# RDB Connect

By


Web: http://www.prodatacomputer.com

## Introduction

RDB Connect is a collection of commands and functions allowing IBM i users connection to remote databases. RDB Connect is pre-configured to access MySQL, Microsoft SQL Server, Oracle, Postgre, DB2 8.1 and above, and DB2 for the IBM i. Other databases can be configured manually (see RDBJARCFG). An ODBC connection is also available via an included PC component.

RDB Connect will run on IBM i with an operating system version of V5R4M0 and above. It requires an IP connection to the remote server that is running the database to access.

This document will cover the usage of RDB Connect functions and the commands that are shipped with the software. Service program function prototypes and example usage are available in the source file **RDB40/RDBSRC**.

After installing RDB Connect, a subsystem called **RDBSBS** will be created in the RDB40 library. This subsystem must be active to use RDB Connect. The subsystem will contain a job called **RDB CONNECT** jobs that handle the processing of the requests.

Technical support is available M-T 8:00 am - 5:00 pm CST. Friday 8:00 am – 4:00 pm CST (except holidays)

Email – help@prodatacomputer.com
Phone – 1.800.228.6318 option 2

**NOTE:** Before installing RDBConnect 4, check if Java 1.5 or above is installed and running on your System for better performance and JDBC driver compatibility.

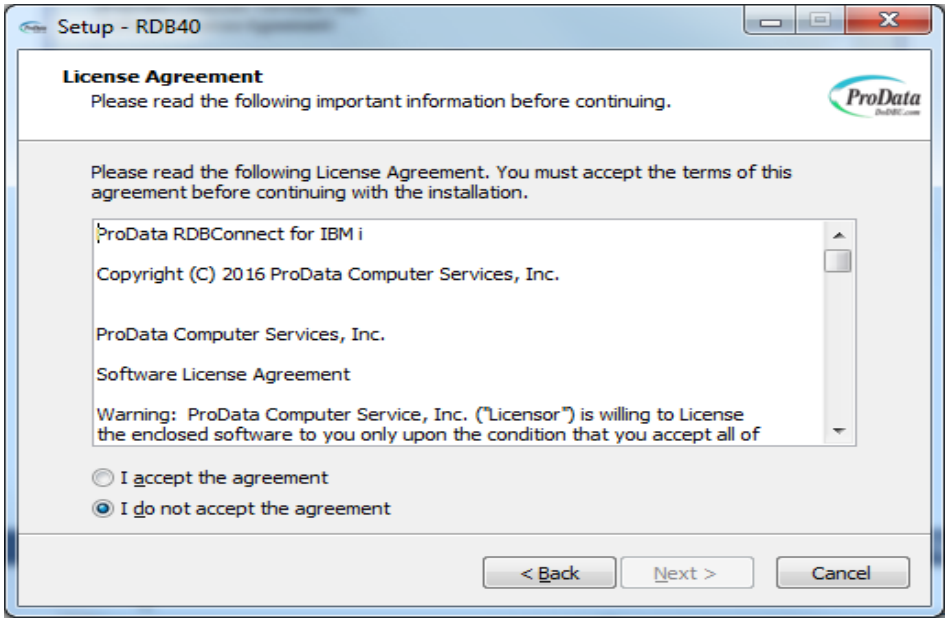
# Installation

**Step #1**
A splash screen will appear and a series of notices informing you of the process being performed. After which the following screen should appear. Click the **Next** button to continue the installation process.


**Step #2**
The installation process requires a connection being established to your iSeries (AS/400) host computer. The following notice may appear informing you for the need of a connection.
Once you have verified the connection to your iSeries (AS/400) host.

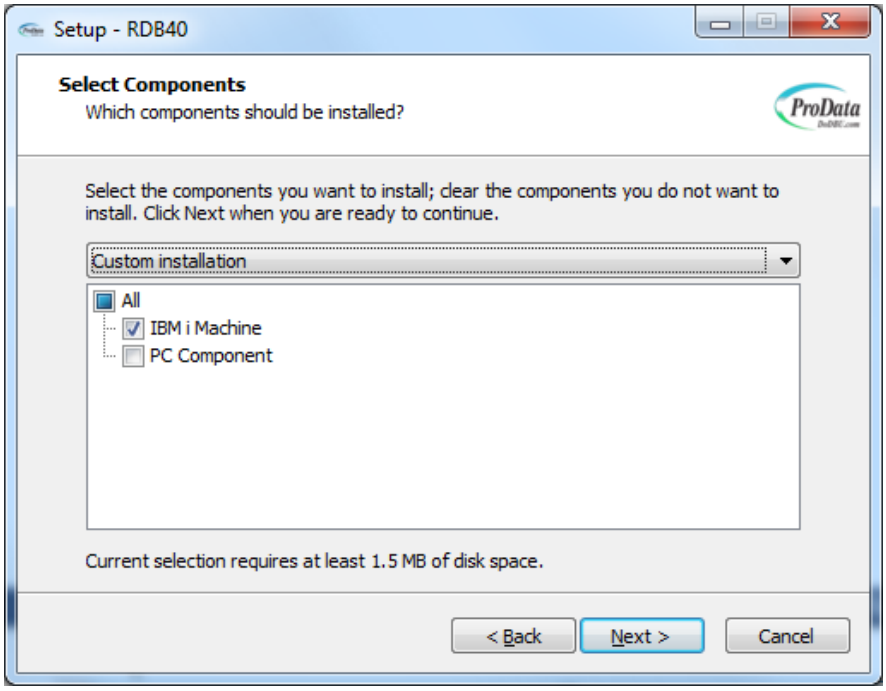
You must have *IOSYSCFG authority. Once you have verified your authority, click the OK button to continue the installation process.

**Step #3** Please read the *License Agreement* and upon accepting the agreement, click the **Next** button to continue the installation process.

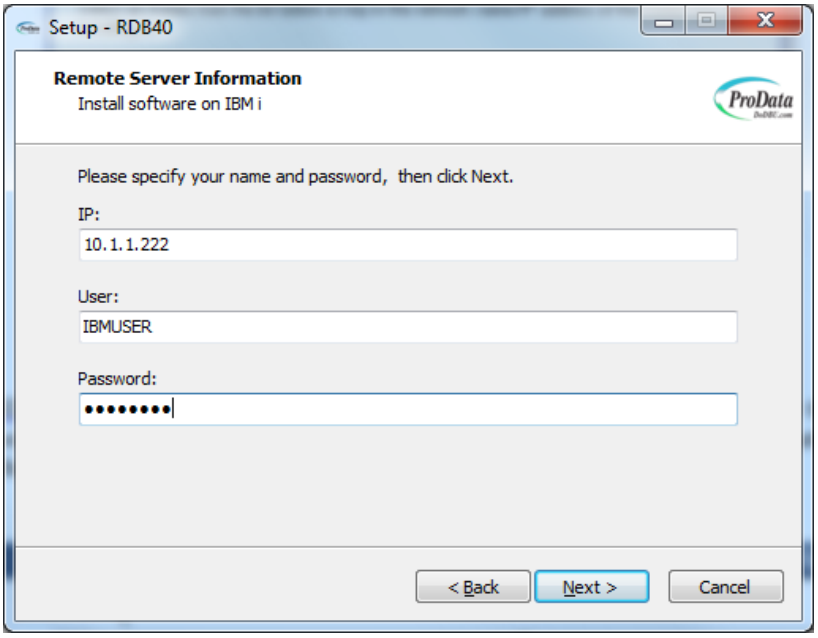



**Step #4**

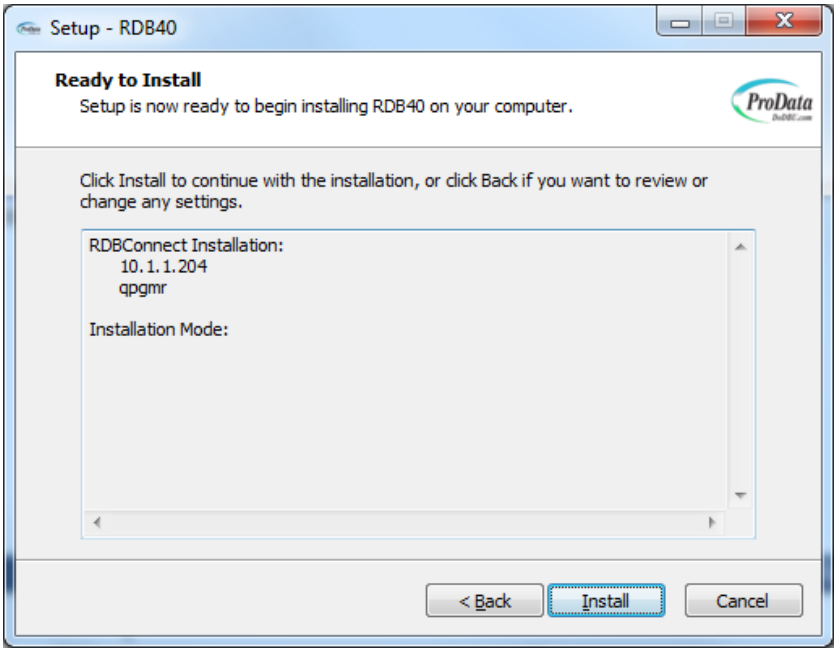
This screen gives you the option to select which components you would like to install. You must select IBM i Machine to complete the installation.



**Step #5**
Type the **IP Address, User and Password** in the space provided of the iSeries (AS/400) host computer. Once you have completed the iSeries (AS/400) host computer selection, click the **Nex**t button to continue.



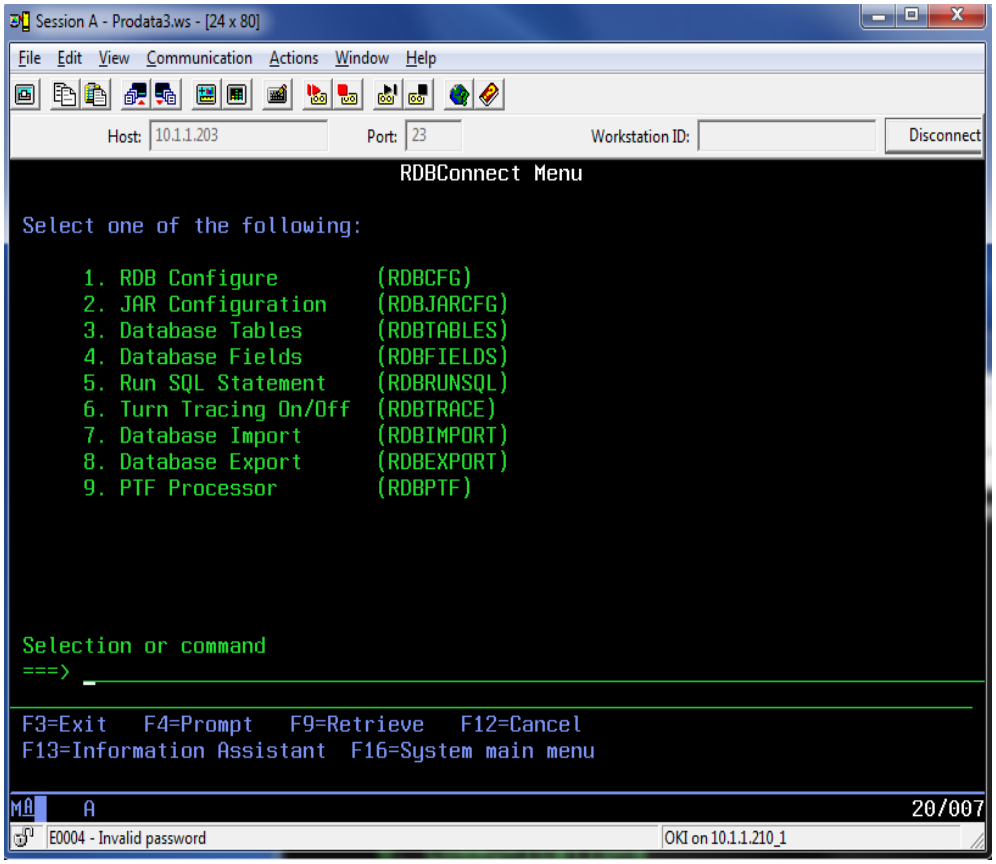

**Step #6**
Click Next to install RDBConnect on the iSeries(AS/400) host computer.



**Step #7** The last screen that should appear is the **Completion** screen. Press the **Finish** button to complete the installation process.

