

# ELIXIR REPERTOIRE

*Integrated Business Intelligence Suite*



## Intelligence On Demand



Using JDBC Data Source with DB2

# Using JDBC Data Source with DB2

Elixir Repertoire provides DB2 connectivity with JDBC Data Source via DB2 Universal JDBC driver (Type 4).

## Prerequisites

Below is a list of prerequisites needed for a successful connection to DB2.

- 1) DB2 Universal JDBC driver jar files:

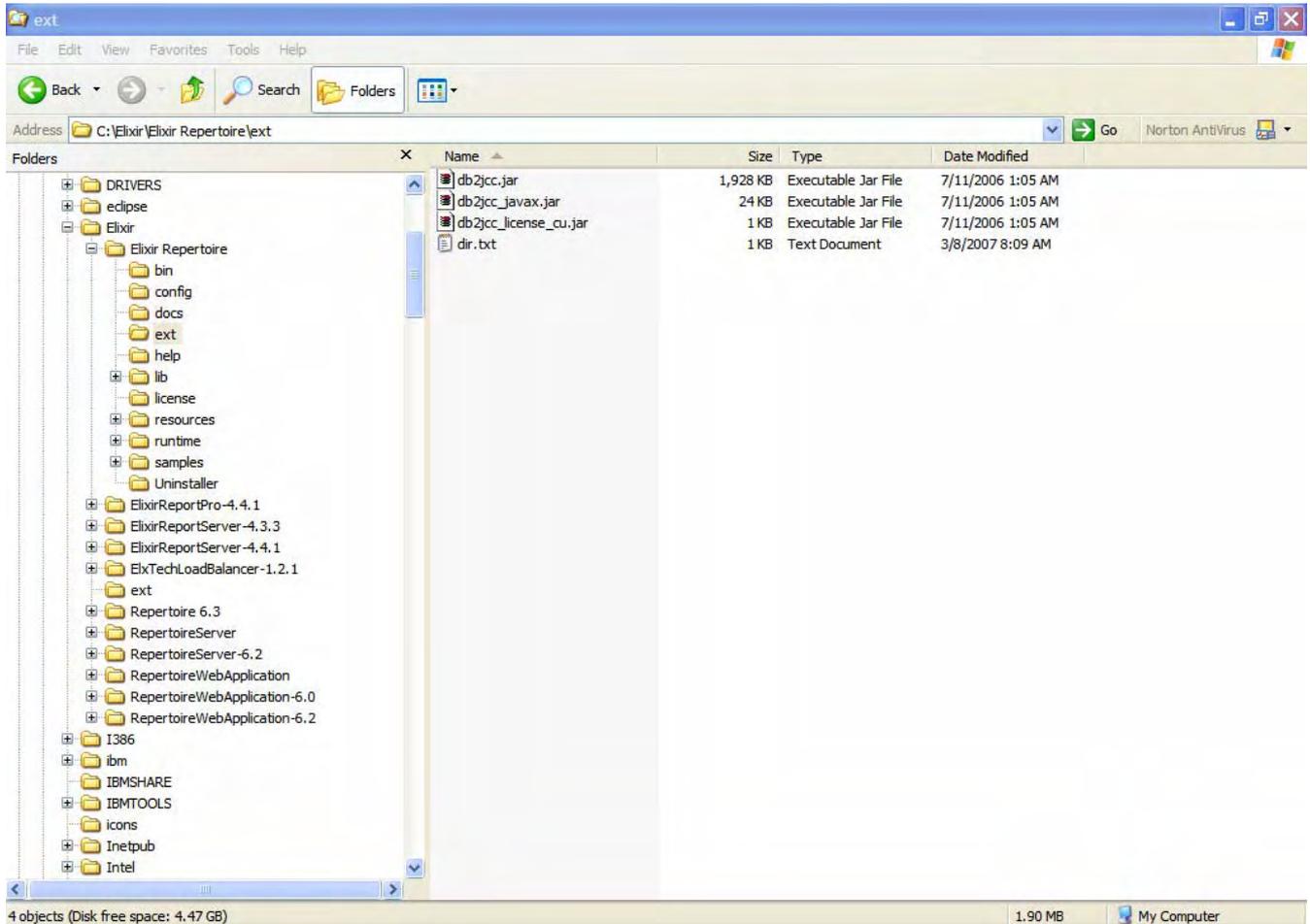
db2jcc.jar

db2jcc\_javax.jar

db2jcc\_license\_cu.jar

They can be found in the DB2 installation directory, e.g. C:\Program Files\IBM\SQLLIB\java.

