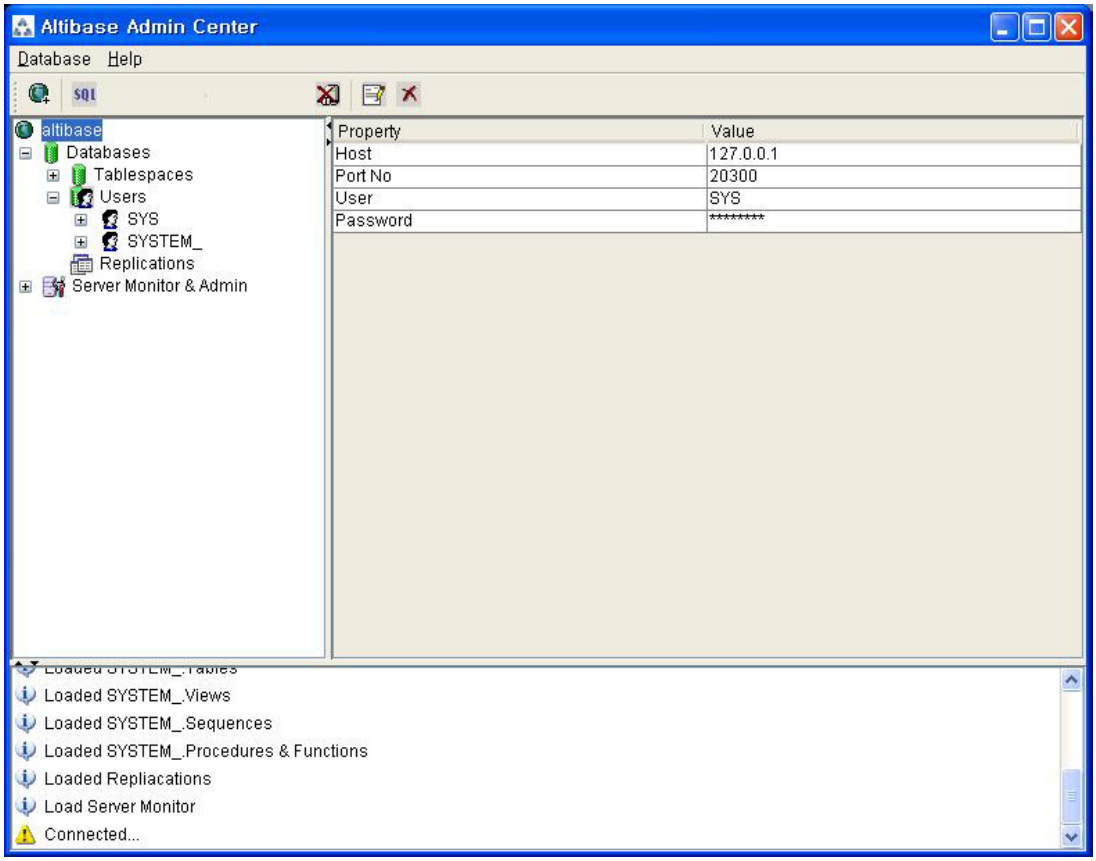


Available Tasks for a Connected Database

After connection is successfully established, Databases, Server Monitoring & Admin, and User Administration categories will be created in the object tree window on the left side. The user can view the contents of the objects (table, sequence, replication, and procedure) that Altibase can created under the database.

If a user selects the SQL button from the tool bar menu, the query window will be executed. For more information, see Query Window chapter.

Figure 2-5 Screen after Connecting to Server Successfully

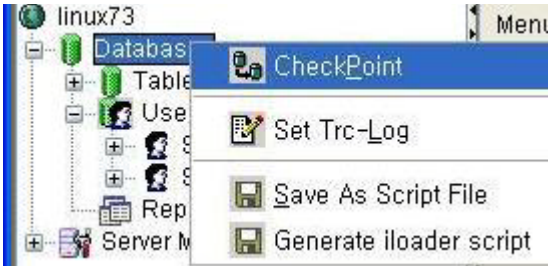


3 Managing a Database

Tasks for a Database

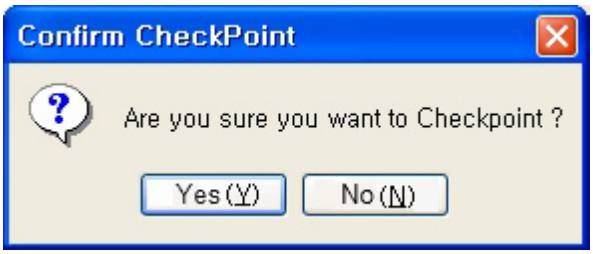
There are menus about executing CheckPoint, setting TRCLOG property and generating script files related to database object.

or



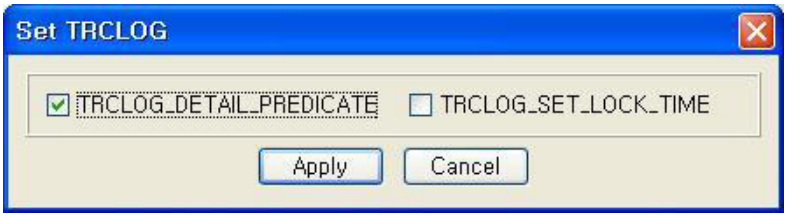
CheckPoint

Execute Checkpoint



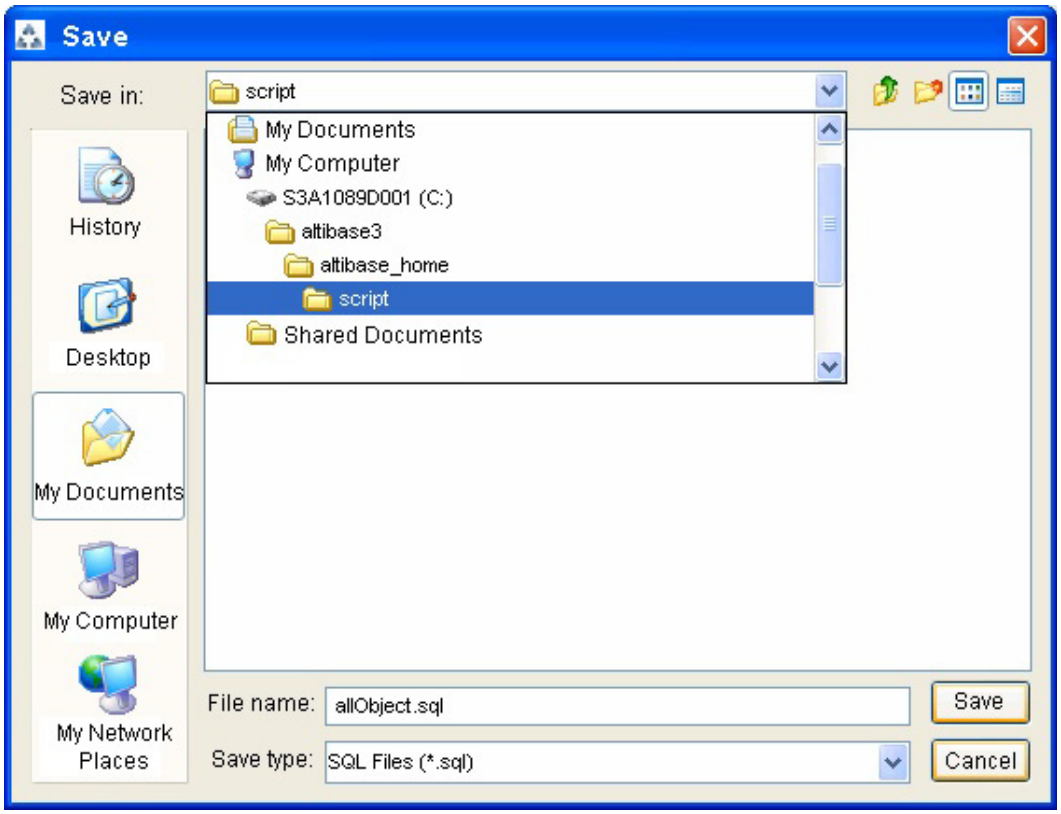
Set TRCLOG Property

Set TRCLOG Property. Refer to the supplement to Administrator's Manual for specific contents about this property.



Save As Script File

Save as Script File all objects(table, sequence, replication, procedure, etc.) generated from this server.



e.g.) allObject.sql

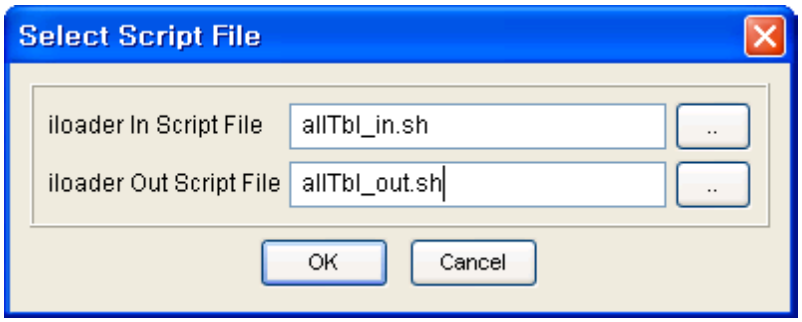
```
-- Table Script
@TABLE_SYS_BOOK.sql
@TABLE_SYS_CUSTOMER.sql
@TABLE_SYS_DEPARTMENT.sql
@TABLE_SYS_DUAL.sql
@TABLE_SYS_EMPLOYEE.sql
@TABLE_SYS_GOODS.sql
@TABLE_SYS_ORDERS.sql
@TABLE_SYS_SEQTBL.sql
@TABLE_SYS_T1.sql
@TABLE_SYS_Y1.sql

-- Sequence Script
@SEQ_SYS_SEQ1.sql

-- Replication Script

-- Procedure Script
@PROC_SYS_PROC1.sql
@PROC_SYS_PROC2.sql
@PROC_SYS_PROC3.sql
```

e.g.) TABLE_SYS_BOOK.sql

```
DROP TABLE BOOK;
CREATE TABLE BOOK(BNO CHAR(6) ,
BNAME VARCHAR(50) ,
BAUTHOR VARCHAR(30)
);
```

Generate iloader script

Generate the script file which you can use to download, upload or formout through iLoader.



e.g.) allTbl_in.sh

```
### iloader In Script
${ALTIBASE_HOME}/bin/iloader -s 127.0.0.1 -u SYS -p MANAGER in -f
SYS_BOOK.fmt -d SYS_BOOK.dat -log SYS_BOOK.log -bad SYS_BOOK.bad
${ALTIBASE_HOME}/bin/iloader -s 127.0.0.1 -u SYS -p MANAGER in -f
SYS_CUSTOMER.fmt -d SYS_CUSTOMER.dat -log SYS_CUSTOMER.log -bad
SYS_CUSTOMER.bad
```

e.g.) allTbl_out.sh

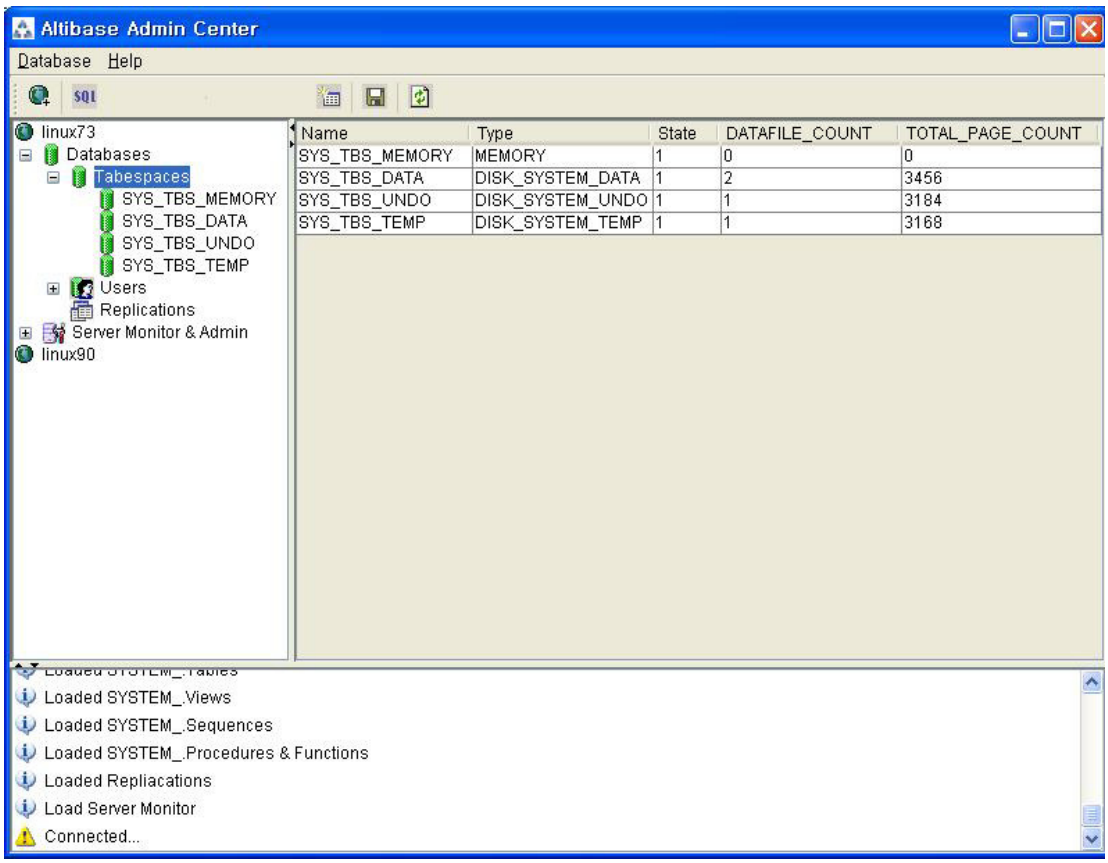
```
### iloader Out Script
${ALTIBASE_HOME}/bin/iloader -s 127.0.0.1 -u SYS -p MANAGER formout -f
SYS_BOOK.fmt -T BOOK
${ALTIBASE_HOME}/bin/iloader -s 127.0.0.1 -u SYS -p MANAGER out -f
SYS_BOOK.fmt -d SYS_BOOK.dat -log SYS_BOOK.log
${ALTIBASE_HOME}/bin/iloader -s 127.0.0.1 -u SYS -p MANAGER formout -f
SYS_CUSTOMER.fmt -T CUSTOMER
${ALTIBASE_HOME}/bin/iloader -s 127.0.0.1 -u SYS -p MANAGER out -f
SYS_CUSTOMER.fmt -d SYS_CUSTOMER.dat -log SYS_CUSTOMER.log
```

Managing Tablespaces

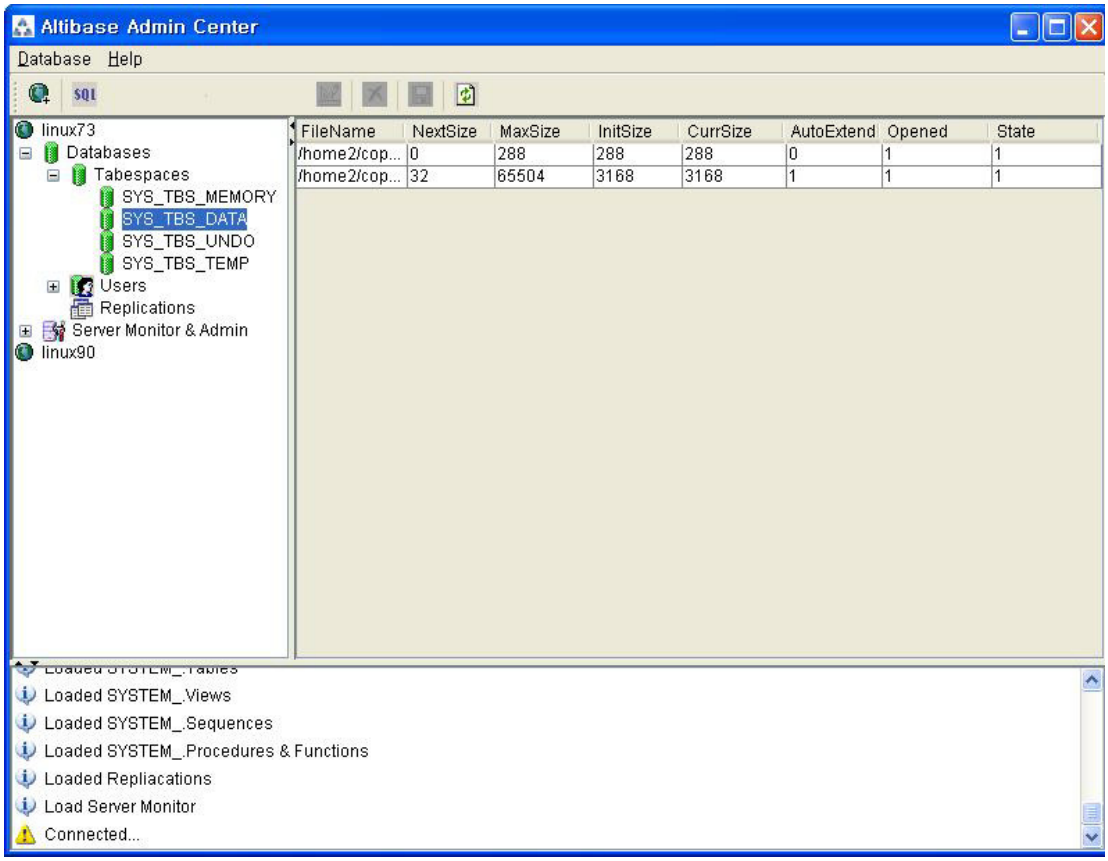
Select Tablespaces from the object tree window (or right-click the mouse) and choose New to create a new tablespace. You can save the SQL script for each tablespace by using Save As Script File menu. Refresh is used to bring new data from the DB.

Listing Tablespaces

If a user selects Tablespaces in the object tree window, all tablespaces will be listed.

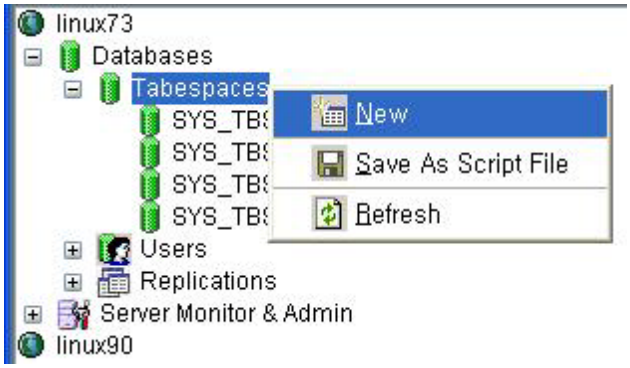


The file name and their size will be displayed when selecting a each tablespace name from the object tree.

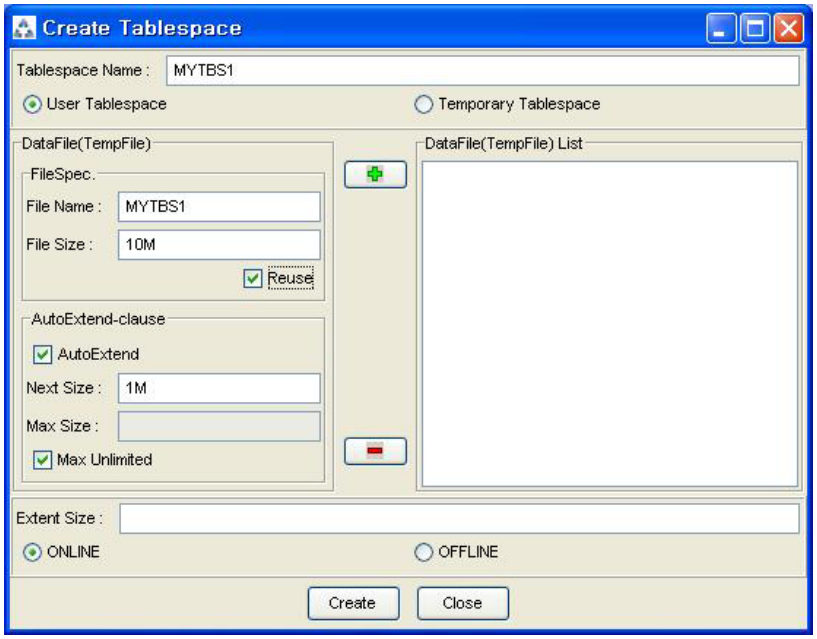


Creating a Tablespace

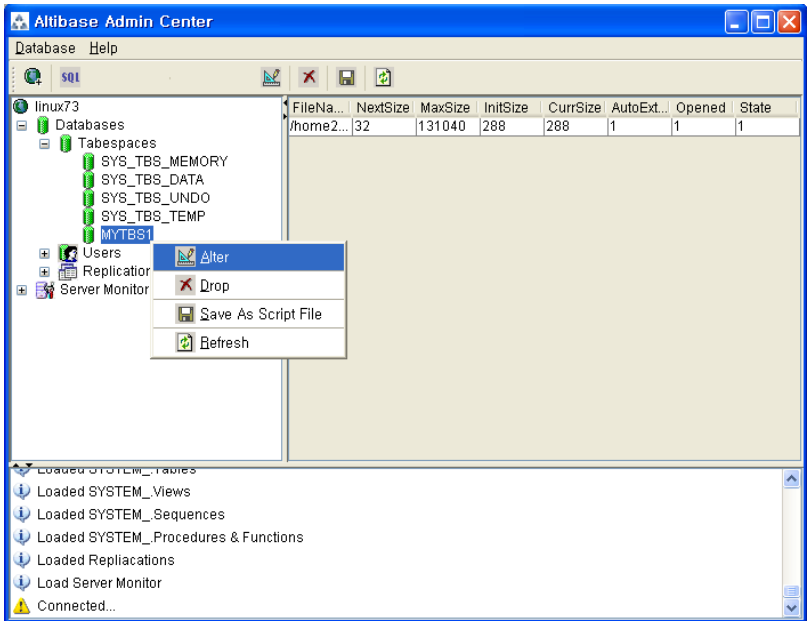
Select New from the shortcut menu or the toolbar menu. Then, the following screen will appear:



Type the name of the tablespace on the screen, and set necessary options. Click on the Create button to execute the command.