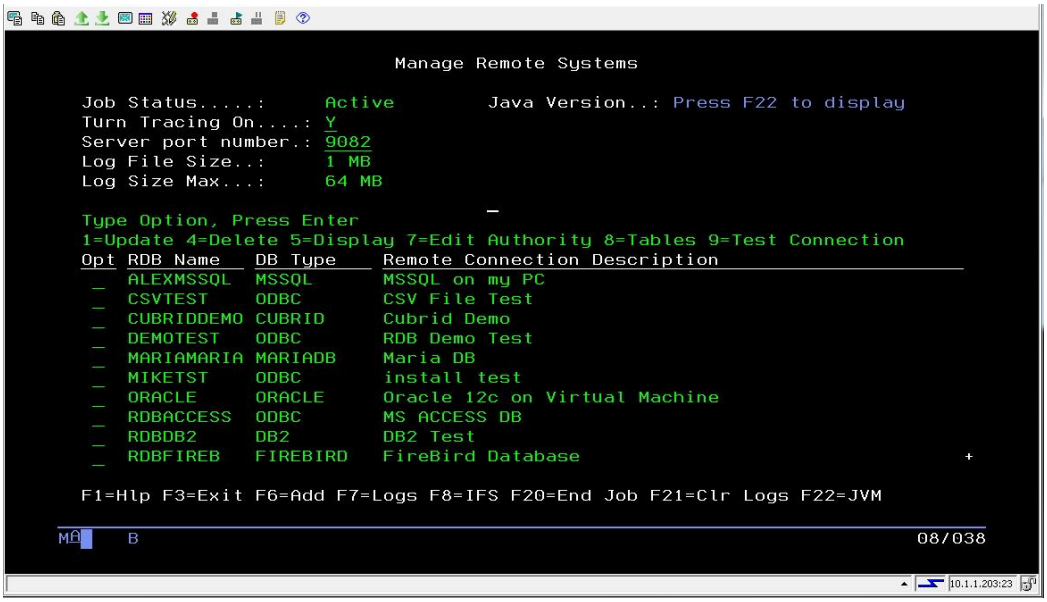
# *RDBConnect Menu

To start the RDB Connect menu, from a IBM I command line execute the command **ADDLIBLE RDB40 .** Execute the command **RDBMNU.** Type an option on the command line to execute the program.



# *Configuring RDB Connect

To start configuring RDB Connect, from a IBM i command line execute the command **RDBCFG** or option 1 from the RDB Connect Menu. This will take you to the **Manage Remote Systems** screen.




**Maximum Connections** – This is the maximum number of threads the **RDB CONNECT** job will create. The default number of jobs is 50.

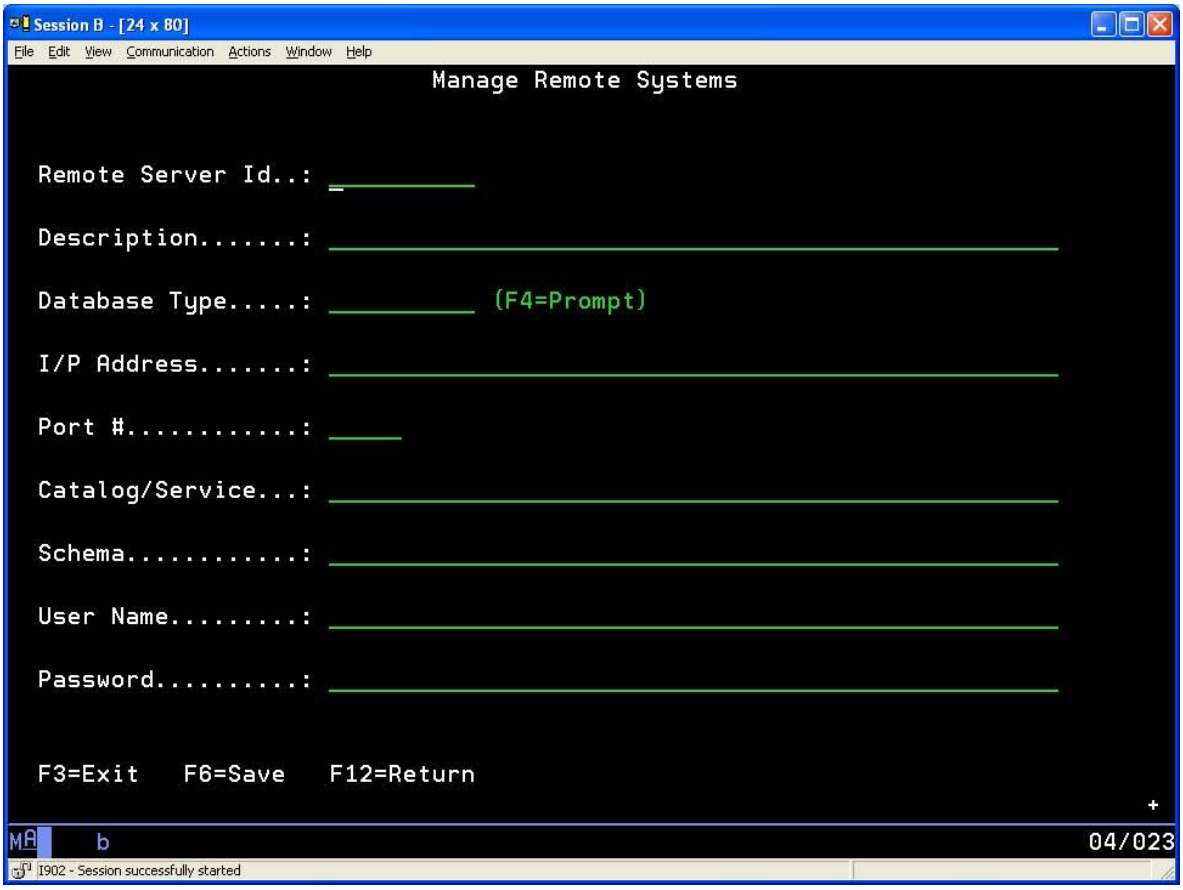
**Turn Tracing On** – Default is N. Set to Y when troubleshooting with ProData Tech Support. This value can be changed at any time from this program. The command **RDBTRACE** can also be used for this function.

**Server port number** – This is the IP port that the **RDB CONNECT** job will use to answer requests for RDB transactions. This port must be available. 9082 is the default. Press **F6** to add a remote connection.

***Job Status** - This indicates the RDBConnect job status in subsystem RDBSBS
***Log File Size** – This is the actual size of the log tracing file in IFS
***Log Size Max** – This is the maximum file size before a warning message is sent to the operator if the warning flag is set to 'Y'.

# *Function Keys – This will explain the addition of new function keys.

**F7=Trace Logs** – This will display the trace logs stored in IFS.
**F8=IFS** – This will take you to the IFS directory
**F20=End Job** – This will end the subsystem job RDBConnect in RDBSBS
**F21= Clear Logs** – This will clear the IFS trace logs.




Enter the information for the remote database.

**Remote Server ID** – This is the name that will be used when referencing this database connection.

**Description** – The description for this remote connection.

**Database Type** – The type of database being configured. Preconfigured databases:
MYSQL – www.mysql.org (an open source database)
MSSQL – Microsoft SQL Server 2000 and above (JTDS driver)
MSSQL2 – Microsoft SQL Server 2000 and above (Microsoft driver). Requires i5/OS V5R4 and above using JRE 6 and above.
ORACLE – Oracle server 9i and above
POSTGRE – www.postgresql.org (an open source database)
DB2 – IBM DB2 8 and above (not OS/400 or i5/OS)
DB2I – IBM DB2 for OS/400 and i5/OS
FIREBIRD – www.firebirdsql.com (an open source database)
ODBC – A PC based database using a System DSN. Must have RDB PC module loaded.

**I/P Address** – The I/P address used to access the remote database. This can also be an entry from the host table.

**Port #** – The port number to be used with the above I/P address to connect to the remote

database. If using the default port for the specified database type, this can be left blank. When in doubt, specify the port number.

**Catalog/Service** – Some databases require a Catalog or Service to be specified on the connection. If one is required for the database specified, enter it here.

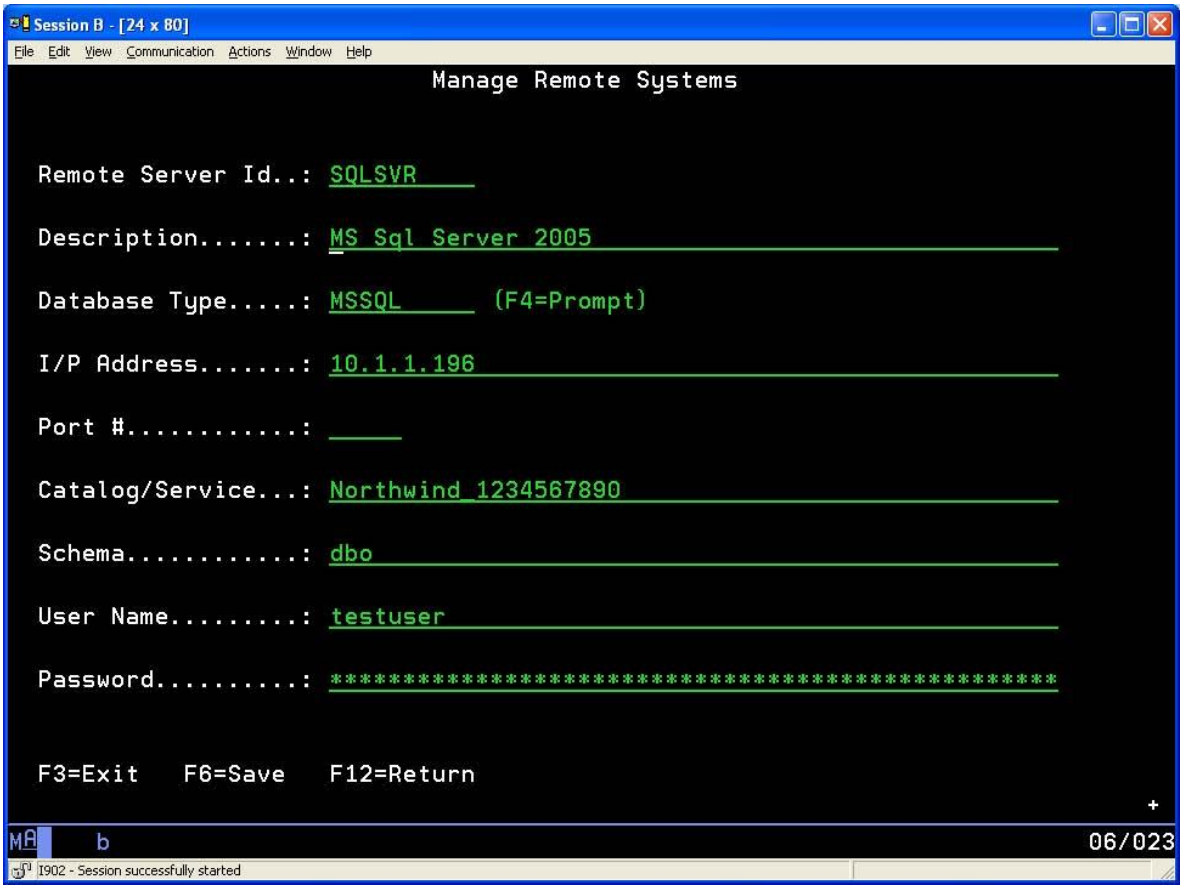
**Schema** – The schema for the remote database.

**User Name** – The user to be used when connecting. This user id will control the authority on the remote database when using this connection. This user name must be configured on the remote database. ** For Microsoft SQL Server using Windows (NTLM) authentication instead of the usual SQL Server authentication, the user name should be in the format of domain/user. This allows non-Windows clients to log in to servers which are only configured to accept Windows authentication.

