
Discussion

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External Language Server in 2021.1

Now that IRIS 2021.1 is available as a preview version, I would like to demonstrate a "new" feature. The Java Gateway has been around for a while now but in 2021.1 it has new skills. External Language Servers are available for Java, DotNet, and Python. Here is a quick - very quick - demo of using the External Java Server. Please don't focus solely on what this demo is doing but rather on what is happening in this demo. First, I acquire a gateway connection `oref`. This gateway connection is connected to the External Java Server - one of the External Language Servers.

```
set java = $system.external.getJavaGateway()
```

Next, I need to add my jar file to the class path:

```
do java.addToPath("~/projects/external/java/iris-external/target/iris-external-1.0-SNAPSHOT.jar")
```

I have a method in my `external.test.Horizons` class that queries the `Sample.Person` table in some IRIS instance.

```
public static ExternalResult getPersons(int rowcount) throws SQLException {
    return new ExternalResult(getPersonsResults(rowcount));
}

private static ResultSet getPersonsResults(int rowcount) throws SQLException {
    Properties properties = new Properties();
    properties.put("user", "_SYSTEM");
    properties.put("password", "SYS");
    Connection connection = DriverManager.getConnection(IRIS_URL, properties);
    Statement statement = connection.createStatement();
    ResultSet result = statement.executeQuery("select top " + rowcount + " name,
dob, ssn, home_street, home_city, home_state, home_zip from sample.person order by name");
    return result;
}
```

Simply invoke this method using the ELS `invoke` method:

```
set persons = java.invoke("external.test.Horizons", "getPersons", 10)
```

In my example, `persons` is holding a reference to an instance of my `external.test.ExternalResult` Java class. This class is a wrapper around a JDBC Result Set. I've implemented a `renderTable()` method that displays the contents of the Result Set using an `AsciiTable` library:

```
do persons.renderTable()
```

And the output:

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DotNet and Python External Language Servers work similarly.

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