- 2) TCP is set, with a default port number of 50000.
- 3) All DB2 services are started.
- 4) DB2 Universal JDBC driver is deployed in Elixir Repertoire ext directory. The same applies to Elixir Repertoire Server.



You can verify DB2 setup by viewing tables in the DB2 Control Panel.

The screenshot shows the DB2 Control Center interface. On the left is a tree view of the database objects, with 'SAMPLE' selected under 'All Databases'. The main pane displays a list of tables in the 'ELIXIR-ZHUBO - DB2 - SAMPLE' database. The 'EMP\_RESUME' table is highlighted. Below the list, a detailed view of the 'EMP\_RESUME' table is shown, including its schema, creator, and column definitions.

Name	Schema	Table space	Comment	Index table space	Large data table space	Type
ACT	ZHUBO	USERSPACE1				T
ADEFUSR	ZHUBO	USERSPACE1				S
CL_SCHED	ZHUBO	USERSPACE1				T
DEPARTMENT	ZHUBO	USERSPACE1				T
EMP_PHOTO	ZHUBO	USERSPACE1				T
<b>EMP_RESUME</b>	<b>ZHUBO</b>	<b>USERSPACE1</b>				<b>T</b>
EMPLOYEE	ZHUBO	USERSPACE1				T
EMPMDC	ZHUBO	IBMDB2SAM...				T
EMPPROJACT	ZHUBO	USERSPACE1				T
FED_CACHE_MQTS	SYSTOOLS	IBMDB2SAM...				T
FED_CACHE_OPTIONS	SYSTOOLS	IBMDB2SAM...				T
HMON_ATM_INFO	SYSTOOLS	SYSTOOLSP...				T

Key	Name	Data type	Length	Nullable
	EMPNO	CHARACTER	6	No
	RESUME_FORMAT	VARCHAR	10	No
	RESUME	CLOB	5120	Yes
	EMP_ROWID	CHARACTER	40	No

## Creating a JDBC Data Source in Elixir Repertoire

Please follow the steps below to create a JDBC Data Source in Elixir Repertoire.