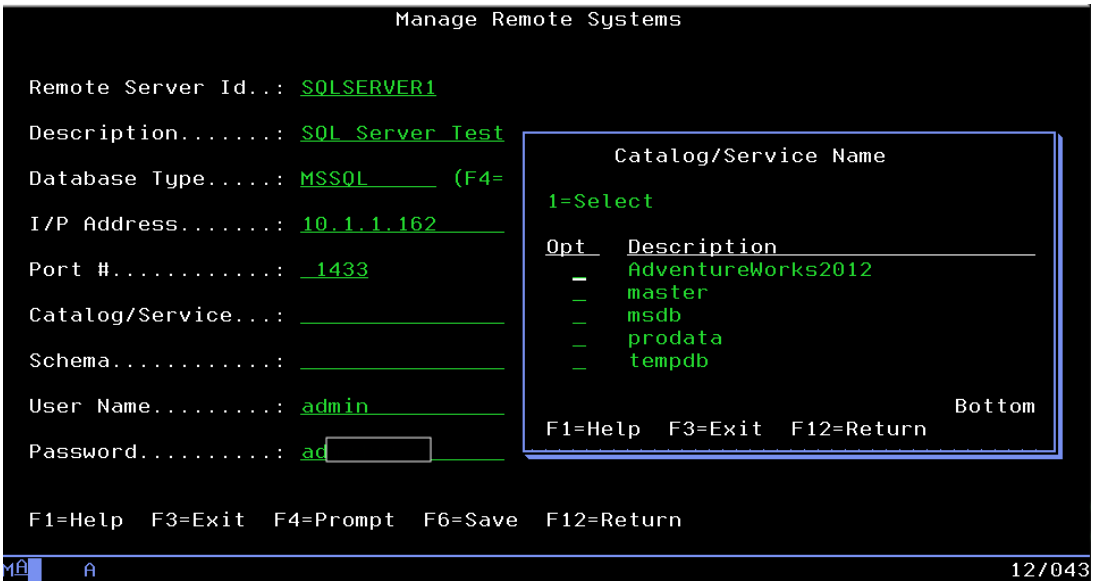
**Password** – The password for the above entered user name.

To save the information, press **F6**. The information entered will be encrypted 256 bit and stored in a IBM i object. The object will be named the same as the **Remote Database ID** and be placed in the RDB library. IBM i object level authority can be used, with this object, to add another level of security to the remote connection.

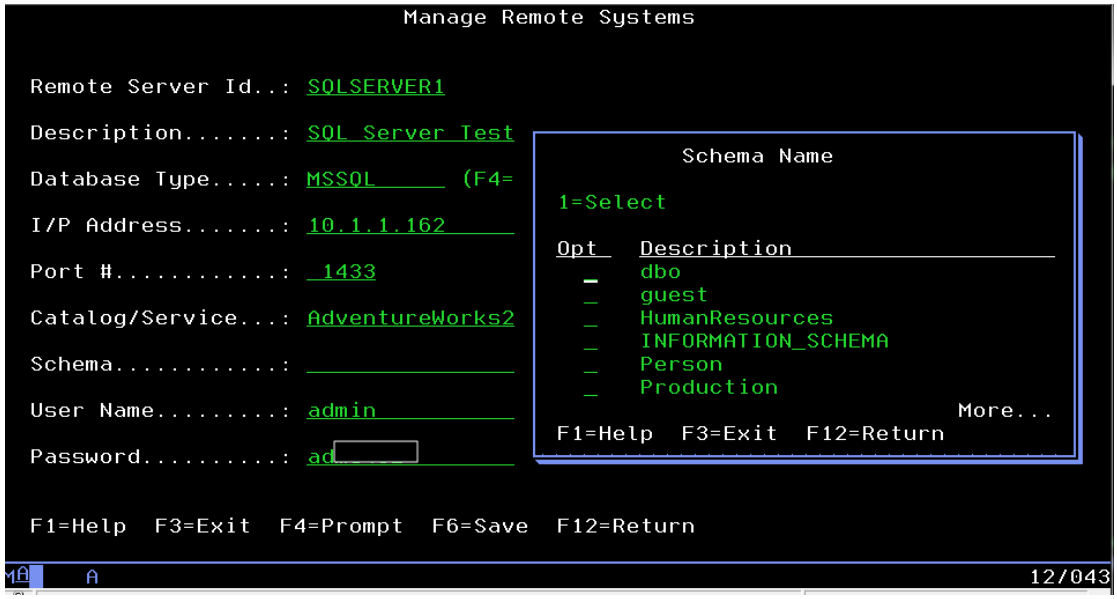
The example below is for a SQL Server configuration.



# New prompt windows added to RDBCFG




New prompt field added to display all Catalog/Service Names. A User ID, Password, valid IP Address and Port must be provided for this option to work.

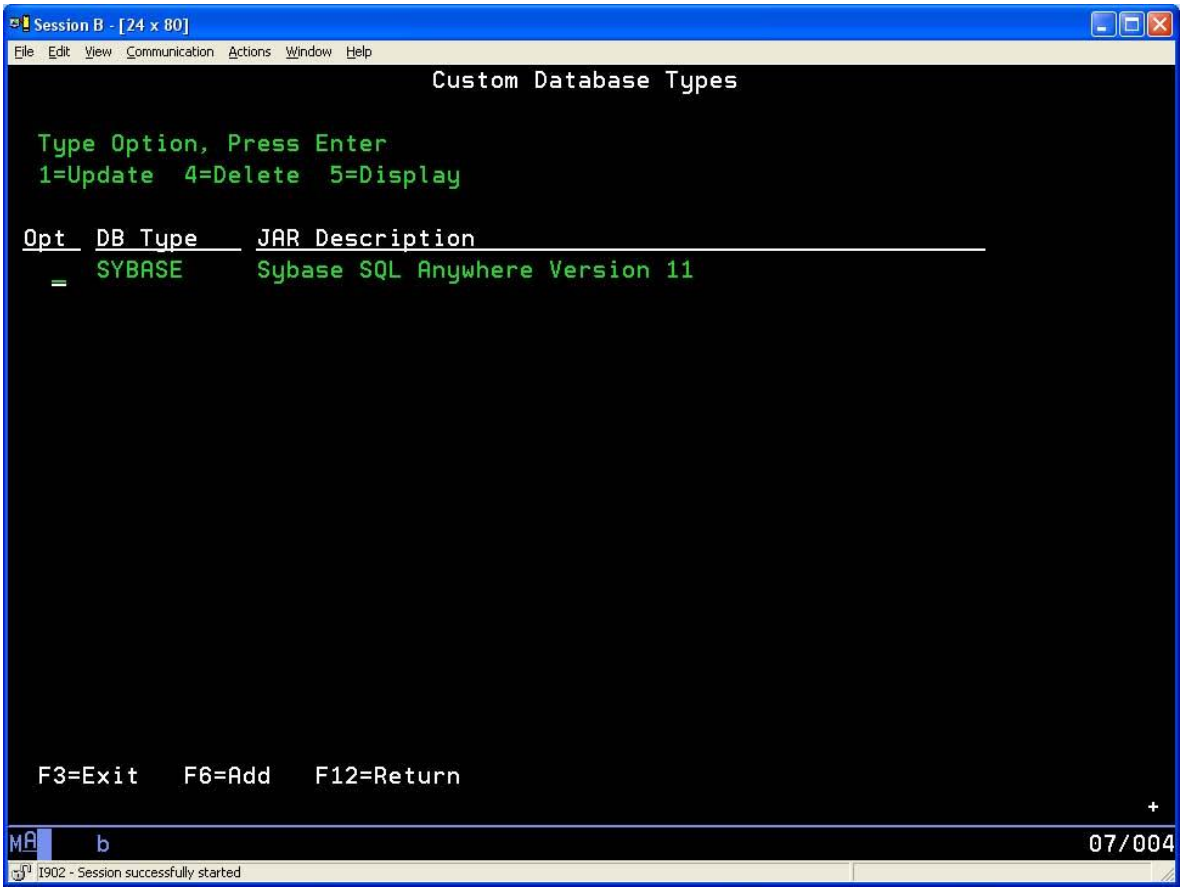



New Schema prompt – Retrieve a list of schemas. A valid Catalog/Service name must be provided for this option to work.

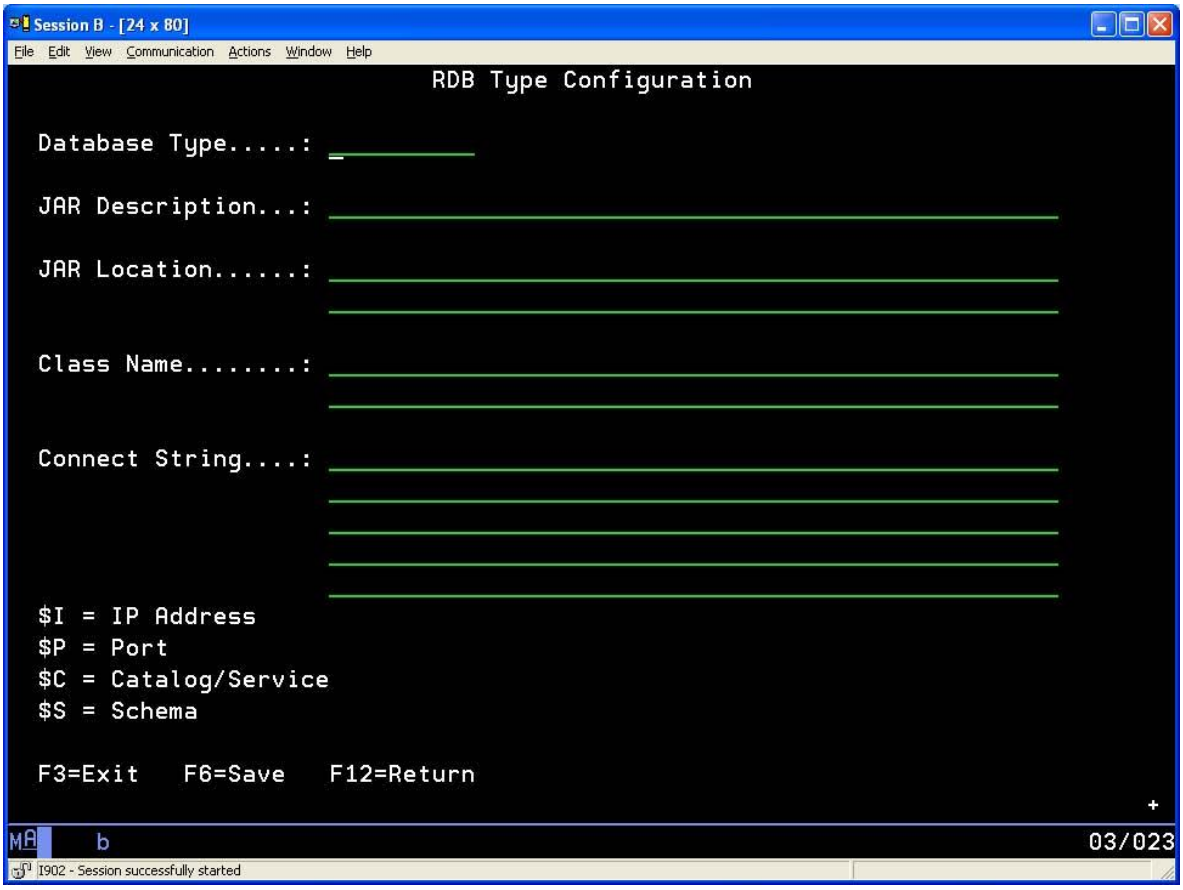
**NOTE:** Currently the Catalog prompt will work on the following remote databases
MSSQL, MYSQL and POSTGRES
The Schema prompt will work on the following remote databases
MSSQL, ORACLE and POSTGRES

## Configuring a RDB Custom Database

RDB Connect can be configured to access any database of your choosing. You must have a JDBC driver for the database and it must be in a directory on the IFS. To configure a custom database execute the command **RDBJARCFG**. This will take you to the **Custom Database Types** screen.




Press **F6** to add a custom database.