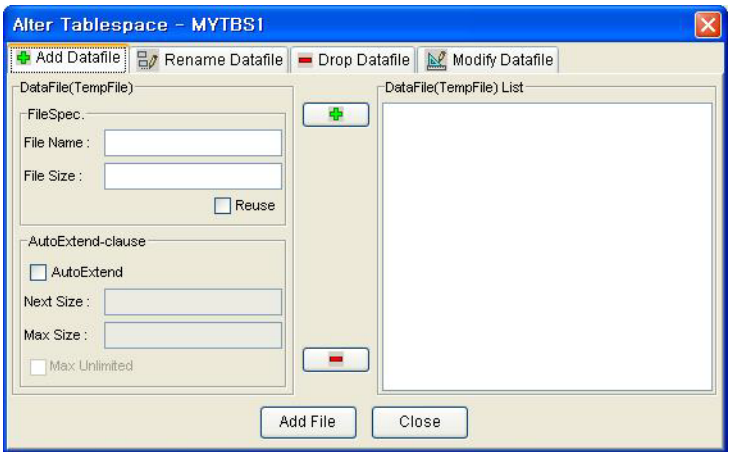
Working with the Tablespace Menu



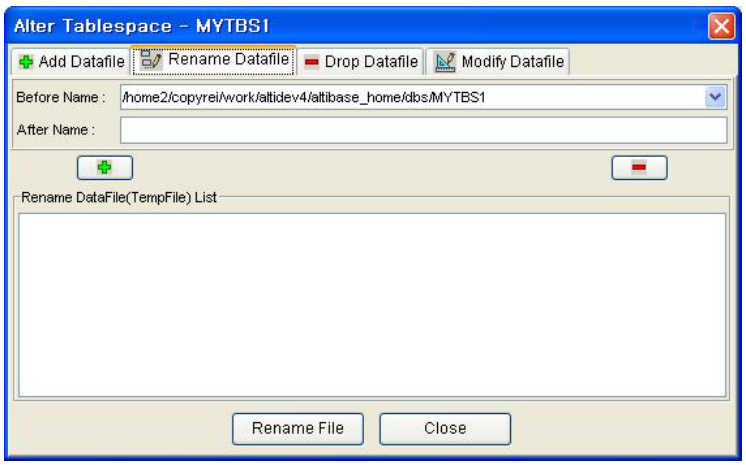
Alter

The user can change the property of the corresponding tablespace.

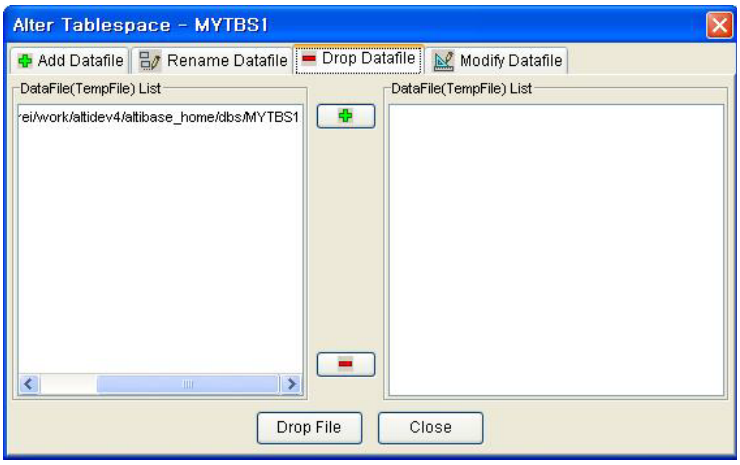
Adding a data file



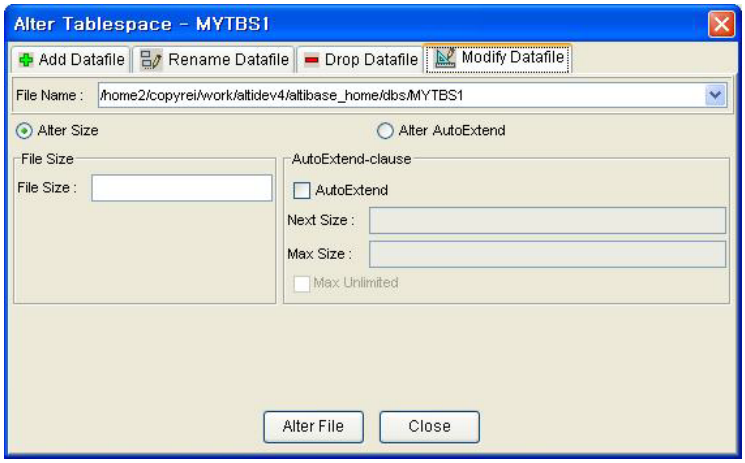
Changing data file name



Deleting a data file



Changing data file properties



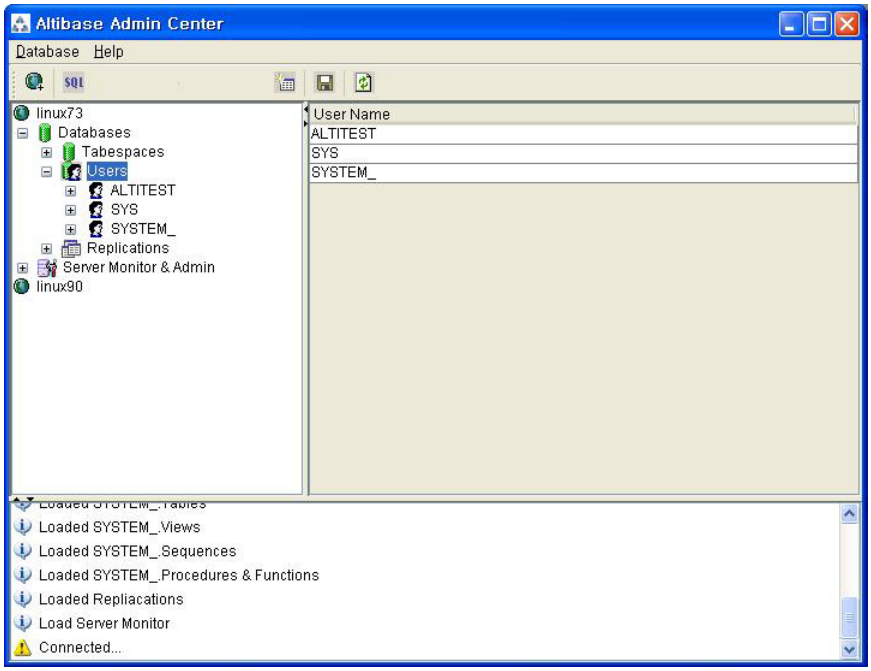
Refresh

New loading tablespace information from the server.

Managing Users

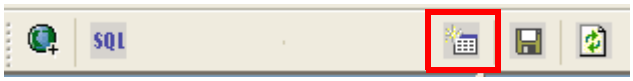
If you selects Users from the object tree widow, all user names will be displayed so that the user can manage the database users.

You can create, change, delete the database user and give the privileges to each user.

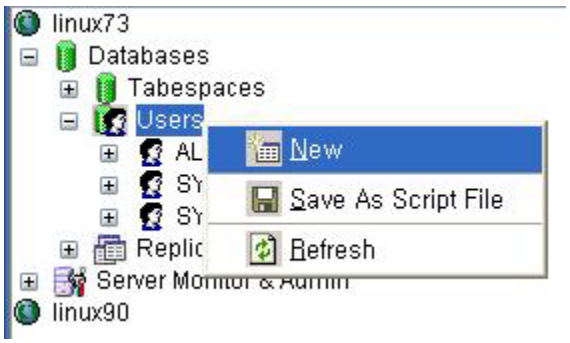


Creating a User

Select the corresponding button from the tool bar. Or right-click on Users menu and select New.

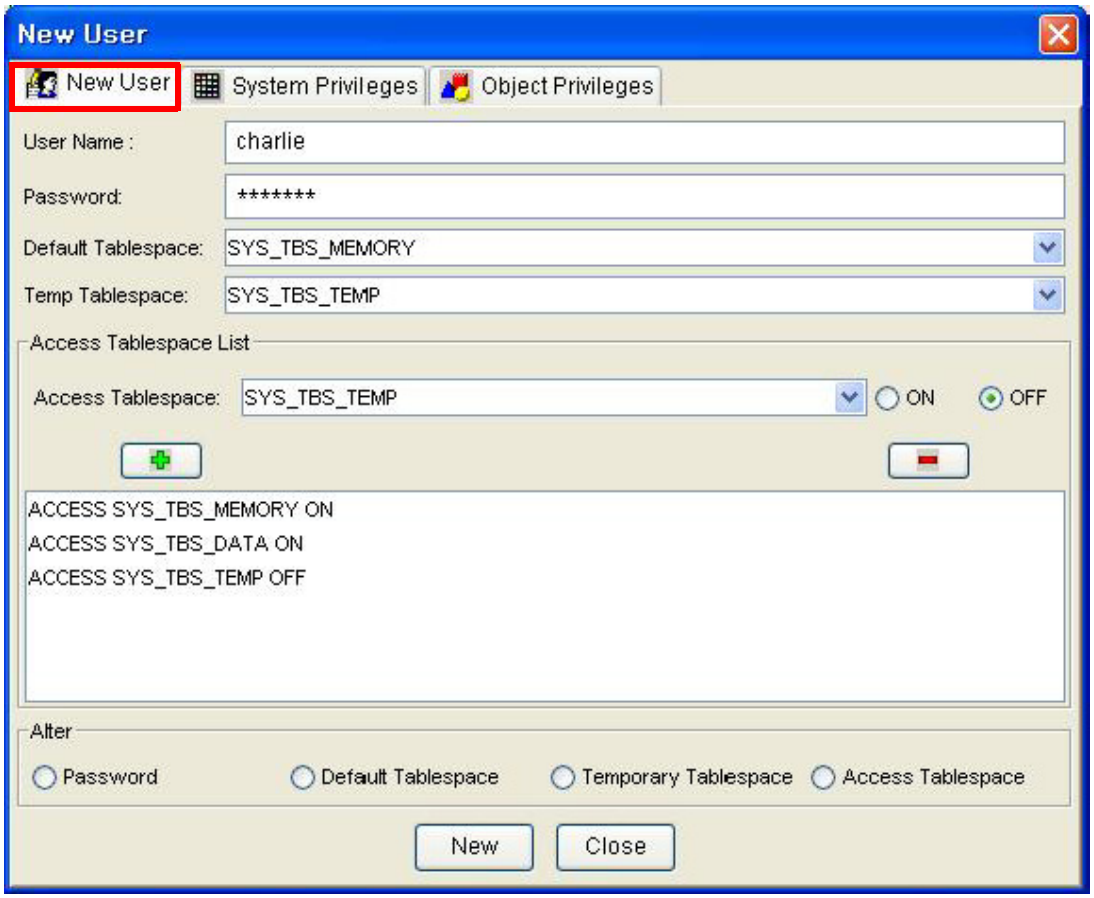


or



You can create a user or grant privileges from the System Privileges tab and Object Privileges tab. (You should grant privileges to the user after the user is created.)

Creating a User

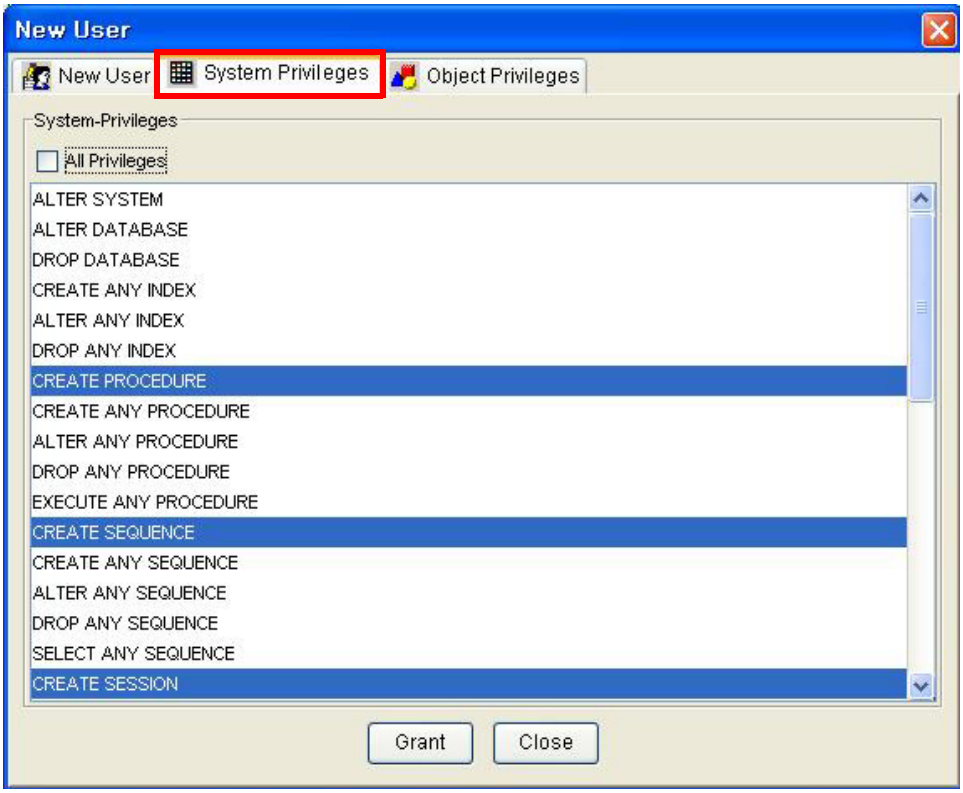


Grating Privileges

You can give privileges to the created users to access the objects.

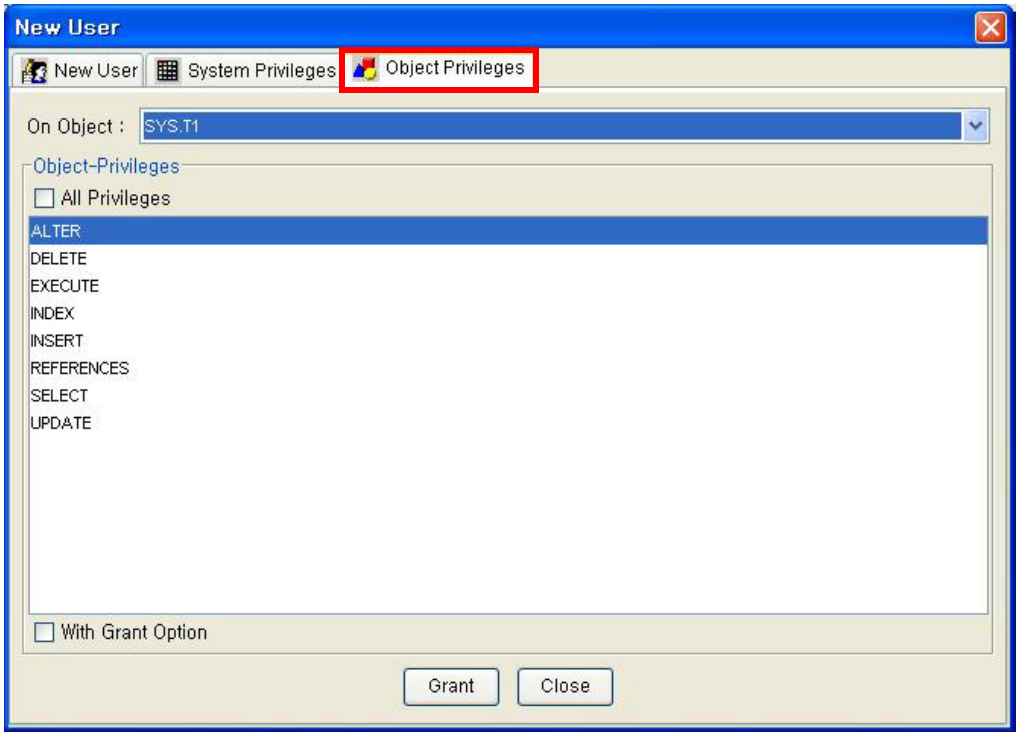
The following dialogue is to give system privileges or object privileges.

Granting System Privileges



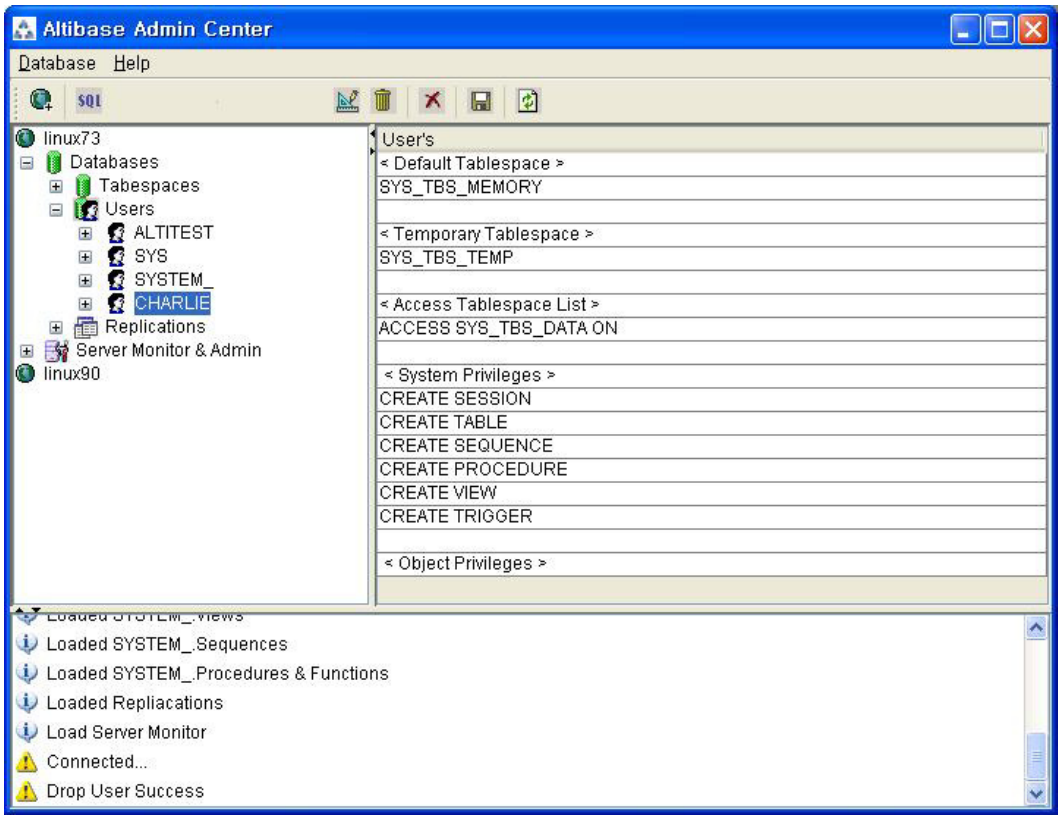
Granting Object Privileges

Figure 3-1 Object Privilege Grant



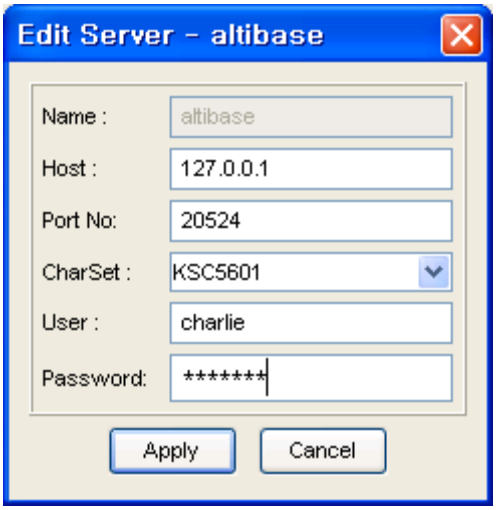
If you select a user (for example CHARLIE), all of the privileges of the selected user will be displayed on the right window. Privileges are divided into system privileges and object privileges.

Figure 3-2 User Privileges Checking Screen



To access the server Altibase with another user, select Disconnect and Edit from the Altibase server menu in the object tree window on the left side. Then, type the user ID and the password to connect to the server.

Figure 3-3 Connection as Other User

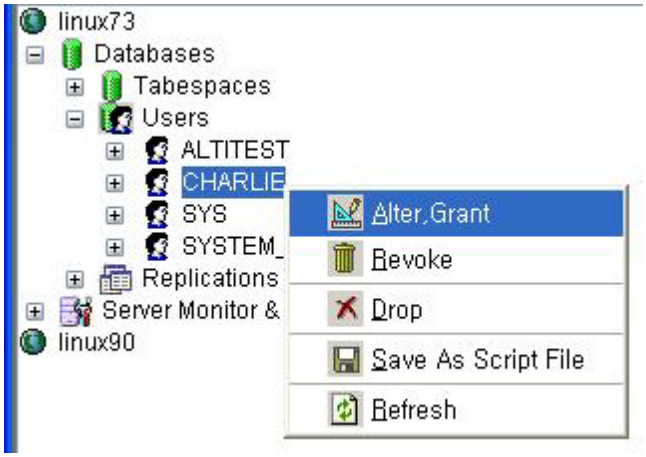


Working with the User Menu

Popup menu provides Alter, Revoke, Drop, Save As Script File, and Refresh menus.

