FAQ for HXTT Paradox Packages of type 4 JDBC Driver for Paradox version from 3.0, 3.5, 4.x, 5.x, 7.x to 11.x

The most recent version of this document can be viewed at here.

Table of Contents

General Questions

1. How to know the detailed version information of HXTT Paradox package?
1st way: "java com.hxtt.sql.paradox.ParadoxDriver" will print that information.
2nd way: check that MANIFEST.MF file in jar file.

2. Can I use it in an iSeries OS/400 IBM machine that has Java 1.4 running in it?
The HXTT Paradox packages can run on any platform with Java VM, which includes Microsoft Windows, Novell Netware, OS2, UNIX, and LINUX. It supports Personal Java, JDK1.0.X, JDK1.1.X, JDK1.2.X, JDK1.3.X, JDK1.4.X and JDK1.5.X. It supports JDBC1.2, JDBC2.0, and JDBC3.0 now.

3. What is difference between the HXTT Paradox Package, Embedded Package, and Remote Access Package? Can I get some sample code to use the HXTT Paradox?
The HXTT Paradox supports Embedded and Remote Access. HXTT Paradox Package includes a Database GUI manager. If you're accessing the local data, you can use the HXTT Paradox Package or Embedded Package. If you're accessing the remote data, you can use the HXTT Paradox Package or Remote Access Package. There is no any difference for your code to use anyone of three packages. Please download the demo package from here.

4. What causes the 'No suitable driver' SQLException?
This error usually occurs during a call to DriverManager.getConnection(). The cause can be failing to load the appropriate JDBC driver before calling getConnection(), or specifying an invalid JDBC URL that isn't recognized by your JDBC driver. If you're using a trial version, you will get "No suitable driver" SQLException, and "Evaluation period over" after using about 30 days. The HXTT Paradox driver's name is com.hxtt.sql.paradox.ParadoxDriver, and its JDBC URL:

```
        Embedded:
                jdbc:paradox:[//]/[DatabasePath][?prop1=value1[;prop2=value2]] (You
can omit that "//" characters sometimes)
                        For example:
                                "jdbc:paradox:/."
                                "jdbc:paradox:/c:/data"
                                "jdbc:paradox:////usr/data" for unix or linux:
                                "jdbc:paradox:/./data"
```

```
        Access by Paradox Server: Skip it if you don't use TCP, RMI or JINI.
                jdbc:paradox://host:port/[DatabasePath]
                        For example: "jdbc:paradox://domain.com:3099/c:/data" if one
ParadoxServer is run on the 3099 port of domain.com
```

5. How to setup Paradox url on the Novell Server?
Paradox driver can run on Novell server. You can use directly access or ParadoxServer to visit your data on Novell server. If your Paradox files is at sys:/java/yourdata, the direct URL should be:
jdbc:paradox:///sys:/java/yourdata
or
jdbc:paradox:////java/yourdata

6. I got "java.io.IOException: Permission denied" sometimes for my SELECT query.
Please figure out what directory Java's java.io.tmpdir system property points to, and make sure that directory is writable by the user that runs your Java applications, otherwise you should set tmpdir properity in Connection properity to a writable directory. tmpdir properity indicates whether set a temp directory, Default: the value of JVM's "java.io.tmpdir" property. If that value is incorrect, uing the directory of JDBC url.

7. When I used jdbc:paradox:/<DatabasePath>, the connection's schema was empty. "create catalog if not exists paradoxfiles". What is Catalog?
Paradox's schema is always empty. You can use catalog to query subdirectory. Catalog means a directory, which contains some Paradox files.

8. Can HXTT Paradox support JDK 1.0.2?
Yeah. You need to download JDBC 1.22 from the Sun's JDBC download page and add JDBC1.22 into JDK 1.0.2. HXTT Paradox hasn't be tested on JDK1.0.X since we have not received such a complement request from our users. If you meet any problem, please let us know.

Applet Questions

1. I already configured the .java.policy for my applet, but I continue with problems of "acess denied".
For instance, you're using "jdbc:paradox:/C:/test", and grant codeBase "file:/C:/test" in your policy file, but your applet is running from "D:\sample\CargaStatApplet.html". You should grant codeBase "file:/D:/sample", not "file:/c:/test".