Enter the information for the custom database.

**Database Type** – This is the name that will be used when referencing this custom database type. It will appear in the prompt list when configuring a connection.

**JAR Description** – The description for this custom connection.

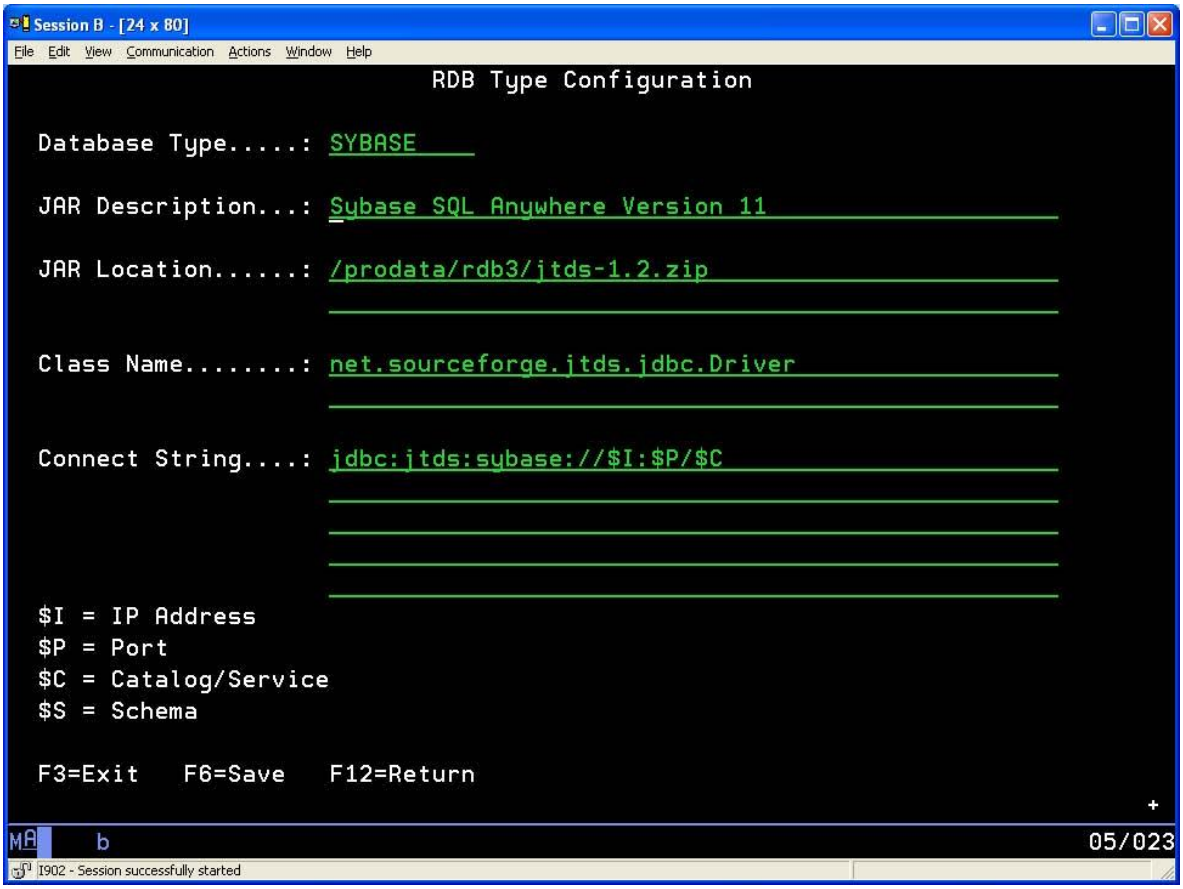
**JAR Location** – The path on the IFS for the jar file containing the JDBC driver of this database.

**Class Name** – The JDBC drive class name. This must be the complete jar path

**Connect String** – The string used to connect to the custom database. This string must contain the $I substitution variable and optionally the $P, $C, and $S.
$I – The IP address of the remote database will be placed at this point in the connection string.

$P – The port number of the remote database will be placed at this point in the connection string.
$C – The Catalog/Service of the remote database will be placed at this point in the connection string.
$S – The Schema of the remote database will be placed at this point in the connection string.

The example below is for a Sybase configuration.



## Configuring a PC Database

RDB Connect can be configured to access a database on a PC that does not have a JDBC driver. The database must have an available ODBC driver. This function requires two things. The RDB service running on the PC and a DSN defined for that database.

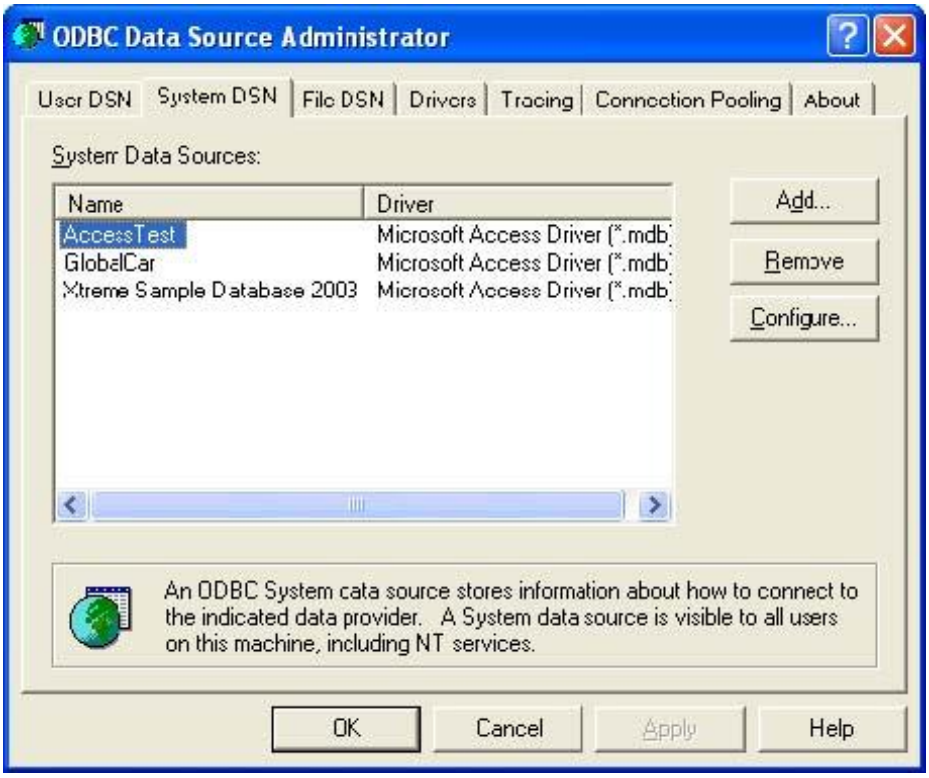
When installing the RDB software, there is a checkbox for the “PC Component”. Select this option to install the PC software on the appropriate computer. This will create a directory “Program Files/Prodata/RDB4” and place the required programs in that directory. Two batch files will also be placed in the directory. The file “RDBServiceStart.bat” must be modified. The first line in the file is the configuration command for the service. It contains the path to the JVM on your PC. This path must be correct. If it is not, please change it. Example:

RDBService -i -J "C:\\Program Files\\Java\\jre1.6.0_05\\bin\\client\\jvm.dll" -P 9082 -L 100 –T

The portion that needs to be modified is following the “-J” parameter. This is the path to the jvm.dll object. The “-P” parameter controls the port that will be used for communication to the PC. The default is 9082. The “-L” parameter controls the number of listeners that will process requests on this PC. The default is 100. The “-T” parameter controls the use of the trace log function. This is useful to troubleshoot issues. The “-i” parameter causes the service to be installed.

After the batch file has been changed to contain the correct values, it can be executed to start the service. To end the service, execute the “RDBServiceStop.bat” file.

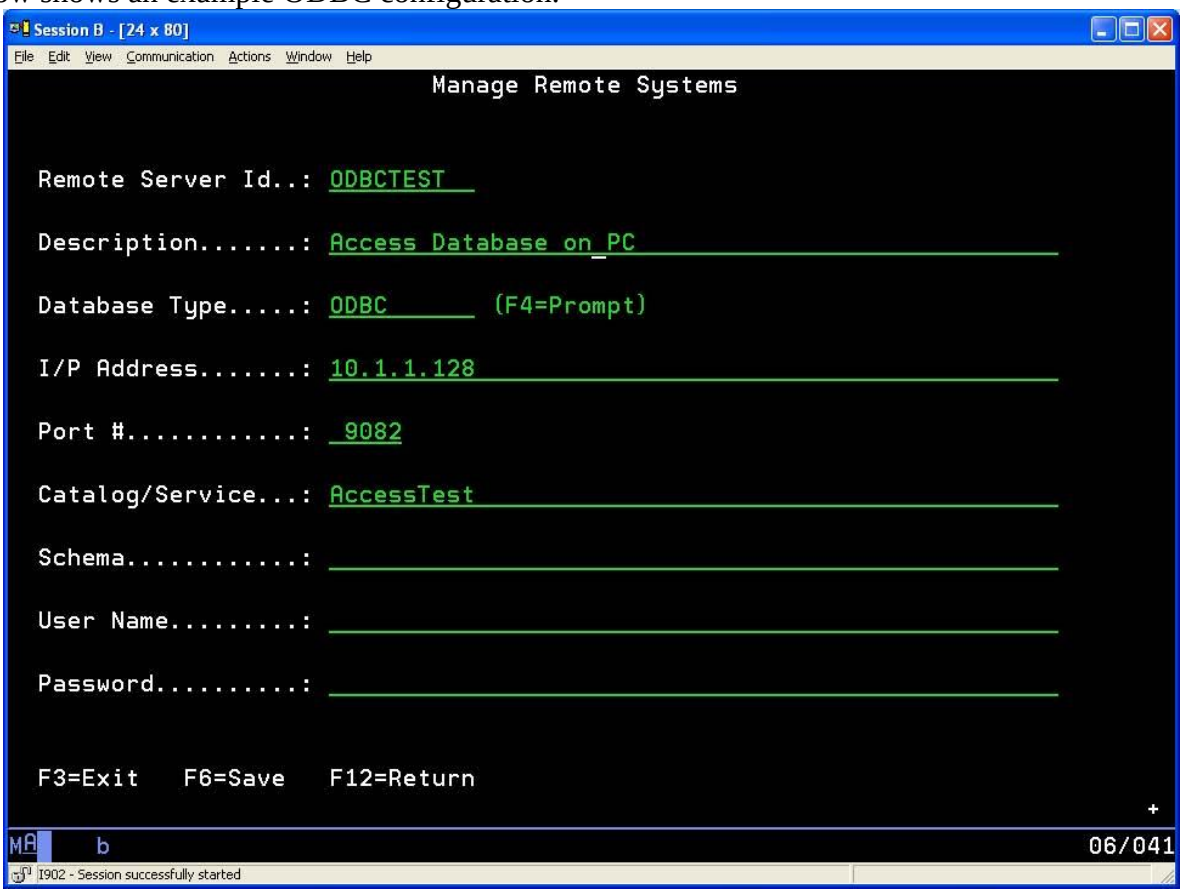
To configure a connection the PC database you must setup a DSN on the PC. This is done via the Control Panel->Administrative Tools->Data Sources (ODBC).



You can also open Starts > Type ODBC and click on the 32bit or 64bit version

The DSN needs to be defined as a “System DSN”. This will allow the RDB Service to access the definition.

On the IBM i, use the **RDBCFG** to configure the connection to the ODBC database. The screen below shows an example ODBC configuration.




The “System DSN” that was defined on the PC is placed in the “Catalog/Service” field.

# The Commands

## *RDBPTF (RDB PTF Processor)*

The RDB PTF Processor (RDBPTF) command allows you to retrieve updates for RDB Connect. The process makes a connection to Prodata Computer Services using port **2809**. If problems occur during the running of this command, verify your firewall is not blocking this transaction. This function will only retrieve the programs that have been updated since your last update.