Figure 3-4 User Pop-up Menu

or



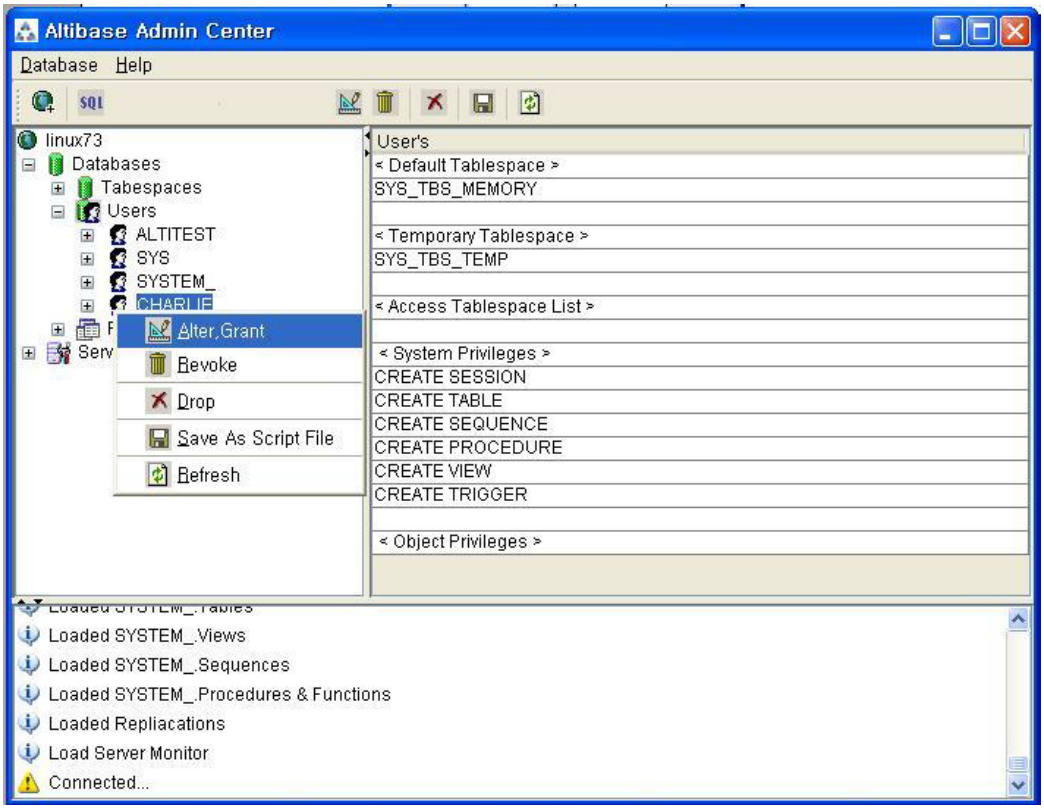
Alter, Grant

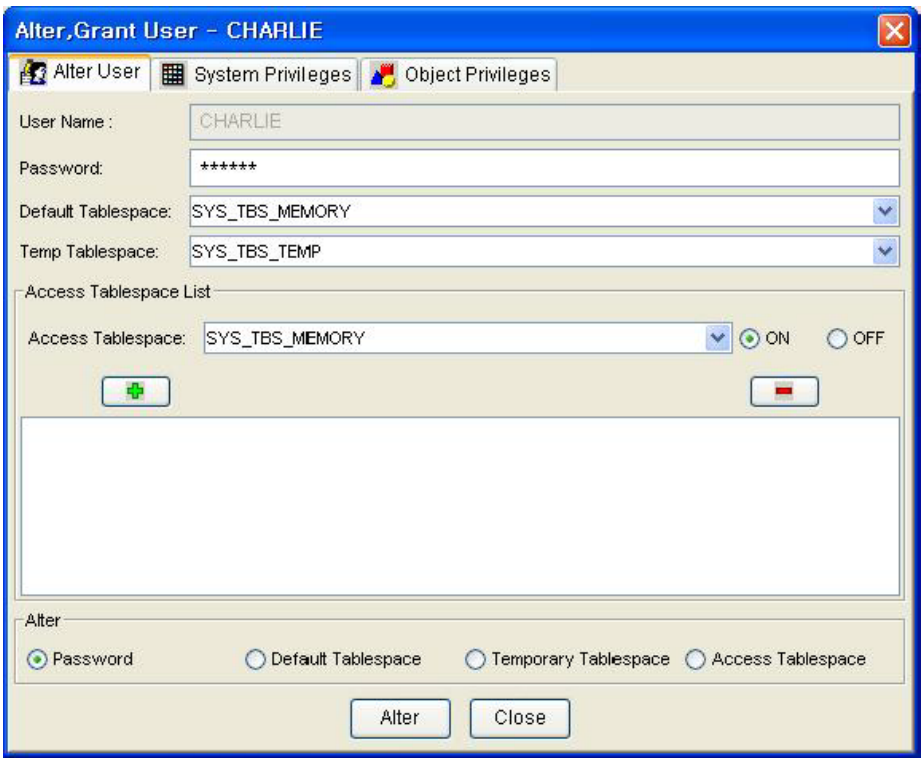
Changes information and privileges of a user. You can change the password, and grant and change the system and the object privileges.

Changing Password

To change the password, activate the corresponding user and select Alter & Grant from the popup menu or the tool bar. Then, follow the next procedure:

Figure 3-5 Password Change

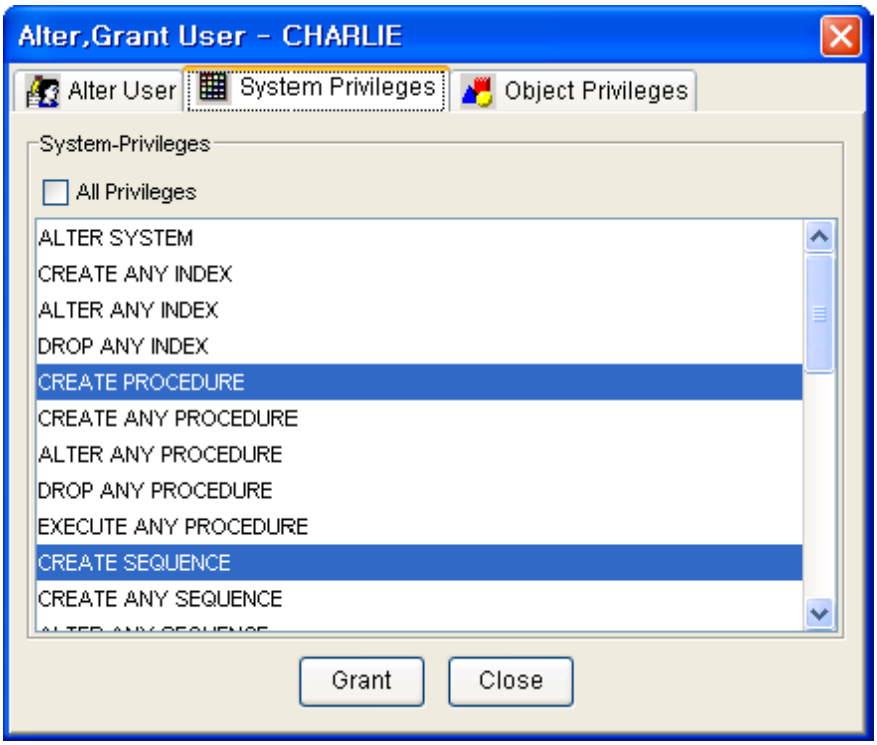




Changing the system and the object privilege

Changes the privileges of the corresponding user from the system and object privileges tab.

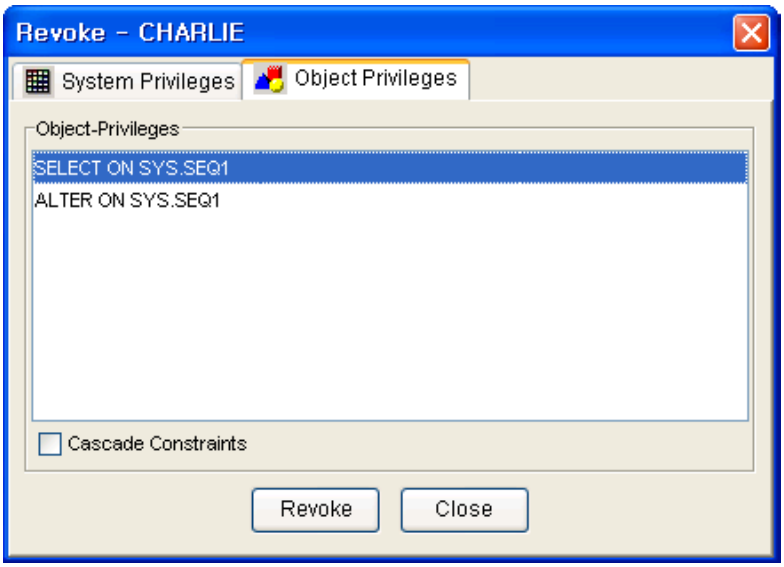
Figure 3-6 User Privilege Change



Revoke

Revokes the privileges of the corresponding user from the system and object privileges tab.

Figure 3-7 No Grant to User Privilege



Drop

Drops the corresponding user.

Save As Script File

You can store the SQL scrip which will create a user who has the same status including privileges.

Refresh

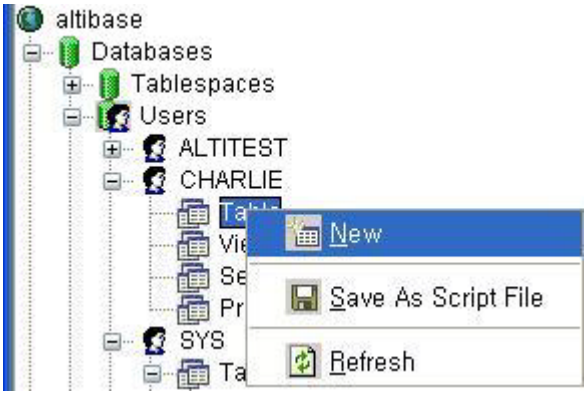
Loads the corresponding user's information from the database.

Managing Tables

Select Tables in the object tree window. Then, select New from the tool bar (or right-click the mouse) to create a new table. Using Save As Script File menu, the user can save the SQL script for each table as a file. Refresh menu is used to bring new data from the DB.

Figure 3-8 Table Creation

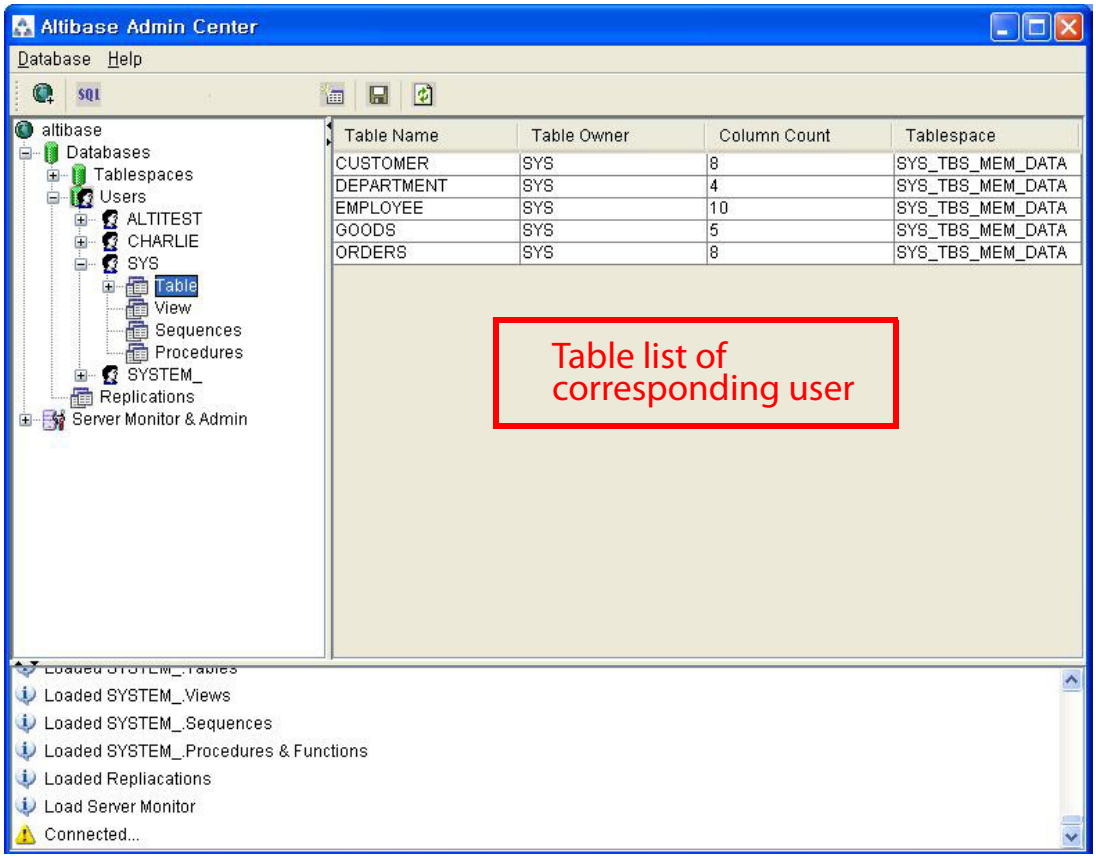
or



Listing Tables

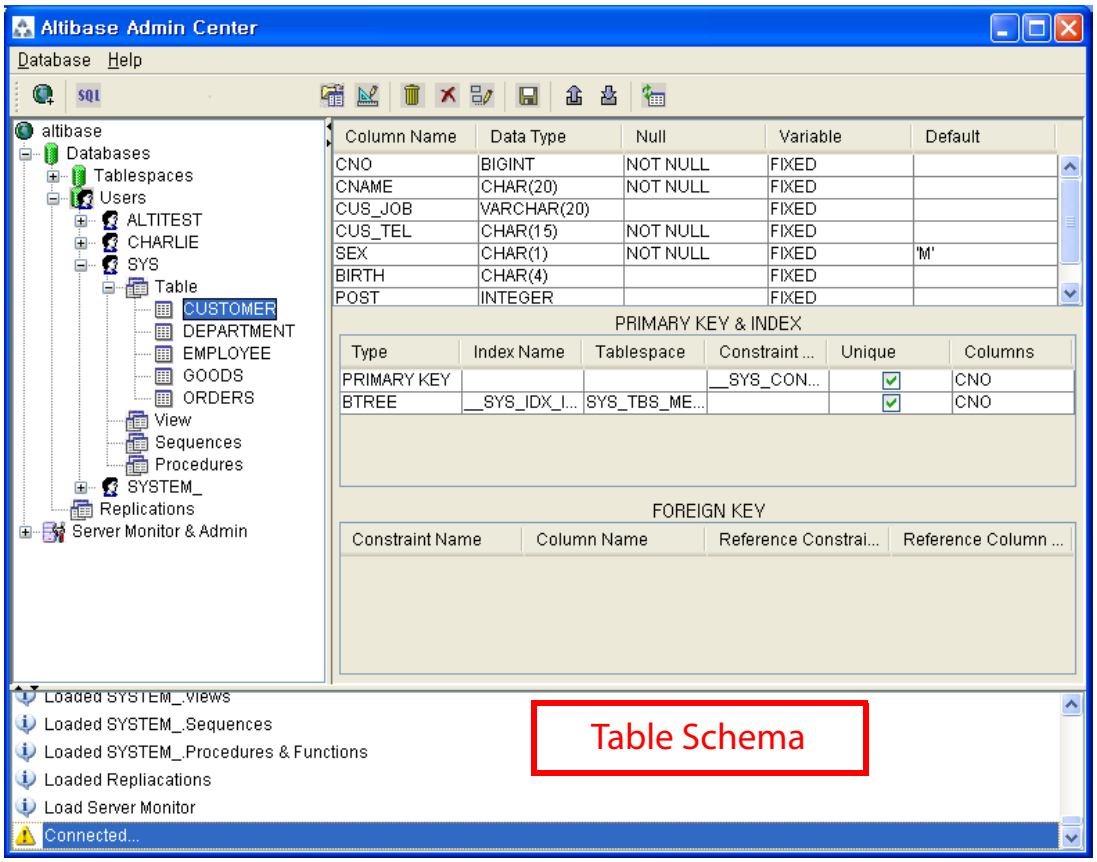
Select a user from the object tree window, and select Table menu of the user. Then, all tables created by the user will be listed. (Databases -> Users -> SYS -> Table)

Figure 3-9 User Table Checking Screen



Select a table from the object tree window to see detailed information like column, primary key, index etc. of the table.

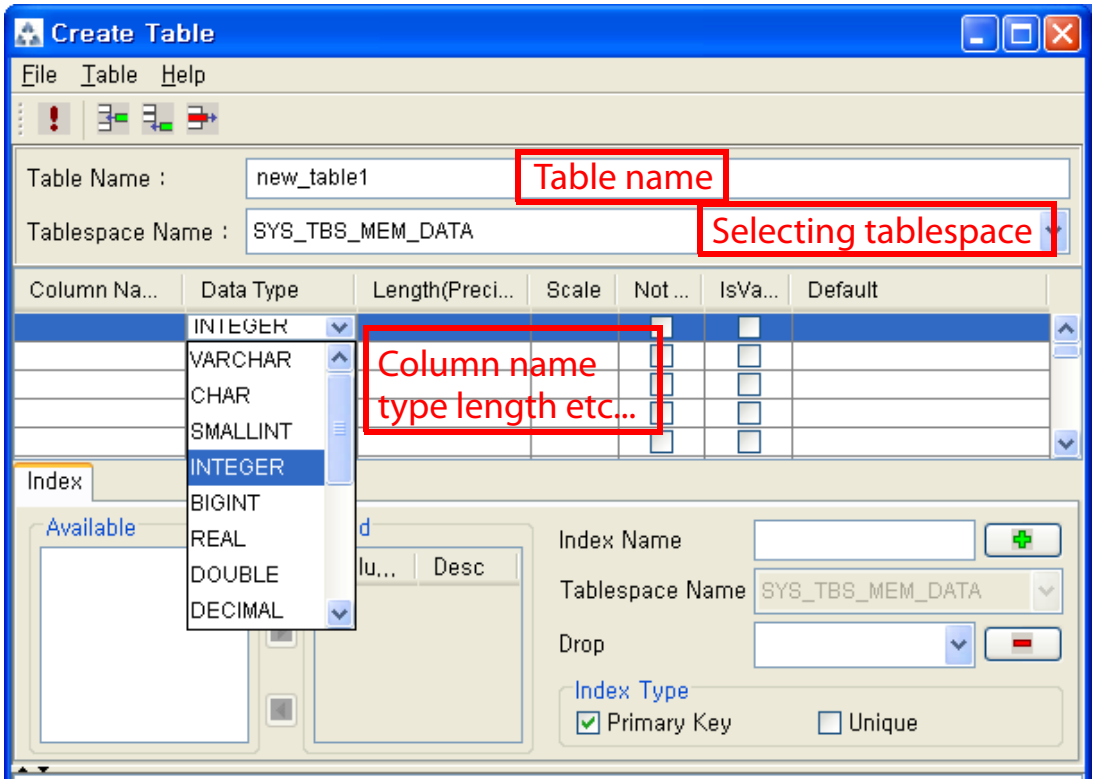
Figure 3-10 Checking Table Schema



Creating a Table

Select New from the popup menu or the toolbar menu. Then, the following screen will appear:

Figure 3-11 Table Creation



Input the table information like this, and then generate the table by clicking the executing button, '!'.

1. Table Name : Input the table name to generate.

2. Tablespace Name : Select the tablespace where you generate table

3. Input the column information.

Column Name : Input the column name to generate.

Data Type : Select the data type of column.

Length(Precision) : Input the length in case of the character type like Char, and the precision in case of the number type like Numeric.

Scale : Input the scale in case of the number type like Numeric.

Not Null : Get the chance to set Null or not. If you select this, Null is not available.

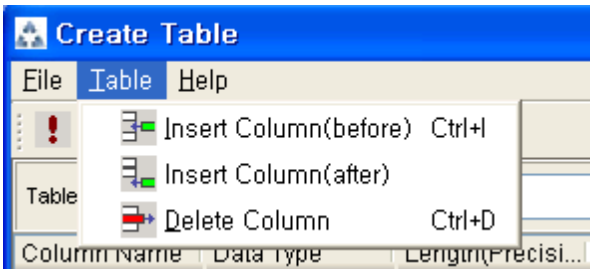
IsVariable : Get the chance to set fixed length type or variable length type. If you select this, the column of the variable length type is generated.

Default : Input the default of the column. If you don't input it, NULL is inputted.

Upon creation of the table, the user can use the following menu to insert or delete the column:

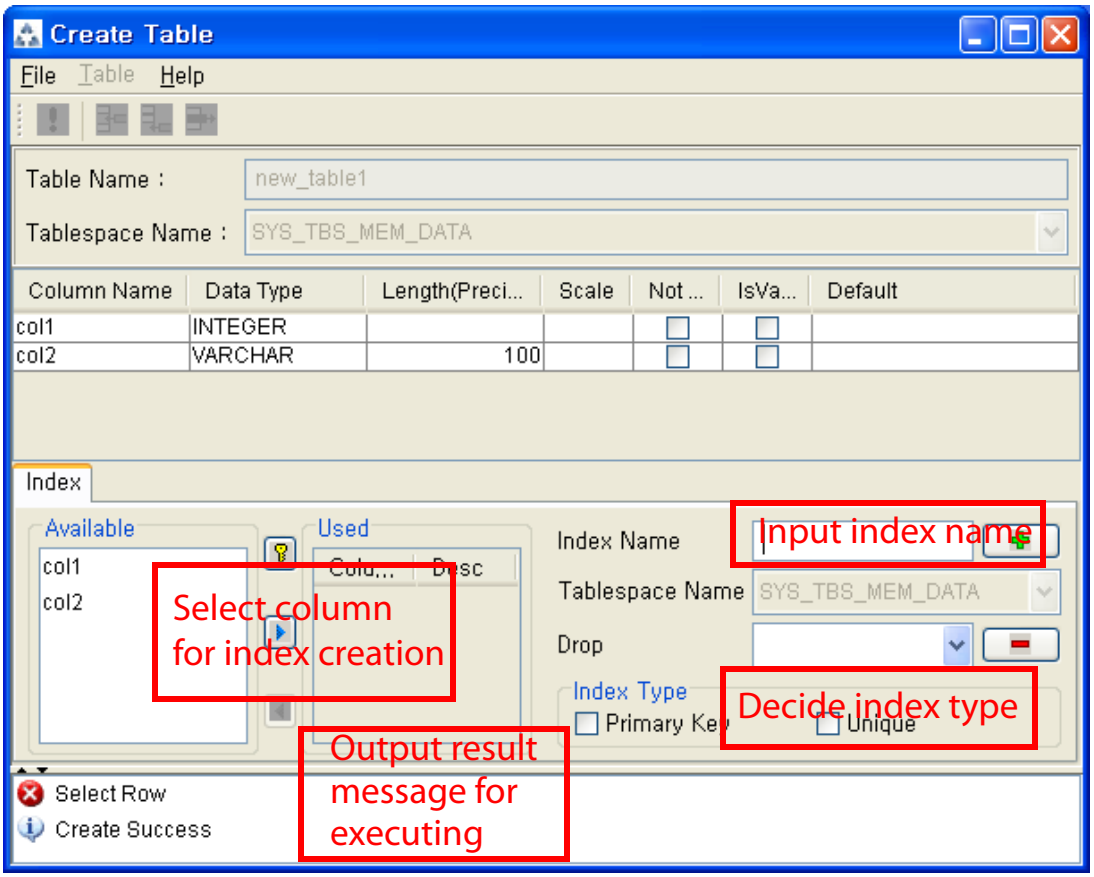
Figure 3-12 Column Change upon Table Creation

or



Creating a Index

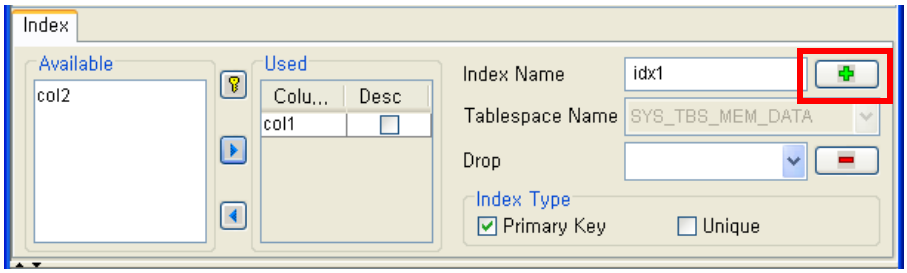
Figure 3-13 Full Screen for Creating Index



Input the index information like this, and click on "+" button to add a index. Then, the added index name will be displayed on the drop combo box.