2. http://localhost:8080/jdbcapplet.html, the applet started but returns a Classnotfound com.hxtt.sql.paradox.ParadoxDriver error in the gui list.
Please add a codebase tag. For instance, "<applet code="jdbcapplet.class" codebase="Paradox_Remote_Access_JDBC20.jar"></applet>". The Paradox_Remote_Access_JDBC20.jar should be at the same directory of jdbcapplet.html.

Remote Access Questions and Client/Server Mode Questions

1. Client/Server mode question: The data directory is not in the IBM machine where the Java program should run, but instead those Paradox files are in another machine with Windows operating system.
com.hxtt.sql.admin.Admin provides a GUI manger for Paradox server. For instance, you wish to provide JDBC3.0 remote data access. Please use "java -cp yourdirectrory/Paradox_JDBC30.jar com.hxtt.sql.admin.Admin" to start GUI manager, and add a url setting of "'jdbc:paradox://10.32.90.48:" + 8029 +"/"+databaseDirectory' on your host of 10.32.90.48(just an IP sample), then click Start button. Third, you can use 'String url =
"jdbc:paradox://10.32.90.48:" + 8029 +"/"+databaseDirectory;' to visit your Paradox database from your IBM machine. If you're running that GUI manager on "yourNT.com" host to visit "c:/database" directory, you can use "jdbc:paradox://yourNT.com:8029/c:/database" on your web application.

jdbc:paradox://yourNT.com:8029/c:/database?user=oneuser&password=onepassword can provide a simply user/password verification for client/server mode. If you wish to write a secure Paradox server for some sensitive information, embedded encrypt/decrypt functions can help you.

2. Remote access through map network drive question: How to remote access Paradox data without ParadoxServer?
You can share your remote directory which contains your data files, then map it to a local driver.
For Windows: You can connect remote Paradox database by sharing the directory and map it to local drive. You should disable the OPLOCKS of your Samba/NT/2000 server. This is done by manipulating the following registry key:
\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters
EnableOplocks REG_DWORD 0 or 1
Default: 1 (true)
For Linux: You can use mounting. One user uses Samba to maped NTFS partitions in Linux servers, and Paradox driver works normally like mapping any mount point in Linux.
For Novell: You can map NCP directory as driver or mount NCP directory.

3. Remote access through SAMBA protocol question: How to let my servlet on Linux to access over 300 hundred shared folders that all are on Windows boxes

You need to use SAMBA table, which needn't to map or mount driver.

4. Remote access through http/https/ftp protocol question: How to let my program to fetch data daily from our web host?

You need to use url database, which supports http protocol, https protocol, and ftp protocol.

5. Remote access through UNC path question: Can I setup only one datasource to access four servers for my Cold Fusion?
To access one unc path, you can use jdbc:paradox:/\\PC17\c$\values or jdbc:paradox:/\\PC17\val.
To access four unc pathes in the same connection, you need to use a free JDBC url, "jdbc:paradox:/" or "jdbc:paradox:///".
Then you can use some full UNC path names in SQL to visit your four servers where your Java VM has right to access.. For instance:

```
select * from \\amd2500\e$\paradoxfiles\test;
select * from "\\amd2500\d$\paradoxiles".test;
select * from ".".test;
```

6. I can't get the com.hxtt.sql.admin.Admin runnig for internet --> intranet
HXTT Paradox supports port mapping and NAT route. Let HXTT Paradox listening a port on the database server, and modify your route table or NAT table to map an external port to that internal port. You can use "start java -Djava.security.policy=policy com.hxtt.sql.admin.Admin" to start GUI manager. You should add a remote url, for instance, jdbc:paradox://localhost:8029/d:/dbffiles, and click Start button to start that server. Then on your internet client side, you can use jdbc:paradox://externalIP:8029/d:/dbffiles to access your intranet host. externalIP means an external IP or domain name address of your gateway or database server.
BTW, except for TCPServer protocol, HXTT Paradox can use also RMIServer protocol. For instance, you have used "start rmiregistry 1099 -J-Djava.security.policy=yourPolicyFile" to startup your rmi service. Then you can use jdbc:paradox://localhost:1099/d:/dbffiles?serverType=RMIServer to let HXTT Paradox bind remote service in registry. The key is use "java -Djava.security.policy=policy -Djava.rmi.server.hostname=externalIP com.hxtt.sql.admin.Admin RMISERVER 8029" to start your server. RMIServer protocol is slower much than the default TCPServer protcol.