Parameters

| Keyword | Description | Default | Notes |
|---|---|---|---|
| LIB | The library to receive the updated programs | RDB40 | This must be the library that currently contains RDB Connect |

## *RDBSEC (RDB Security Code)*

The RDB Security Code (RDBSEC) command provides an interface to enter the permanent and temporary access codes for RDB Connect.

**Parameters**

N/A

## *RDBTRACE (Set RDB Tracing)*

The Set RDB Tracing (RDBTRACE) command turns the logging process on and off in the RDB CONNECT job. This is the same function as the “Turn Tracing On” in the RDBCFG screen. The flag on the RDBCFG screen is used at startup of the RDB CONNECT job. This command can be used anytime the RDB CONNECT job is running.

**Parameters**

| Keyword | Description | Default | Notes |
|---|---|---|---|
| TRACE | Turn tracing on or off. | *ON | Valid values are *ON or *OFF |
| Log File Size | Set Max log file size | Number | Number of MegaBytes |
| Send Msg | Send Warning Msg | N | Valid values are 'Y' or 'N' |
| User Profile | Warning msg is sent here | Character | Valid profile ID |

## *RDBFIELDS (Retrieve field information)*

The Retrieve field information (RDBFIELDS) command provides the field definitions from the remote database. The definitions are based on the select statement provided.

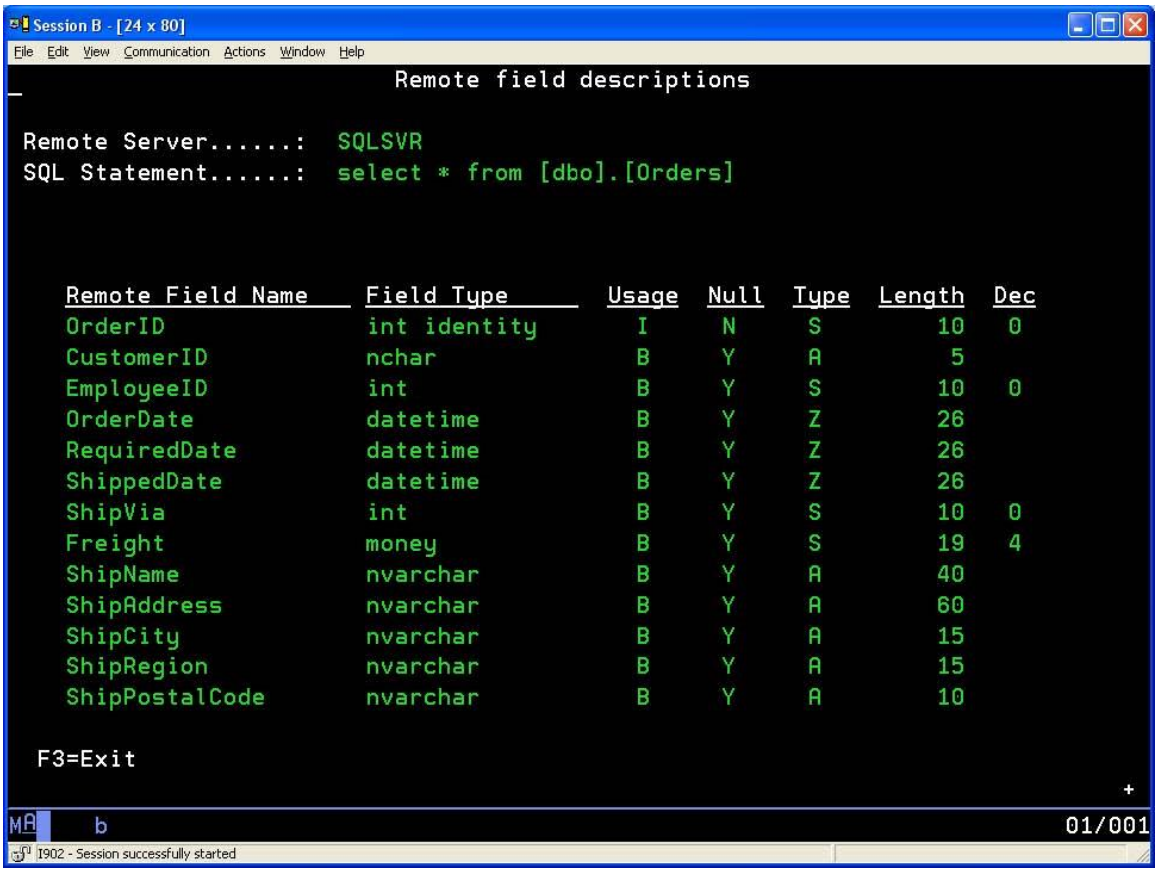
**Parameters**

| Keyword | Description | Default | Notes |
|---|---|---|---|
| STM | The SQL statement that will be used to retrieve the field listing. | | Only SELECT statements are allowed. |
| SERVER | The remote server id that was created using **RDBCFG**. | | This must be a valid connection. You need to be authorized to use the connection object. |
| USER | The user id used in the connection process | *CONFIG | The default will get the user from the RDBCFG of the selected server. |
| PASSWORD | The password used in the connection process | *CONFIG | The default will get the password from the RDBCFG of the selected server. |

**Example**

The following command might generate a screen similar to the one below.

```
RDBFIELDS STM('select * from [dbo].[Orders]') SERVER(SQLSVR)
```



## *RDBRUNSQL (Run RDB Sql Statement)*

The Run RDB Sql Statement (RDBRUNSQL) command provides an interface to execute commands on the remote database. A **SELECT** will run, however it will not generate any output.

**Parameters**

| Keyword | Description | Default | Notes |
|---|---|---|---|
| STM | The SQL statement to process. | | All statements except SELECT are allowed. |
| SERVER | The remote server id that was created using **RDBCFG**. | | This must be a valid connection. You need to be authorized to use the connection object. |
| USER | The user id used in the connection process | *CONFIG | The default will get the user from the RDBCFG of the selected server. |
| PASSWORD | The password used in the connection process | *CONFIG | The default will get the password from the RDBCFG of the selected server. |

**Example**

RDBRUNSQL STM('drop [dbo].[Orders]') SERVER(SQLSVR)

## *RDBIMPORT (Import Remote Database)*

The Import Remote Database (RDBIMPORT) command provides an interface to execute commands on the remote database and return the results to a local database file. The statement must be a **SELECT** statement.

**Parameters**

| Keyword | Description | Default | Notes |
|---|---|---|---|
| STM | The SQL statement that the field listing will be based. | | Only SELECT statements are allowed. |
| SERVER | The remote server id that was created using **RDBCFG**. | | This must be a valid connection that you are authorized. |
| USER | The user id used in the connection process | *CONFIG | The default will get the user from the RDBCFG of the selected server. |
| PASSWORD | The password used in the connection process | *CONFIG | The default will get the password from the RDBCFG of the selected server. |

| | | | |
|---|---|---|---|
| CRTADD | Create the local file | *YES | If *YES is specified, the local file cannot exist. If *NO is specified, the local file must exist. |
| OUTFILE | The name of the local IBM i file. | | The file that will contain the results of the select. |

**Example**

```
RDBIMPORT STM('select * from [dbo].[Orders]') SERVER(SQLSVR)
CRTADD(*YES) OUTFILE(MYLIB/ORDERS)
```

The above statement will create a file called ORDERS in the library MYLIB and write the selected records from the remote database to the file.
**NOTE**: when using MSSQL2 connection the max allowed combined characters for import to IBMi is 32765.

## *RDBCFG (Remote Database Configuration)*

The Remote Database Configuration (RDBCFG) command provides an interface to configure the remote database connections. The definitions are created as objects in the RDB40 library. IBM i security can be applied to these objects to better secure your remote connections.

For usage of this command, see “Configuring RDB Connect”.

**Parameters**
N/A

## *RDBJARCFG (Custom Database Configuration)*

The Custom Database Configuration (RDBJARCFG) command provides an interface to configure any database that has a JDBC driver.

For usage of this command, see “Configuring a RDB Custom Database”.

**Parameters**
N/A

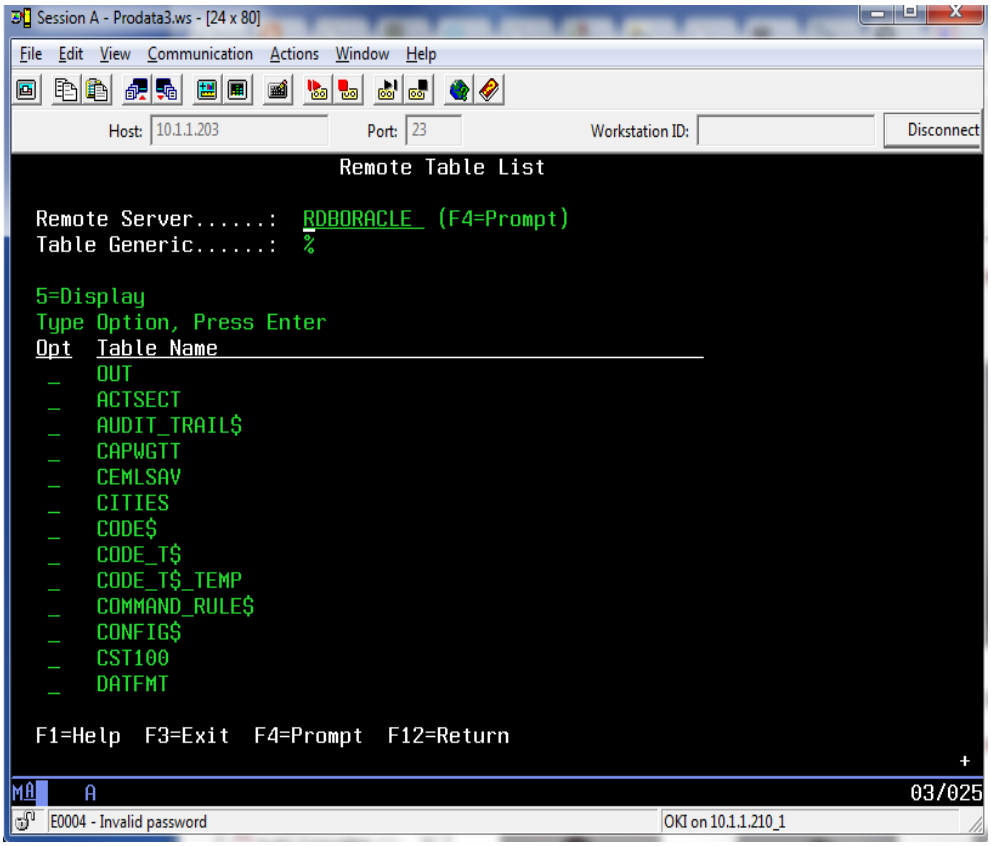
## *RDBTABLES (Retrieve table list)*

The Retrieve table list (RDBTABLES) command provides a list of available tables on the remote server. The list is based on the table parameter.