- 1) Input JDBC connection parameters in the wizard

Database Name: SAMPLE

Host: <your host>

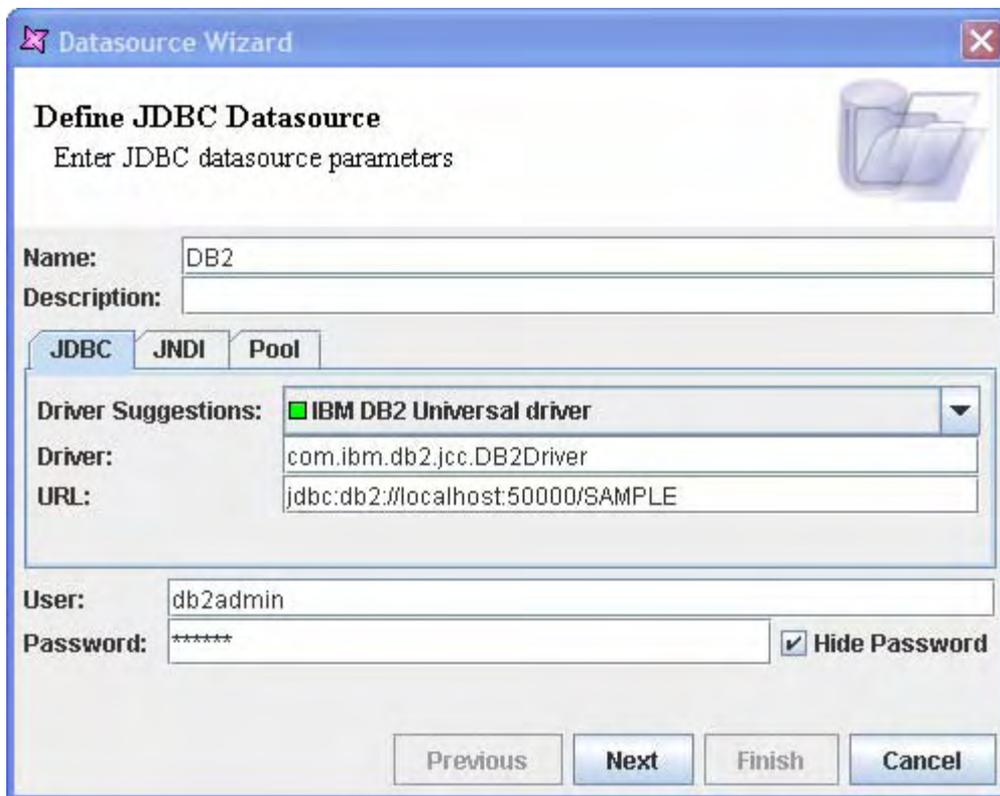
Port: 50000

JDBC Driver Class Name: com.ibm.db2.jcc.DB2Driver

User Name: db2admin

Password: <your password>

URL: jdbc:db2://[Host]:[Port]/[DatabaseName]



The screenshot shows the 'Datasource Wizard' dialog box with the 'Define JDBC Datasource' step selected. The 'Name' field contains 'DB2'. The 'Description' field is empty. The 'JDBC' tab is active, showing 'Driver Suggestions' with 'IBM DB2 Universal driver' selected. The 'Driver' field contains 'com.ibm.db2.jcc.DB2Driver' and the 'URL' field contains 'jdbc:db2://localhost:50000/SAMPLE'. The 'User' field contains 'db2admin' and the 'Password' field contains '\*\*\*\*\*'. The 'Hide Password' checkbox is checked. At the bottom, there are buttons for 'Previous', 'Next', 'Finish', and 'Cancel'.

**Datasource Wizard**

**Define JDBC Datasource**  
Enter JDBC datasource parameters

Name: DB2  
Description:

**JDBC** JNDI Pool

Driver Suggestions:  IBM DB2 Universal driver  
Driver: com.ibm.db2.jcc.DB2Driver  
URL: jdbc:db2://localhost:50000/SAMPLE

User: db2admin  
Password: \*\*\*\*\*  Hide Password

Previous Next Finish Cancel

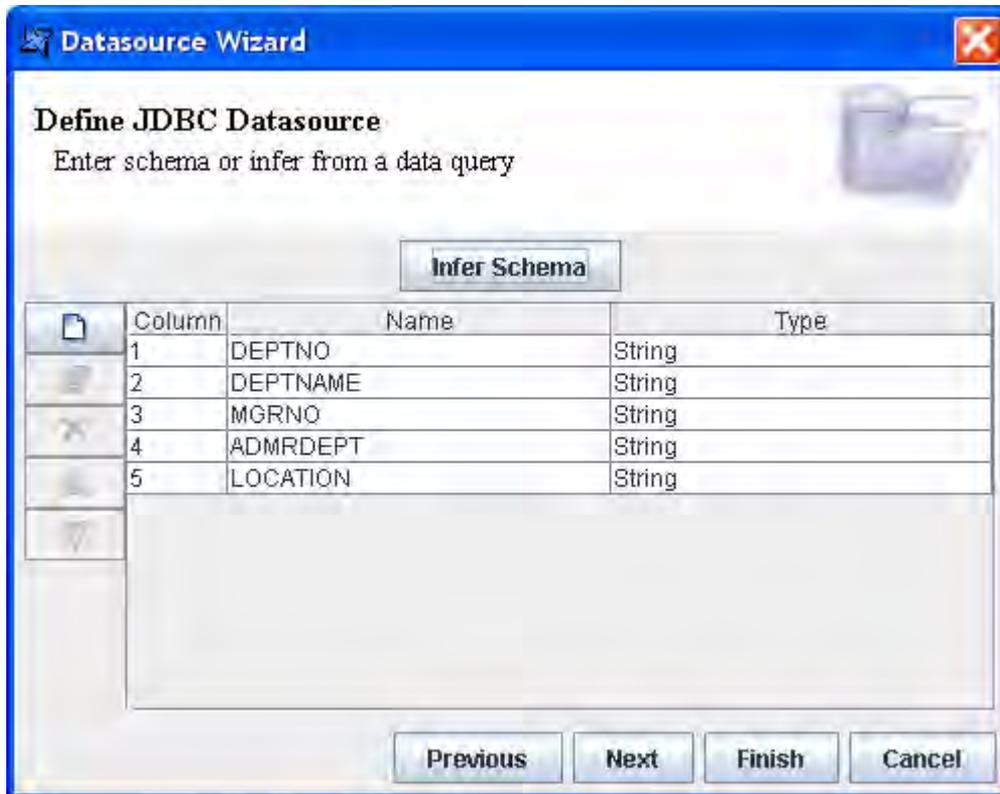
2) Click **Next** and type a SQL statement to retrieve records from a DB2 table. For example:

