

Ex Libris
Technical Seminar



May 4-5, 2009

Show Me the Money

Maggie Mucha

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Agenda

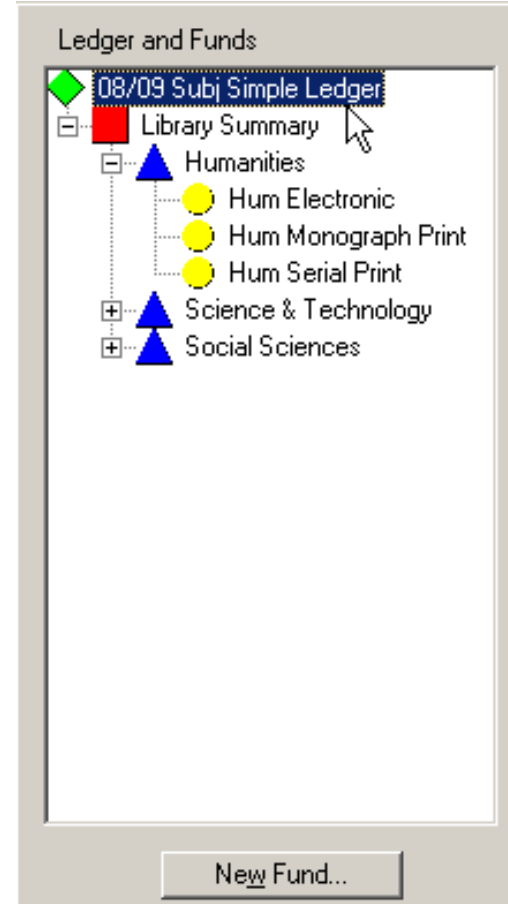
- Client-side Basics
- Accessing Financial Data
- Tracking Financial Data



Client-side Basics

Ledger and Fund hierarchy review:

- Ledger itself (green diamond)
- Summary Fund (red square)
- Allocated Fund (blue triangle)
- Reporting Fund (yellow circle)



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Client-side Basics

Summary Fund view:

The screenshot displays the 'Ledger - 08/09 Subj Simple Ledger' application window. The interface includes a menu bar (File, Fund, Tools, Help), a toolbar with icons for Save, Print, Find, and Help, and a left-hand navigation pane titled 'Ledger and Funds'. The navigation pane shows a tree structure with '08/09 Subj Simple L' expanded to 'Library Summary', which includes sub-items like 'Humanities', 'Hum Ele', 'Hum Mo', 'Hum Ser', 'Science & T', and 'Social Scien'. The main area shows the 'Summary' view for the 'Library Summary' fund. The 'Fund Name' is 'Library Summary', 'Fund Code' is empty, 'Fund Category' is 'Summary', and 'Fund Type' is 'General'. The 'Begin Date' and 'End Date' fields are empty, and the 'Institution ID' field is also empty. There is an 'Expend Only' checkbox which is unchecked. Below these fields are tabs for 'Summary', 'Override Rules', 'Transactions', 'Notes', and 'Properties'. The 'Summary' tab is active, showing three summary boxes: 'Allocations', 'Commitments', and 'Expenditures'. The 'Allocations' box shows: Original Allocation: \$508,000.00, Increases: \$0.00, Decreases: \$0.00, and Net: \$508,000.00. The 'Commitments' box shows: Total: \$148.68 and Pending: \$0.00. The 'Expenditures' box shows: Total: \$20.00 and Pending: (\$5.00). Below these is a 'Balances' box showing: Available: \$507,831.32 and Cash: \$507,980.00. At the bottom left, the time is 1:55 PM, and at the bottom right, the date is 11/30/2008.