**Parameters**

| Keyword | Description | Default | Notes |
|---|---|---|---|
| TABLE | The subset of tables to be listed. | *ALL | The % symbol is used as a wildcard in this parameter. Example: For a list of all tables beginning with “f”, the parameter would be specified as ‘f%’. |
| SERVER | The remote server id that was created using **RDBCFG**. | | This must be a valid connection. You need to be authorized to use the connection object. |
| USER | The user id used in the connection process | *CONFIG | The default will get the user from the RDBCFG of the selected server. |
| PASSWORD | The password used in the connection process | *CONFIG | The default will get the password from the RDBCFG of the selected server. |

* Option

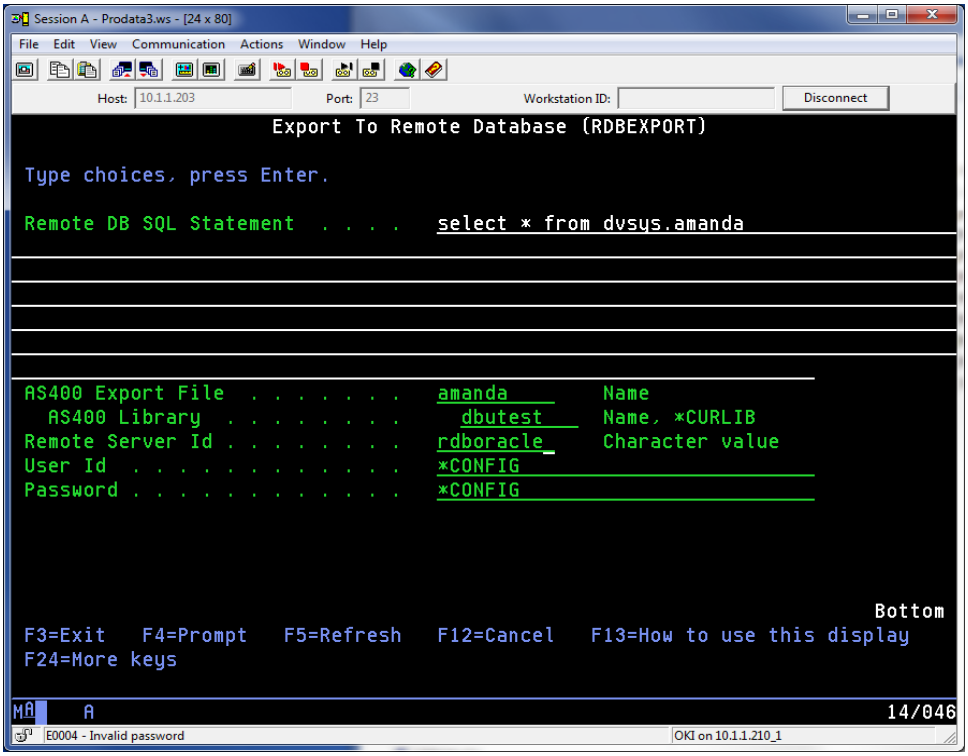


# *RDBExport (Export to Remote Database)

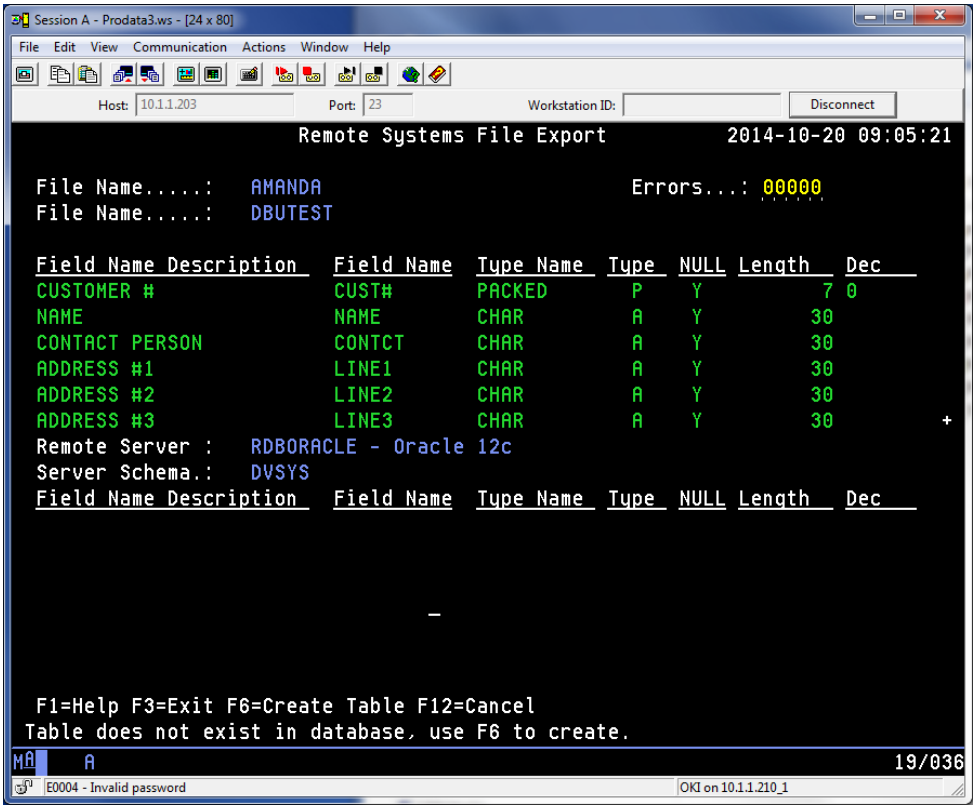
The Export Remote Database (RDBEXPORT) command provides an interface to execute commands on the remote database and return the results to a local database file.

### Parameters

| Keyword | Description | Default | Notes |
|---|---|---|---|
| REMOTE DB SQL STATEMENT | Use an SQL Select statement for all fields or individual fields. | | Must specify a schema where the table resides. Select statement can include WHERE, ORDER BY and HAVING. |
| AS400 EXPORT FILE | Export File Name in iSeries | | Specify a valid File Name |
| LIBRARY | LIBRAY NAME where object resides | | File and Library must be correct in order to run. |
| SERVER | Remote Server Name specified in **RDBCG** command. | | The default will get the user from the RDBCFG of the selected server. |
| USER | The user id used in the connection process | *CONFIG | The default will get the user from the RDBCFG of the selected server. |
| PASSWORD | The password used in the connection process | *CONFIG | The default will get the password from the RDBCFG of the selected server. |




### Example




**RDBExport** screen – Contains all the field names, field types, null allowed, length and decimal.
The top part of the screen pertains to the IBMi Database and the bottom part pertains to the remote database if a connection is established.

The errors counter is a warning to identify when the field types and lengths do not match.

# The Functions

RDB Connect provides you with a service program to access your remote databases. The service program is called RDB2000 in the library RDB40. An example program and the prototypes for the supplied functions can be found in RBD40/RDBSRC. A binding directory called RDB2000 is supplied with RDB Connect to assist in the compiling of your programs. It can be found in the library RDB40.

## *RDB Connect (Connect to the remote server)*

**Purpose**

RDB Connect sends the connection information to the remote server and returns an ID to be used in future transactions for this database. The returned ID is valid until it is closed.

**Syntax**

ID = RDB Connect(RemoteId: {user}: {password}:{port})

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Char(10) | Remote ID | Input | The RemoteID parameter is the name that was used when creating the configuration of the remote server. See “Configuring RDB Connect”. |
| Char(20) | User | Input(Optional) | The user parameter is used during the connection process to validate the connection to the database. If it is not specified, the user from the configuration will be used. |
| Char(20) | Password | Input(Optional) | The password parameter is used during the connection process to validate the connection to the database. If it is not specified, the password from the configuration will be used. |
| Signed(4) | Port | Input(Optional) | The port number the RDB server is listening on. This is only used when multiple RDB servers are being ran at the same time. Omitting this parameter causes the connect process to use the port number from the RDBCFG screen. |
| Int(10) | ID | Output | An ID is returned - will be used throughout the process to maintain the connection. To connect to a database multiple times or to multiple databases, use multiple IDs. A non-negative number signifies a valid connection. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
 *
 * Connect to the remote system using the Id created in the RDB
 * configuration screen (RDBCFG)
C                   Eval      Id = RDB Connect('SQLSVR')
```

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
 *
 * Connect to the remote system using the Id created in the RDB
 * configuration screen (RDBCFG) with a user and password
C                   Eval        Id = RDB Connect('SQLSVR': :'me':'mypass')
```

## *RDBClose (Close any open connection)*

**Purpose**

RDBClose closes any open connection.

**Syntax**

RDBClose(Id)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | Connection ID | Input | The Connection ID parameter previously given when RDBConnect was used. |

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
  *
  * Close the connection.
  C             Callp           RdbClose(Id)
```

## *RDBExec (Execute a SQL statement on the remote server)*

**Purpose**

RDBExec directly executes the specified SQL statement on the remote server. Any valid SQL statement can be executed. The syntax for the statement must be valid on the remote server.

RDB Connect() must be called before calling this function.

If a previous statement has been executed for this connection, RDBFreeStmt() must be called to close the cursor, before calling RDBExec().

**Syntax**

rc = RDBExec(ID: Statement: Update)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(32767) Varying | Statement | Input | The statement to be processed on the remote server. |
| Boolean | Update | Input (Optional) | Is the statement updatable. Valid values: *OFF – Statement is read only *ON – Statement is updatable (default) |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
          CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
   *
   *   After the connecton is established, prepare a select statement.
C                   Eval      rc = RdbExec (Id:
C                             'Select * from [dbo].[Orders]':*OFF)
```

## *RDBPrepStmt (Create a prepared SQL statement on the remote server)*

**Purpose**

RDBPrepStmt sends the SQL statement to the remote server to be prepared.. Any valid SQL statement can be prepared. The syntax for the statement must be valid on the remote server. The SQL statement string may contain parameter markers. A parameter marker is represented by a "?" character, and indicates a position in the statement where the value of an application variable is to be substituted, when RDBPrepExec() is called. RDBSetStr(), RDBSetDate(), RDBSetNull(), and RDBSetNum() are used to associate a application variable or constant value to each parameter marker.

RDB Connect() must be called before calling this function.

If a previous statement has been executed for this connection, RDBFreeStmt() must be called to close the cursor, before calling RDBPrepStmt ().

**Syntax**

rc = RDBPrepStmt (ID: Statement: Update)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(32767) Varying | Statement | Input | The statement to be prepared on the remote server. |
| Boolean | Update | Input (Optional) | Is the statement updatable. Valid values: *OFF – Statement is read only *ON – Statement is updatable (default) |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
     *
     * After the connection is established, prepare a select statement.
       C         Eval  rc = RdbPrepStmt(Id:
       C               'Select * from [dbo].[Orders]' +
       C               'where ShippedDate = ?':*OFF)
```

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
   *
   * After the connection is established, prepare a select statement.
    C                 Eval  rc = RdbPrepStmt(Id:
    C                       'Select * from [dbo].[Orders]' +
    C                       'where ShippedDate = ?':*OFF)
```

## *RDBPrepExec (Execute a previously prepared SQL statement on the remote server)*

**Purpose**

RDBPrepExec executes a statement, that was successfully prepared using RDBPrepStmt(), once or multiple times. The statement is executed using the current values of any application variables that were bound to parameter markers by RDBSetStr(), RDBSetStr(), and RDBSetStr().

**Syntax**

rc = RDBPrepExec(ID)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
    *
    * After the statement is prepared, execute the prepared statement.
    C              Eval rc = RdbPrepExec(Id)
```

## *RDBFreeStmt (Free the previously executed statement)*

### Purpose

RDBFreeStmt ends processing on the previously executed statement. The connection to the remote system will remain open.

### Syntax

RDBFreeStmt(ID)

### Function Arguments

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |

### Examples

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
  *
  * Free the statement that was last executed.
  C             Callp            RdbFreeStmt(Id)
```

## *RDBError (Returns the errors that occurred)*

**Purpose**

RDBError returns the error code and error text that were generated by the last executed RDB function. The output parameters will only be generated when a negative one (-1) is returned from a function.

**Syntax**

RDBError(Error:ErrorText)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Char(7) | Error | Output | The error code that was generated by the previously executed function. Error codes can be found in the RDBMSGF message file. |
| Char(100) | ErrorText | Output | The additional message information for the error |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
 *
 * Retrieve the error that was generated.
C        Callp               RdbError(Error:ErrorText)
```

## *RDBFetchNxt (Fetch the next available record)*

**Purpose**

RDBFetchNxt moves the statement cursor on the remote database SELECT to the next available record. The function is only valid when a RDBExec has been used for a SELECT statement. If the fetch fails, a negative one (-1) will be returned from the function. A zero will be returned upon successful completion.

**Syntax**

rc = RDBFetchNxt(ID)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Fetch the next record of the result set that was generated with the
* previously executed statement.
C                     Eval   rc = RdbFetchNxt(Id)
```

## *RDBFetchPrv (Fetch the previous record)*

**Purpose**

RDBFetchPrv moves the statement cursor on the remote database SELECT to the previously available record. The function is only valid when a RDBExec has been used for a SELECT statement. If the fetch fails, a negative one (-1) will be returned from the function. A zero will be returned upon successful completion.