7. I would like to start a server (TCP) from our application, instead of DBAdmin. I need to be able to programmatically

tell the application which profile to start.
Please read Start/Stop Server Programmatically.

8. Is there a way to specify a file path in the url that will connect to a mapped drive in Windows 2000. ie drive \\gomer\pyle\db which is mapped to f drive on the server.
Paradox driver can work with mapped driver, and you should use "jdbc:paradox:/f:" to access your data.

Note: If you're using a database file through a UNC path or a mapped drive of Windows, there is a Windows Security restriction. If you run ColdFusion (Tomcat, or tanuki sw wrapper) as a service on Windows, it operates by default as System, and cannot access directories on a remote system or mapped drive; to resolve this issue, do not run ColdFusion (Tomcat, or tanuki sw wrapper) using the local system account.

9. When I click Start button to start a remote service, I get a security excaption: access denied (java.net.SocketPermission 127.0.0.1:8029 connect,resolve)
You have to enable java.net.SocketPermission right in your policy file if you run a Paradox server. Please read file:///yourdriver|/jdk1.2/docs/guide/security/PolicyFiles.html for more information about policy file. It is unnecessary to know the specific content of a policy file, since you can use policy tool to create and maintain your policy files. Please read file:///yourdriver|/jdk1.2/docs/tooldocs/win32/policytool.html for policy tool.

10. How to start remote service as MS Windows service and Linux(Solaris) Daemon?
Please read Run HXTT ParadoxServer as Windows Service or Linux(Solaris) Daemon.

11. How to start remote control when ParadoxServer is running as Windows service or Linux(Solaris) Daemon?
You can use "java com.hxtt.sql.admin.Admin TCPCLIENT [host:]port [remoteControlPassword]" to start your remote control.

SQL Questions

1. I need to use tables stored in a subdirectory.
table-name: [catalog.]tableName
For instance, you have many Paradox files on c:\data. You can use "jdbc:paradox:/c:/data" as JDBC url. Then you can use "select * from subdirectory1.table1" to visit table1 file at subdirectory1. For instance, "select tableAlias.* from "sales/2004/04".sale as tableAlias" can access sale table at "c:\data\sales\2004\04".

2. I can't use "select RIGHT from deldob"
RIGHT is a reserved SQL keyword. "variableName", [variableName] or {v 'variableName'} is used to quote those columns which use reserved keyword, so that you should use "RIGHT" or {v 'RIGHT'} to quote the RIGHT field, for instance, *select {v 'RIGHT'},'other' from states where "RIGHT"=32*. HXTT Paradox supports using DATE, TIME, TIMESTAMP, GROUP, ORDER, KEY, DESC, UPDATE directly in SQL, although they're reserved words too.

3. Can I get an example on how to do a query involving a boolean value. eg. " Select * from tableName where exported = true", where exported is a boolean column in a Paradox file.
Supports. You can use "select * from tableName where exported" too. All of NOT, AND, and OR operation are supported.

4. How to specify dates?
Please use SQL Escape Syntax, a date is specified in a JDBC SQL statement with the syntax {d `yyyy-mm-dd'} where yyyy-mm-dd provides the year, month, and date, e.g. 1996-02-28. There are analogous escape clauses for TIME and TIMESTAMP type: {t `hh:mm:ss'} and {ts `yyyy-mm-dd hh:mm:ss.f...'}. The fractional seconds (.f...) portion of the TIMESTAMP can be

omitted. For instance,{d '1999-11-01'} and {ts '3999-03-24 00:59:23.22222'}. You can use PreparedStatement.setDate to set date columns too.