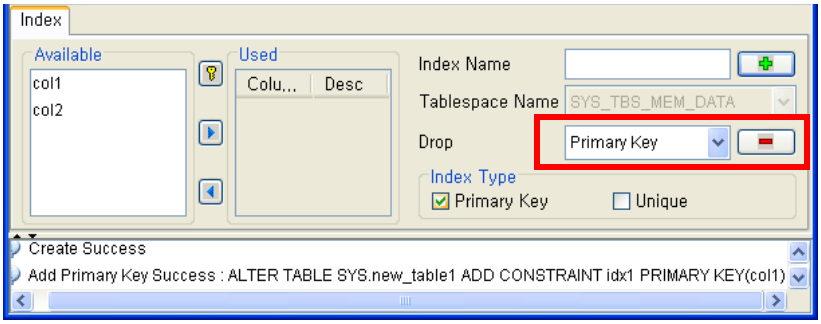
- Set Available Columns : The columns defined are changed to be available, so you can see these in Available window.
- '>', '<' : The columns generating the index are added to Used or deleted by these.
- Desc : Choose how to sort the index. If you select this, the index is generated in descending order.
- Index Type : Choose the type of the index, for example, Primary Key, Unique Key.
- Index Name : Input the name of the index generated. If you don't input this, the operating system specifies the default as this in case of Primary Key.
- "+" button : Generate the index by this. The added index name will be displayed on the drop combo box. If the table is not generated yet while the index is generated, the table is generated.

Figure 3-14 Index Creation



- Tablespace Name : Select the tablespace name in which the index is added. In case of Primary Key, it is added only in the tablespace including table. In case of other indexes except Primary Key, it can be added in other tablespaces except the tablespace including table. But you can select only same kinds of tablespace (for example, memory or disc) as the tablespace including table. Drop : Select the index to delete.
- Drop : Select the index to delete.
- "–" button : Delete the index.

Figure 3-15 Index Deletion

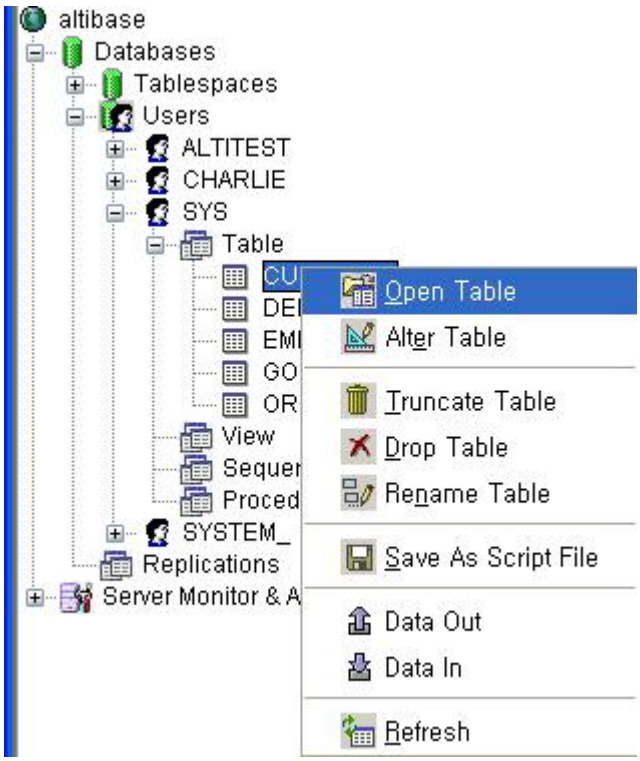


working with the Table Menu

The following is the shortcut menu of each table. If you selects Open Table, the Query Window will appear. Alter Table will open a window in which the user can change the index of the table (add/ delete the index and change the primary key). Truncate Table and Drop Table are used to delete all records of the table or delete the table. To rename the table, select Rename Table. Save As Script File is used to store the DDL script as a file. Refresh is used to bring the current information of the table from the server.

Figure 3-16 Table Pop-up Menu

or



Open Table

The Query window will appear for the corresponding table, and all rows from the table will be displayed.

Alter Table

Adds or deletes the index (including the primary key) in the table.

Truncate Table

Truncates the data of the corresponding table.

Drop Table

Drops the corresponding table.

Rename Table

Renames the corresponding table.

Save As Script File

Saves the table-creation DDL script as a file.

Data Out

Downloads the data in the corresponding table in the ASCII format. (Same as Out in iLoader) Refer to the following for more information.

Data In

Loads data in a ASCII file to the table. (Same as 'in iLoader') Refer to the following for more information.

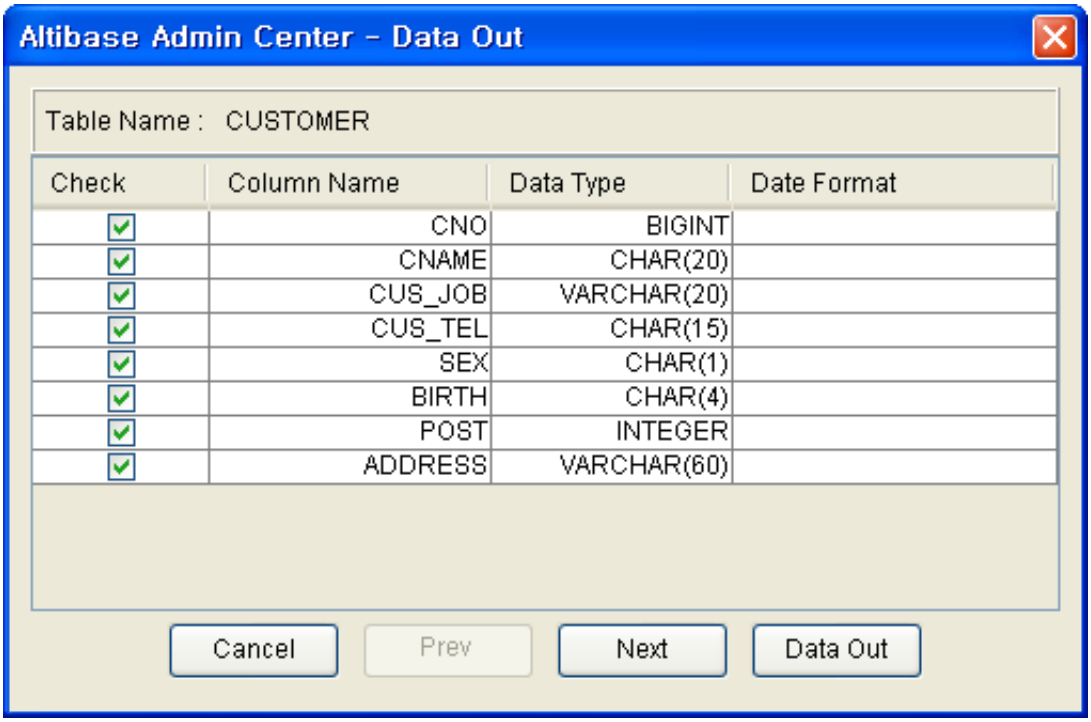
Refresh

Gets the current information of the table from the server.

Data Out

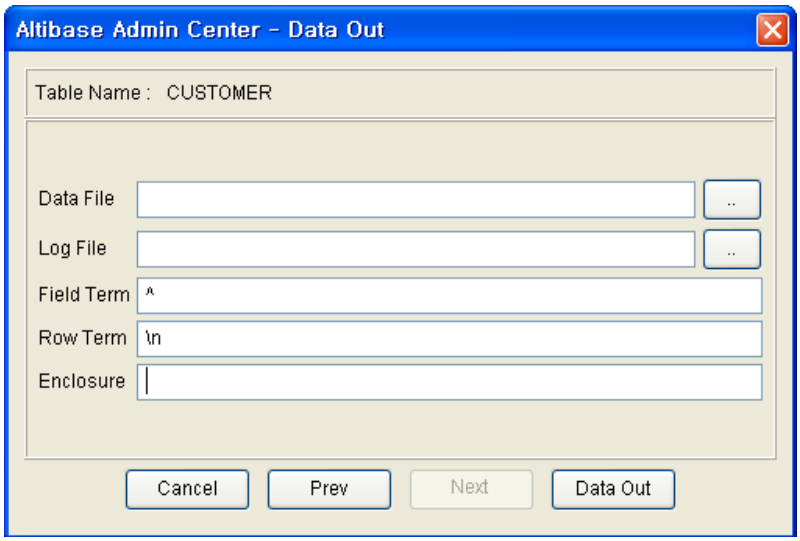
If you select Data Out menu, you can see the columns pane. And then select the columns that you want to download in this pane.

Figure 3-17 Column Information in Data Out menu

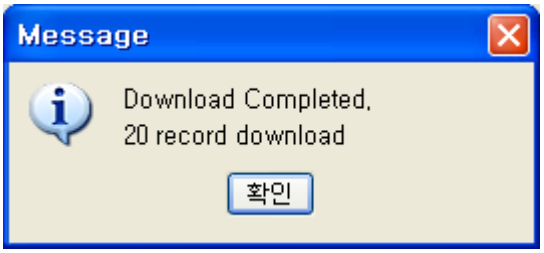


Select Next to specify the logfile for writing records occurred while specifying data file and downloading it. Input the field term for seperating columns and the row term for seperating data records.

Figure 3-18 Inputting Field and Row Terms in Data Out menu



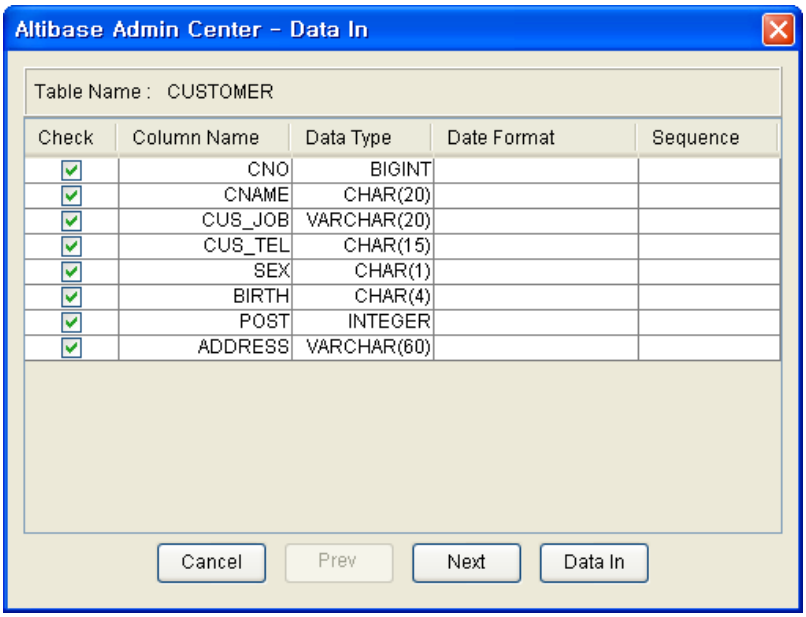
Download the data by Data Out menu. If you download it successfully, you can see the window like this.



Data In

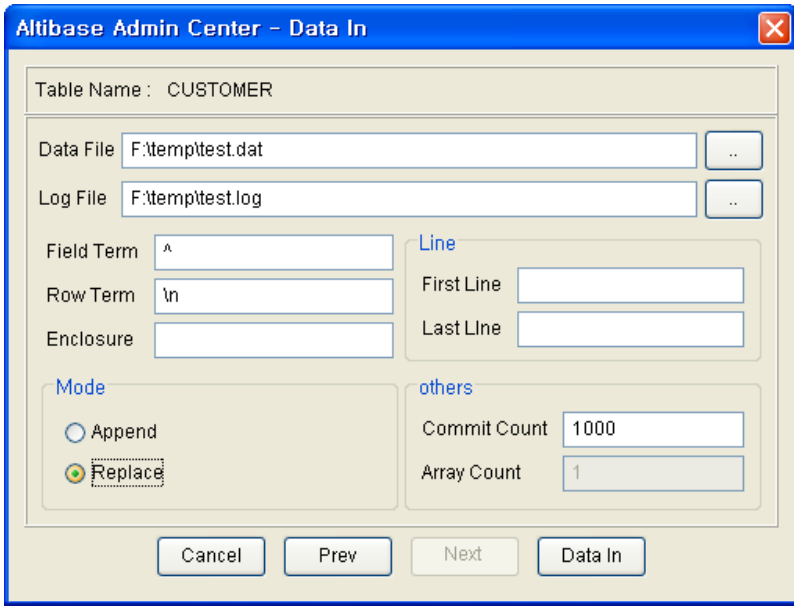
If you select Data In menu, you can see the pane like this.

Figure 3-19 Column Information in Data In menu



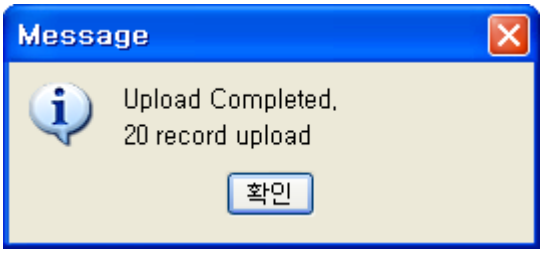
Select Next to input details data file.

Figure 3-20 File Information Input in Data In menu



Specify the data file in database and logfile for writing messages occurred. Input the field term for seperating columns and the row term for seperating data records. In Mode Append is the menu to input data adding to the existing data, and Replace is the menu to delete the existing data and to input new data. Commit Count is the menu to commit them if the default values are 1000 whenever

you input 1000 cases. If you select Data In, data is inputted. If you do it successfully, you can see this message.



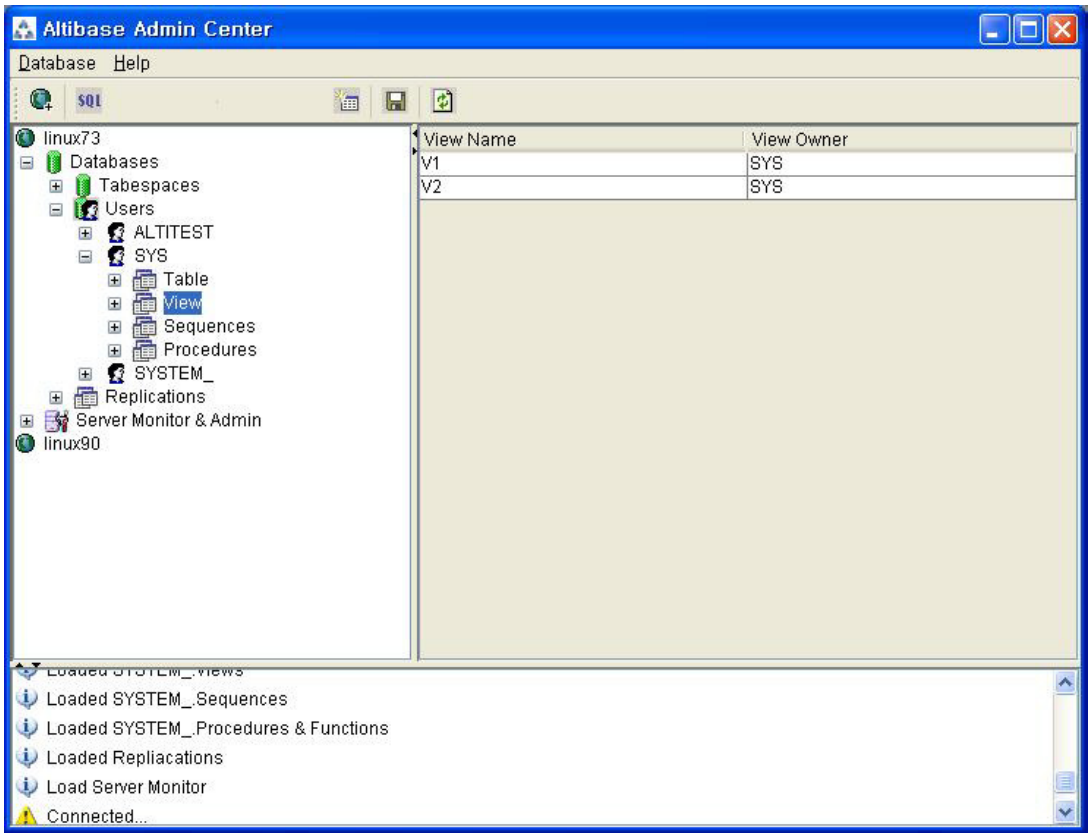
Managing Views

Select View from the object tree window, and select New from the tool bar (or right-click the mouse) to create a new view. Using Save As Script File menu, the user can store the DDL script for each view in the file. Refresh is used to load the data from the database.

Listing Views

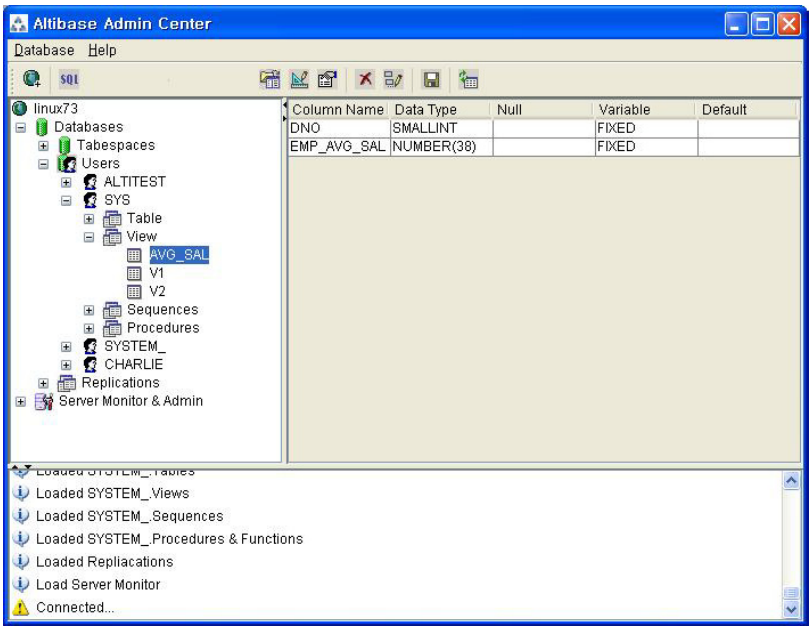
Select View in the object tree window to list all views created by the corresponding user.

Figure 3-21 View Screen



Select each view in the object view window to view all column information of the view.

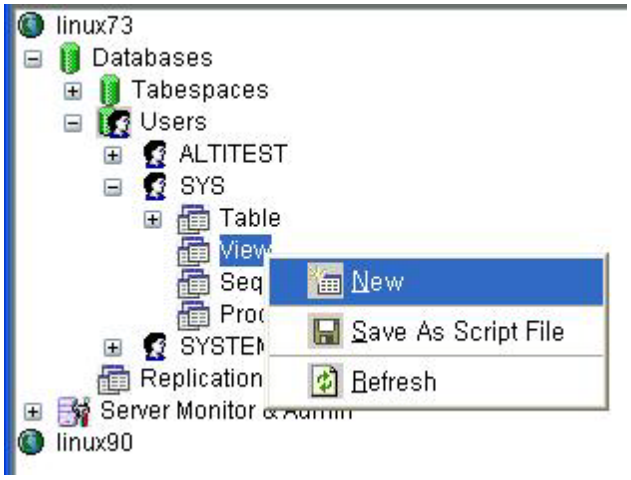
Figure 3-22 Column Information of the Selected Views



Creating a View

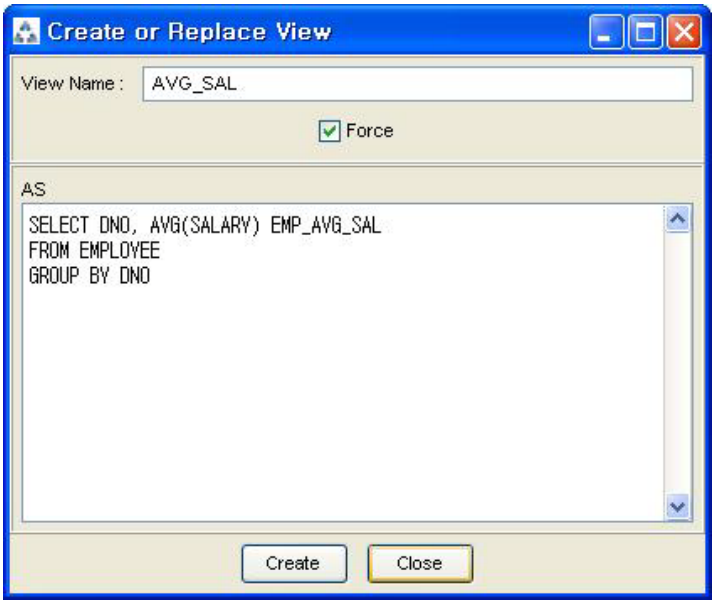
Select New from the shortcut menu or the toolbar menu.

Figure 3-23 Pop-up Menu in case of Creating a View



Set the view name and the force option in the screen, and type the subquery of the View in As box. Then, click on Create button.

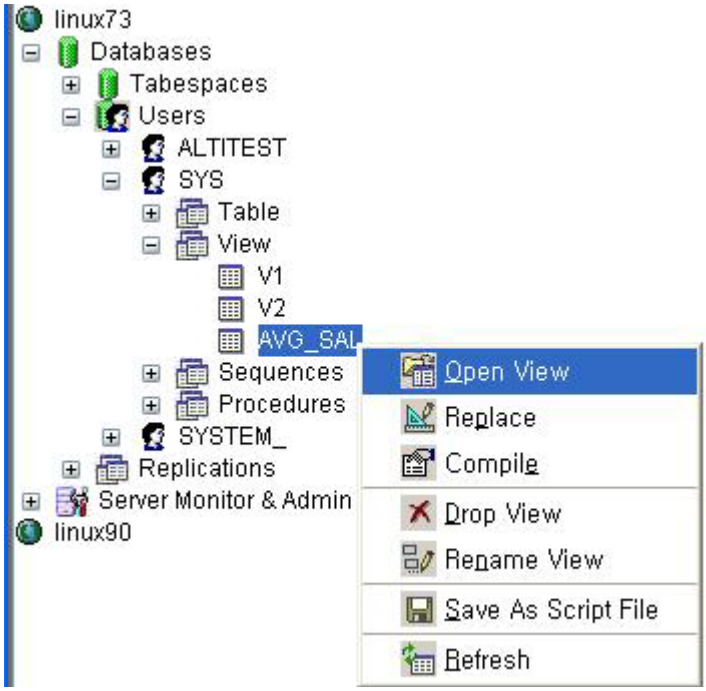
Figure 3-24 View Creation



Working with the View Menu

The following is the shortcut menu for a view.

Figure 3-25 Pop-up Menu related to View



Open View

The query window will appear so that the user can see all rows from the table.

Replace

Creates the corresponding view again.

Compile

If the corresponding view is not valid, you can compile the view again.

Drop View

Drops the corresponding view.

Rename View

Renames the corresponding view.

Sava As Script File

Saves the view-creation SQL script as a file.