**Syntax**

rc = RDBFetchPrv(ID)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
   * Fetch the previous record of the result set that was generated with
   * the previously executed statement.
   C          Eval rc = RdbFetchPrv(Id)
```

## *RDBFetchAbs (Fetch the absolute record)*

**Purpose**

RDBFetchAbs moves the statement cursor on the remote database SELECT to the record requested. The function is only valid when a RDBExec has been used for a SELECT statement. If the fetch fails, a negative one (-1) will be returned from the function. A zero will be returned upon successful completion.

**Syntax**

rc = RDBFetchAbs(ID: RecNum)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | RecNum | Input | The record number in the result set that was generated by a previously executed SELECT. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Fetch a record of the result set using the absolute position of the
* result set. This will return the 4th record of the result set.
C                   Eval      rc = RdbFetchAbs(Id:4)
```

## *RDBGetNum (Get a numeric field from a record )*

**Purpose**

RDBGetNum retrieves the data from a numeric field in the record of the remote database. The function is only valid when RDBExec has been used for a SELECT statement and a fetch has been used.

**Syntax**

number = RDBGetNum(ID: FieldNum)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | The field number in the result set that was generated by a previously executed SELECT. |
| Number(30,9) | number | Output | The value of the field in the corresponding result set is returned. Zero is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2++++++++++++++++
* Fetch the first field of the result set and return it as a number.
C              Eval      Field1 = RdbGetNum(Id:1)
```

## *RDBAscNum (Get a numeric field from a record using field name)*

**Purpose**

RDBAscNum retrieves the data from a numeric field in the record of the remote database using the associated field name. The function is only valid when RDBExec has been used for a SELECT statement and a fetch has been used.

**Syntax**

number = RDBAscNum(ID: FieldName)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(50) | FieldName | Input | The name of the field in the result set that was generated by a previously executed SELECT. |
| Number(30,9) | number | Output | The value of the field in the corresponding result set is returned. Zero is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++
* Fetch the OrderID field of the result set and return it as a number.
C Eval Field1 = RdbAscNum(Id:'OrderID')
```

## *RDBGetStr (Get a character field from a record )*

**Purpose**

RDBGetStr retrieves the data from a character field in the record of the remote database. The function is only valid when RDBExec has been used for a SELECT statement and a fetch has been used.

**Syntax**

String = RDBGetStr(ID: FieldNum)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | The field number in the result set that was generated by a previously executed SELECT. |
| Char(32767) Varying | String | Output | The value of the field in the corresponding result set is returned. Blank is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2++++++++++++++++
  * Fetch the first field of the result set and return it as a character
  * field.
C       Eval      Field1 = RdbGetStr(Id:1)
```

## *RDBAscStr (Get a character field from a record using field name )*

**Purpose**

RDBAscStr retrieves the data from a character field in the record of the remote database using the associated field name. The function is only valid when RDBExec has been used for a SELECT statement and a fetch has been used.

**Syntax**

String = RDBAscStr(ID: FieldName)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(50) | FieldName | Input | The name of the field in the result set that was generated by a previously executed SELECT. |
| Char(32767) Varying | String | Output | The value of the field in the corresponding result set is returned. Blank is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Fetch the CompanyName field of the result set and return it as a
* character field.
C      Eval      Field1 = RdbAscStr(Id:'CompanyName')
```

## *RDBGetDate (Get a date/time/timestamp field from a record )*

**Purpose**

RDBGetDate retrieves the data from a date/time/timestamp field in the record of the remote database. The function is only valid when RDBExec has been used for a SELECT statement and a fetch has been used.

**Syntax**

Timestamp = RDBGetDate(ID: FieldNum)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | The field number in the result set that was generated by a previously executed SELECT. |
| Timestamp | Timestamp | Output | The value of the field in the corresponding result set is returned. An initialized timestamp is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Fetch the first field of the result set and return it as a timestamp
* field.
C      Eval      Field1 = RdbGetDate(Id:1)
```

## *RDBAscDate (Get a date/time/timestamp field from a record using field name)*

**Purpose**

RDBAscDate retrieves the data from a date/time/timestamp field in the record of the remote database using the associated field name. The function is only valid when RDBExec has been used for a SELECT statement and a fetch has been used.

**Syntax**

Timestamp = RDBAscDate(ID: FieldName)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(50) | FieldName | Input | The name of the field in the result set that was generated by a previously executed SELECT. |
| Timestamp | Timestamp | Output | The value of the field in the corresponding result set is returned. An initialized timestamp is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Fetch the ShipDate field of the result set and return it as a
* timestamp field.
C      Eval      Field1 = RdbAscDate(Id:'ShipDate')
```

## *RDBSetNum (Set a numeric field to a parameter marker)*

**Purpose**

RDBSetNum associates a numeric application variable or constant value to a parameter marker in an SQL statement. When the statement is executed, the content of the variable is sent to the database server.

**Syntax**

rc = RDBSetNum(ID: FieldNum: Value)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | Parameter marker number, ordered sequentially left to right, starting at 1. |
| Number(30,9) | Value | Input | The value to use in the corresponding parameter marker. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++
* Set the value of the second parameter as a number with a value of 5
C      Eval      rc = RdbSetNum(Id: 2: 5)
```

## *RDBSetStr (Set a string field to a parameter marker)*

**Purpose**

RDBSetStr associates a character application variable or constant value to a parameter marker in an SQL statement. When the statement is executed, the content of the variable is sent to the database server.

**Syntax**

rc = RDBSetStr(ID: FieldNum: Value)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | Parameter marker number, ordered sequentially left to right, starting at 1. |
| Char(32767) Varying | Value | Input | The value to use in the corresponding parameter marker. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Set the value of the third parameter as a string with a value of VINET
C      Eval      rc = RdbSetStr(Id: 3: 'VINET')
```

## *RDBSetDate (Set a timestamp field to a parameter marker)*

**Purpose**

RDBSetDate associates a timestamp application variable or constant value to a parameter marker in an SQL statement. When the statement is executed, the content of the variable is sent to the database server.

**Syntax**

rc = RDBSetDate(ID: FieldNum: Value)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | Parameter marker number, ordered sequentially left to right, starting at 1. |
| Timestamp | Value | Input | The value to use in the corresponding parameter marker. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Set the value of the first parameter as a Date
C      Eval      rc = RdbSetDate(Id: 1: ShipDate)
```

## *RDBSetNull (Set a NULL value to a parameter marker)*

**Purpose**

RDBSetNull associates a NULL indicator to a parameter marker in an SQL statement. When the statement is executed, the database server field will be set to NULL.

**Syntax**

rc = RDBSetNull(ID: FieldNum: FieldType)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | Parameter marker number, ordered sequentially left to right, starting at 1. |
| Int(10) | FieldType | Input | The type of field being set to NULL by this function. Valid types are: Rdb_Array Rdb_Boolean Rdb_Char Rdb_Clob Rdb_Date Rdb_Decimal Rdb_Double Rdb_Float Rdb_Integer Rdb_Null Rdb_Numeric Rdb_Real Rdb_SmallInt Rdb_Time Rdb_TimeStamp Rdb_VarChar |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Set the value of the first parameter as a NULL
C      Eval      rc = RdbSetNull(Id: 1: Rdb_Char)
```

## *RDBSetCommit(Set commitment control)*

**Purpose**

RDBSetCommit set the automatic commitment control value. By default it is set to on, meaning all transaction are automatically committed. Setting this to off will for the need to either commit or rollback any transactions that are performed.

**Syntax**

rc = RDBSetCommit(ID: AutoCommit)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Boolean | AutoCommit | Input | Tells the remote DB engine if AutoCommit is true or false. The default is true. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Set the commitment control status.
C      Eval      rc = RdbSetCommit(Id: *Off)
```

## *RDBCommit(Commit all transactions)*

**Purpose**

RDBCommit commits all transactions that have been performed since that last commit or rollback. Transaction commit only applies to the transactions issued for the current ID. Closing the ID without a commit will rollback the transactions.

**Syntax**

rc = RDBCommit(ID)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Commit the tranactions.
C      Eval      rc = RdbCommit(Id)
```

## *RDBRollback(Rollback all transactions)*

**Purpose**

RDBRollback reverses all transactions that have been performed since that last commit or rollback. Transaction rollback only applies to the transactions issued for the current ID. Closing the ID without a commit will rollback the transactions.

**Syntax**

rc = RDBRollback (ID)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Rollback the tranactions.
C      Eval      rc = RdbRollback(Id)
```

## *RDBAddRec(Add a record to the remote database)*

**Purpose**

RDBAddRec will add a record to the remote database, based on a previously executed SELECT statement. The record structure **must** match the field definitions from the RDBFIELDS command. An external datastructure can be created for this process by issuing the RDBIMPORT command to an output file and using that file as a datastructure.

The fields selected by the SELECT statement **must** match the datastructure.

**Syntax**

rc = RDBAddRec(ID: Record)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(*) | Record | Input | A datastructure that represents the record to be written. The structure must match the field definitions from the RDBFIELDS command. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
D @Orders E DS ExtName(Orders) Inz
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++
*     After the connection is established, execute a select statement.
C      Eval          rc = RdbExec IId:
                     'Select * From [dbo].[Orders]')
*     Add a record to the remote file
       Eval          rc = RdbAddRec(id: @Orders)
```

## *RDBUpdRec(Update a record in the remote database)*

**Purpose**

RDBUpdRec will update a last record read in the remote database, based on a previously executed SELECT statement. The record structure **must** match the field definitions from the RDBFIELDS command. An external datastructure can be created for this process by issuing the RDBIMPORT command to an output file and using that file as a datastructure.

The fields selected by the SELECT statement **must** match the datastructure.

**Syntax**

rc = RDBUpdRec(ID: Record)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(*) | Record | Input | A datastructure that represents the record to be written. The structure must match the field definitions from the RDBFIELDS command. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
D @Orders E DS ExtName(Orders) Inz
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++

* After the connection is established, execute a select statement.
C      Eval      rc = RdbExec(Id:
C                'Select * from [dbo].[Orders]')

* Fetch the next record of the result set that was generated with the
* previously executed statement.
C      Eval      rc = RdbFetchNxt(Id)

* Update the current record.
C      Eval      rc = RdbUpdRec(Id: @Orders)
```

## *RDBDelRec(Delete a record in the remote database)*

**Purpose**

RDBDelRec will delete the last record read in the remote database, based on a previously executed SELECT statement.

**Syntax**

rc = RDBDelRec(ID)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2++++++++++++++++

* After the connection is established, execute a select statement.
C      Eval      rc = RdbExec(Id:
C                'Select * from [dbo].[Orders]')

* Fetch the next record of the result set that was generated with the
* previously executed statement.
C      Eval      rc = RdbFetchNxt(Id)

* Delete the current record.
C      Eval      rc = RdbDelRec(Id)
```

## *RDBNextSet(Move the cursor to the next result set)*

**Purpose**

RDBNextSet will move the cursor to the next result set of a multiple result set call. If a second result set does not exist, an error will be returned. Once the cursor has been moved, the previous result set can not be accessed again.

**Syntax**

rc = RDBNextSet(ID)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++

* After the connection is established, execute a select statement.
C      Eval      rc = RdbExec(Id:
C                '{ Call MultiResultSet() }')

* Fetch the next record of the result set that was generated with the
* previously executed statement.
C      Eval      rc = RdbFetchNxt(Id)

* Move to the next result set
C      Eval      rc = RdbNextSet(Id)

* Fetch the next record of the result set that the cursor was just
* moved to.
C      Eval      rc = RdbFetchNxt(Id)
```

## *RDBStoredProc (Create a SQL statement to execute a stored procedure on the remote server)*

**Purpose**

RDBStoredProc will execute a stored procedure on the remote server. The syntax for the statement must be valid on the remote server.

The SQL statement string may contain parameter markers. A parameter marker is represented by a "?" character, and indicates a position in the statement where the value of an application variable is to be substituted, when RDBPrepExec() is called. RDBSetStr(), RDBSetDate(), and RDBSetNum() are used to associate a application variable or constant value to each parameter marker.

RDB Connect() must be called before calling this function.

If a previous statement has been executed for this connection, RDBFreeStmt() must be called to close the cursor, before calling RDBPrepStmt ().

**Syntax**

rc = RDBStoredProc (ID: Statement)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Char(32767) Varying | Statement | Input | The stored procedure to be ran on the remote server. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++
 *
 * After the connection is established, prepare the stored
 * procedure.
C      Eval      rc = RdbStoredProc(Id:
C                '{ Call CreateFullName(?,?,?) }')
```

## *RDBRegOutput (Register an output parameter of a stored procedure)*

**Purpose**

RDBRegOutput register a parameter with an output marker. The function is only valid when RDBStoredProc has been used.