*SELECT \* FROM ADMINISTRATOR.DEPARTMENT*

Please note the schema name ADMINISTRATOR should be changed to your own schema name in the DB2 instance.

Alternatively, the SQL statement can be generated using Query Builder.

3) Click **Infer Schema** to get a schema inferred from the SQL statement.



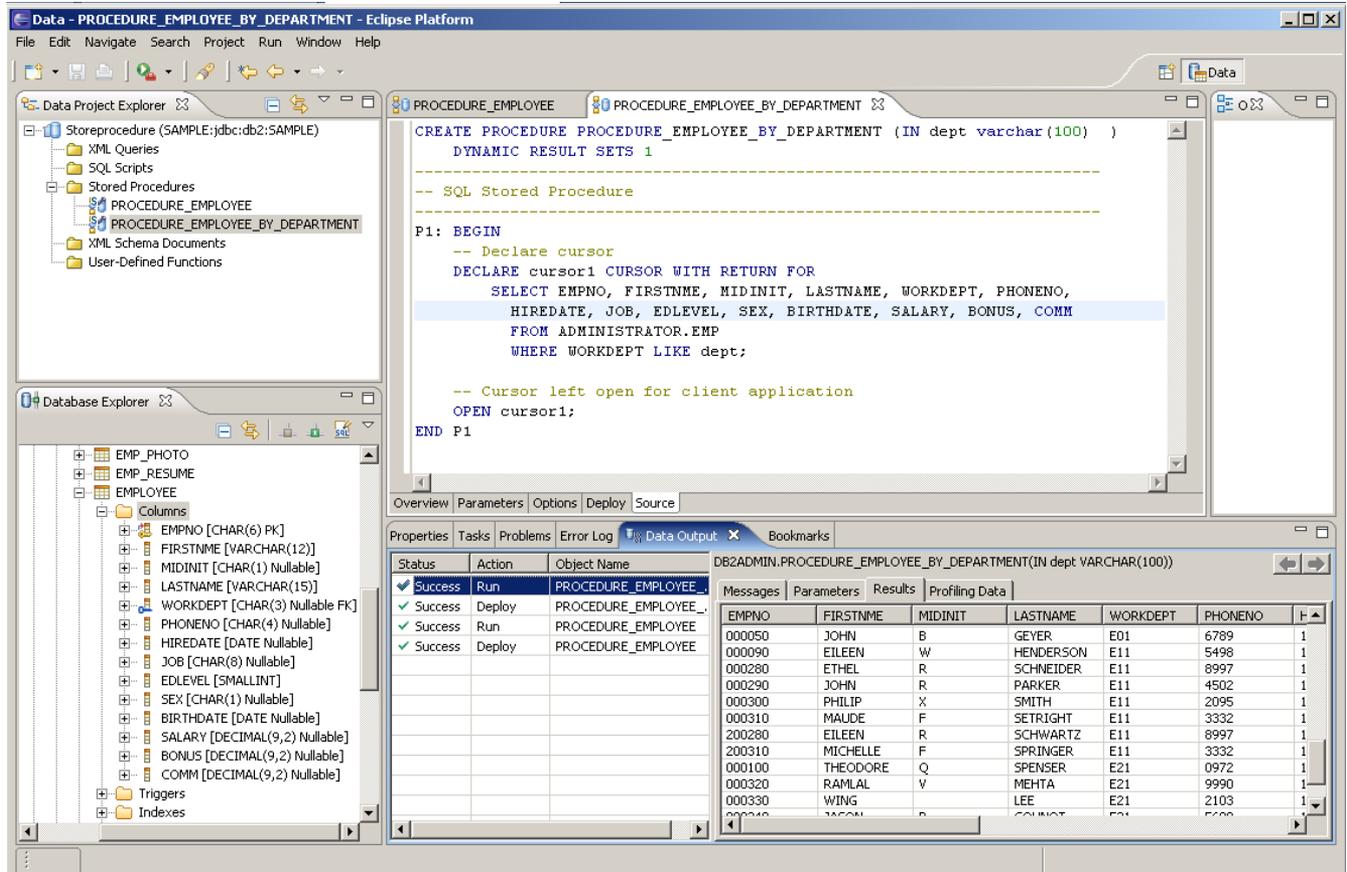
4) Verify the result of the SQL Statement execution by clicking **Load Data** in the **Data** tab.