Refresh

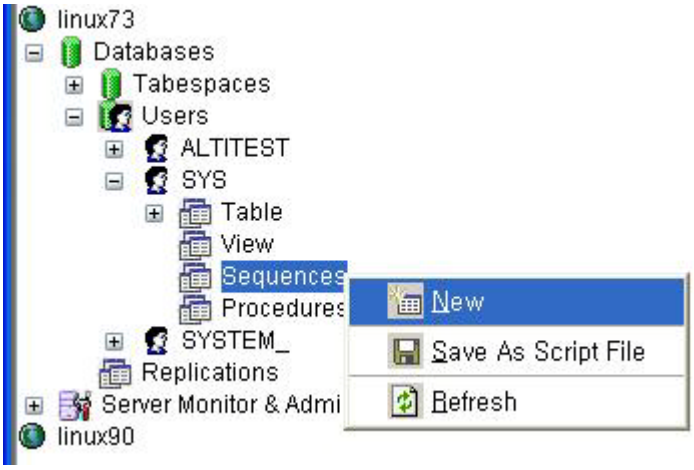
Gets the current information of the view from the server.

Managing Sequences

Select Sequences from the object tree window, and select New from the tool bar (or right-click the mouse) to create a new sequence. Save As Script File is to store the DDL script of each sequence in the file. Refresh is to bring the current information from the server.

Figure 3-26 Sequence Pop-up Menu

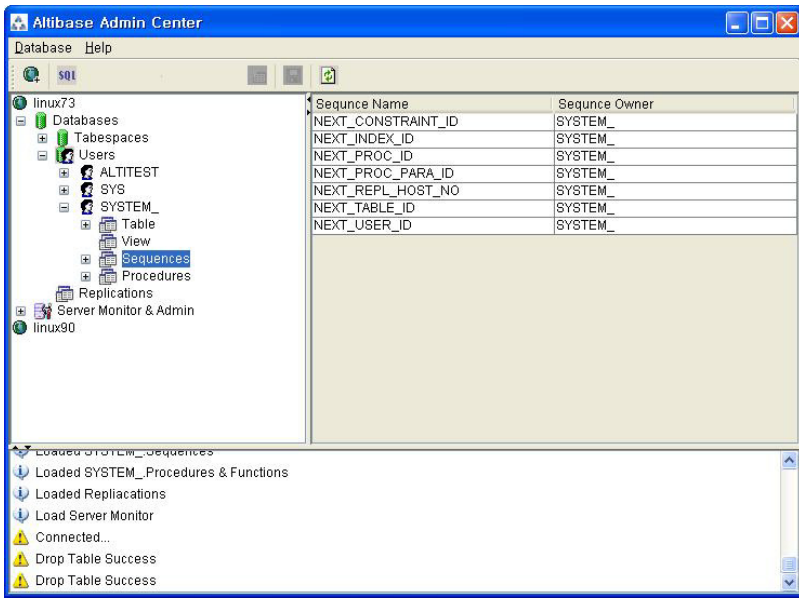
or



Listing Sequences

Select Sequences in the object tree window to view all sequences created by the corresponding user.

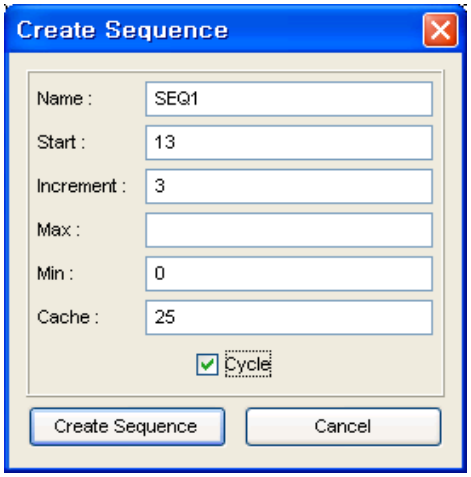
Figure 3-27 Information of the Selected Sequences



Creating a Sequence

Select Sequences from the object tree window and select New from the tool bar (or right-click the mouse) to create a sequence. Or enter the sequence creation statement in the query window and click on the Execute button.

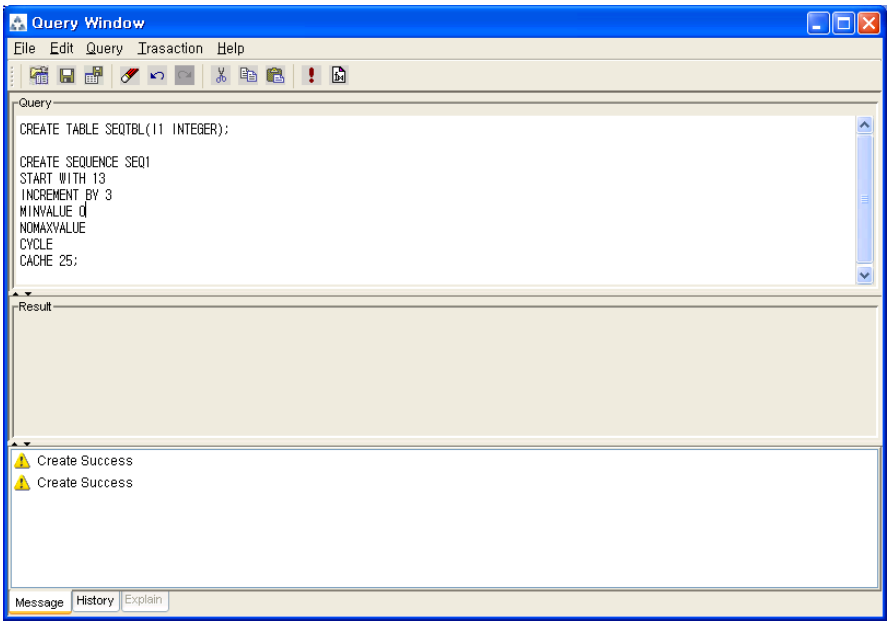
Figure 3-28 Sequence Creation



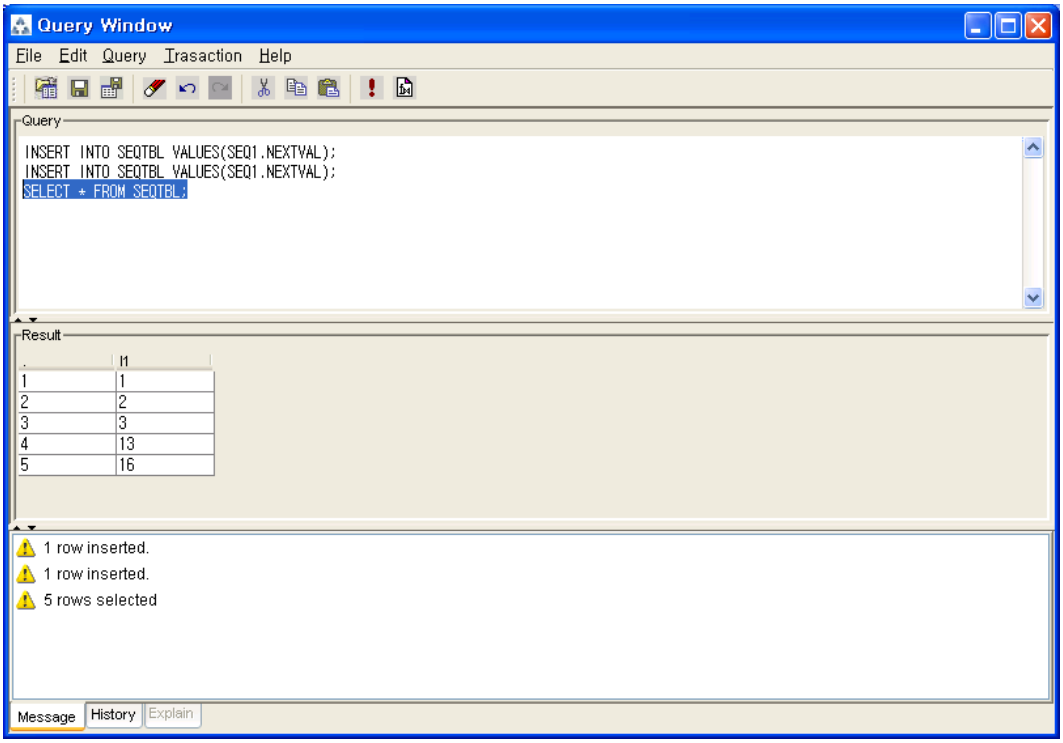
When entering only the name of the sequence to create, the sequence is created using default values. (Default - Start: 1, Increment: 1, Max: 9223372036854775806, Min: 1, Cache: 20, Cycle: NO)

or (upon using the Query window)

```
CREATE TABLE SEQTBL(I1 INTEGER);
CREATE SEQUENCE SEQ1
START WITH 13
INCREMENT BY 3
MINVALUE 0
NOMAXVALUE
CYCLE
CACHE 25;
```



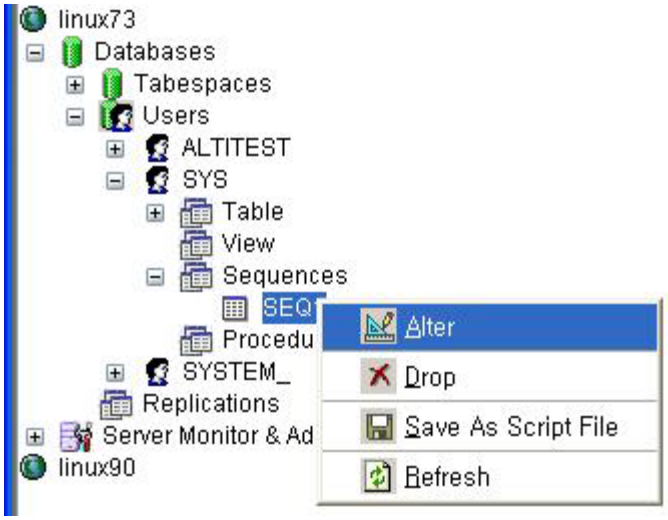

```
INSERT INTO SEQTBL VALUES(seq1.NEXTVAL);
INSERT INTO SEQTBL VALUES(seq1.NEXTVAL);
SELECT * FROM SEQTBL;
```



Working with the Sequence Menu

The following explains the shortcut menu for a sequence.

Figure 3-29 Created Sequence and Alteration Pop-up Menu



Alter

Changes the elements of the corresponding sequence.

You cannot change the name of the sequence and Start value.

Drop

Drops the corresponding sequence.

Save As Script File

Saves the SQL script of the corresponding sequence as a file.

Refresh

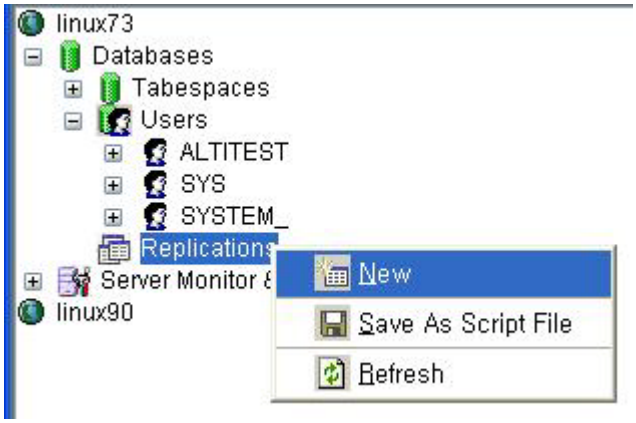
Gets the current information of the sequence from the server.

Managing Replications

Select Replications in the object tree window (or right-click the mouse), and select New from the tool bar to create a replication. Save As Script File is used to store the DDL script of each replication as a file, and Refresh is used to bring the current information from the server.

Figure 3-30 Replication Pop-up Menu

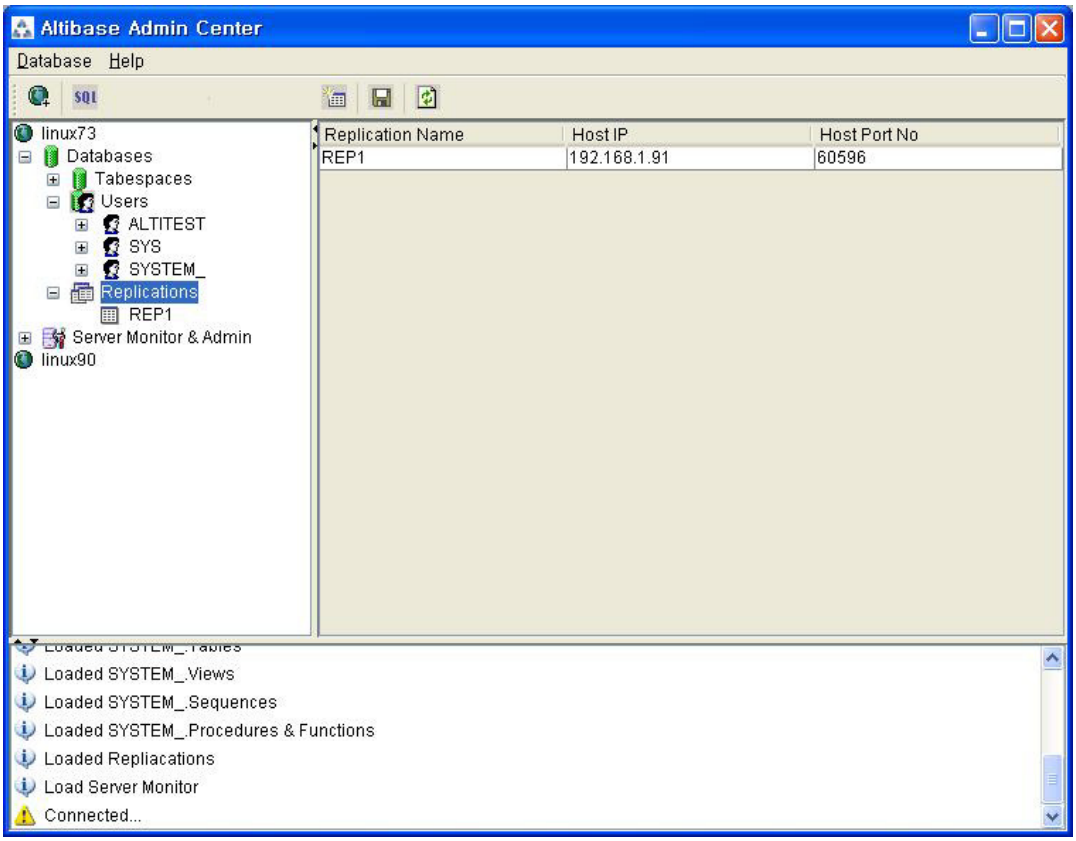
or



Listing Replications

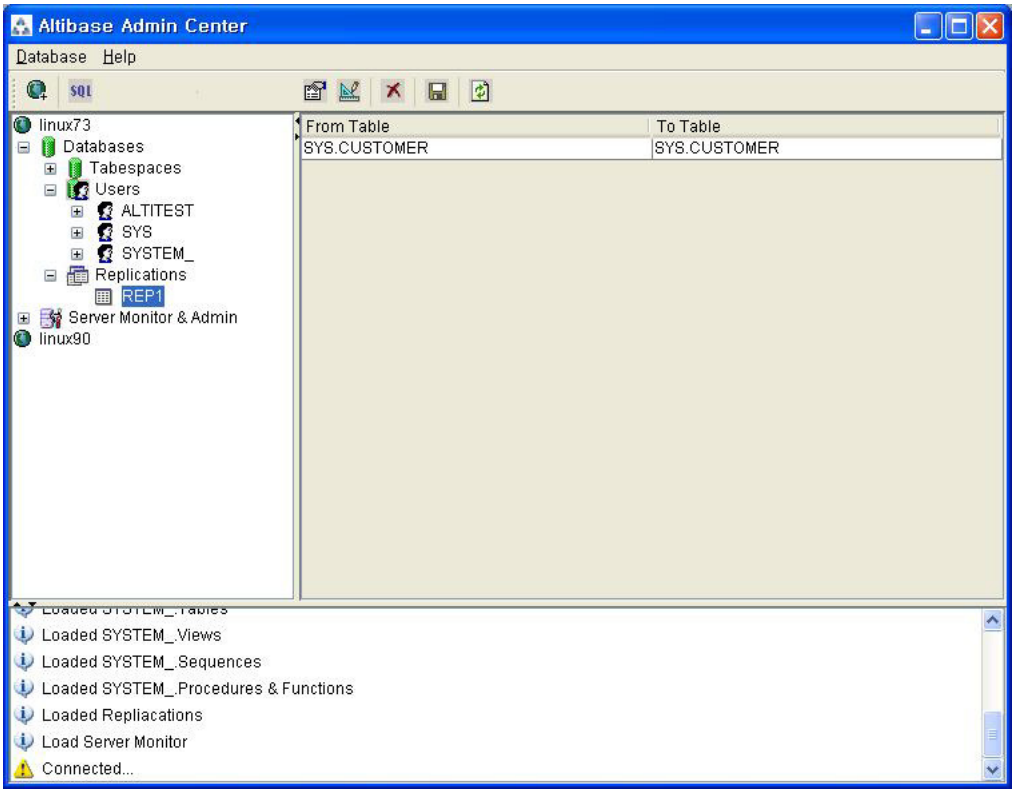
Select Replications to display replication information on the right part of the screen.

Figure 3-31 Checking Information of created replication



Select each replication from the object tree window to view related information.

Figure 3-32 Checking Information of Each Created Replication

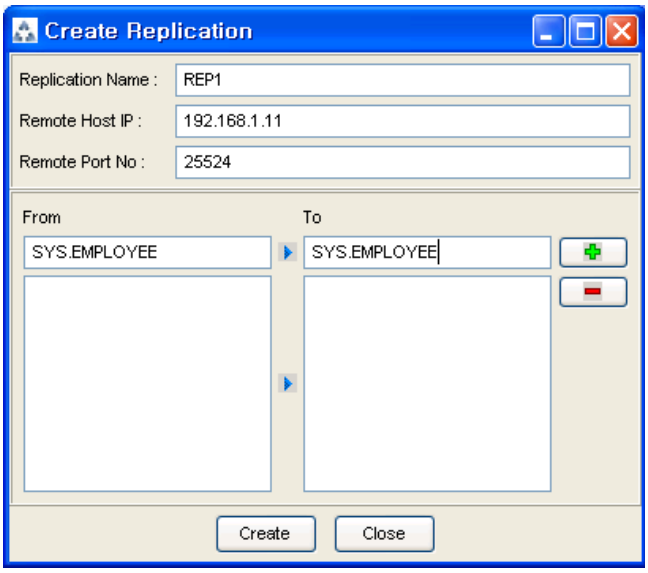


Creating a Replication

Select New from the shortcut menu or tool bar, and enter the IP address of the remote server (192.168.1.11) and the port number (25524) to replicate the Employee table and the Department table.

In case of a local server (IP: 192.168.1.243):

Figure 3-33 Success Message of Creating a Replication



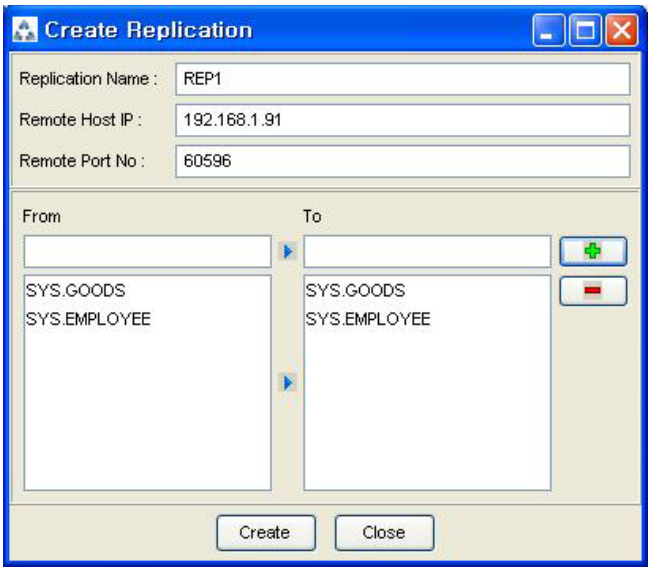


Figure 3-34 Replication Creation

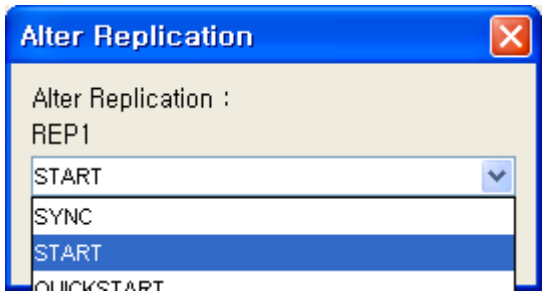
In case of a remote server (IP: 192.168.1.11)

```
iSQL> CREATE REPLICATION REP1 WITH '192.168.1.243', 25524
FROM SYS.DEPARTMENT TO SYS.DEPARTMENT, FROM SYS.EMPLOYEE TO SYS.EMPLOYEE;
Create success.
```

Starting a Replication

Select Start to resume replication.

Figure 3-35 START Click for Altering Replication



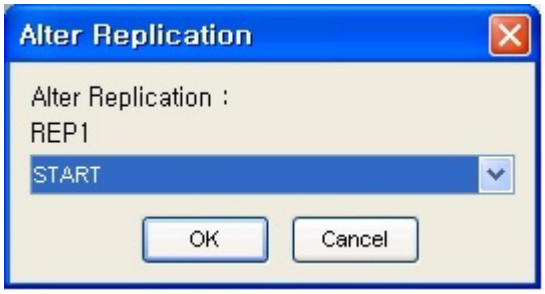
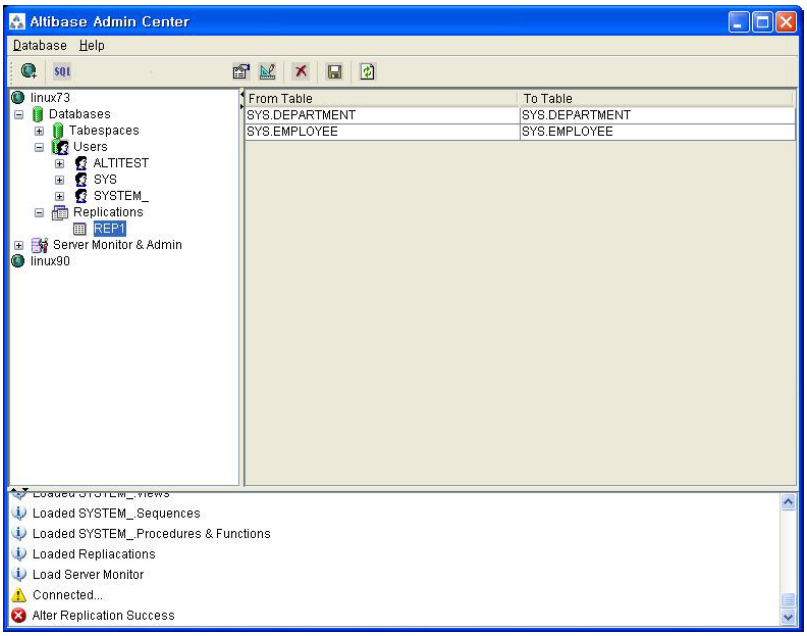


Figure 3-36 Success Screen after Altering Replication



After replication is successfully performed, message saying “Alter Replication Success” will be displayed on the result message window.