5. How to handle date range selection, e.g. SELECT * FROM CALLS WHERE START >= '2001-01-01' AND END <= '2002-01-01'
Although the HXTT Paradox supports "SELECT * FROM CALLS WHERE START >= '2001-01-01' AND END <= '2002-01-01'", but that sql syntax is unadvisable. Please use SQL Escape Syntax, {d `yyyy-mm-dd'} and {ts `yyyy-mm-dd hh:mm:ss.f...'}, for Date and timestamp type according to JDBC standard. You can learn more about Escape Syntax at file:///yourdriver|/jdk1.2/docs/guide/jdbc/spec/jdbc-spec.frame11.html . You should use "select * from calls where start>={d '2001-01-01'} and end <={d '2002-01-01'}".

6. Can {d '2999-11-21'}={ts '2999-11-21 23:22:20.3335'} and {t '23:22:20'}={ts '1999-01-01 23:22:20.333'}?
Supports.

7. I think this one is for use functions {fn abs(TEST.int1)}
You can use abs(TEST.int1) too. HXTT Paradox supports more than 210 functions.

8. Update table_name set (fieldname1=X, fieldname2=X2, ...) where primary_index='blah' throws a parse exception.
You should use "update table_name set fieldname1=X, fieldname2=X2, ... where primary_index='blah'".

9. How to delete all deleted records permanently?
"PACK TABLE [IF EXISTS] table_name" will pack database.
"TRUNCATE TABLE [IF EXISTS] table-name" will zap database.

Index Questions

1. How to rebuilding index in case of corrupted index?
REINDEX {ALL | indexFileName[,indexfileName2,...]} ON table-name

2. I receive 1 record back, however there should be 8 records returned.My SQL is "SELECT * FROM Schshift@brian WHERE PSCHED='0001092478'"
You should have a UNIQUE index restriction on your PSCHED column in your index file. You should use "CREATE INDEX PSCHED on Schshift (PSCHED)", not "CREATE INDEX PSCHED on Schshift (PSCHED UNIQUE)". Then you can get all ten records. Paradox driver will use index to speed up the query which contains some index expressions.

3. We tried to set a PRIMARY KEY constraint with: create unique index PROVA on PROVA (COD)
You should try "CREATE INDEX prova ON prova (cod PRIMARY KEY).

4. I have a table that lists an index using: STR(ClassLink,4,0)+STR(StuLink,5,0) as the column_name. I want to join it to another table that has an index that uses the same columns... What should the join statement look like in order to take advantage of the indexes?
For instance, you can use "select * from ACLS3295,AGRD3295 where STR(ACLS3295.ClassLink,4,0)+STR(ACLS3295.StuLink,5,0)='1234abcde' and STR(AGRD3295.ClassLink,4,0)+STR(AGRD3295.StuLink,5,0)='5678abcde'", or "select * from ACLS3295 as a,AGRD3295 as b where STR(a.ClassLink,4,0)+STR(a.StuLink,5,0)='1234abcde' and STR(b.ClassLink,4,0)+STR(b.StuLink,5,0)='5678abcde'".

Performance Questions

1. What is the most efficient methodto insert records in a table, to use an updatable RecordSet or to use a PreparedStatement?

PreparedStatement is smally quicker than updatable RecordSet. An updatable RecordSet is quicker than PreparedStatement if you insert into more than 200 columns with constant values. It can only cope with constant values. PreparedStatement can cope with complicated expressions so that you can insert timestamp, function, ResultSet, and so on.

2. "select count(*) from table" are worked a long time for large tables.
You should use "select reccount() from table" to get the number of records. Count(*) sums always up all records except deleted row.

3. Are there any data row count, data volume, memory minimums, maximums imposed when using the HXTT Paradox?
No limitation. The HXTT Paradox supports to join query big databases with DISTINCT, GROUP BY, and ORDER BY.

Concurrence Questions

1. Does HXTT Paradox support multi-user access?
The HXTT Paradox supports multi-user access, record lock, and table lock.

2. Is there any way to lock/unlock record programatically.
We have provided a _LockFlag_ virtual column as row lock flag. You can know it from Set Record Lock Manually.

