dataLink

ODAC install and linked server creation

Version 1.0

Washington State Board for Community and Technical Colleges
Revisions

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Overview of dataLink

dataLink is an Oracle database used to replicate the production PeopleSoft databases to individual district Pluggable Databases (PDBs). dataLink allows for near real-time access to data from the ctcLink production databases without actually connecting to the production databases.

Only tables used for reporting or feeding supporting systems are included in dataLink. The ctcLink production system consists of over 140,000 tables, of which only about 1,000 tables are needed for reporting or supporting systems.

Each district has its own dedicated Pluggable Database that contains only data pertaining to that district. Filtering of the data is handled by the Golden Gate replication software during the replication process. For tables that contain no district or college identifier but do contain an EMPLID, the filtering of data is handled utilizing views in each PDB. Tables that do not contain a district or college identifier and do not contain an EMPLID are considered global tables and are not filtered.

Each of the district PDBs contain all three pillars of ctcLink data divided into three separate schema/owner names. Each PDB also contains individual schemas for each SBCTC Data Warehouse data mart. The State Board Master Data (SBMD) views, which are used for the Data Warehouse and system-wide reporting, use a separate schema name. An inventory of the Data Warehouse tables can be found here: https://www.sbctc.edu/colleges-staff/data-services/datalink.aspx

<table>
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<tr>
<th>Schema/Owner</th>
<th>Description</th>
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<tr>
<td>SYSADM_HCM</td>
<td>Human Capital</td>
</tr>
<tr>
<td>SYSADM_CS</td>
<td>Campus Solutions</td>
</tr>
<tr>
<td>SYSADM_FIN</td>
<td>Finance</td>
</tr>
<tr>
<td>WAREHOUSE_ xxxx</td>
<td>SBCTC Data Warehouse data marts (eg WAREHOUSE_SMIS)</td>
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<td>SBMD</td>
<td>State Board Master Data views</td>
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This configuration allows for ease of use as all datasets will be contained within a single database which then simplifies the process of querying across pillars.
Installing the Oracle Data Access Components for your linked server

1. Open your browser and connect to the following URL:
3. Choose the 64-bit ODAC 19.3.1 selection under ODAC Runtime Downloads / ODACOUI
4. Open the ODAC zip file just downloaded and run the setup application

Take the default “Use Windows Built-in Account” and click Next
Click Next
On the Available Product Components page the default is to install all of the options except the last (Oracle Data Access Components Samples). This is appropriate so Click **Next**.
After checking components, the installation summary screen appears.

Click **Install**
Installation progress
Installation complete. Click Close

After installing the ODAC software you will need to restart SQL Server.
Creating a linked server in SQL Server to your PDB

1. Copy the script below into a Query Analyzer window. This script is configured for SBCTC so you will need to change the values for @server and @datasrc where the Oracle service name is referenced on the end of the string
2. Change the value for @rmtpassword to the linkserv password sent to you when the Oracle login was created.

```sql
EXEC master.dbo.sp_addlinkedserver @server = 'PDBSBCTC',
    @srvproduct='Oracle', @provider='OraOLEDB.Oracle',
    @datasrc='datalink-db19-prd.peoplesoft-prod-aws.ctclink.us:1521/SB890'
/* For security reasons the linked server remote logins password is changed with #######
*/

EXEC master.dbo.sp_addlinkedsrvlogin
    @rmtsrvname='PDBSBCTC', @useself='False', @locallogin=NULL,
    @rmtuser='linkserv', @rmtpassword='#####
```

```sql
EXEC master.dbo.sp_addlinkedserver @server = 'PDBSBCTC',
    @srvproduct='Oracle', @provider='OraOLEDB.Oracle',
    @datasrc='datalink-db19-prd.peoplesoft-prod-aws.ctclink.us:1521/SB890'
/* For security reasons the linked server remote logins password is changed with #######
*/

EXEC master.dbo.sp_addlinkedsrvlogin
    @rmtsrvname='PDBSBCTC', @useself='False', @locallogin=NULL,
    @rmtuser='linkserv', @rmtpassword='#####
```
Set Options for Oracle Provider for OLE DB

1. Right click on the OraOLEDB.Oracle provider and check the Enable boxes as shown.

2. After setting the Provider options test the collection by right clicking on the new linked server and select Test Connection.
The test connection to the linked server succeeded.