# Human Resources/Finance Information Systems

# Reporting

## Procedure Manual

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## Standards

## *Data Information Retrieval Hierarchy*

1. Banner inquiry forms
    a. SCT inquiry forms pull data directly from LIVE Banner tables
2. Banner Expert Query
    a. SCT Expert Query pulls data directly from LIVE Banner tables
3. Banner delivered reports
    a. SCT delivered reports pull data directly from LIVE Banner tables
4. If the options above do not produce the desired results, Discoverer Plus/Viewer has been chosen by the Reporting Workgroup as the primary Reporting Tool.
    a. Discoverer Plus/Viewer is a reporting tool that pulls data based on views created in the ODS database.
5. If the views in Discoverer Plus/Viewer do not produce the desired results, another reporting tool such as BI Publisher, SQL Developer or PLUS, Excel, Access or SAS can be used to produce the report if the problem is related to a tool limitation. Another option may be to use a stored procedure created via SQL Developer in TEST and move to LIVE via RIS. This procedure is for extracting data only; not for inserting or updating.
    a. Reasons that another reporting tools outside of Discoverer Plus/Viewer would be used include:
        ~~i.~~ The report needs to produce output that requires a more advanced reporting tool due to complex output requirements
        ii. The report requires very complex logic
        iii. The report requires complex layouts or combinations of layouts (tables, matrices, group reports, and graphs)
    b. The chosen reporting tool would pull data from the ODS database.
6. If the tables in the ODS database do not contain the necessary information, the report needs to be approved to go against the LIVE Banner tables. The Reporting Tool chosen could be any one of the following – BI Publisher, SQL Developer or PLUS, Excel, Access or SAS.
    a. Reasons that may be justified to go against LIVE Banner include:
        i. The data is not available in ODS and can not be made available in a timely fashion
            1. If data is not mapped into the ODS database, modifications to the ODS mapping will be considered to include the desired data for future reporting needs.
        ii. The data is time sensitive
    b. The Report Request should be brought before the Reporting Workgroup for discussion & then will be forwarded to project managers for approval to pull data from the LIVE Banner tables.

## ***Naming Conventions:***

*Custom Functions, Calculations, Parameters, Conditions & Reports (this includes ODS/Discoverer, Excel, Access, SAS, etc)*

All Function, Calculations, Parameters, Conditions & Report entry items have the same naming convention of:

*ModuleZitemtypeuniversity_description* (20 character limit for Report Name in Discoverer/BI Publisher; 7 character limit for Banner; 1st 5 are as follows)

*Module* –

F – Finance
H – Human Resources
G – General

Z

where all entries 2nd character is a Z to denote they are SD created,

*itemtype*

identifies what the item is:
C Calculation
D Condition
F Function
P Parameter/Procedure
R for report
V for View

*University*

identifies the originator or owner of the item:
B for BHSU
D for DSU
N for NSU
M for SDSMT
S for SDSU
U for USD
V for SDSBVI
H for SDSD
Z for RIS
R for BOR

_ underscore inbetween above naming convention & description for Discoverer Plus & BI Publisher only

*description*

free-form (15 character limit for Discoverer Plus; 7 total for Job Sub)
description used to further clarify the purpose of the item; the developers initials could be in the description

_underscore

Include DI for Discoverer Plus or BI for BI Publisher at the end to indicate where the report was created

**Discoverer Custom EUL**

*SD_ODSEUL*

**Discoverer Custom Business Area**

*ODS – Module Reporting Views*

*ODS*

Reporting Tool

*Module*

Finance
HR

*Reporting Views*

**Discoverer Custom Roles for Role Level Security**

*ODSfunctionuniv*

*ODS*

Reporting Tool

*Function*

F – Finance
H – HR

*Univ*

O – SDSD
1 – BOR
2 – USD
3 – SDSU, etc

**Discoverer Custom Roles for Access to Tables**

*Moduletable*

*Module*

FIN – Finance
HR – HR

*Table*

TAB
ALL (all Tables)

**Standard Headers for Reports; also used in Job Sub**

```
/**************************************************************************
       prodedure to print the header
**************************************************************************/
PROCEDURE p_print_head IS
  BEGIN
     v_page_ctr := v_page_ctr + 1;
     utl_file.put_line(file_output, ' ');
     dbms_output.put_line( ' ');
     dbms_output.put_line( 'name of program, limited to 7 characters is loaded to job sub'||rpad('
',41)||
      'South Dakota Board of Regents'||rpad(' ',35)
            ||'Page '||to_char(v_page_ctr, 9999));
     dbms_output.put_line( rpad(' ',53)||'A/P Processing Center');
     dbms_output.put_line( rpad(' ',54)||'Sample Report'||rpad(' ',30)||to_char(SYSDATE,'mm/dd/yyyy
HH24:MI:SS'));
     dbms_output.put_line( ' ');
     dbms_output.put_line( rpad('-',120,'-'));
     v_line_ctr := 11;
  END p_print_head;
```

**Common Users:**

ZZ_xxx (where xxx is the university)

- 1 account for each university
- Assigned ODSFx & ODSHx roles

ZZ_username (where username is the programmer at the university)

- Could be more than 1 account but shouldn't be many; only programmers
- Assigned ODSF & ODSH but no Banner table access

Username

- 1 account per user
- Assigned security based on Banner security

Report development/deployment

- If a central report (used by more than 1 university)
    - Create in ZZ_username so all funds/orgs are available
    - Does it get saved to ZZ_xxx for version control?
- If an ad hoc report for 1 university
    - Create in username account
    - Save to ZZ_xxx account
    - Share with users
    - Keep final version in Zz_xxx account updated
- Reports are pulled for the catalog based on Z as the 2nd character of the name

## *Metadata*

Log in to SNAP at http://snap.sdbor.edu
Go to Resources -> Documentation -> ODS metadata

## *Job Submission Setup*

Responsibility: University/RIS
Timeframe: As needed

The Reporting Tool chosen for Banner is ODS Discoverer. There may be a report where the data is not supported in ODS Discoverer or the data is time sensitive. In this case, after approval from the Reporting Workgroup & RIS, the SQL statement may be added to Job Submission. To request a report to go through Job Sub, fill out the Report/Work Request form and forward to the Functional Module Lead.

**University Responsibility:**

1. Request approval to go against PROD database
2. Create the sql statement on your workstation
   a. The statement should not include any update/insert/delete statements
   b. This will be verified by RIS as well before moving into Job Sub
3. Insert the wrapper around the sql statement:

   At the beginning of your code you need this where PZRMIDP is the name of the program.

```
start gzsbsec.sql PZRMIDP
SET echo OFF
SET verify ON
SET feedback OFF
SET TERMOUT ON;
SET SERVEROUTPUT ON;
```

You then need the following variables:

```
parm_dir_name       VARCHAR2(40)      :=  'BANJOBS_LOG_DIR';
file_output         utl_file.file_type;
i_outputfile        VARCHAR2(200)     :=  'pzrmidp_'||'&2';  -- again the name of the program
i_one_up_number     NUMBER            :=  to_number('&2');
```

Any parameters would look like this including the name of the program within the parenthesis

```
v_inst              varchar2(10)  := f_get_jobsub_parm('PZRMIDP','01',i_one_up_number);
v_year              varchar2(4)   := f_get_jobsub_parm('PZRMIDP','02',i_one_up_number);
```

Any SQL's will need to be put into a cursor and then looped thru to get the results:

```
CURSOR sel_cur IS
   Select spriden_id
        , spriden_last_name
        , spriden_first_name
        , pebempl_jbln_code
   From spriden
       , pebempl
 Where spriden_pidm = pebempl_pidm
    And spriden_change_ind is null
    And pebempl_ibln_code like v_inst;
```

The program name in capital letters must be in the upper right hand corner of the report to be put in eprint.

```
PROCEDURE p_print_head IS
 BEGIN
  v_page_ctr := v_page_ctr + 1;
  utl_file.put_line(file_output,' ');
  utl_file.put_line(file_output,' ');
  utl_file.put_line(file_output,'PZRLR08'||rpad(' ',41)||   Here is the program name
   'South Dakota Board of Regents'||rpad(' ',35)||'Page '||to_char(v_page_ctr, 9999));
  utl_file.put_line(file_output,rpad(' ',53)||'A/P Processing Center');
  utl_file.put_line(file_output,rpad(' ',54)||'Turnover Report'||rpad(' ',30)||to_char(SYSDATE,'mm/dd/yyyy
HH24:MI:SS'));
```

```
  utl_file.put_line(file_output,' ');
  utl_file.put_line(file_output,rpad('-',120,'-'));
  utl_file.put_line(file_output,' ');
  utl_file.put_line(file_output,' ');
  v_line_ctr := 10;
END p_print_head;
```

At the beginning of the body you will need with the name of the program within the parenthesis

```
file_output := utl_file.fopen(parm_dir_name,'pzrmidp_'||'&2'||'.lis','w');
```

When you want to print something out, you would use the ‘utl_file.put_line ‘ (the a_cur is the alias for the sel_cur above.

```
utl_file.put_line(file_output, rpad(a_cur.spriden_id, 15)
                             ||rpad(a_cur.spriden_first_name||’ ‘||a_cur.spriden_last_name, 35));
```

When you have completed the program (just before the END) add in the following to close the file

```
utl_file.fclose(file_output);
```

Any time you want to write out to the .log file you can use :

```
DBMS_OUT.PUT_LINE(‘Error ‘||sqlerrm’);
```

The very last two lines must be.

```
/
exit
```

4. Test the sql statement in TEST
    a. Include the following template:

```
WHENEVER SQLERROR EXIT
#start xxxxx NAME_OF_THE_PROGRAM
WHENEVER SQLERROR CONTINUE
SET termout ON
SET serveroutput ON
set line 200

/* comments here about the code, author */

-- code start here
Select * from Saturn.spriden order by spriden_pidm;

-- No forward slash (/) at the end. Should use semicolon (;)
exit;
```

5. Request RIS to create the Banner objects in TEST.
6. Assign security to users and test it in TEST prior to RIS moving it to PROD.