DEPTNO (String)	DEPTNAME (String)	MGRNO (String)	ADMRDEPT (String)	LOCATION (String)
A00	SPIFFY COMPUTER SERVICE DIV.	000010	A00	
B01	PLANNING	000020	A00	
C01	INFORMATION CENTER	000030	A00	
D01	DEVELOPMENT CENTER		A00	
D11	MANUFACTURING SYSTEMS	000060	D01	
D21	ADMINISTRATION SYSTEMS	000070	D01	
E01	SUPPORT SERVICES	000050	A00	
E11	OPERATIONS	000090	E01	
E21	SOFTWARE SUPPORT	000100	E01	
F22	BRANCH OFFICE F2		E01	
G22	BRANCH OFFICE G2		E01	
H22	BRANCH OFFICE H2		E01	
I22	BRANCH OFFICE I2		E01	
J22	BRANCH OFFICE J2		E01	

## Using DB2 Store Procedure

You can use DB2 stored procedure with Elixir Repertoire JDBC Data Source.

- 1) Create a stored procedure in IBM Development Center.



The stored procedure to be created is:

```
CREATE PROCEDURE PROCEDURE_EMPLOYEE_BY_DEPARTMENT (IN dept varchar(100) )
DYNAMIC RESULT SETS 1
```

```
-----
-- SQL Stored Procedure
-----
```

```
P1: BEGIN
```

```
-- Declare cursor
```

```
DECLARE cursor1 CURSOR WITH RETURN FOR
```

```
SELECT EMPNO, FIRSTNME, MIDINIT, LASTNAME, WORKDEPT, PHONENO,
HIREDATE, JOB, EDLEVEL, SEX, BIRTHDATE, SALARY, BONUS, COMM
FROM ADMINISTRATOR.EMP
WHERE WORKDEPT LIKE dept;
```

```
-- Cursor left open for client application
```

```
OPEN cursor1;
```

```
END P1
```

The IN parameter *dept* is of type varchar.

- 2) Use the wizard provided to create a SELECT statement and test the procedure in IBM Development Center.
- 3) In the JDBC Data Source wizard, enter the SQL statement as:

call procedure-name([parameter],[parameter]...).

For example:

```
call DB2ADMIN.PROCEDURE_EMPLOYEE_BY_DEPARTMENT('A001')
```

Dynamic parameters can be defined inside the SQL statement with the following syntax:

```
#{LabelName#FieldType#DefaultValue}
```