Internationalization Questions

1. Can the HXTT Paradox support Czech MS - DOS 895?

The HXTT Paradox supports all codepage, multilingual collation sequence, and unicode character set. Cp895(Czech MS - DOS 895), Cp620(Polish MS - DOS 620) and Mazovia are extra supported although JVM doesn't support those.

2. Do you have a solution for character translation to the right encoding?
The HXTT Paradox supports CharacterEncoding. Please use charSet property.

```
//Default: null
//You can find a Supported Encodings list of
files:///yourdriver/jdk1.2/docs/guide/internat/encoding.doc.html
//Extra supports:
// Cp895 is supported by HXTT Paradox driver. //Czech MS - DOS 895
// Cp620 is supported by HXTT Paradox driver. //Polish MS - DOS 620
// Mazovia is supported by HXTT Paradox driver. //Polish
Properties properties=new Properties();
properties.setProperty("charSet","sv_SE");
Connection con = DriverManager.getConnection(url,properties);
```

3. While reading encrypted data in a Paradox file using u'r parser in java. The data retreived is different from the data in the Paradox file, certain characters are read as ? marks.(the encryption is done using ASCII values).
You can use ResultSet.getBytes(int columnIndex), not ResultSet.getString(int columnIndex) and ResultSet.getObject(int columnIndex), to get your encrypted data, since your encrypted data is binary stream.

4. When they insert accented characters, it comes out different at the Java end. There seem to be some character set conversion problems. Is there a way to solve that?
You can use ResultSet.getBytes() and ResultSet.setBytes() to avoid CharacterEncoding.

Interoperability Questions

1. How to set up HXTT Paradox with Tomcat4.1 as PoolableConnection?
This sample shows three PoolableConnections ways through Database Connection Pool (DBCP) Configurations and JNDI Resources(You should read JNDI Datasource HOW-TO and JNDI Resources HOW-TO also.):
In server.xml:

```
<Context path="" docBase="ROOT" debug="5" reloadable="true" crossContext="true">

    <Resource name="jdbc/testparadoxPool1" auth="Container"
type="javax.sql.DataSource"/>
        <ResourceParams name="jdbc/testParadoxPool1">
                <parameter>
                        <name>factory</name>
                        <value>org.apache.commons.dbcp.BasicDataSourceFactory</value>
                </parameter>

                <parameter>
                        <name>maxActive</name>
                        <value>50</value>
                </parameter>

                <parameter>
                        <name>maxIdle</name>
                        <value>10</value>
                </parameter>

                <parameter>
                        <name>maxWait</name>
                        <value>10000</value>
                </parameter>

                <parameter>
                        <name>username</name>
                        <value></value>
                </parameter>

                <parameter>
                        <name>password</name>
                        <value></value>
                </parameter>

                <parameter>
                        <name>driverClassName</name>
                        <value>com.hxtt.sql.paradox.ParadoxDriver</value>
                </parameter>

                <parameter>
                        <name>url</name>
                        <value>jdbc:paradox:///d:/paradoxfiles</value>
                </parameter>
    </ResourceParams>
```

```
    <Resource name="jdbc/testParadoxPool2" auth="Container"
type="com.hxtt.sql.HxttConnectionPoolDataSource"/>
        <ResourceParams name="jdbc/testParadoxPool2">
                <parameter>
                        <name>factory</name>
                        <value>org.apache.naming.factory.BeanFactory</value>
                </parameter>

                <parameter>
                        <name>url</name>
                        <value>jdbc:paradox:///d:/paradoxfiles</value>
                </parameter>

                <parameter><name>username</name><value></value></parameter>
                <parameter><name>password</name><value></value></parameter>
                <parameter><name>host</name><value></value></parameter>
                <parameter><name>port</name><value>8029</value></parameter>

    </ResourceParams>


    <Resource name="jdbc/testParadoxPool3" auth="Container"
type="com.hxtt.sql.HxttConnectionPoolDataSource"/>
        <ResourceParams name="jdbc/testParadoxPool3">
                <parameter>
                        <name>factory</name>
                        <value>com.hxtt.sql.HxttObjectFactory</value>
                </parameter>
                <parameter>
                        <name>url</name>
                        <value>jdbc:paradox:///d:/paradoxfiles</value>
                </parameter>

                <parameter><name>username</name><value></value></parameter>
                <parameter><name>password</name><value></value></parameter>
                <parameter><name>host</name><value></value></parameter>
                <parameter><name>port</name><value>8029</value></parameter>
    </ResourceParams>

</Context>
```