**RIS Responsibility:**

1. Create the object in the form GJAJOBS
    a. Type – Procedure
    b. GUAOBJS automatically populates/updates
2. Create necessary parameters on the GJAPDEF form
    a. If you want a parameter to have a global default value, enter it on GJAPDFT
3. Create a shell file
    a. For example:
       #!/bin/sh –vx
       Cd/usr/temp/$1
       Sqlplus $1/$2 @<jobname> <job #>
       Lp –d$PRNT –o nobanner –T hp –y port1 <jobname>.lst

4. Design or modify the script to obtain any parameters from the GJBPRUN table
    a. Since the shell script specifies the directory, spool commands in the script do not ordinarily contain path information.
    b. As an example, the following script (name setterm) updates the current term in the szvterm table to a value specified on GJAPCTL

```
Update szvterm
Set szvterm_current =
        (select gjbprun_value
        From gjbprun
        Where gjbprun_job = ‘SETTERM’
        And gjbprun_number = ‘<parameter #>’
        And gjbprun_one_up_no = <job #>)    auto passed from shell above
/
Exit
```

5. Link the script and shell file
6. Setup Banner security for this process
7. Setup ePrint
8. Notify Universities to grant permissions to those running the job via BANSECR security classes

## *Custom Code Management*

Process for development, testing, and move to PROD of sql, sql packages, and sql functions. Custom code from the universities will never add/update/delete data from the database. All ZZ_SCHOOL accounts have SELECT_ANY only access. Then can write only REPORTS and they cannot Modify data.

All the code related to custom jobsub is in separate folder. This is ZZ_RIS. ZZ_RIS is for code that is needed by all campuses. ZZ_USD/ZZ_DSU/ZZ_SDSU….are for specific to campus. These schemas were already setup and we can make more changes to these schemes as/when needed.

<table>
<tr><td>ZZ_RIS</td><td>
<ul>
<li>Owners: Mike/Doug/Dennis</li>
<li>SELECT ANY ACCESS to all tables in Database</li>
<li>MODIFY ACCESS to ZZ_RIS tables.</li>
<li>No MODIFY BANNER TABLE access, but can be granted MODIFY BANNER TABLE (to only required TABLES) upon approval from Julie, BannerModuleLead & SunGard</li>
<li>Will be assigned EXECUTE ANY PROC access. Since this access would give MODIFY BANNER TABLE indirectly, it is ZZ_RIS owners responsibility to make sure the PROC is not MODIFYING Banner table. Or take Julie, BannerModuleLead & SunGard permission, if MODIFY is required</li>
<li>All the reports & jobs RIS develops</li>
<li>All the reports and jobs that are common for at least two or more schools.</li>
<li>Any report/job that needs to be run in CRON.</li>
<li>Any report/job that can be run via jobsub.</li>
<li>If a .sql file is needed, they should be kept at<br>/u01/app/sct/banXxxx/SDBOR/RIS<br>All .shl jobsub template go here too.</li>
<li>If CRON is involved or UNIX scripting is involved (other than jobsub shell template), it should be kept in /home/util folder and managed by Darren & Naveen</li>
<li>After each major upgrade, owners should check the functionality, starting with the jobs that modify the Banner Data.</li>
<li>Main purpose of this account is to perform the actions that can't be done by ZZ_RIS.</li>
</ul>
</td></tr>
<tr><td>ZZ_SCHOOL<br>(ZZ_USD,ZZ_SDSU….)</td><td>
<ul>
<li>Owners: USC or an USC assigned person. Please put the names below.
<ul>
<li>ZZ_SDSD ________________</li>
<li>ZZ_USD ________________</li>
<li>ZZ_SDSU ________________</li>
<li>ZZ_SDSMT ________________</li>
<li>ZZ_NSU ________________</li>
<li>ZZ_BHSU ________________</li>
<li>ZZ_DSU ________________</li>
<li>ZZ_SDSBV ________________</li>
</ul></li>
<li>SELECT ANY ACCESS to all tables in Database</li>
<li>Should be OWNED by ONE person because of the SELECT ANY ACCESS</li>
<li>MODIFY ACCESS to the tables in their own zz_school account only with 100MB space.</li>
<li>No MODIFY access to BANNER tables.</li>
<li>All reports that are specific to their school.</li>
<li>If a report needs to be run regularly (on demand basis), zz_schools can consider jobsub.</li>
<li>Main purpose of this accounts is to provide schools a way to write ad-hoc reports that does read-only to Banner data and doesn't qualify for jobsub . Any report that requires "Modify access" or "Unix access" or "Needed for 2 or more schools" will be handled by RIS</li>
</ul>
</td></tr>
</table>

## Expert Query

## *What is an expert query?*

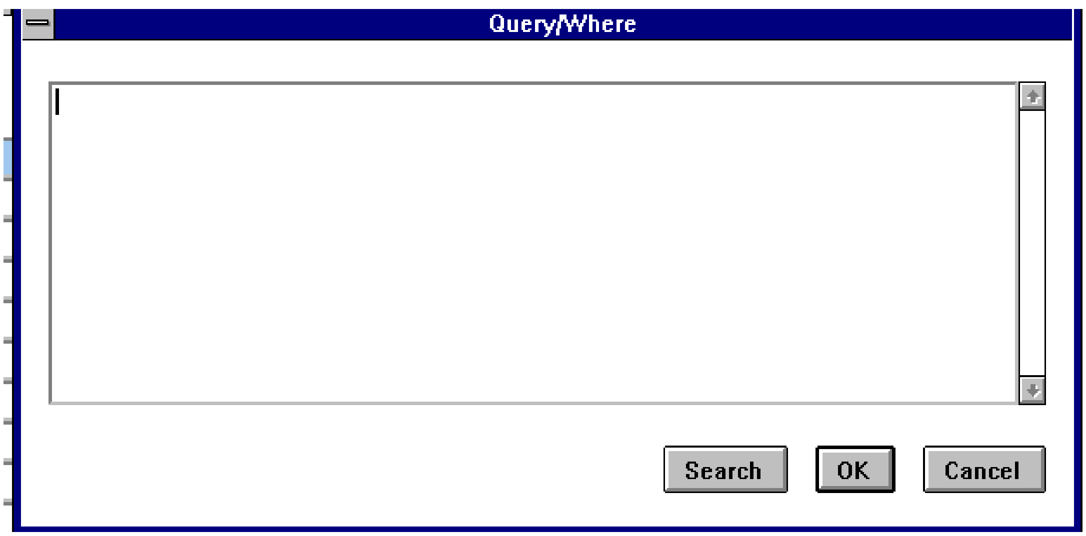
Expert query is a way to execute more complicated queries within Banner using a simplified SQL language. In some forms, utilizing just the standard enter query/execute query commands, you are unable to tab into the field on which you wish to query, thereby limiting you in the queries you are able to execute. Using expert query, you are able to execute queries on any fields within the table being referenced by the form.

## *What do I need to know to do an expert query?*

In order to execute some expert queries, you must know the field names. This information can be found in the form you are querying, by tabbing into the field in question and clicking on Help, Help. The field name will be displayed in the top line. Other basic expert queries will be able to be performed without knowing the field names.

You will follow these basic steps in order to execute an expert query:

1) Be in a form that allows queries
2) Enter Query (F7)
3) Type a : (colon) in any field
4) Execute Query (F8)
5) A 'Query/Where' pop up window will be displayed where you can type in the expert query instructions
6) Select OK to execute the query




## *Expert Query Basic Commands:*

You can use expert query for simple sorts by the fields you are able to tab into on the form, without needing to know the field name.

- Go into the form on which you wish to query
- Enter Query (F7)
- Tab into the field you wish to sort by and enter a : (colon)

- Execute Query (F8)
- The pop up window will be displayed.
- Type “order by :” (no quotes).
- *Select OK*

The results of the query will be sorted by the field in which you placed the : (colon).

*If you want these items sorted in descending order, type:   Order by : desc*

*If you want these items sorted in ascending order, type: Order by : asc*

If you know the Banner table field name (or several field names), you can use other SQL commands to limit or restrict your query results. You can use the % (percent sign) as a wild card in those commands. These commands would be typed in the pop up Query/Where window and some examples might include:

a. field_name IS NOT NULL - When executed, the query will only return results where the specified field does not contain null values (the field is not empty).

b. field_name LIKE ‘%ABC’ - When executed, the query will only return results where the ABC characters appear at the end of the specified field (example: Manufacturing ABC).

c. field_name LIKE ‘%ABC%’ – When executed, the query will return results where the ABC characters appear consecutively anywhere in the specified field (example: ABC Trucking or South ABC Company).

d. field_name_1 = 'XYZ' AND field_name_2 = 'ABC' - When executed, the query will only return results where the two field names contain the specified values as an exact match.

Note: the wild card % sign can be used in front of, behind, or both in front of and behind the values you want to include/exclude.