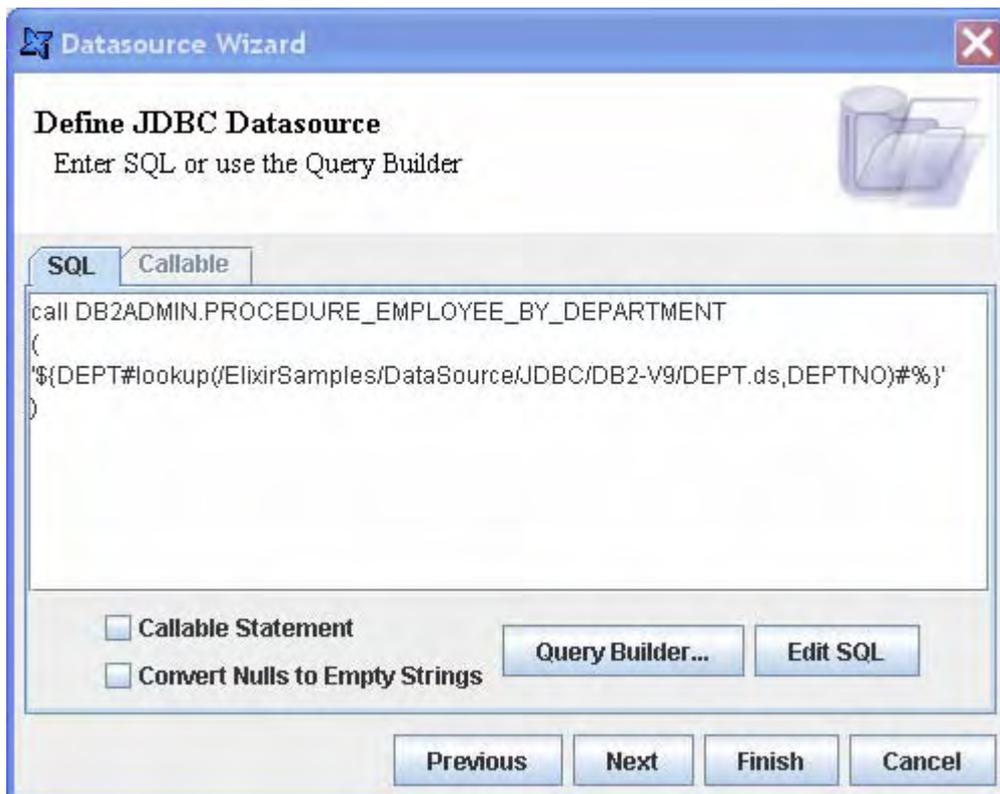
In this case the field type used is **lookup** and the first parameter is a repository URL to a data source file while the second parameter is the field name. **lookup** is a pre-defined function to look up values in a data source based on the supplied field name. Those values are then used to populate a combo box presented to users for selection.

For example:

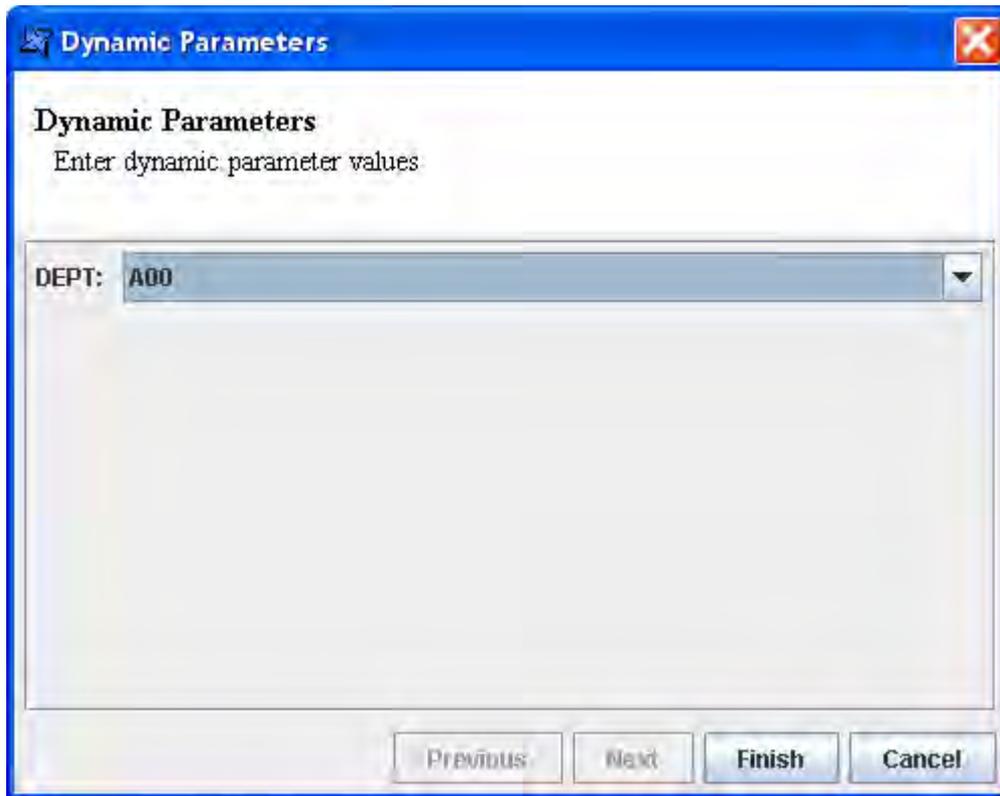
```
#{DEPT#lookup(/ElixirSamples/DataSource/JDBC/DB2-V9/DEPT.ds,DEPTNO)}
```