* Before starting replication, you should check that there is match in the protocpl between ALTIBASE and replication. You should also check that database character set in ALTIBASE is identical with national character set, and can set them when creating database.

```
Dos prompt> altibase –v
version 5.3.1.0 WIN_NT_5.0-32bit-5.3.1.0-release-VC7 (MS_WINDOWS) Sep 8 2009
15:34:11, binary db version 5.3.1, meta version 5.5.1, cm protocol version
5.5.1,replication protocol version 5.3.1

shell> altibase –v
version 5.3.1.0 INTEL_LINUX_ubuntu_8.10-32bit-5.3.1.0-release-GCC4.3.2
(i686-pc-linux-gnu) Sep 2 2009 13:48:15, binary db version 5.3.1, meta ver-
sion 5.5.1, cm protocol version 5.5.1, replication protocol version 5.3.1
```

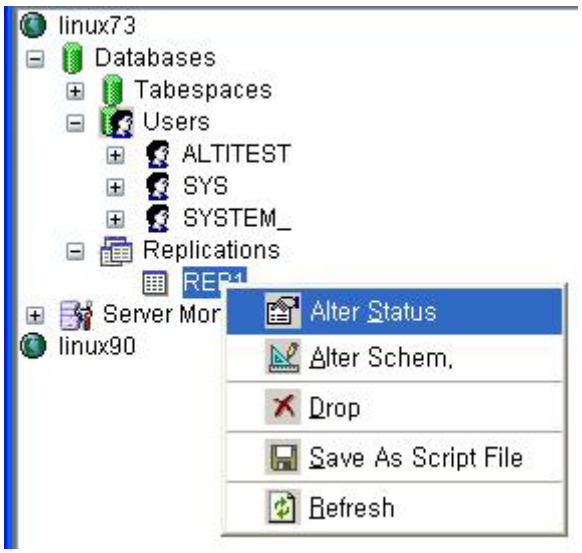
Working with the Replication Menu

The following describes the shotcut menu of replication.

For each replication, the user can execute the command by using following menus:

Figure 3-37 Replication Pop-up Menu

or



Alter Status

Changes the status of the corresponding replication.

Alter Schem.

Changes information about From and To tables.

Drop

Drops the corresponding replication.

Save As Script File

saves the DDL script of the corresponding replication as a file.

Refresh

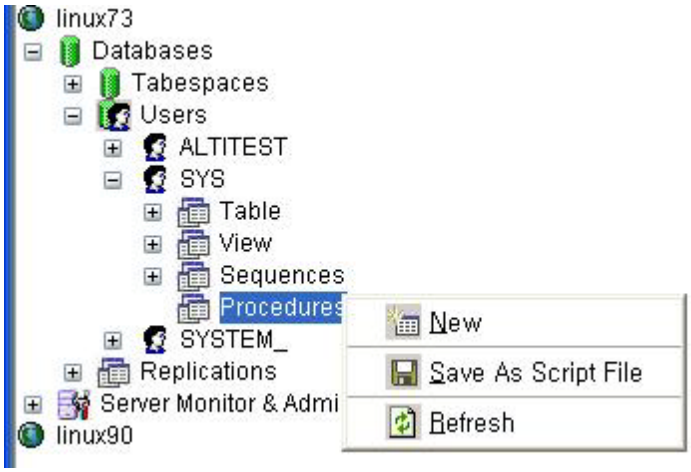
Gets the current information of the replication from the server.

Managing Procedures

Select Procedures in the object tree window, and select New from the tool bar (or right-click the mouse) to create a new procedure or function. Save As Script File is used to store the DDL script of each procedure and function as a file, and Refresh is used to bring the current information from the server.

Figure 3-38 Procedure Pop-up Menu

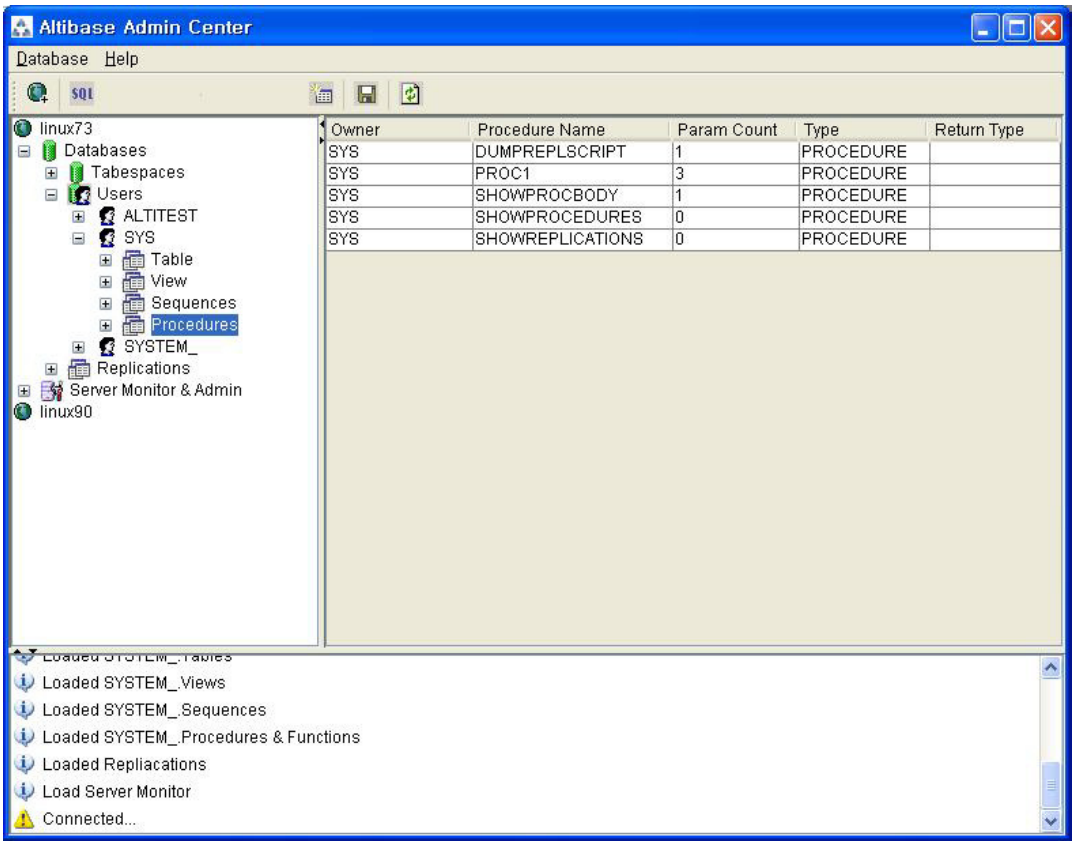
or



Listing Procedures

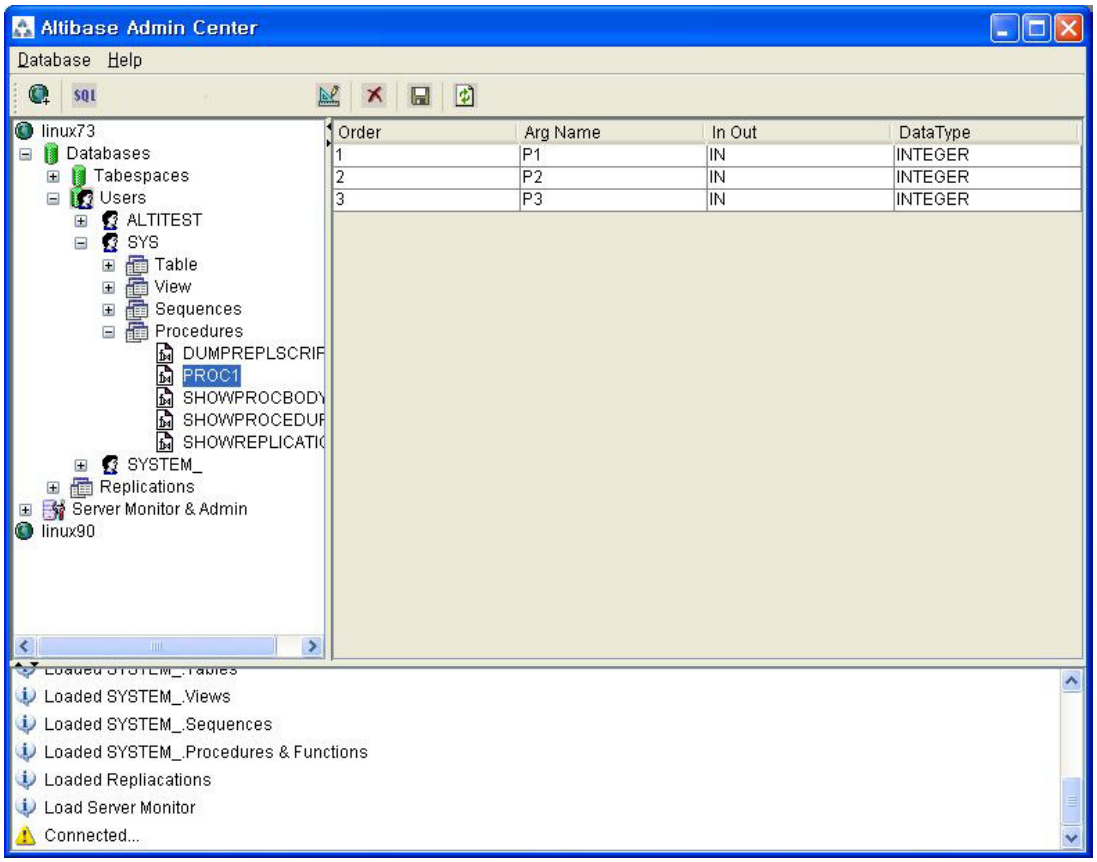
Select Procedures in the object tree window to view description of all procedures and functions created by the corresponding user.

Figure 3-39 Checking Procedure Information



Select the name of the procedure or function from object tree window to view the details on the right part of the screen.

Figure 3-40 Procedure Information in detail

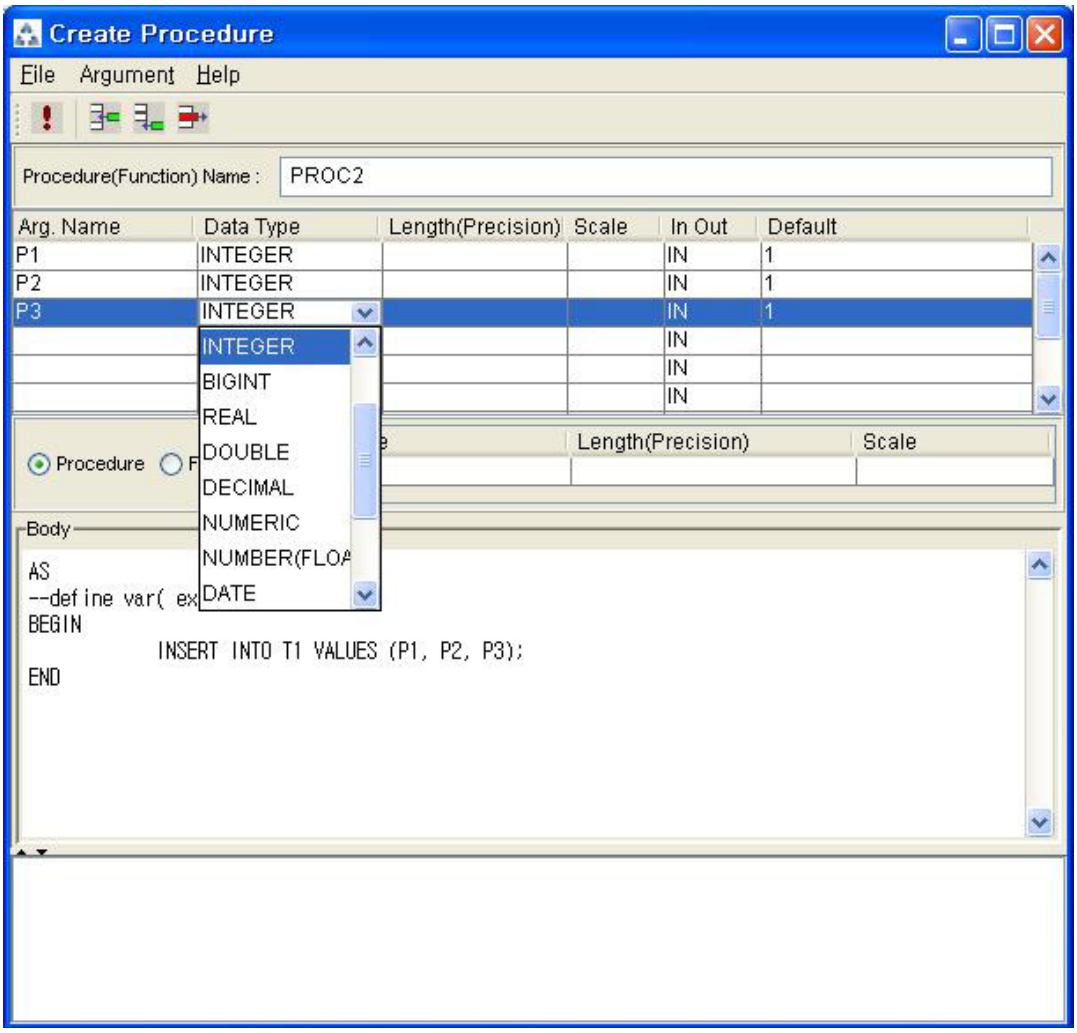


Creating a Procedure

Select Procedures in the object tree window on the left side (or right-click the mouse), and select New from the tool bar to create a procedure. Or enter the procedure creation statement in the query window and select the Execute button (or Files -> Create) to create a procedure.

Select New from the shortcut menu or the toolbar menu. Then, the following screen will appear: The user can enter each argument, and depending on the return type, some arguments cannot be entered. Then, enter the body of the procedure in Body window.

Figure 3-41 Typing Contents for Creating a Procedure



After entering the contents, select the Execute button from the tool bar or select File -> Create to create a new procedure.

Figure 3-42 Procedure Creation after Typing Contents in Menu

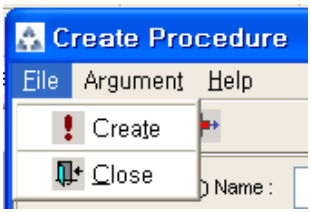
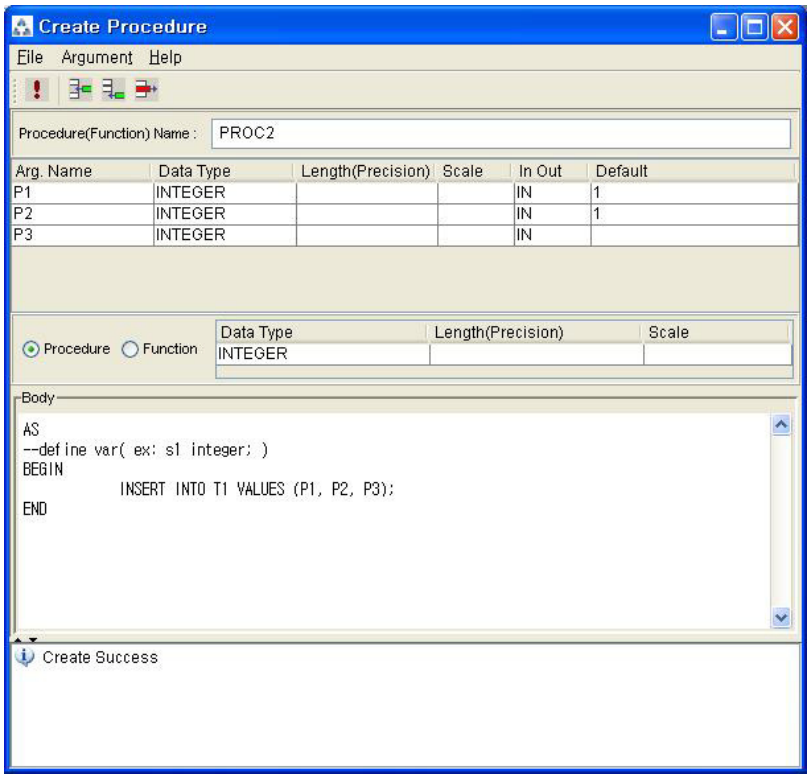
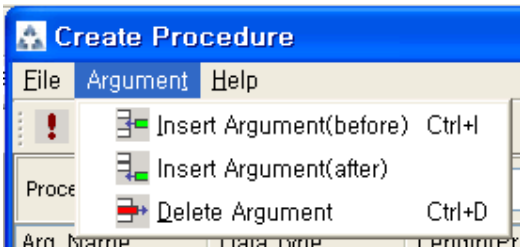


Figure 3-43 Procedure Creation Screen



The user can insert or delete the argument by using the following menus when creating a procedure or function. The user can also change (insert or delete) the arguments of the existing procedure or function.

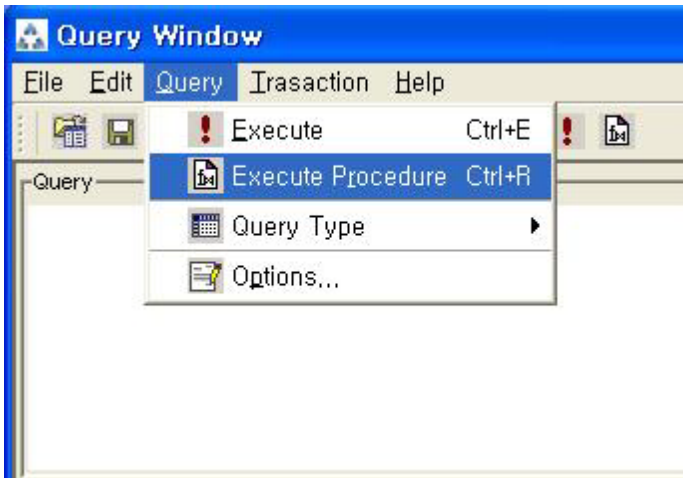
Figure 3-44 Changing a Procedure

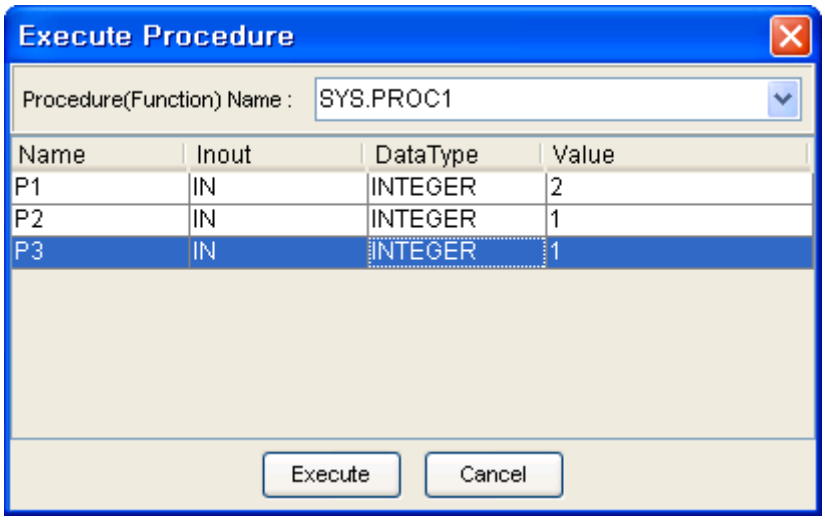


or

Executing a Procedure

Figure 3-45 Running a Procedure

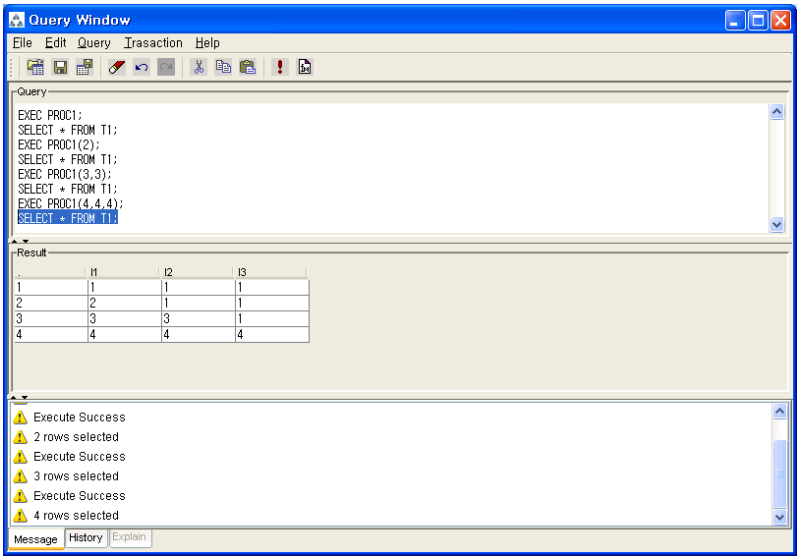


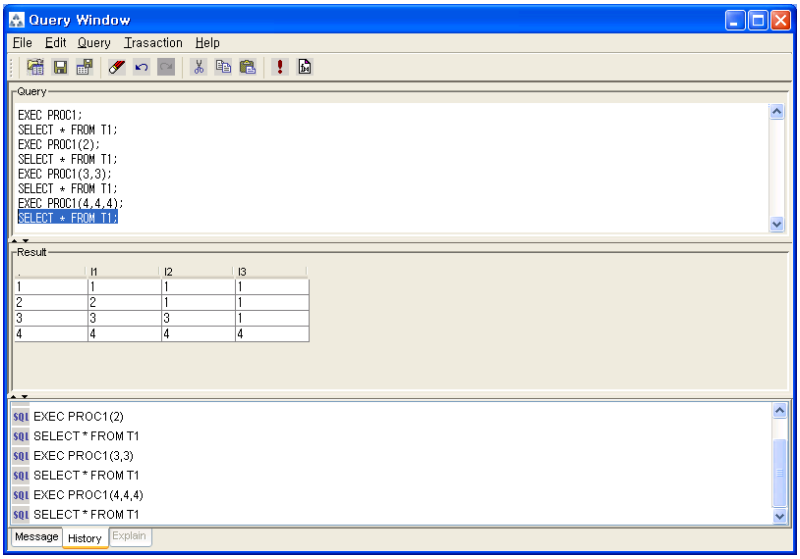


Note: You must input value event for the parameter with the default value when executing the procedure using the above interface.

or (upon using the Query window)

```
exec proc1;
select * from t1;
exec proc1(2);
select * from t1;
exec proc1(3,3);
select * from t1;
exec proc1(4,4,4);
```



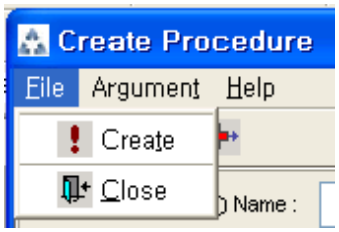


For more information, see the Query Window part.