## *Expert query examples*

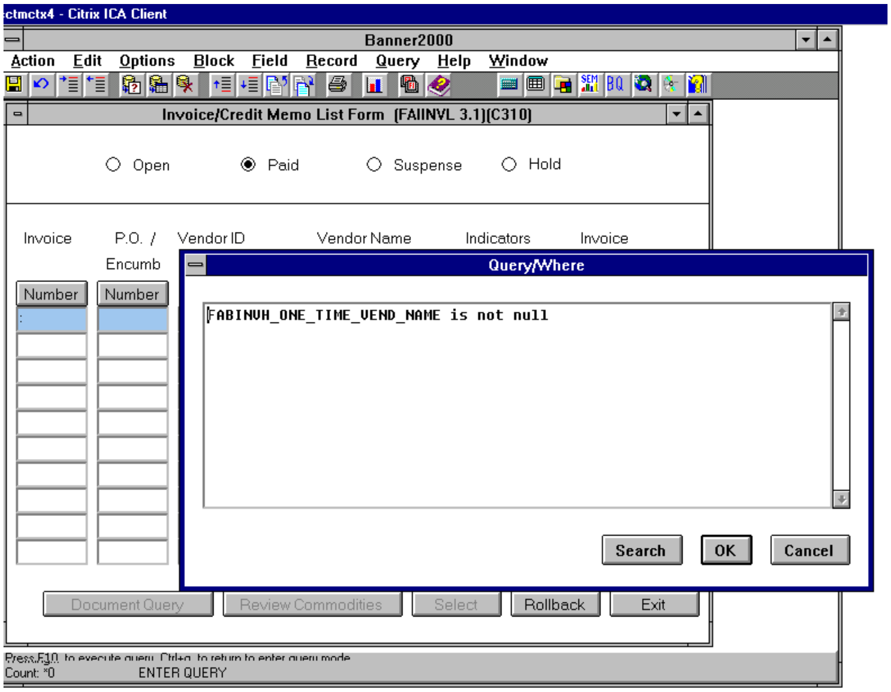
### *FAIINVL – Invoice/Credit Memo List Form*

What if you wish to see transactions for one-time vendors? This information will not be displayed by using the normal enter query/execute query functions. You need to know the table being referenced by the form FAIINVL and the name of the field on which you wish to query.

FAIINVL references the FABINVH table.
The field name we wish to query on is ONE_TIME_VEND_NAME

<u>To execute the expert query:</u>
- Go to FAIINVL
- Select your desired option in the key block (Open, Paid, Suspense, Hold)
- Next Block
- Enter Query (F7)
- Enter : (colon) in the first field

- Execute Query (F8)
- In pop up box type: FABINVH_ONE_TIME_VEND_NAME is not null
- Select OK



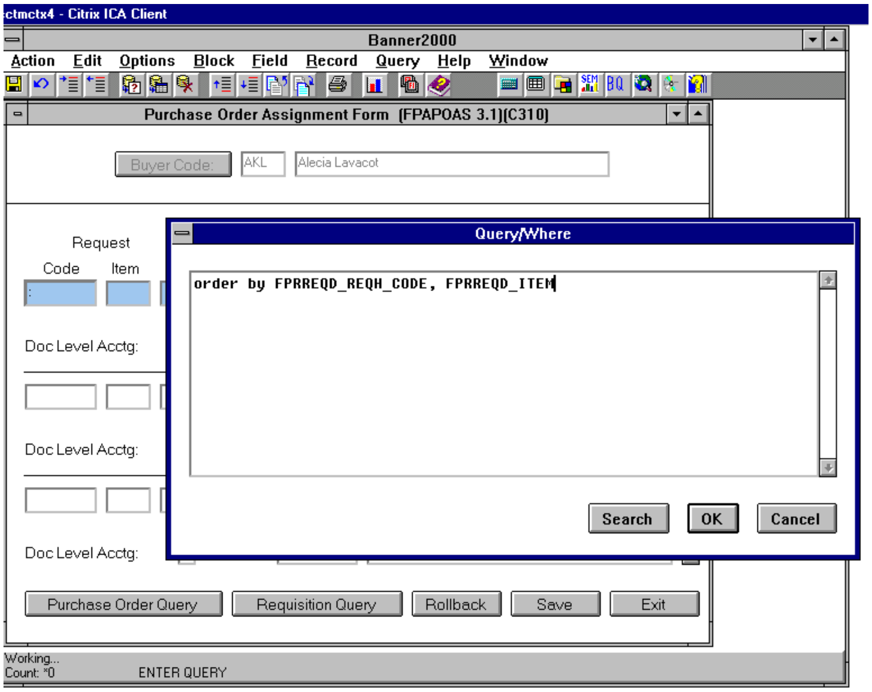

What if you wish to see all one-time vendors whose names begin with J?

- F7
- : (colon)
- F8
- In pop up box type: FABINVH_ONE_TIME_VEND_NAME like 'J%'
- Select OK

***FPAPOAS – Purchase Order Assignment Form***

The form brings back information in Commodity Description order. What if you want to sort the lines by Requisition Document Number then by line item number?

- Go to FPAPOAS
- Enter the buyer code
- Next block
- F7
- : (colon)
- F8
- In pop up box type: order by FPRREQD_REQH_CODE, FPRREQD_ITEM
- *Select OK*

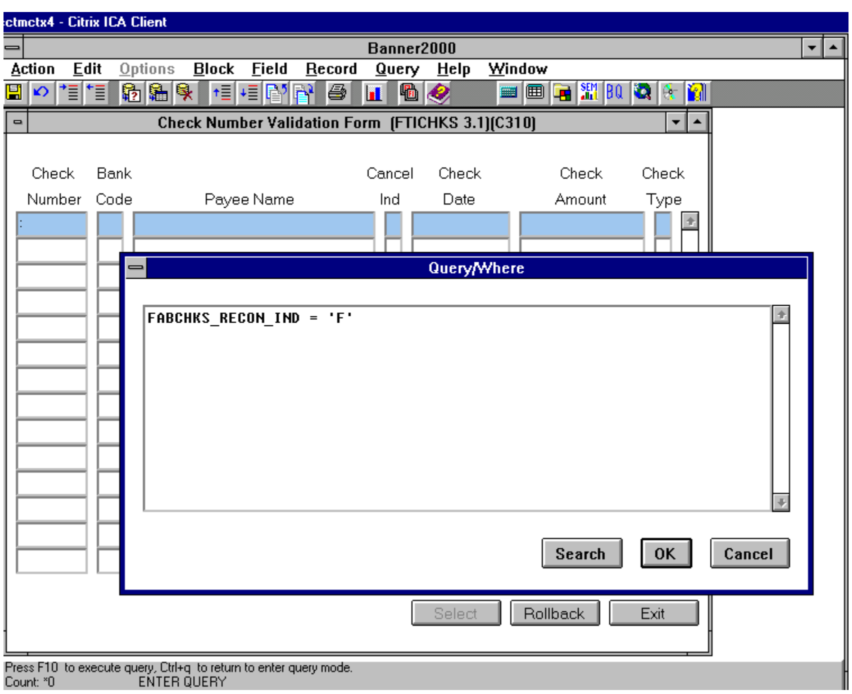



The requisitions assigned to this buyer are now sorted first by requisition number, then by the commodity item number.

### *FTICHKS – Check Number Validation Form*

What if you want to see all the checks that have been marked ‘F’ for reconciled in Final Mode?

In pop up box type: FABCHKS_RECON_IND = 'F'




If you only wish to return these reconciled documents for a certain bank - in the pop up box type:

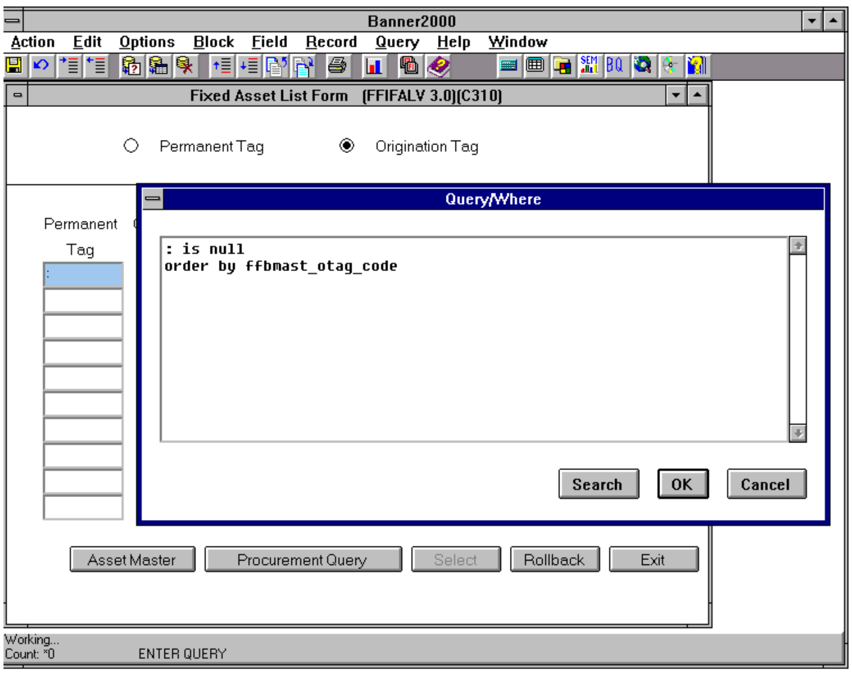
FABCHKS_RECON_IND = 'F' and FABCHKS_BANK_CODE = ‘XX’

Substitute XX for your Bank Code.

### *FFIFALV – Fixed Asset List Form*

Want to see all OTAG records not converted to PTAGs?

- Enter Query (F7)
- Put a : (colon) in the  Perm Tag Field
- Execute Query (F8)
- In pop up box type:     : is null
  order by FFBMAST_OTAG_CODE
- Select OK




This query will return all the OTAG records not turned into PTAGs, sorted in OTAG number order.

### *FPARCVD - Looking for Incomplete receiving documents.*

- Click the Search icon to perform a lookup (you'll get all of the receiving documents listed in FPIPKSL, i.e. both complete and incomplete).

- Enter Query (F7).

- Enter a colon (:) in the Receiver Document column.

- Enter Execute Query (F8), then enter script in the pop-up window as follows, and click OK.  (Note: the script can be pasted into the pop-up window, using Ctrl+C and Ctrl+V)

  - : in (select FPBRCHD_CODE from FPBRCHD where FPBRCHD_COMPLETE_IND <> 'Y')

- Result:  FPIPKSL lists only those items with receiving documents not completed.