**Syntax**

rc = RDBRegOutput(ID: FieldNum: FieldType: FldScale)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | The field number of the parameter that was used by a previously executed RDBStoredProc. |
| Int(10) | FieldType | Input | The type of field being registered by this function. Valid types are: Rdb_Array Rdb_Boolean Rdb_Char Rdb_Clob Rdb_Date Rdb_Decimal Rdb_Double Rdb_Float Rdb_Integer Rdb_Null Rdb_Numeric Rdb_Real Rdb_SmallInt Rdb_Time Rdb_TimeStamp Rdb_VarChar |
| Int(10) | FieldScale | Input | The number of decimal places to be returned by the stored procedure. This number must be zero or more. |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Set the value of the third parameter as a output field of type
* character with a scale of 0.
C      Eval      rc = RdbRegOutput(Id: 3: Rdb_VarChar: 0)
```

## *RDBGetParmNum (Get a numeric field from a stored procedure parameter)*

**Purpose**

RDBGetParmNum retrieves the data from a numeric field in the stored procedure call. The function is only valid when RDBStoredProc has been used for an execution and a RDBRegOutput has been set for the requested field.

**Syntax**

number = RDBGetParmNum(ID: FieldNum)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | The field number of the parameter that was used by a previously executed RDBStoredProc. |
| Number(30,9) | number | Output | The value of the field in the corresponding result set is returned. Zero is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2++++++++++++++++
* Fetch the first field of the parameters and return it as a number.
C      Eval      Field1 = RdbGetParmNum(Id:1)
```

## *RDBGetParmStr (Get a character field from a stored procedure parameter)*

**Purpose**

RDBGetParmStr retrieves the data from a numeric field in the stored procedure call. The function is only valid when RDBStoredProc has been used for an execution and a RDBRegOutput has been set for the requested field.

**Syntax**

String = RDBGetParmStr(ID: FieldNum)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | The field number of the parameter that was used by a previously executed RDBStoredProc. |
| Char(32767) Varying | String | Output | The value of the field in the corresponding result set is returned. Blank is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Fetch the first field of the parameters and return it as a character
* field.
C      Eval      Field1 = RdbGetParmStr(Id:1)
```

## *RDBGetParmDate (Get a date/time/timestamp field from a stored procedure parameter)*

**Purpose**

RDBGetParmDate retrieves the data from a date/time/timestamp field in the stored procedure call. The function is only valid when RDBStoredProc has been used for an execution and a RDBRegOutput has been set for the requested field.

**Syntax**

Timestamp = RDBGetParmDate(ID: FieldNum)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | The field number of the parameter that was used by a previously executed RDBStoredProc. |
| Timestamp | Timestamp | Output | The value of the field in the corresponding result set is returned. An initialized timestamp is returned upon failure. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Fetch the first field of the parameters and return it as a timestamp
* field.
C      Eval      Field1 = RdbGetParmDate(Id:1)
```

## **RDBCrtTable(Create a table in any Database configured in RDBCFG).*

**Purpose**

RDBCrtTable is used to export/create IBMi iSeries tables into any database configured in RDBCFG.

**Syntax**

**rc = RDBCrtTable(id: vCreateTableStmt)**

**Notes:** Do not include a ‘CREATE TABLE‘ in the prepared statement, the API adds it automatically.

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| INT(10) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| CHAR(4096) | CreateTable command | Input | This parameter must contain the correct syntax for the appropriate database where the table is being created. |

**Examples**

```
//Prepare Statement
vCreateTableStmt =  ‘PERSON.TESTZIP (CITY CHAR(25), STATE CHAR(25), TEST_OPEN CHAR(8), ROWID CHAR(10)) ‘

// Create Table
   rc =  RdbCrtTable(id: vCreateTableStmt );
```

## **RDBSetIsoDate(Set ISO Date in result set)*

**Purpose**

RDBSetIsoDate sets the date under ISO Format to transfer from IBMi to a compatible remote database. The function is only valid when RDBPrepStmt has been previously executed.

Syntax

rc = RDBSetIsoDate(ID: FieldNum: ISODATE)

Function Arguments

| **Data Type** | **Argument** | **Use** | **Description** |
|---|---|---|---|
| INT(10) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10) | FieldNum | Input | The field number of the parameter that was used by a previously executed RDBPrepStmt. |
| DATE (10) | Date in ISO Format (2014-01-01) | Input | The value of the field in the corresponding result set. |

**Examples**

```
// Set the ISO Date value
  rc =  RdbSetIsoDate(id: iQ: isoDate);
```

## *RDBSetIsoTime(Set ISO Time in result set)

**Purpose**

RDBSetIsoTime sets the time under ISO Format to transfer from IBMi to a compatible remote database. The function is only valid when RDBPrepStmt has been previously executed.

Syntax

rc = RDBSetIsoTime(ID: FieldNumber: TIME)

Function Arguments

| Data Type | Argument | Use | Description |
|---|---|---|---|
| INT(10) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10) | FieldNum | Input | The field number of the parameter that was used by a previously executed RDBPrepStmt. |
| TIME (8) | Time in ISO Format (10.59.59) | Input | The value of the field in the corresponding result set. |

**Examples**

```
// Set the ISO Time value
  rc =  RdbSetIsoTime(id: iQ: IsoTime);
```

## *RDBSetCharStr(Set characters stream after executing RDBPrepStmt )

**Purpose**

RDBSetCharStr(Set character stream after a prepared statement. This allows up to 32767 characters.)

Syntax

rc = RDBSetCharStr(ID: FieldNum: CharacterVariable)

Function Arguments

| Data Type | Argument | Use | Description |
|---|---|---|---|
| INT(10,0) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10,0) | FieldNum | Input | Prepared statement placeholder sequence number |
| CHAR(32767) | Character variable | Input | Character variable containing results |

**Examples**

```
// Get list of Catalogs in remote database
  rc =  RDBSetCharStr(id: 1: vCharStream);
```

## *RDBGetCharStr(Get characters stream after executing RDBPrepExec )

**Purpose**

RDBGetCharStr(Get character stream after a prepared statement. This allows up to 32767 characters to be retrieved from remote database.)

Syntax

vRetValue = RDBGetCharStr(ID: FieldNum)

Function Arguments

| Data Type | Argument | Use | Description |
|---|---|---|---|
| INT(10,0) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10,0) | FieldNum | Input | Prepared statement placeholder sequence number |
| CHAR(32767) | Character variable | Output | Character variable receiving results |

**Examples**

```
// Get list of Catalogs in remote database
  vRetValue  =  RDBGetCharStr(id: 1);
```

## *RDBGetIsoTime(Get ISO Time in result set)

**Purpose**

RDBGetIsoTime gets the time value under ISO Format from a compatible remote database to IBMi. The function is only valid when RDBPrepStmt or RDBExec has been previously executed.

RPGLE Definition

```
D   ISOTime     S         T
```

Syntax

```
ISOTime = RDBGetIsoTime(ID: FieldNumber: TIME)
```

Function Arguments

| Data Type | Argument | Use | Description |
|---|---|---|---|
| TIME(8) | ISOTime | Output | The ISO Time field returned from the RDBConnect Statement. |
| INT(10,0) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10) | FieldNumber | Input | The Field number from remote database table used in previous RDBPrepStmt or RDBExec |

**Examples**

```
// Set the ISO Time value
  ISOTime =  RdbGetIsoTime(id: FieldNumber);
```

## *RDBGetIsoDate(Get ISO Date in result set)

**Purpose**

RDBGetIsoDate gets the date value under ISO Format from a compatible remote database to IBMi. The function is only valid when RDBPrepStmt or RDBExec has been previously executed.

RPGLE Definition

```
D   ISODate     S         D
```

Syntax

```
ISODate = RDBGetIsoDate(ID: FieldNumber)
```

Function Arguments

| Data Type | Argument | Use | Description |
|---|---|---|---|
| DATE(10) | ISO Date | Output | The ISO Date field returned from the RDBConnect Statement. |
| INT(10,0) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10) | FieldNumber | Input | The Field number from remote database table used in previous RDBPrepStmt or RDBExec |

**Examples**

```
// Set the ISO Date value
  ISODate =  RdbGetIsoDate(id: FieldNumber);
```

## *RDBAscIsoTime(Get ISO Time in result set by Field Name)

**Purpose**

RDBAscIsoTime gets the time value under ISO Format from a compatible remote database to IBMi. The function is only valid when RDBPrepStmt or RDBExec has been previously executed.

RPGLE Definition

```
 D  ISOTime     S         T
```

Syntax

```
ISOTime = RDBAscIsoTime(ID: FieldName)
```

Function Arguments

| **Data Type** | **Argument** | **Use** | **Description** |
|---|---|---|---|
| TIME(8) | ISOTime | Output | The ISO Time field returned from the RDBConnect Statement. |
| INT(10,0) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10) | FieldName | Input | The Field name /Column name from remote database table used in previous RDBPrepStmt or RDBExec |

**Examples**

```
// Set the ISO Time value
  ISOTime =  RdbAscIsoTime(id: FieldName);
```

## *RDBAscIsoDate(Get ISO Date in result set by Field Name)

**Purpose**

RDBAscIsoDate gets the date value in ISO Format from a compatible remote database to IBMi. The function is only valid when RDBPrepStmt or RDBExec has been previously executed.

RPGLE Definition

```
D   ISODate     S         D
```

Syntax

```
ISODate = RDBAscIsoDate(ID: FieldName)
```

Function Arguments

| Data Type | Argument | Use | Description |
|---|---|---|---|
| DATE(10) | ISODate | Output | The ISO Date field returned from the RDBConnect Statement. |
| INT(10,0) | ID | Input | The ID that was returned from the RDBConnect Statement. |
| INT(10) | FieldName | Input | The Field name /Column name from remote database table used in previous RDBPrepStmt or RDBExec |

**Examples**

```
// Set the ISO Date value
  ISODate =  RdbAscIsoDate(id: FieldName);
```

## *RDBSetInt (Set a Integer field to a parameter marker)*

**Purpose**

RDBSetInt associates an integer application variable or constant value to a parameter marker in an SQL statement. When the statement is executed, the content of the variable is sent to the database server.

**Syntax**

rc = RDBSetInt(ID: FieldNum: NumValue)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | Parameter marker number, ordered sequentially left to right, starting at 1. |
| Number(10) | NumValue | Input | The value to use in the corresponding parameter marker. This parameter can take up to a max of 10 numbers |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Set the value of the third parameter as a numeric value without decimal
position up to a max of 10 numbers.
 /Free
    rc = RdbSetInt(Id: 2: 5);
 /End-Free
```

## *RDBSetNegInt (Set a negative Integer field to a parameter marker)*

**Purpose**

RDBSetNegInt associates a negative integer application variable or constant value to a parameter marker in an SQL statement. When the statement is executed, the content of the variable is sent to the database server.

**Syntax**

rc = RDBSetNegInt(ID: FieldNum: NumValue)

**Function Arguments**

| Data Type | Argument | Use | Description |
|---|---|---|---|
| Int(10) | ID | Input | The ID that was returned from the RDB Connect statement. |
| Int(10) | FieldNum | Input | Parameter marker number, ordered sequentially left to right, starting at 1. |
| Number(10) | NumValue | Input | The value to use in the corresponding parameter marker. This parameter can take up to a max of 10 numbers including a negative sign |
| Int(10) | rc | Output | Zero is returned from a successful execution. Negative one (-1) is returned from a failed execution. |

**Examples**

```
CL0N01Factor1+++++++Opcode&ExtExtended-factor2+++++++++++++++++
* Set the value of the third parameter as a negative numeric value without
decimal position up to a max of 10 numbers.
 /Free
    rc = RdbSetNegInt(Id: 2: -516);
 /End-Free
```