The complete SQL statement with dynamic parameters is:

```
call DB2ADMIN.PROCEDURE_EMPLOYEE_BY_DEPARTMENT(  
    '#{DEPT#lookup(/ElixirSamples/DataSource/JDBC/DB2-V9/DEPT.ds,DEPTNO)#%}'  
)
```



- 4) Verify the result of the SQL Statement execution by clicking **Load Data** in the **Data** tab. Notice the Dynamic Parameters dialog shown with a combo box named **DEPT:** and a list of items for selection retrieved from the specified data source and field in the SQL statement.



Data								
[Result]								
EMPNO	FIRSTNME	MIDINIT	LASTNAME	WORKDEPT	PHONENO	HIREDATE	JOB	EDLEV
(String)	(String)	(String)	(String)	(String)	(String)	(Date)	(String)	(Sho
000010	CHRISTINE	I	HAAS	A00	3978	Fri Jan 01 00:00:00 SGT 1965	PRES	18
000110	VINCENZO	G	LUCCHESSI	A00	3490	Fri May 16 00:00:00 SGT 1958	SALESREP	19
000120	SEAN		O'CONNELL	A00	2167	Thu Dec 05 00:00:00 SGT 1963	CLERK	14
200010	DIAN	J	HEMMINGER	A00	3978	Fri Jan 01 00:00:00 SGT 1965	SALESREP	18
200120	GREG		ORLANDO	A00	2167	Fri May 05 00:00:00 SGT 1972	CLERK	14

## Using Elixir Report to view image stored as Blob database type

1) Follow step 1 from **Creating a JDBC Data Source in Elixir Repertoire**.

2) Enter the SQL statement.

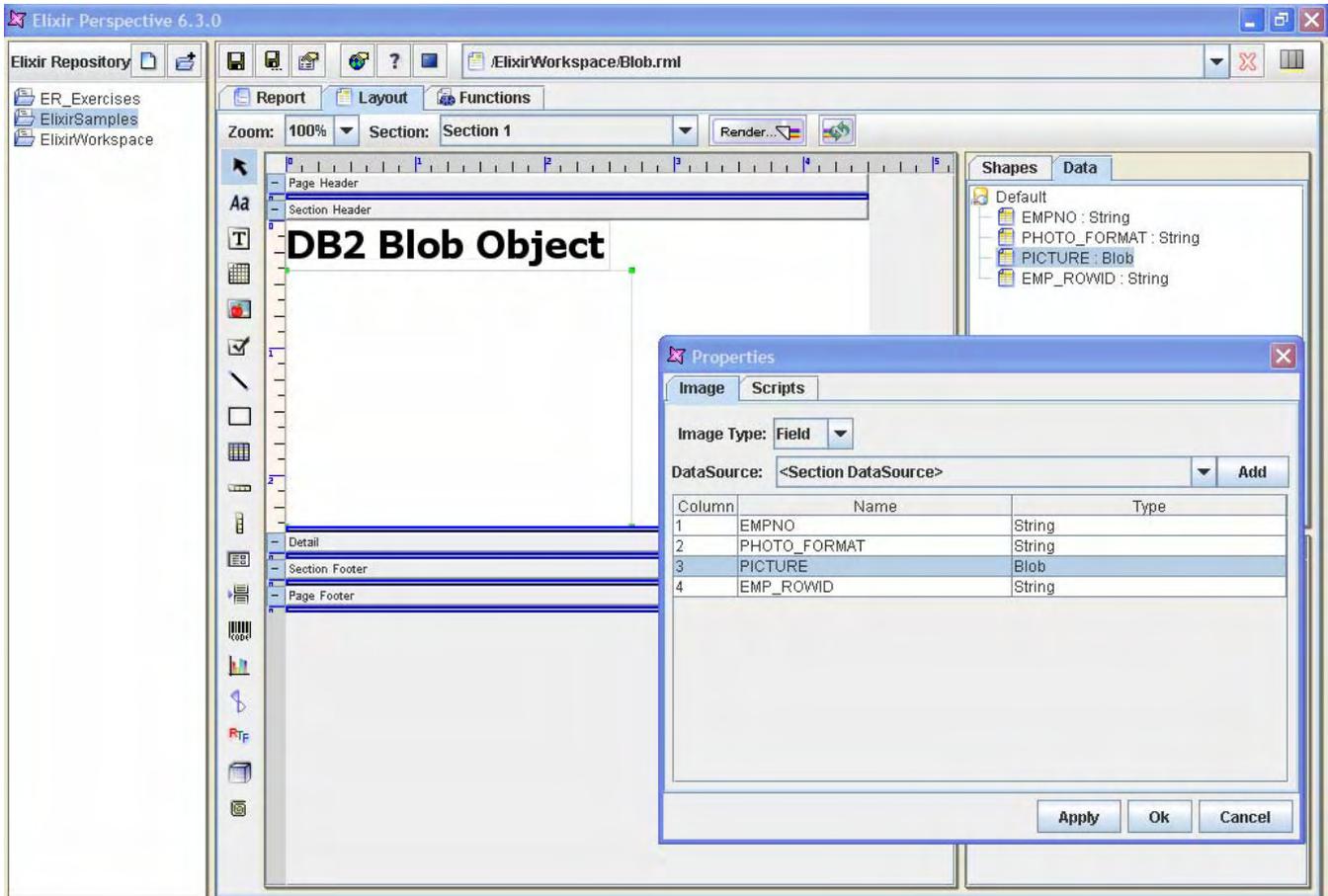
```
SELECT * FROM ADMINISTRATOR.EMP_PHOTO
```