- Double click to select desired Receiver Document, and then perform Next Block to begin editing the document.

***FPIRQST: Query to find out which Buyer's queue a Requistion is in.***

FPBREQH_CODE in (select FPRREQD_REQH_CODE from FPRREQD where FPRREQD_BUYR_CODE = 'xxx')

***FPIEOCL: Query to find unposted documents in the Encumbrance Open/Close document list***

fpbeocd_code not in
(select fgbtrnh_doc_code from fgbtrnh)
order by fpbeocd_code desc

***FPIPOHD: Query PO's by buyer code.***

fpbpohd_buyr_code = 'XXXX'

***FPIPOHD: Query open PO's.***

fpbpohd_code in
(select fpbpohd_code from fpbpohd where
fpbpohd_closed_ind is null and fpbpohd_change_seq_num is null)

***FPIPOHD: Query PO's by chart code.***

fpbpohd_coas_code = 'X'

***FPIPOHD: Query PO's by Vendor Name.***

FPBPOHD_VEND_PIDM in (select SPRIDEN_PIDM from SPRIDEN where SPRIDEN_LAST_NAME like '%XYZ%')

***FPIPKSL: Query incomplete Receiving documents (see sample Word document with screen captures step by step).***

FPBRCDT_RCHD_CODE in (select FPBRCHD_CODE from FPBRCHD where FPBRCHD_COMPLETE_IND <> 'Y')

***FAIINVL: Query Invoices by vendor name.***

fabinvh_vend_pidm in (select spriden_pidm from spriden where spriden_last_name like 'V%')

***FAIINVL: Query all One-Time Vendor invoices.***

fabinvh_one_time_vend_name is not null

***FAIINVL: Query unmatched invoices for month-end cutoff.***

fabinvh_complete_ind = 'R' and fabinvh_trans_date < '01-JUN-2005'

***FTVFUND: Query a list of grants for a particular Agency or sponsor***

ftvfund_grnt_code in
(select frbgrnt_code from frbgrnt where
frbgrnt_agency_pidm in
(select spriden_pidm from spriden where spriden_id like 'HHS')

***FTICHKS: Query checks by date range.***

trunc(FABCHKS_CHECK_DATE) between '01-MAY-2005' and '31-MAY-2005'

***FTICHKS: Query check payments for One-time Vendors only.***

fabchks_check_num in
(select fabchka_check_num from fabchka where fabchka_inv_code in
(select fabinvh_code from fabinvh where
fabinvh_vend_pidm is null and fabinvh_open_paid_ind = 'P'))

***FTICHKS: Query outstanding checks before FARBREC is run in 'F' mode.***

FABCHKS_RECON_IND is null
and FABCHKS_BANK_CODE in ('01')
and trunc(FABCHKS_CHECK_DATE) <= '31-JUL-2005'
and (FABCHKS_CANCEL_IND is null
or trunc(FABCHKS_CANCEL_DATE) > '31-JUL-2005')

Note: Excludes checks with cancellations posted before the reconciliation date;
but, includes check cancellations posted after the reconciliation date.

[Still includes check types where FABCHKS_CHECK_TYPE_IND is 'V', 'T', 'D', or 'S'.]

***FTICHKS: Query reconciled checks (after final mode) no longer visible on FAABREC.***

FABCHKS_CHECK_NUM in
(select FABBKTP_INTERNAL_DOC_CODE from FABBKTP where
FABBKTP_RECON_IND = 'F' and
trunc(FABCHKS_CHECK_DATE) between '01-APR-2005' and '30-APR-2005')

***FTVFUND: Query all funds belonging to a specific grant code.***

ftvfund_coas_code = 'R' and ftvfund_grnt_code = 'xxxxxx'

***FGITRND/FGIGLAC/FGIDOCR's lookup form FGQDOCN: Query JV documents by Oracle user's Banner login ID.***

: in (select FGBTRNH_DOC_CODE from FGBTRNH where
FGBTRNH_DOC_SEQ_CODE = 20 and FGBTRNH_USER_ID = 'FIMSUSR')

***FGITRND: Query transaction detail by transaction date, not by activity date.***

fgbtrnd_doc_code in
(select fgbtrnh_doc_code from fgbtrnh where
trunc(fgbtrnh_trans_date) between '01-APR-2005' and '30-JUN-2005' )

***FGITRND: Query ACH documents for a given transaction date.***

fgbtrnd_doc_code like '!%' and fgbtrnd_doc_code in
(select fgbtrnh_doc_code from fgbtrnh where
trunc(fgbtrnh_trans_date) = '10-JUN-2004')

***FSIISSU: Query by commodity code.***

fsbissh_code in (select fsrissd_issh_code from fsrissd where fsrissd_comm_code = 'xxxxxxxxxx')

# Discoverer Plus/Viewer

## *Oracle Discoverer Plus: Overview*

Oracle Discoverer (OD) is the reporting tool that is used with Banner. It can be used to create and view reports which will draw together certain information for management or operational reporting purposes.

**Components:**

EUL – End User Layer - A collection of Oracle Tables/Views/Stored procedures; interface between ODS & Discoverer; Metadata workbooks with accompanying worksheets, who runs it and who created it, how long does it run, when was it last run, etc; Metadata folders, etc

Business Area – A grouping of tables/views specific to an institutions business area; logically groups tables/views; access granted to people in business area; viewers can have access to more than one business area; create a report from one business area at a time

Folders – Highest level collection of data; corresponds one to one with a table

Items – Fields in the table
- Axis – headings
- Data Point – typically numeric count/value
- Aggregate Calculated – group by function in a calculation

Workbook – created against a specific business area; contains worksheets

Worksheet – contain results of a query

**Toolbars:**

Standard
Formatting – Context sensitive; when you can't use it, they will be grayed out
Graph
Workbook Title
Page Items – allows sorting and separating data by a unique data point
Top, Side & Page Axis items – Page item is similar to a filter in Excel – separates data into separate pages for view; Top – column headings; Side -
Data Points – data values
Worksheet (Name) tabs

## *Setup for ODS Discoverer Plus*

1. Create Fund Code Predicate generator

```
Create or replace function get_fund_pred
( p_schema_name     in    varchar2,
  p_table_name      in    varchar2)
return varchar2
is
   l_fund_pred   varchar2(30);
Begin
   select 'fund like '||''''||substr(granted_role,5,1)||'%'''
     into l_fund_pred
     from user_role_privs
    where username=USER
      and granted_role like 'ODSF%';
   return l_fund_pred;
 exception
   when NO_DATA_FOUND THEN
         l_fund_pred := '1=2';
         return l_fund_pred;
end;
/
```

2. Create Org Code Predicate generator as above
3. Register either function (or both) as an access policy on each table to be secured
    a. Select access only
4. Export ODSEUL's EUL
5. Create a new SD_ODSEUL schema
6. Create a view ODSF_PRIVS
7. Modify existing ODSEUL BA with Admin
    a. Log in to ODSEUL
        i. Export ODS – Reporting Views to desktop
    b. Log in to SD_ODSEUL
        i. Import ODS – Reporting Views
            1. Keep the defaults on the import Wizard Step 2
        a. Enter the name of ODS – xx Reporting Views
        b. Weed out the tables that are not associated with Finance or HR Reporting
8. Create ODS Oracle Users
    a. Everyone that will develop or view a report needs an account
9. Create optional Schema Owners
    a. Determine if we use schema name FIN0, FIN1, FIN2, etc high level roles vs CMREIHE roles
10. Create Roles to support Role Level Security/VPD
    a. Naming convention for PLUS is ODS, module, univ
        i. ODSF0, ODSF1, ODSF2, etc
    c. Naming convention for Viewer is ODS, module, univ, V
        i. ODSF0V, ODSF1V, ODSF2V etc
    d. Grant Desktop Privileges & Security to all roles for PLUS through Desktop Admin
        i. This gives the user in the roles access to the BA
        ii. Do not grant Schedule Workbooks
11. Create Role for Table Access
    a. Naming convention module, TAB

        1. Ex = FINTAB
   b. Grant select access on all report view to FINTAB
   c. Grant FINTAB to all ODSFxxx roles
12. Grant 1 and only 1 ODSFxxx role to each user
   a. If a user needs access to more than one university, the ODSF roll-up role is assigned
13. Optional: Create additional roles for Report Sharing groups
   d. Ex – FINALL, FIN6PURCH, FIN7BUDG, etc
14. FINALL – can either be Granted to each ODSFxxx role, OR each user
   e. Others to each user in the group
15. Enter Mandatory Condition on all Views with Chart of Accounts
      a. Click on Funnel
      b. Pick View
      c. Chart of Accounts = S
16. Publish naming standards for univ/common reports
17. Share delivered reports/templates for the module
   f. Login to Plus for owner sd_odseul
      a. Manage Workbooks
         i. Share
18. Determine if the views that do not have fund/org should be restricted

## *Request ODS Discoverer Plus/Viewer Access*

Responsibility: University Security Coordinator/RIS
Timeframe: As needed

1. Request ODS Discoverer Plus and/or Viewer Access by filling out the Security Request form that can be found on the SNAP portal under Groups
2. Forward the Security Request form to your University Security Coordinator
    a. If the user is requesting to report on all SDBOR data for the system, the form must be forwarded to RIS
3. Once the USC receives the request, log in to BANSECR_xxxxxxx_Zx where XXXXX is your user ID and the X after the Z is the university.
    a. So, for example, if could be BANSECR_JASMITH_ZU
    b. The limitation for BANSECR username is 7 characters
4. Go to GSASECR
5. Click on the Users tab
    a. Enter the User ID of the person requesting access
    b. Click on Modify under the Permissions
6. Click on the Users Classes at the bottom of the form
7. Perform a query in the Class Code column for %ODS%
    a. Click on the Class Code for your university
        i. Naming convention is
            1. ZC_ODSmxV_SHARED where m is the module (H or F) and x is the university
                a. The V after the university indicates this is Viewer Only access
            2. ZC_ODSmx_SHARED where m is the module (H or F) and x is the university
                a. This class is for Plus access
                b. Plus access also give the user Viewer access
8. Save the record
9. Click on Close twice
10. Exit the form
11. Notify the user
    a. Instruct the user on naming conventions for reporting, etc