Then you can use the below code to test those PoolableConnections:

```
        Context initContext = new InitialContext();
        Context envContext = (Context)initContext.lookup("java:/comp/env");

        DataSource ds1 = (DataSource)envContext.lookup("jdbc/testParadoxPool1");
        Connection conn1 = ds1.getConnection();
        out.println("testParadoxPool1 OK:)<br/>");
        Statement stmt1 = conn1.createStatement();
        ResultSet rs1 = stmt1.executeQuery("select * from test");
        if(rs1.next())
           out.println(rs1.getString(1)+":)<br/>");
```

```
rs1.close();
stmt1.close();
conn1.close();


DataSource ds2 = (DataSource)envContext.lookup("jdbc/testParadoxPool2");
Connection conn2 = ds2.getConnection();
out.println("testParadoxPool2 OK:)<br/>");
Statement stmt2 = conn2.createStatement();
ResultSet rs2 = stmt2.executeQuery("select * from test");
if(rs2.next())
   out.println(rs2.getString(1)+":)<br/>");
rs2.close();
stmt2.close();
conn2.close();

DataSource ds3 = (DataSource)envContext.lookup("jdbc/testParadoxPool3");
Connection conn3 = ds3.getConnection();
out.println("testParadoxPool3 OK:)<br/>");
Statement stmt3 = conn3.createStatement();
ResultSet rs3 = stmt3.executeQuery("select * from test");
if(rs3.next())
   out.println(rs3.getString(1)+":)<br/>");
rs3.close();
stmt3.close();
conn3.close();
```

If you use org.apache.commons.dbcp.BasicDataSource, but get "Cannot create PoolableConnectionFactory" Error, you should check your commons-pool-1.x.jar and commons-dbcp-1.*.jar file in $TOMCAT/common/lib directory to see whether two files have the same version. DBCP v1.2 requires Pool v1.2 so that you should update Pool v1.1 from the tomcat website.

If you wish to add more Connection properity, you should use connectionProperties, for instance:

<parameter>
<name>connectionProperties</name>
<value>charSet=Cp737</value>
</parameter>

2. How to set up HXTT Paradox with vqServer 1.9.55 as web server?
The key is to use an absolute path as Java libraries' location, and restart vqServer after modified Java libraries.
For instance, your vqServer is installed at C:\vqServer\.
1. Please use http://yourhost:9090/ to visit your administration server.
2. Click on Java libraries in the vqServer control centre menu (http://yourhost:9090/admin?action=libraries&serial=14)
3 Click New library (http://yourhost:9090/admin?lib=New_library&action=edit)
4. Enter C:\vqServer\classes\Paradox_JDBC20.jar as location value, Paradox Driver as Description value, then click OK button.
5. Please copy Paradox_JDBC20.jar into C:\vqServer\classes directory.
6. Please copy ex01.class into C:\vqServer\servlets\servlets
7. Stop and restart vqServer
8. Please use http://yourhost/servlet/yourServlets to get your result.