3) Click **Infer Schema**.

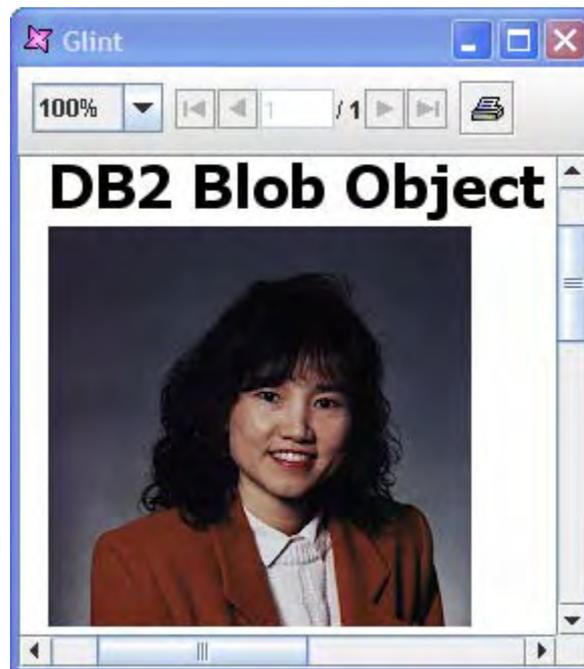


Images stored as Blob objects will be automatically assigned the SQL Blob type.

4) Create a report to show a Blob object as image.



5) Render report.



## Summary

Elixir Repertoire offers a wide array of functionalities for maximum business impact, while leveraging Java Standard & Enterprise Edition for cross-platform compatibility. Satisfied customers worldwide rely on Elixir Repertoire to improve operations efficiency as well as increase corporate profitability.

For additional information, please contact Elixir at [sales@elixirtech.com](mailto:sales@elixirtech.com)

## About Elixir Technology Pte Ltd

Elixir Technology provides a Unified Business Intelligence Platform for end-to-end information life cycle coverage from Extraction-Transformation-Loading (ETL), Data Aggregation, Cube, Reporting, Dashboard and Activation. Our flagship product, Elixir Report, has garnered over 600 customers across 50 countries in various verticals such as government, financial services, telecommunications, healthcare, retail, and technology. Going beyond enterprise reporting needs, our Integrated Business Intelligence Suite, Elixir Repertoire, is designed to further empower our customers toward becoming intelligent enterprises, where critical information is readily available to drive decisions and actions. Elixir Technology is headquartered in Singapore, with an R&D arm in UK. Through a network of partners, Elixir's products are represented in many parts of the world across major continents including Asia, America, and Europe. For more information, please visit [www.elixirtech.com](http://www.elixirtech.com).



Intelligence On Demand

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