## *Logging In to Discoverer Plus*

**TEST**

1. To login to Discoverer Plus, goto http://bi.test.sdbor.edu:7778/discoverer/plus
    a. Scroll down to ODS and click on Discoverer Plus, Viewer or Metadata
2. Enter username: first initial, middle initial & last name (same as Banner UserID)
3. Enter password: same as above +2; for example, wecoyote/wecoyote2
4. Enter database: odst.sdbor.edu
    a. Make sure the popup blocker is turned off
5. Enter the End User Layer – SD_ODSEUL
6. Hold the Control key and click Go
7. Create reports using the ODS – Finance Reporting Views Business Area

**Note:** If you try to login and a blank white screen seems to 'hang', you may need to update your Java Version. Install Java jre1.5.0_06 version from this java website http://java.com/en/download/windows_ie.jsp

**PROD**

1. To login to Discoverer Plus, goto http://bi.prod.sdbor.edu:7778/discoverer/plus
2. Enter username: first initial, middle initial & last name (same as Banner UserID)
3. Enter password: same as Banner password
4. Enter database: odsp.sdbor.edu
    a. Make sure the popup blocker is turned off
5. Enter the End User Layer – SD_ODSEUL
6. Hold the Control key and click Go
7. Create reports using the ODS – Finance Reporting Views Business Area

## *Creating Workbooks*

***Types of Report***

The four types of reports are: Table; Page-Detail Table; Cross-tab; Page-Detail Cross-tab.

1. **Table**
   a. This format is similar to a simple table in Excel. It consists of rows and columns, with the ability to sort, calculate totals etc.

2. **Page-Detail Table**
   a. This is the most commonly-used format of OD reports. It is similar to a table, but allows the user to filter data according to certain criteria by using Page-Detail items (see Section 3).
   b. This format is somewhat similar to an Excel spreadsheet with the AutoFilter function engaged.
   c. The majority of the standard reports that have been created for Halls use are in Page-Detail Table format.

3. **Cross-tab**
   a. This format is generally only used for financial or statistical reporting. It is similar to a Pivot Table in Excel. To date, only one operational report has been created for use at the University of Reading which utilises the Cross-Tab format.

4. **Page-Detail Cross-Tab**
   a. This is the same as a cross-tab but with the ability to limit the data using page-detail items. These reports will rarely, if ever, be used.

***Creating a Report***

1. After logging in, the Workbook Wizard page is displayed with 2 options; either to open an existing workbook or create a new workbook
   a. If you are reviewing/updating an existing workbook or to view the workbooks available, select the Open and existing workbook and click browse
      i. The Open Workbook from Database form displays
      ii. Highlight an existing workbook and click on Open
      iii. The workbook opens and can be modified (if you are the owner)
   b. If you are creating a new workbook, select the Create a new workbook option
      i. Step 1 of the Workbook Wizard is to select a Worksheet Layout
         1. Unless specifically creating a graph, Deselect Graph for a new workbook
         2. Click next
      ii. Step 2 – Select Items
         1. List of Values
            a. This will display a LOV in a specific table
         2. ODS – Finance Reporting Views
            a. This will display the Finance Reporting Views for you to create a workbook from.
            b. Select the table/field where the data lives
            c. The fields selected will display in the worksheet
         3. ODS – HR Reporting Views
            a. This will display the HR Reporting Views for you to create a workbook from.
            b. Select the table/field where the data lives

c. The fields selected will display in the worksheet

4. Object Access Views
5. Click next

iii. Step 3 – Table Layout

1. The position of an item in the worksheet can be changed here.
2. Click next

iv. Step 4 – Add a sort field

1. Define a sort criteria by clicking on Add
2. Click next

v. Step 5 – Create a parameter

1. Define a parameter for user input by clicking on New
2. Click Finish

vi. The workbook displays

vii. Save the report using the naming conventions approved for entry into the Reporting Catalog.

## *Conditions & Parameters*

A condition is a filter that restricts amount of data returned; optional or mandatory. A parameter will prompt the user to enter a value to run the report.

1. Open an existing workbook or create a new one
2. Step 2 of a new workbook or the left hand side of an existing workbook has a tab for creating a condition
    a. Click on the tab
    b. If a condition is enabled, it will be checked
    c. To add a new condition, right click on My Conditions and click on New Condition
    d. The New Condition window displays
        i. Uncheck the Generate Name automatically
        ii. Enter the name of the condition
            Naming convention is:
            Custom Conditions
            All Function, Calculations, Parameters, Conditions & Report entry items have the same naming convention of:
            *ModuleZitemtypeuniversity_description*
            *Module* –
            F – Finance
            H – Human Resources
            G – General
            Z
            where all entries 2nd character is a Z to denote they are SD created,
            *itemtype* identifies what the item is:
            D Condition
            *University* identifies the originator or owner of the item:
            B for BHSU
            D for DSU
            N for NSU
            M for SDSMT
            S for SDSU
            U for USD
            V for SDSBVI
            H for SDSD
            Z for RIS
            R for BOR
            C for Common or Shared
            _ underscore in between above naming convention & description
            *description* free-form
            description used to further clarify the purpose of the item; the developers initials could be in the description
        iii. Enter a description
        iv. Enter the formula
            1. The data entered here must match equally to the data in Banner
            2. Change_Ind – Null & blank are not the same – use IS NULL or IS NOT NULL
            3. Wildcards - % (any number of characters), _ (single character match),
        v. Click OK twice
3. Step 5 of a new workbook or the Tools menu of an existing workbook has an option for creating a parameter
    a. Click on new to create a parameter
    b. The New Parameter window displays
        i. Enter the name of the condition
            Naming convention is:

Custom Parameters

All Function, Calculations, Parameters, Conditions & Report entry items have the same naming convention of:

*ModuleZitemtypeuniversity_description*

*Module* –

F – Finance

H – Human Resources

G – General

Z

where all entries 2nd character is a Z to denote they are SD created,

*itemtype* identifies what the item is:

P Parameter

U*niversity* identifies the originator or owner of the item:

B for BHSU

D for DSU

N for NSU

M for SDSMT

S for SDSU

U for USD

V for SDSBVI

H for SDSD

Z for RIS

R for BOR

C for Common or Shared

_ underscore in between above naming convention & description

*description* free-form

description used to further clarify the purpose of the item; the developers initials could be in the description

ii. Enter the item to base the parameter on and the condition

iii. Enter the prompt for the end user

iv. Enter the description to show with the prompt

v. Click OK twice

vi. The Edit Parameter Values window displays

vii. Enter the parameter and the workbook runs the query

## *Custom Sorts & Summaries*

1. Open an existing workbook or create a new one
2. Step 4 of a new workbook or the Tools menu of an existing workbook has an option for creating a sort
    a. Click on Add to add a sort
    b. The sort window displays
    c. You can add more sorts, delete sorts or format them from this window
    d. Click ok to run the sort