3. How to set up HXTT Paradox with Coldfusion MX 6.1 Application Server?

For instance,your Coldfusion MX is installed at C:\CFusionMX\, and wish to use Paradox_JDBC30.jar.
1. Please copy Paradox_JDBC30.jar into C:/CFusionMX/wwwroot/WEB-INF/classes/.
2. Use http://yourhost:8500/CFIDE/administrator/index.cfm to enter the CFMX Administrator.
3. Go to the "Java and JVM" of Server Settings, http://yourhost:8500/CFIDE/administrator/settings/jvm.cfm page, and enter the full path, C:/CFusionMX/wwwroot/WEB-INF/classes/Paradox_JDBC30.jar, in the Class Path. Then, click "Submit Changes".
4. Restart the CFMX Service.
5. Please go back to the administrator page, and go to the "Data Sources" of Data & Services, http://yourhost:8500/CFIDE/administrator/datasources/index.cfm page, and enter the name for the new datasource, for instance "ParadoxTest", and select "Other" for the driver. Then Click "Add".
6. Enter the datasource information. JDBC URL is always in the format jdbc:paradox:[//[host:port]]/[DatabasePath], for instance jdbc:paradox:/c:/data. Driver class is always com.hxtt.sql.paradox.ParadoxDriver. Driver name is used to identify the driver in the datasources view, and you can use Paradox. Username and password are not required. They can also be specified in the cfquery tag (but datasource verification will fail if you don't enter them). Description is not required.
7. If you wish to set more connection properties, please click "Show Advanced Setting" button, then in the textbox for "Connection String", you can input "delayedClose=15;maxCacheSize=6144;lockTimeout=2000;" (three properites are just a demo, not necessary). Note: Connection String seems abnormal now. You should have to put Connection String into JDBC URL, for instance: jdbc:paradox:/c:data?delayedClose=15;maxCacheSize=6144;lockTimeout=2000;
8. Lastly, please press "Submit" to finalize the entered data.
9. You can find edit.cfm and edit_action.cfm sample in demo pacakge.

4. HXTT Paradox with If you run ColdFusion (Tomcat, or alexandria sw and tanuki sw wrapper) on Windows 2000 and Windows XP Pro does not work on mapped drives.

Note: If you're using a database file through a UNC path or a mapped drive of Windows, there is a Windows Security restriction. If you run ColdFusion (Tomcat, or tanuki sw wrapper) as a service on Windows, it operates by default as System, and cannot access directories on a remote system or mapped drive; to resolve this issue, do not run ColdFusion (Tomcat, or tanuki sw wrapper) using the local system account.

The service(For instance, ColdFusion MX Application Server, ColdFusion MX 7 Application Server, or Apache Tomcat) built by ColdFusion (Tomcat, or tanuki sw wrapper) can not access the share directory at other machine by default. But you can do as follows to solve this problem:
1. Right click the service built by ColdFusion (Tomcat, or tanuki sw wrapper) in service manager, and click the property menu.
2. On the open window,select the login tab, click this account radio box, and click the browse button.
3. Select the administrator account(it seems that you should select the administrator account), input the correct password in the password textbox and confirm password textbox.
4. Restart this service, you can find this service can access the share directory at other machine.

5. How to resolve 'DataSet has no unique row identifiers.' issue in JBuilder's QueryDataSet?
You can use _rowid_, a virtual column to avoid that issue, For instance:

```
        //...
        queryDataSet = new QueryDataSet();
                //...
                queryDataSet.setMetaDataUpdate(MetaDataUpdate.ALL-
MetaDataUpdate.ROWID-MetaDataUpdate.TABLENAME);

        queryDataSet.setQuery(new QueryDescriptor(database, "select _rowid_,* from
test", null, true,
                Load.ALL));
        queryDataSet.open();
```

```
        queryDataSet.setTableName("test");
        queryDataSet.setRowId("_rowid_", true);
                //...
```

6. How to set HXTT Paradox with WebSphere Application Server?
You can download a pdf guide from here.

7. How to set HXTT Paradox with Hibernate?
You should download support package and sample from here.

8. How to set HXTT Paradox Data Source with Oracle Application Server 10G?
You should read guide at Oracle Application Server 10G(v10.1.3) and Oracle Application Server 10G(v10.1.2.02).

9. How to set HXTT Paradox Data Source with JBoss Application Server 4.0.1?
For instance,

```
<datasources>
  <local-tx-datasource>
    <jndi-name>TestData</jndi-name>
    <connection-url>jdbc:paradox:////data</connection-url>
    <driver-class>com.hxtt.sql.paradox.ParadoxDriver</driver-class>
    <connection-property name="delayedClose">-1</connection-property>
    <user-name/>
    <password/>
    <min-pool-size>5</min-pool-size>
    <max-pool-size>20</max-pool-size>
    <idle-timeout-minutes>5</idle-timeout-minutes>
  </local-tx-datasource>
</datasources>
```