Creating a Function

Select Procedures in the object tree window on the left part (or right-click the mouse), and select New from the tool bar to create a function. Or enter the function creation statement in the query window and select the Execute button (or File -> Create).

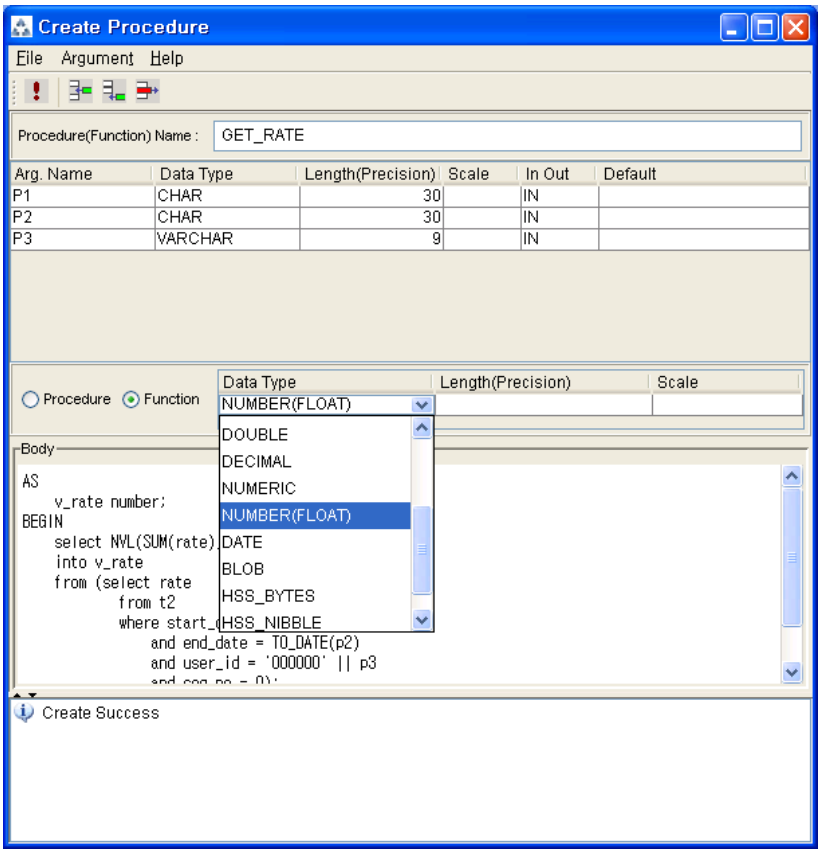
Figure 3-46 Function Creation



Select New from the popup menu or the toolbar menu. Then, the following screen will appear: In the screen, the user can enter information of each argument. Depending on the function, the user can enter the return type. Enter the contents of the function in the lower body window.

```
create or replace function get_rate
(p1 in char(30), p2 in char(30), p3 in varchar(9))
return number
as
 v_rate number;
begin
 select NVL(SUM(rate), 0)
 into v_rate
 from (select rate
 from t2
 where start_date = TO_DATE(p1)
 and end_date = TO_DATE(p2)
 and user_id = '000000' || p3
 and seq_no = 0);
 return v_rate;
end;
/
```

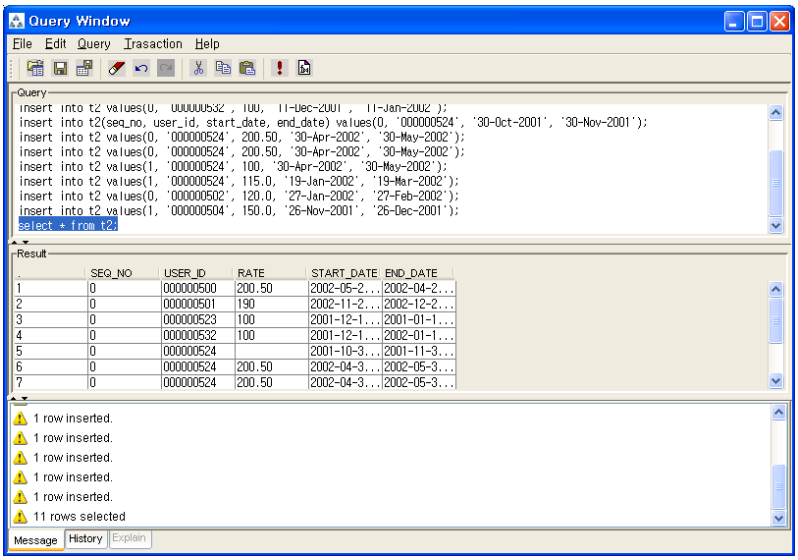
Figure 3-47 Typing Contents for Creating a function



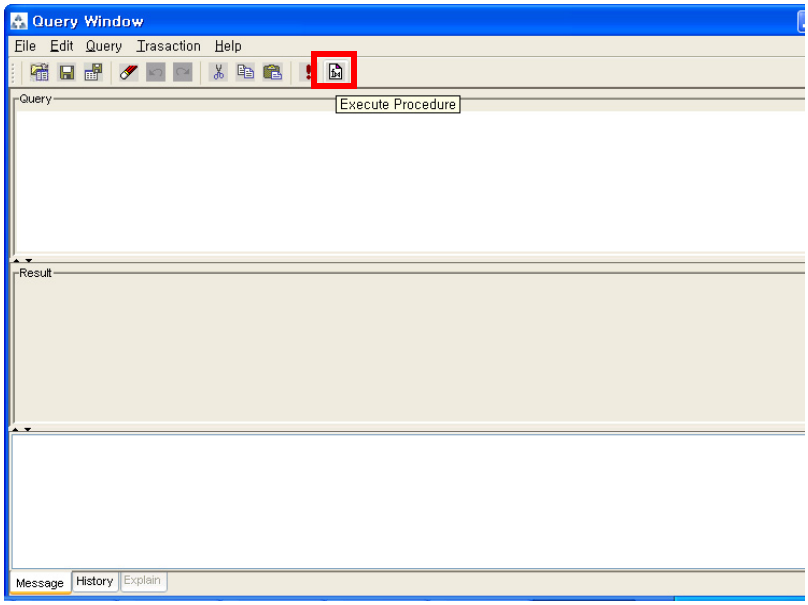
Excuting a Function

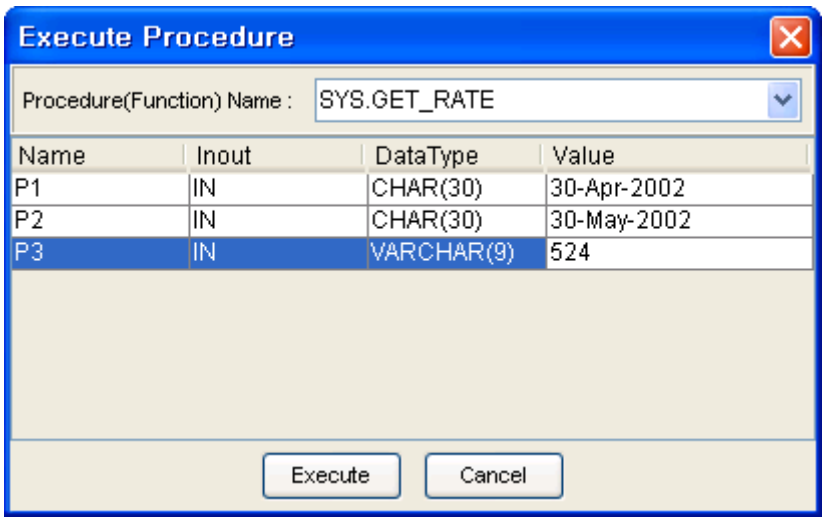
```
insert into t1 values(0, '000000500', 200.50, '23-May-2002', '23-Apr-2002');
insert into t1 values(0, '000000501', 190, '23-Nov-2002', '23-Dec-2002');
insert into t1 values(0, '000000523', 100, '12-Dec-2001', '12-Jan-2001');
insert into t1 values(0, '000000532', 100, '11-Dec-2001', '11-Jan-2002');
insert into t1(seq_no, user_id, start_date, end_date) values(0, '000000524',
'30-Oct-2001', '30-Nov-2001');
insert into t1 values(0, '000000524', 200.50, '30-Apr-2002', '30-May-2002');
insert into t1 values(0, '000000524', 200.50, '30-Apr-2002', '30-May-2002');
insert into t1 values(1, '000000524', 100, '30-Apr-2002', '30-May-2002');
insert into t1 values(1, '000000524', 115.0, '19-Jan-2002', '19-Mar-2002');
insert into t1 values(0, '000000502', 120.0, '27-Jan-2002', '27-Feb-2002');
select * from t2;
insert into t1 values(1, '000000504', 150.0, '26-Nov-2001', '26-Dec-2001');
select * from t2;
```

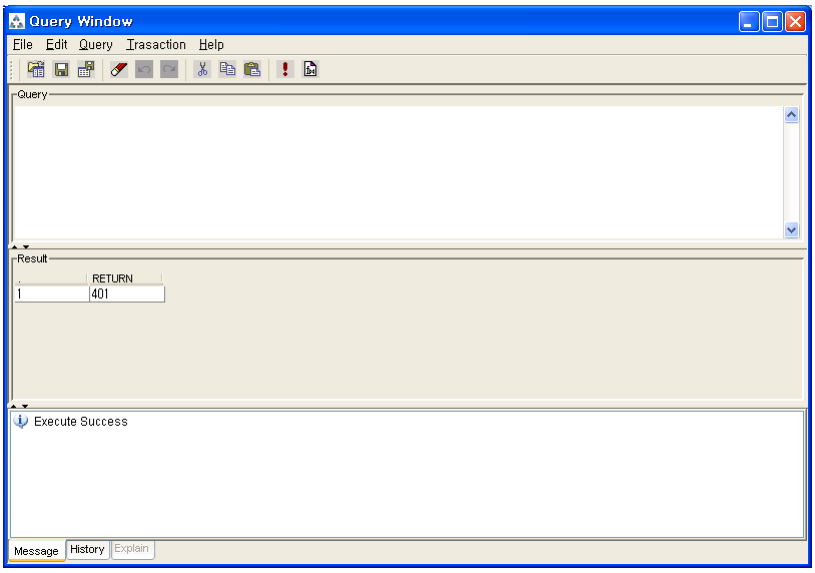
Figure 3-48 Function Execution Screen



Unlike procedure you must specify the variable to return the result of a function. However, you cannot declare that variable in the query window. If you selects Executes Procedure from the menu, enters data in each field, and clicks on the Execute button, the returned value will be displayed in the query window.







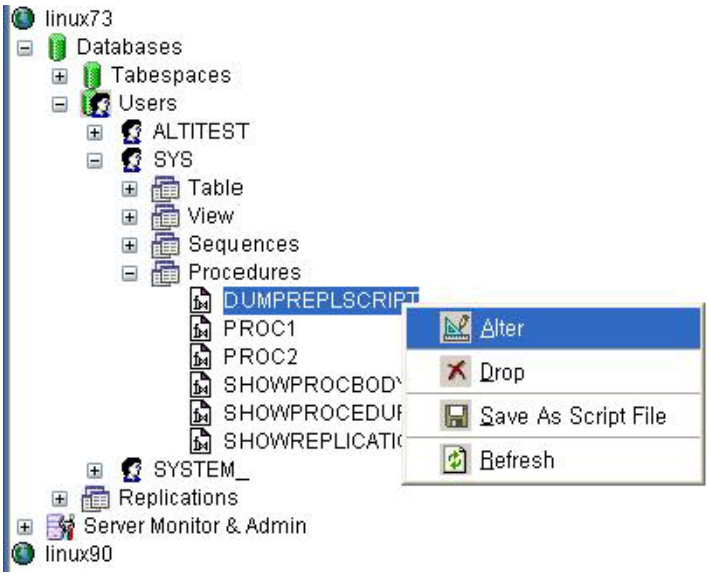
Working with the Procedure Menu

The following shows the shortcut menu of the procedure (or function).

You can execute Alter, Drop, Save As Script File, and Refresh commands for each procedure or function.

Figure 3-49 Pop-up Menu for Altering a Procedure

or



Alter

Replaces the corresponding procedure or function.

Drop

Drops the corresponding procedure or function.

Save As Script File

Saves the SQL script of the corresponding procedure or function as a file.

Refresh

Gets the current information of the replication from the server.

Not supported yet

Column level change such as column add and drop, and Help file, etc.

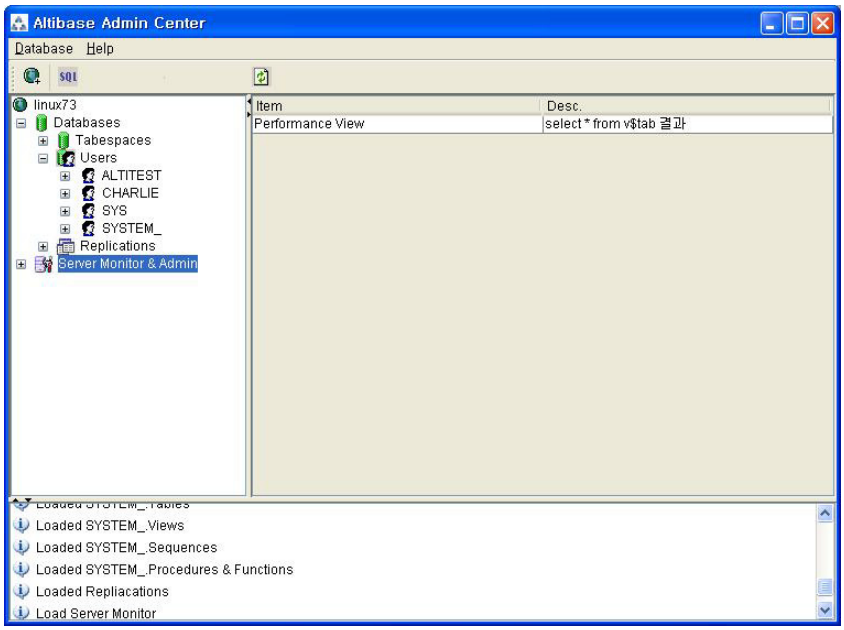
4 Monitoring a Database Server

The user can monitor internal information of Altibase - system memory, process status, and memory structure including buffer status by using the performance view.

Information for the Administration

By selecting Server Monitor & Admin menu, you can use Performance View.

Figure 4-1 Server Monitor and Administration Menu

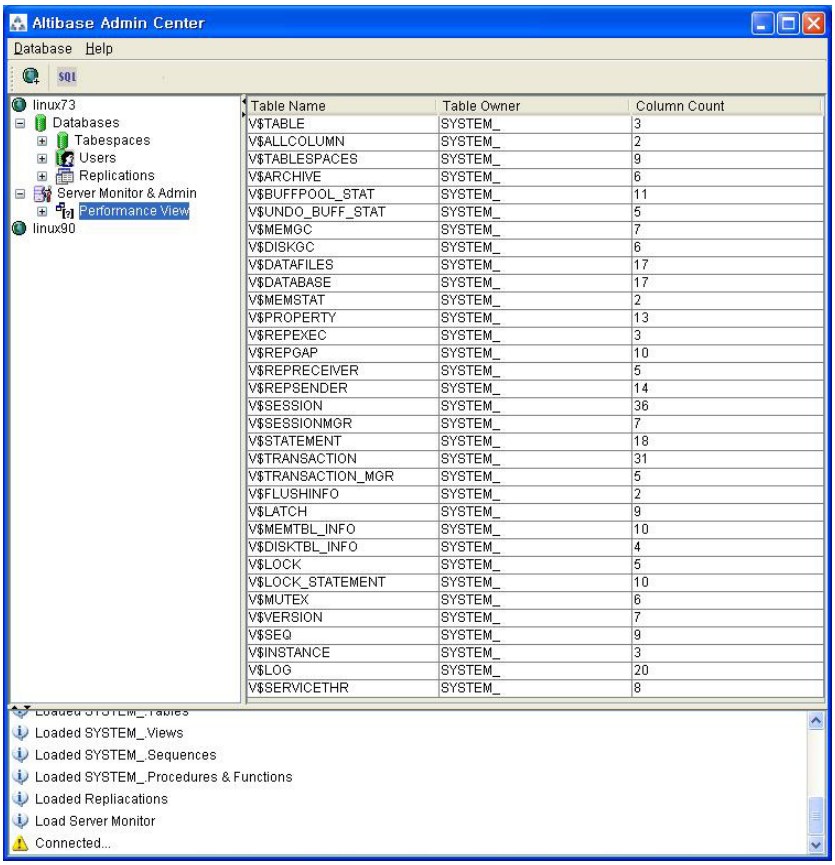


For more information about the performance view, see the Administrator's Manual.

Getting Performance View

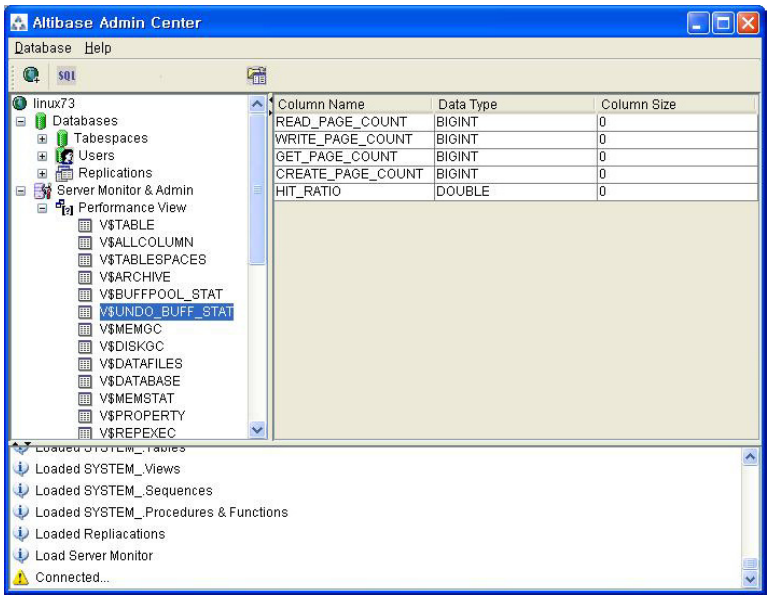
Select Performance View in the object tree on the left side to view information of current Altibase - data files, memory status, property status, replication, session, transactions, user and table information.

Figure 4-2 Performance View



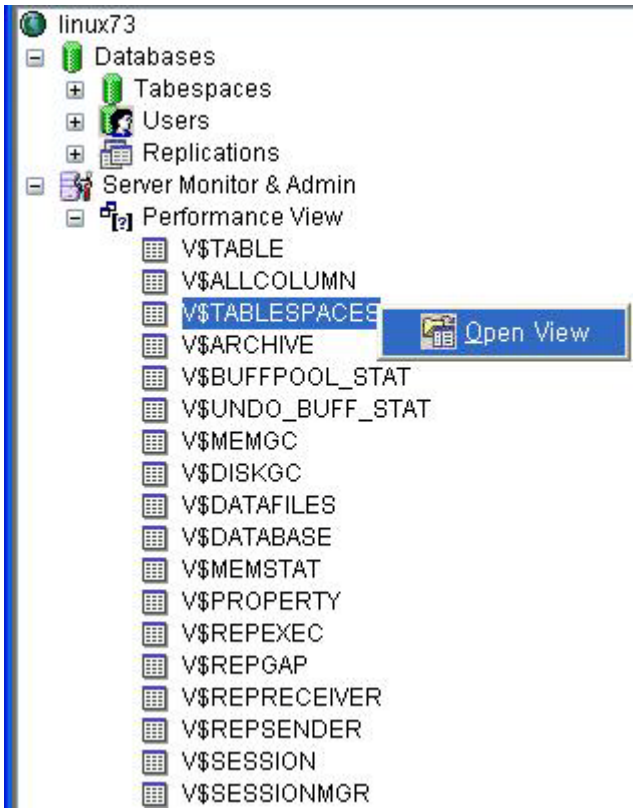
Select one view from Performance View to view information of all view columns.

Figure 4-3 Checking Column Information of the Selected Views



Listing Performance Views

Figure 4-4 Performance View Pop-up Men



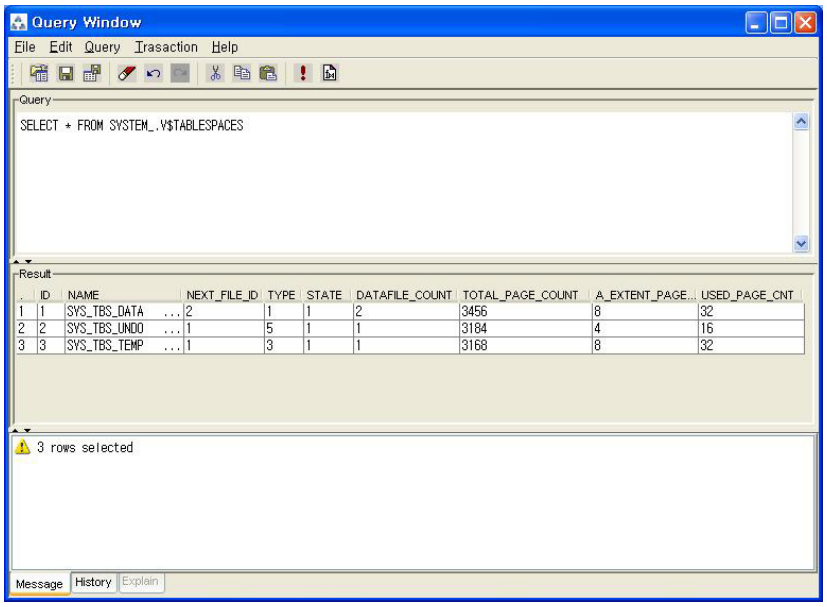
Open View

When the query window is opened for the corresponding view, you can view all the rows.

V$TABLESPACES and V$REPGAP are displayed as examples.