## *Calculated Items*

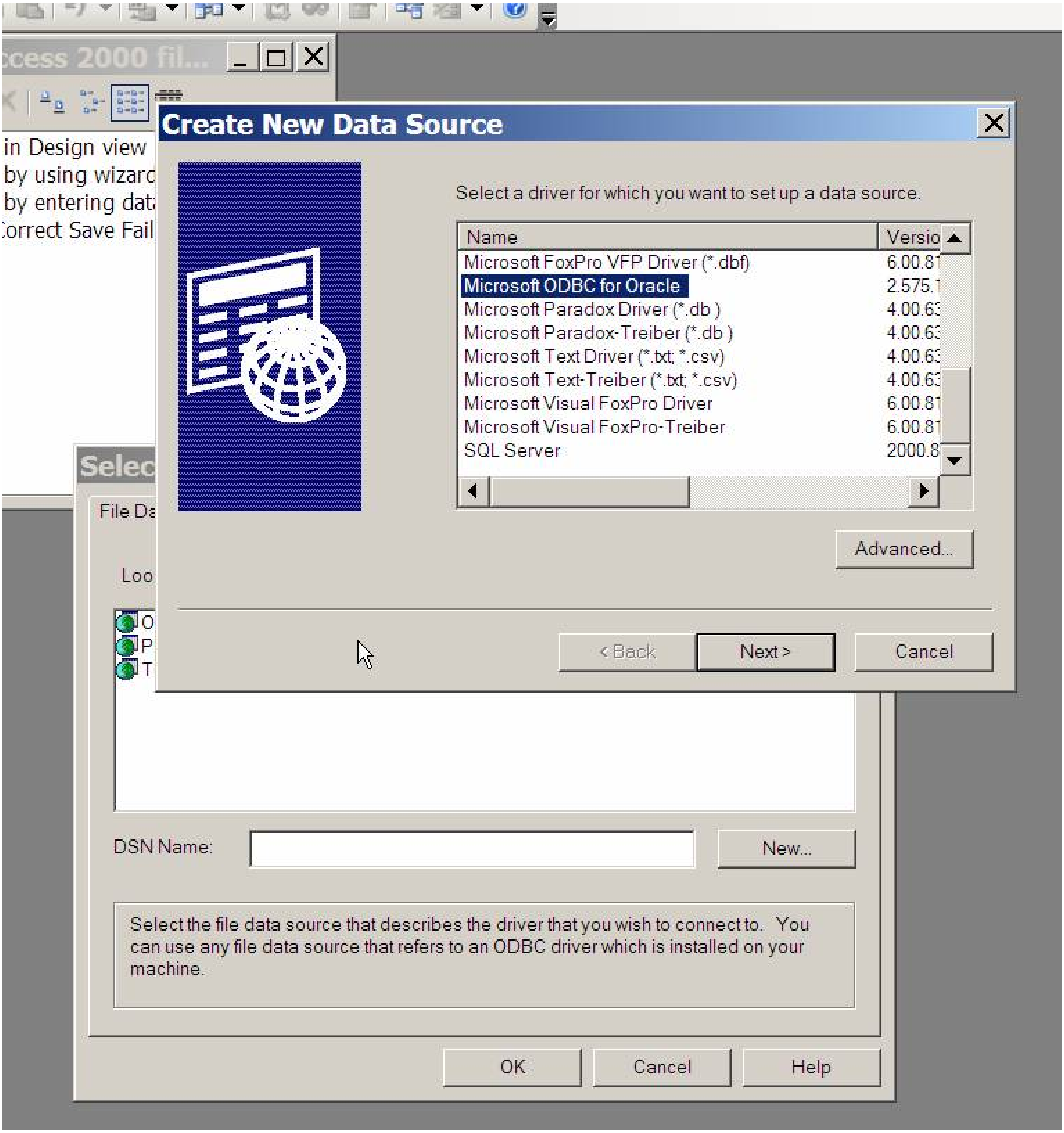
1. Open an existing workbook or create a new one
2. The left hand side of an existing workbook or the Tools menu has an option for creating a calculation
    c. Click on the option
    d. If a condition is enabled, it will be checked
    e. To add a new condition, right click on My Calculations and click on New Calculation
    f. The New Calculation window displays
        i. Enter the name of the condition
        Naming convention is:
            Custom Calculations
            All Function, Calculations, Parameters, Conditions & Report entry items have the same naming convention of:
                *ModuleZitemtypeuniversity_description*
                    *Module* –
                        F – Finance
                        H – Human Resources
                        G – General
                    Z
                        where all entries 2nd character is a Z to denote they are SD created,
                    *itemtype* identifies what the item is:
                        C  Calculation
                *University*  identifies the originator or owner of the item:
                        B for BHSU
                        D for DSU
                        N for NSU
                        M for SDSMT
                        S for SDSU
                        U for USD
                        V for SDSBVI
                        H for SDSD
                        Z for RIS
                        R for BOR
                        C for Common or Shared
                _ underscore in between above naming convention & description
                *description* free-form
                        description used to further clarify the purpose of the item; the developers initials could be in the description
        ii. Select the items to be calculated
        iii. Insert a formula
        iv. Click OK twice
        v. The workbook should re-query with the calculation displayed

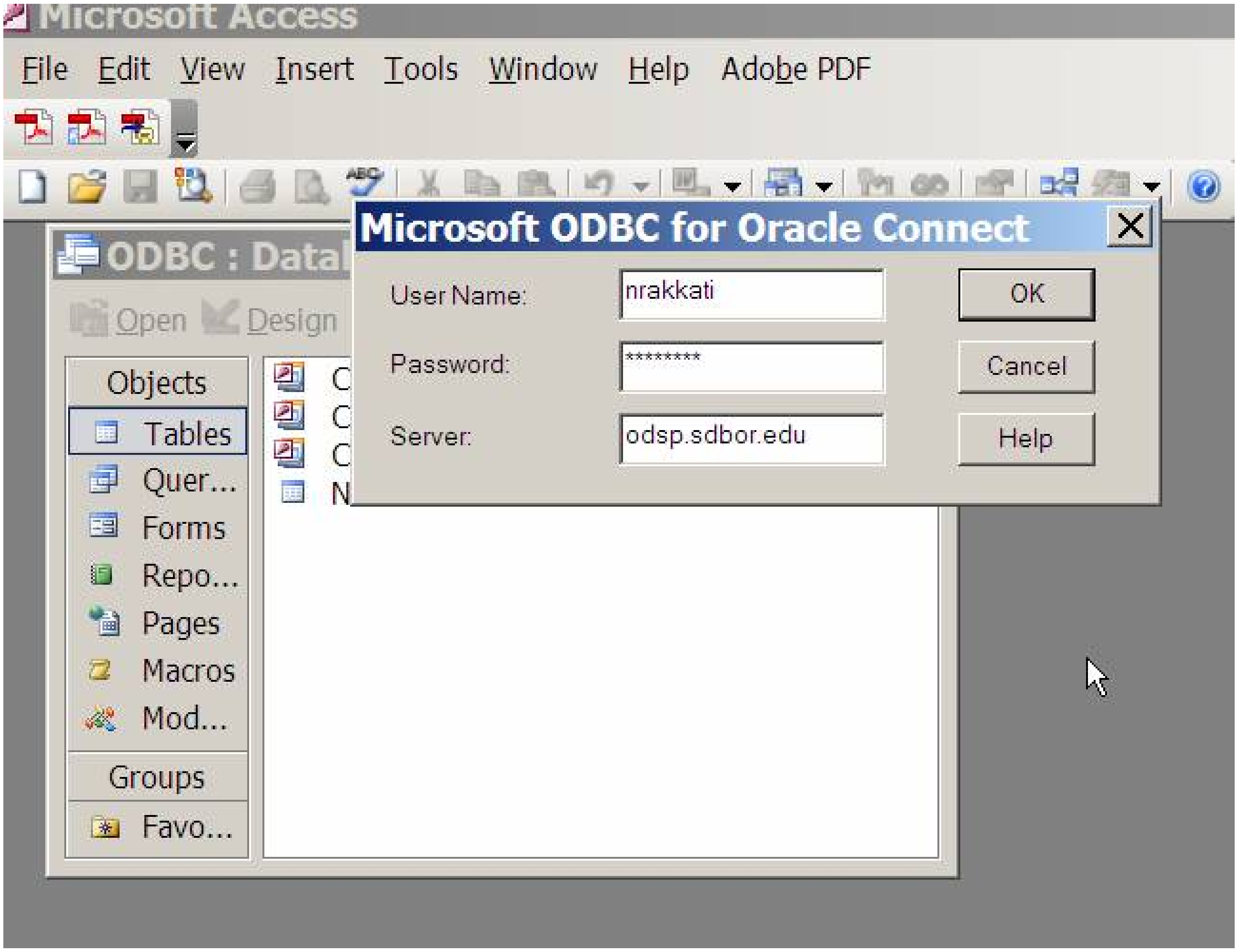
**Note:** Functions from Banner can be used in Discoverer. When calculating, the first calc that is true will stop the calc.

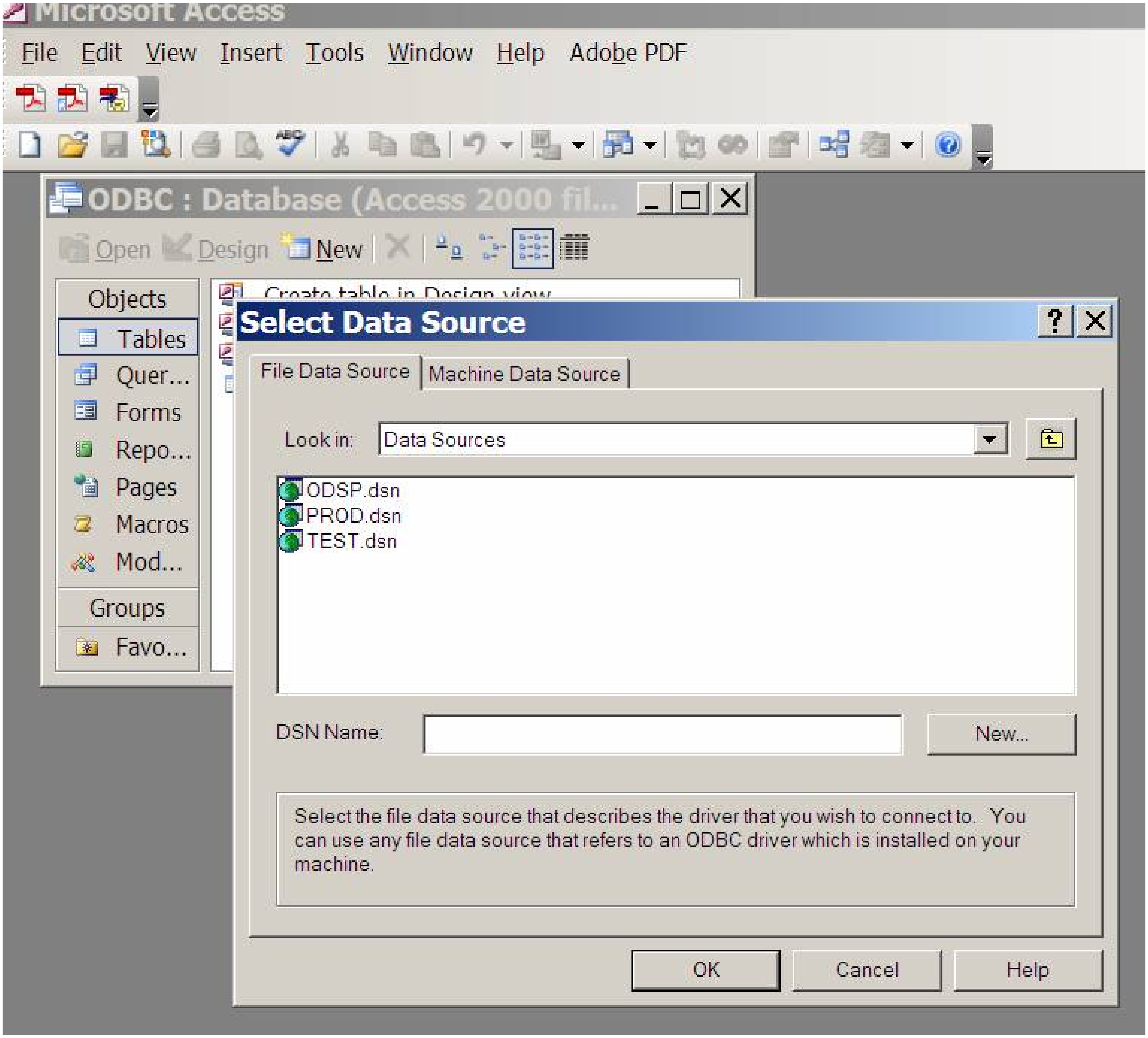
## *Reporting Requests*

Before requesting a report, the Reporting Catalog on the SDBOR website under the Resources tab, Banner Procedures channel should be reviewed to see if a similar report/same report already exists. If it does, it may just be a matter of gaining access to the report or modifying an existing SD specific report to accommodate another data element. Consult with your IT Department or Functional Module leads. If a similar/same report does not exist, the Report Request form on the SDBOR website under the Resources tab, Banner Procedures channel can be completed & forwarded to the functional module lead.

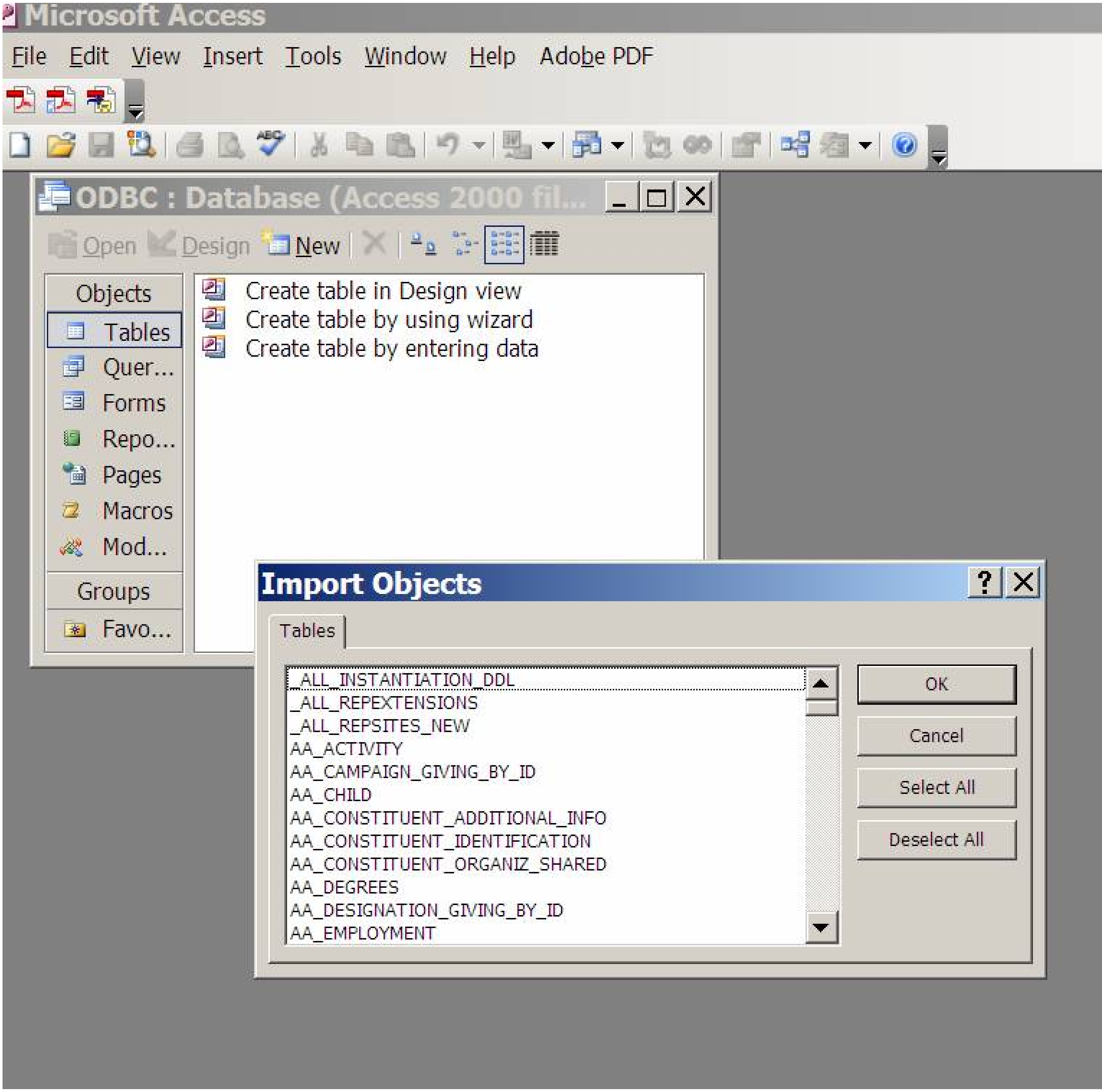
***ODBC Connection for ODS Discoverer***




Microsoft Access
File Edit View Insert Tools Window Help Adobe PDF
ODBC : Datal
Open Design
Objects
Tables
Quer...
Forms
Repo...
Pages
Macros
Mod...
Groups
Favo...
Microsoft ODBC for Oracle Connect
User Name: nrakkati
Password: ********
Server: odsp.sdbor.edu
OK
Cancel
Help



Microsoft Access
File Edit View Insert Tools Window Help Adobe PDF
ODBC : Database (Access 2000 fil...
Open Design New
Objects
Tables
Quer...
Forms
Repo...
Pages
Macros
Mod...
Groups
Favo...
Select Data Source
File Data Source
Machine Data Source
Look in:
Data Sources
ODSP.dsn
PROD.dsn
TEST.dsn
DSN Name:
New...
Select the file data source that describes the driver that you wish to connect to. You can use any file data source that refers to an ODBC driver which is installed on your machine.
OK
Cancel
Help


Microsoft Access
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ODBC : Database (Access 2000 fil...
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Tables
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Forms
Repo...
Pages
Macros
Mod...
Groups
Favo...
Create table in Design view
Create table by using wizard
Create table by entering data
Import Objects
Tables
_ALL_INSTANTIATION_DDL
_ALL_REPEXTENSIONS
_ALL_REPSITES_NEW
AA_ACTIVITY
AA_CAMPAIGN_GIVING_BY_ID
AA_CHILD
AA_CONSTITUENT_ADDITIONAL_INFO
AA_CONSTITUENT_IDENTIFICATION
AA_CONSTITUENT_ORGANIZ_SHARED
AA_DEGREES
AA_DESIGNATION_GIVING_BY_ID
AA_EMPLOYMENT
OK
Cancel
Select All
Deselect All

# BI Publisher

## *Setup for BI Publisher*

The way we set up BI security and the ODS sync, they will not need to request specifically for BI. The Banner Classes will determine and set ODSx roles which will then allow for access into Disco and BI with same basic level of DB access in both. In BI a V/viewer type class/role will allow them to run things but not design/change them, just as in Disco.

As with Discoverer, when a user runs a report in BI, they are running the report as themselves in terms of db security, and not as the report owner/designer. Developers will need to keep this in mind when writing shared BI reports but I think are used to this with Disco but may be some new issue with HR security predicate. Instead of sharing reports as is done in Disco, there are campus folders in BI which the report can be placed where all campus users can access. I set up folders for each campus and then HR and FIS folders within the campus. The existing ODSHxX and ODSFxX roles will determine a users ability to enter the various folders. We may need to add folders for other purposes and add Banner class/Oracle role combinations to secure them and this also should be able to flow thru the ODS sync. Once Naveen initializes the new ODS sync, all who have Disco access will then have similar BI access as described above. Future request for access will be granted by Banner class and automatically granted access to both BI and Disco.

### *Request BI Publisher Access*

See the procedure for requesting access to ODS Discoverer Plus/Viewer above

## *Logging in to BI Publisher*

Verify with the network staff that they allow outbound https on port 4443.

The username & password is the same as it is for Discoverer Plus/Banner TEST/PROD.

Must Allow from campuses:

TEST
https/4443 to 206.176.38.68

PROD
https/4443 to 206.176.16.82

1. To login to BI Publisher, goto
   a. The link for BI Publisher TEST pointed to ODST is - https://bi.test.sdbor.edu:4443/xmlpserver.
   b. The link for BI Publisher PROD pointed to ODSP is - https://bi.prod.sdbor.edu:4443/xmlpserver
2. Enter username: first initial, middle initial & last name (same as Banner UserID)
3. Enter password: same as Banner password

The link for BI Publisher documentation is -
http://download.oracle.com/docs/cd/E12096_01/books/PubUser/toc.htm

Or use the Help in the BI Publisher toolbar.

## *BI Publisher Report Creation Overview*

1. Log in
    a. Folders for each university split out by Finance & HR have been created
    b. If you do not see all the folders, click on More
2. To create a new report
    a. Click on the appropriate folder for your report
        i. If this is your first time in BI Publisher, click on Create a new folder to create a personal folder using your userid as the naming convention.