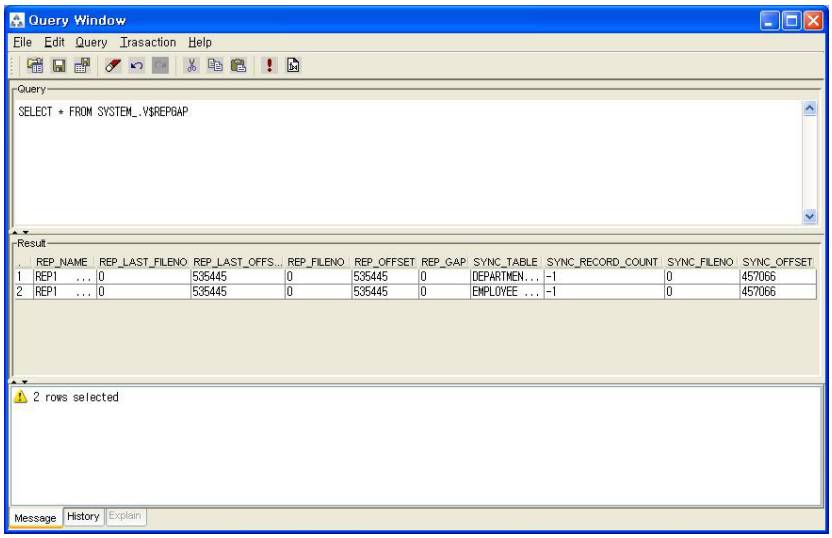
<V$TABLESPACES>

Figure 4-5 -V$TABLESPACES Check



<V$REPGAP>

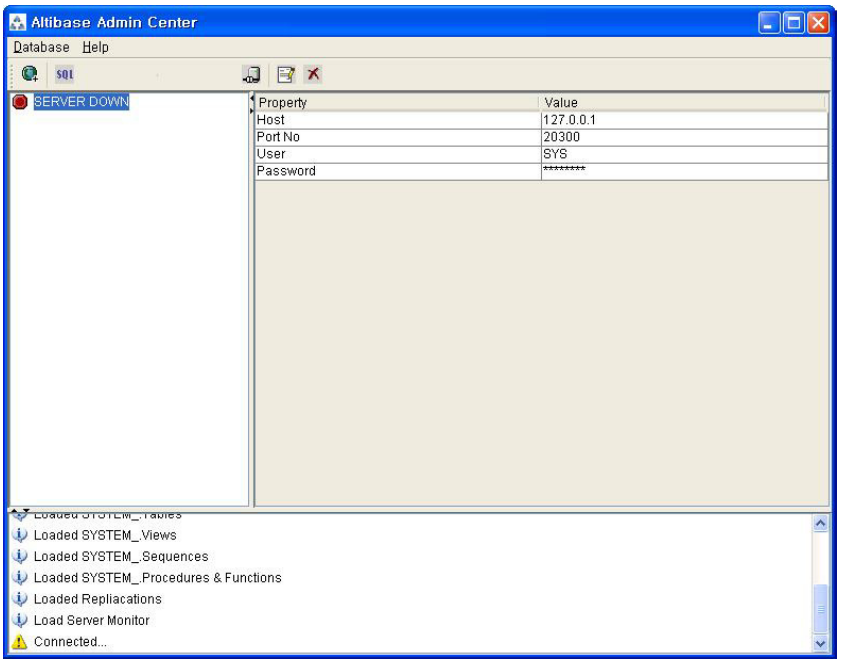
Figure 4-6 -V$REPGAP Check



Warning Server Termination

Informs the termination of the server (including abnormal termination) Checks the connected server every 10 seconds, and informs the termination of the server with "beep" sound as shown below:

Figure 4-7 Server Termination Warning



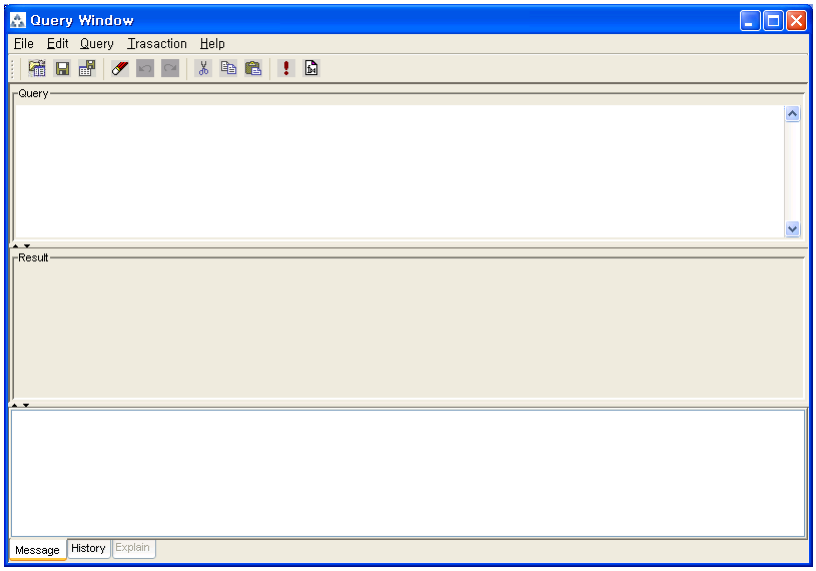
5 Interactive Query Windows

The user can use the existing feature of iSQL using the GUI tool. The query window consists of the editing window where the user can edit the query statement, the result window that shows the result of Select query, the message window to display the execution messages, and the history window that stores the executed queries.

Starting a Query Window

When the query window is opened, the following will be executed:

Figure 5-1 Query Window Initial Screen

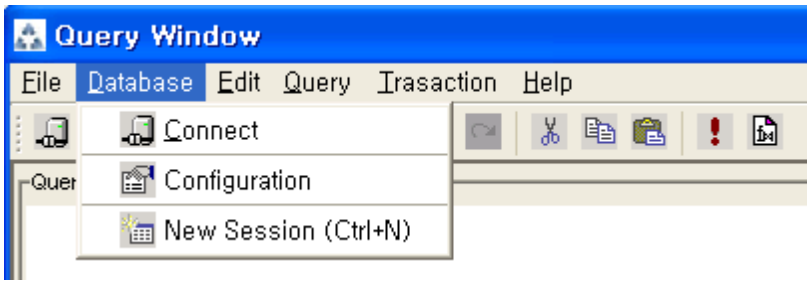


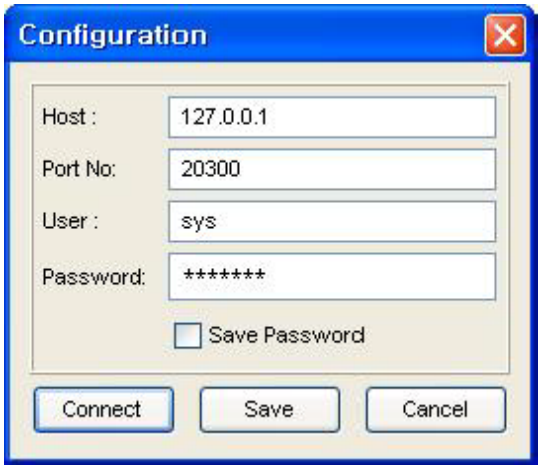
Connecting to a Database in the Query Windows

To connect the query window to Altibase server without executing the admin center, the user must execute the query window batch-processing file (QueryWindow.bat). When the query window appears, select Database -> Connect from the tool bar menu and enter connection information to connect to the server. In case connection information is already stored, the server will be immediately connected. Select Database -> Configuration from the tool bar not only to modify existing connection information and connect to the server but also to store modified information. (Select Connect button inside the frame to connect to the server after storing the data.)

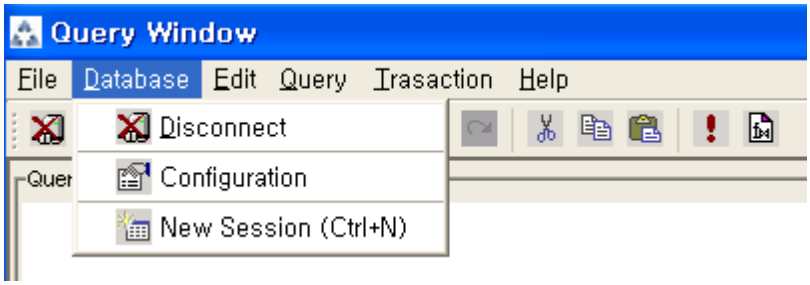
You should enter IP address of the server, port number, user name and password to establish a connection.

Figure 5-2 Connecting to Server in Query Windows





After the connection is established, above Connect menu will be changed into Disconnect menu as below.



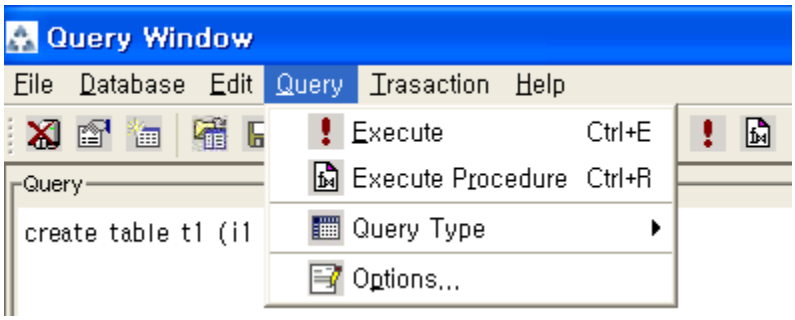
* You can execute the query by opening the query window with a new session.

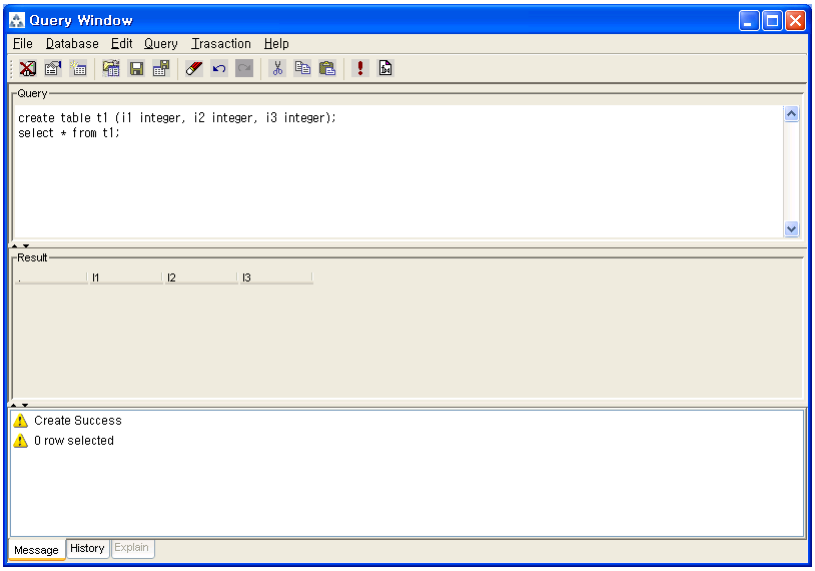
Running SQL Statements

Executing SQL Statements

After connection with the server is successfully established, enter the SQL statement in the query window and select Query -> Execute from the tool bar.

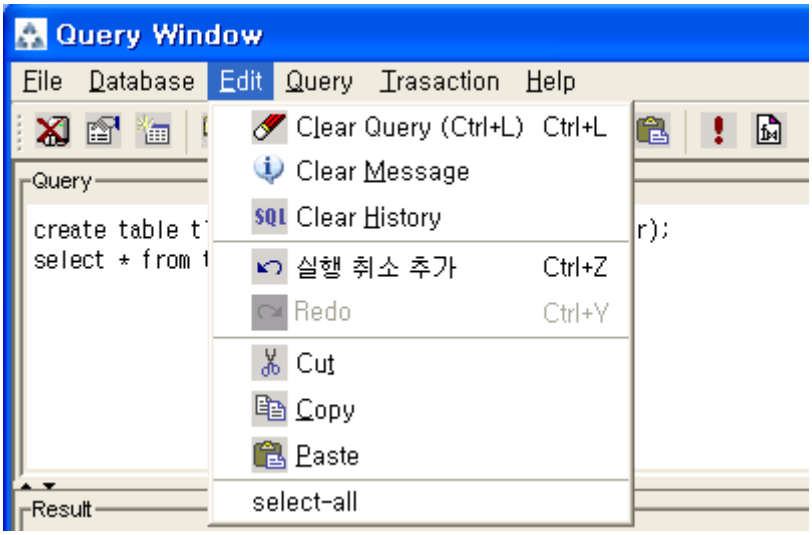
The result set of the select statement will be displayed in the result window . However, the result of Insert, Update, or Delete statement will be displayed in the lower message window.

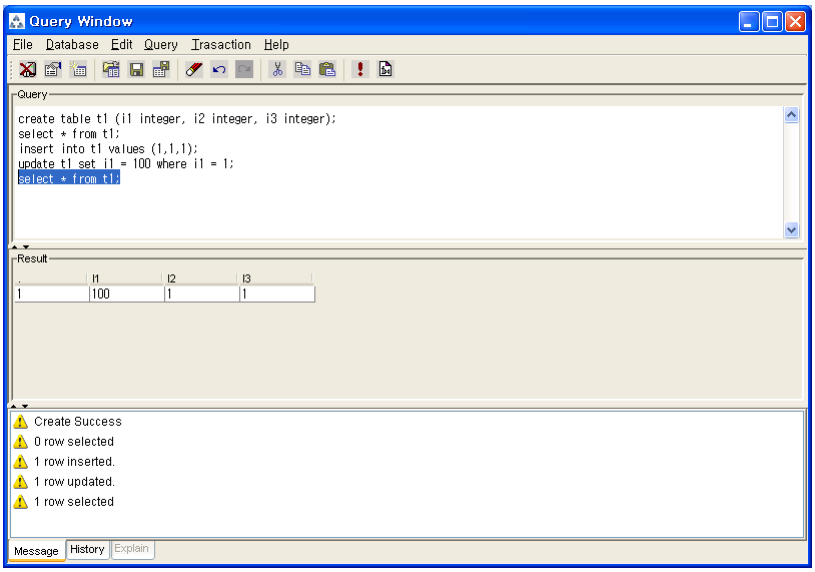




The query input window provides basic text-editing features - Copy, Cut, Paste, Select All, Redo, Undo, Clear Query, Clear Message, and Clear History.

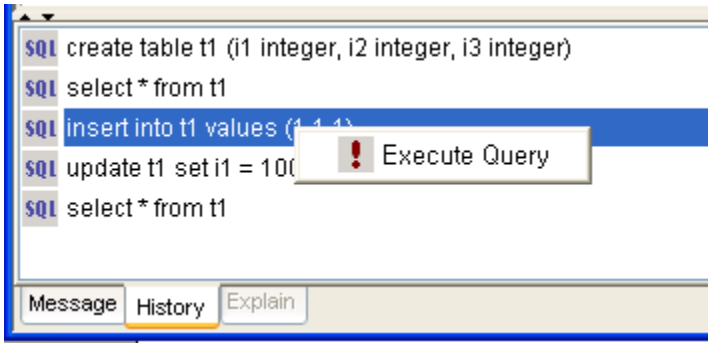
The executed queries are stored in History tab located next to the Message tab.





Query Window executes only one SQL statement at a time. Editting several SQL statements, execute them keeping a specific SQL statement dragged with your mouse, and then only selections of them are executed.

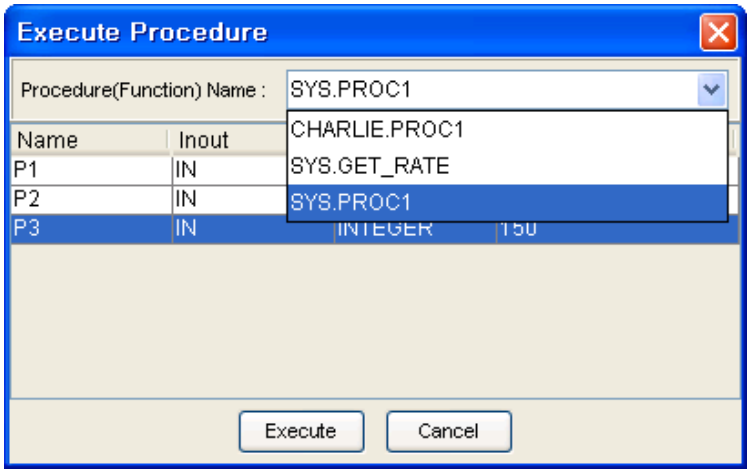
SQL statement in the History tab can be edited in the query window by double-clicking it or execute it directly by selecting Execute query from the shortcut menu.



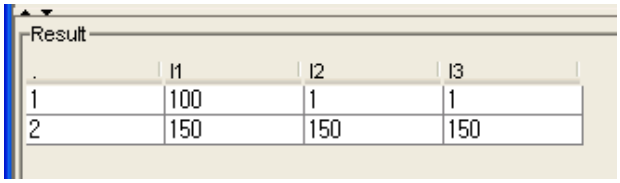
Executing Stored Procedures

After successfully establishing a connection with the server, select Query -> Execute Procedure from the tool bar.

Select this menu to view the list of current procedures and functions in the list box. Select one of them to view the list of arguments. Enter necessary value for In or In Out type argument, and execute it.

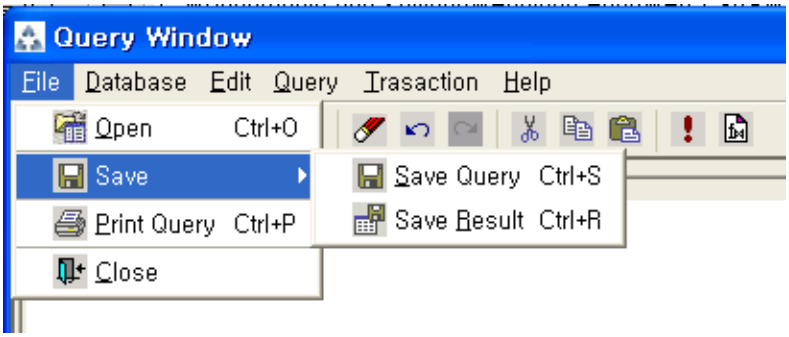


Then, you can check the execution result by selecting the data from the table of which data has been changed by the procedure.



Saving Query Results

The user can save SQL statements in the Query window and the data in the result window as a file. Select File -> Save and select Save Query or Save Result. The default extension of the stored file is *.sql for the query and *.dat for the result. The format to store the result is the same as the default format of the loading data (column identifier - ^, record identifier - new line).



* Query.sql

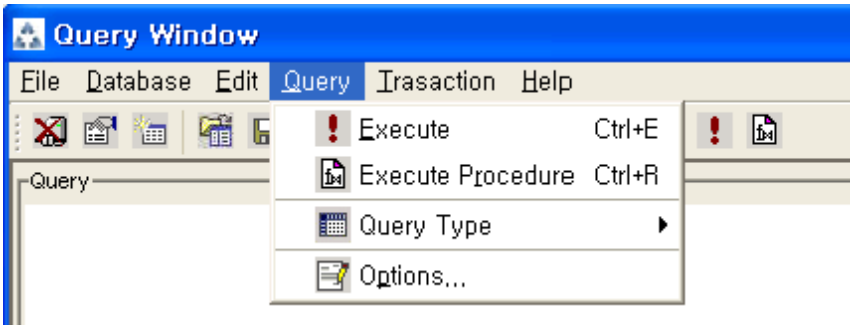
```
create table t1 (i1 integer, i2 integer, i3 integer);
select * from t1;
insert into t1 values (1,1,1);
update t1 set i1 = 100 where i1= 1;
select * from t1;
-- execute procedure proc1
select * from t1;
```

* Result.dat

```
100^1^1
150^150^150
```

Query Execution Options

Select Query -> Options from the tool bar to change the environmental setting like the limit and the timeout.

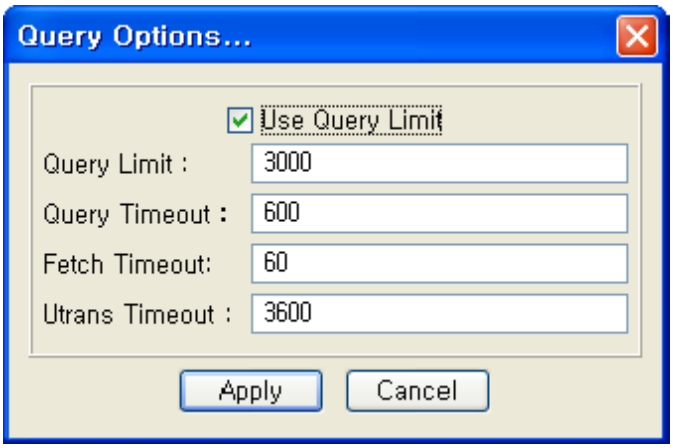


Qeury limit is to limit the number of rows fetched from the select statement and the default value is 3000.

Query Timeout is used to prevent the size of the database from excessively increasing by the long running operation. The default value is 600 seconds.

Fetch Timeout is used to prevent the database memory size from excessively growing by the long running Select statement. The default value is 60 seconds.

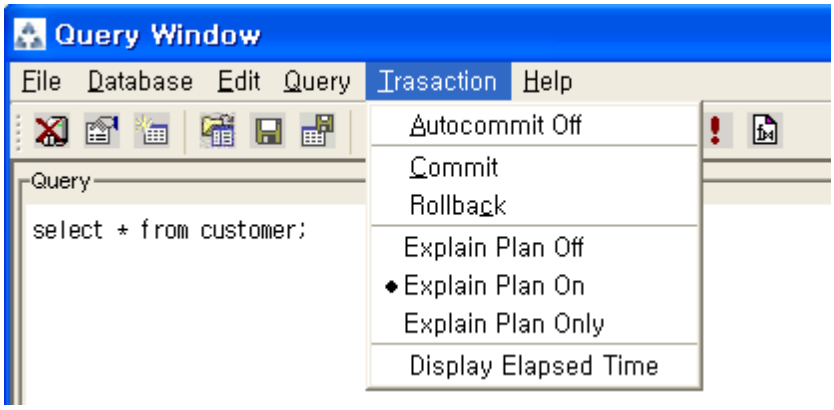
Utrans Timeout is used to keep the number of log files from excessively increasing by the long transaction query. The default value is 3600 seconds.



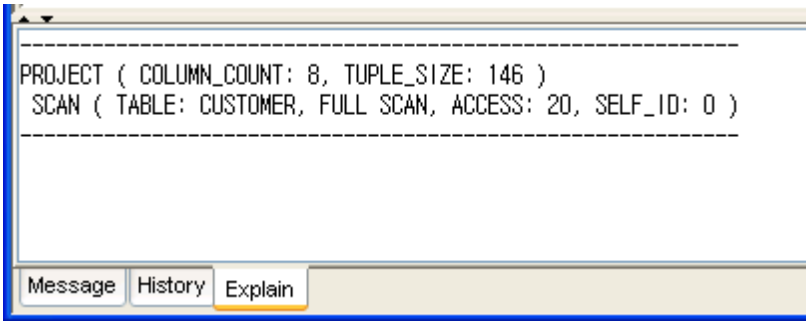
Transaction Processing Options

You can set the autocommit mode of the corresponding session, and execute commit and rollback depending on the mode. (Commit and Rollback are not availble in Autocommit On mode.)

In case of Select statement, you can view the plan tree for having better performance. The plan tree is outputted by setting Explain Plan option. Explain Plan On option outputs Explain plan by executing SQL statement simultaneously and Explain Plan Only option outputs only Explain plan without executing SQL statement. Refer to Administrator's Manual for specific description of Explain Plan.



The following shows the result when Select statement is executed after Explain Plan On is set.


PROJECT (COLUMN_COUNT: 8, TUPLE_SIZE: 146)
SCAN (TABLE: CUSTOMER, FULL SCAN, ACCESS: 20, SELF_ID: 0)
Message
History
Explain

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