        **Note:** Use your personal folder for testing and report development. Once a report is ready for deployment, then save/move to the appropriate university module folder.
    b. Click on Create a new report under the Folder & Report Tasks channel
    c. Enter a Report Name using the established Naming Convention in this manual
    d. Click Create or Cancel
        i. The empty shell is created under the folder you specified
        ii. Click on the shell
            1. Click on Edit located in the toolbar
                a. Enter a description for the report
                b. Select a Default Data Source
                    i. This will typically be ODS. Reporting from BANNER should be kept to a minimum.
                c. Click on Save
            2. Click on Data Model located in the left hand channel
                a. Click on New
                    i. Enter a name for the dataset
                    ii. Enter the type
                    iii. In the SQL Query window, either enter the SQL query or click on Query Builder to create a query
                        1. In Query Builder
                            a. Change the schema to ODSMGR
                            b. Search for the table
                                i. MST_(include 1st character from table), MFT, MPT, etc
                            c. Select the table from the list
                            d. Click on the items in the table you would like in the report
                            e. Add any conditions
                            f. Click on Results
                            g. Save
                                i. This creates the SQL Query for you
                b. Click on Save
            3. Click on Layouts
                a. Click on Generate to Auto Generate Layout
                b. The Layout becomes the Default Template
            4. Click on View, then View again to run the report
            5. To edit, click on Edit and complete any other changes you would like, saving often

# SQL Developer

***Developer Overview***

***Setup for Developer***

***Request Developer Access***

***Logging in to Developer***

## Troubleshooting

## *Support Hierarchy*

1. The HR/Finance User reviews the error message/issue and tries to resolve
    a. If resolved, ends here
    b. If not, step 2
2. The HR/Finance User forwards issue to Department/Superpower user to review/research
    a. If resolved, ends here
    b. If not, step 3
3. The Department/Superpower user forwards to University Help Desk to review/research
    a. If resolved, ends here
    b. If not, step 4
4. The University Help Desk forwards to Reporting Workgroup member for their university
    a. If resolved, ends here
    b. If not, step 5
5. The University Reporting Workgroup member forwards to Reporting Workgroup
    a. If resolved, ends here
    b. If not, step 6
6. The Reporting Workgroup Lead forwards to vendor

## *Steps to take before contacting the next level*

**For any recurring error, complete a couple simple things:**

1. Save as new book to see if problem persists.
2. Run in Disco Desktop, attempt to isolate to Disco Plus.  If ok, save as new name in hopes of removing corruption.
3. Run in viewer if possible, see if same problem.
4. Share with us so we can try it.

**Other things beyond:**

1. Open wkbook in Disco Desktop, test, and if ok, save as new in hopes of removing problem.
2. Recreate wkbook.   Yes this is last resort but may also be only solution.

**If you need to report a recurring error to the next level, please include the following:**

1. Was it one report that is giving trouble or all reports?
2. Was report failing every time? Or only first time? or sometimes?
3. Was the report failing immediately or after running for few seconds?
4. Will the same report work for other user in same campus?
5. Was this issue is in only new server or old server or both?
6. Include a screenshot of the error, if there is one.

## *Contact Paths for Discoverer and Banner Items*

Last Updated: 10/01/08

**Discoverer Mapping/Joins:**

- Verify data is not available through another table/join using Metadata or 'browsing' the tables.
- Complete a work request form and submit to the Module Lead(s). The Module lead will review and approve/deny the request. If approved, the Module Lead will submit to.hrwork.request@sdbor.edu or finwork.request@sdbor.edu.

**Creating a Banner Report (JobSub):**

- Verify report does not exist.
- Complete a work request form, completing part of Step 1 and all of Step 2 and submit to the Module Lead(s). The Module lead will review and approve/deny the request. If approved, the Module Lead will submit to.hrreport.request@sdbor.edu or finreport.request@sdbor.edu.

**Help with Discoverer Case Statements/Conditions, or general questions:**

- Contact other users to see if they have a solution.
  - Could be added to the Reporting Agenda as well
- Contact David Kent, the consultant, at David@MTU.edu for help.
- Submit an item to Oracle Metalink at https://metalink.oracle.com/CSP/ui/signin_en.html?language=en for help.

**Help with Banner/Banner Report issues:**

- Review Metalink for similar items posted and their resolution.
  - If none are found, submit an item to Metalink at https://metalink.oracle.com/CSP/ui/signin_en.html?language=en
- Contact the appropriate ListServ group for suggestions.
- Review SCT UDC for similar items posted and their resolution.
  - If none are found, submit an item to UDC at https://connect.sungardhe.com/customer_support/

**Help with Discoverer/ODS, BI Publisher or other Oracle product:**

- Contact Carla Reihe to see if the problem is already being worked on.
- Review Metalink for similar items posted and their resolution.
- Submit an item to Metalink at https://metalink.oracle.com/CSP/ui/signin_en.html?language=en for resolution.

**Description of Contacts:**

UDC is the Help Desk for SCT Banner and Operational Data Source (ODS) issues. (ODS is a product from SCT, but Discoverer Plus is a product from Oracle).

Metalink is the Help Desk for Oracle issues, which includes any Oracle products we may have like Discoverer Plus and BI Publisher.

ListServs are end-user networks to see if other users have the same or similar issues. Contact the applicable group to see if work-arounds exist when you cannot get your problem resolved, or if it will take a long time.

David Kent is a consultant who can help on Case statements and Conditions, or general Discoverer questions.

Module Leads are individuals at each location responsible for reviewing/approving any changes to the modules (Finance, HR, Grants, etc.).

Carla Reihe is the RIS contact for general questions and information for Discoverer Plus.

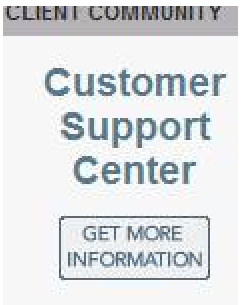
Report/Work Request Forms are a 5 Step form/process used when you need to create mapping, joins, Report Request or a JobSub report. Complete the form and send it the Module Lead(s).

## *Logging in to UDC*

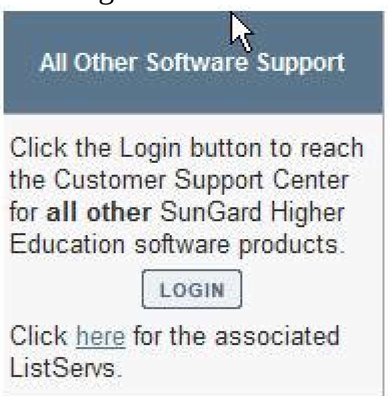
Open a Browser window

Enter www.sungardhe.com

Click on the Get More Information button under the Customer Support Center block in the lower left hand corner




Click on the Login button under the All Other Software Support block in the bottom middle



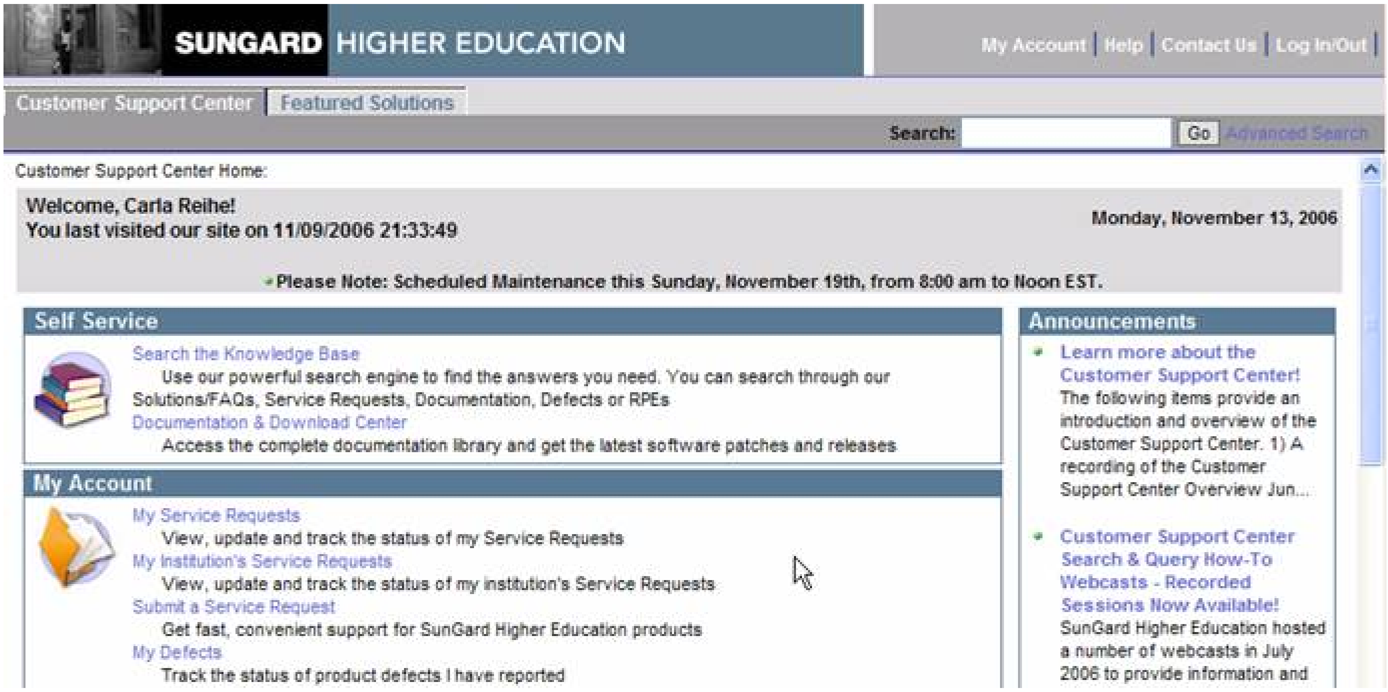

Click OK twice when you get the popup about a Security Alert window message

Click on the Request a Customer Support Center Account link under the Customer Support Center Login block in the lower right hand corner


Follow the instructions on the next few forms to obtain a username/password (you need to click on the down arrow in the subject to get the one to request a username/password).

Once you get the username & password from SCT, you would still go through the links above but enter them in the UserID & Password form instead of requesting them.

Once logged in to UDC, you will see a page similar to the following:




To perform a search, you can either click on the Search the Knowledge Base link in the 1st block or you can click on the Advanced Search in the Header Block after the Go. If you can not find a related item, you can open a new request to the UDC but clicking on the Submit a Service Request. When SCT has reviewed your request, they will send an e-mail to you for review.