Fund Name: Library Summary
Fund Code:
Fund Category: Summary **Fund Type:** General
Begin Date: **End Date:**
Institution ID: Expend Only

Summary | Override Rules | Transactions | Notes | Properties

Allocations		Commitments		Expenditures	
Original Allocation:	\$508,000.00	Total:	\$148.68	Total:	\$20.00
Increases:	\$0.00	Pending:	\$0.00	Pending:	(\$5.00)
Decreases:	\$0.00				
Net:	\$508,000.00				

Balances	
Available:	\$507,831.32
Cash:	\$507,980.00

1:55 PM 11/30/2008

Client-side Basics

Summary Funds:

- Overview of the activity on all the Allocated funds beneath them
- Do not contain money
- Cannot be selected on a line item

Client-side Basics

Allocated Fund view:

The screenshot displays the 'Ledger - 08/09 Subj Simple Ledger' application window. The interface includes a menu bar (File, Fund, Tools, Help), a toolbar with icons for Save, Print, Find, Close, and Help, and a left-hand pane titled 'Ledger and Funds' showing a tree view of the fund structure. The main area is titled 'Fund Name: Humanities' and contains several input fields: Fund Code (HUM), Fund Category (Allocated), Fund Type (General), Begin Date (7/1/2008), End Date (7/1/2009), and Institution ID. There is also an 'Expend Only' checkbox. Below these fields are tabs for 'Summary', 'Override Rules', 'Transactions', 'Notes', and 'Properties'. The 'Summary' tab is active, showing three summary tables: Allocations, Commitments, and Expenditures. The Allocations table shows an original allocation of \$8,000.00, with no increases or decreases, resulting in a net of \$8,000.00. The Commitments table shows a total of \$52.45 and pending of \$0.00. The Expenditures table shows a total of \$20.00 and pending of (\$5.00). Below the Expenditures table is a 'Balances' section showing available funds of \$7,927.55 and cash of \$7,980.00. The status bar at the bottom left shows the time as 2:08 PM and the date as 11/30/2008.

Fund Name: Humanities
Fund Code: HUM
Fund Category: Allocated
Fund Type: General
Begin Date: 7/1/2008
End Date: 7/1/2009
Institution ID:
 Expend Only

Summary | Override Rules | Transactions | Notes | Properties

Allocations	
Original Allocation:	\$8,000.00
Increases:	\$0.00
Decreases:	\$0.00
Net:	\$8,000.00

Commitments	
Total:	\$52.45
Pending:	\$0.00

Expenditures	
Total:	\$20.00
Pending:	(\$5.00)

Balances	
Available:	\$7,927.55
Cash:	\$7,980.00

Client-side Basics

Allocated funds:

- Do hold money
- Can be selected on a PO or invoice
- Track the transfer of money from one fund to another
- Summarize activity on any Reporting fund that falls below

Client-side Basics

Reporting Fund view:

The screenshot shows the 'Ledger - 08/09 Subj Simple Ledger' application window. The left pane displays a tree view of 'Ledger and Funds' with 'Hum Ele' selected. The main area shows the 'Reporting' fund details for 'Hum Electronic' (Fund Code: HUME). The 'Fund Category' is 'Reporting' and the 'Fund Type' is 'General'. The 'Begin Date' is 7/1/2008 and the 'End Date' is 7/1/2009. The 'Expend Only' checkbox is unchecked. Below these fields are tabs for 'Summary', 'Override Rules', 'Transactions', 'Notes', and 'Properties'. The 'Summary' tab is active, showing three summary boxes: 'Allocations', 'Commitments', and 'Expenditures'. The 'Allocations' box shows Original Allocation, Increases, Decreases, and Net, all at \$0.00. The 'Commitments' box shows Total and Pending, both at \$0.00. The 'Expenditures' box shows Total at \$20.00 and Pending at \$0.00. Below the 'Expenditures' box is a 'Balances' section showing Available at (\$20.00) and Cash at (\$20.00). The status bar at the bottom left shows '2:21 PM' and the bottom right shows '11/30/2008'.

Allocations		Commitments		Expenditures	
Original Allocation:	\$0.00	Total:	\$0.00	Total:	\$20.00
Increases:	\$0.00	Pending:	\$0.00	Pending:	\$0.00
Decreases:	\$0.00				
Net:	\$0.00				

Balances	
Available:	(\$20.00)
Cash:	(\$20.00)

Client-side Basics

Reporting Funds:

- Do not contain money (money is still at the Allocated fund level)
- Can be selected on purchase orders and invoices
- Used for monitoring how money from a general pool is being used

Client-side Basics

Concepts relating to Summary tab information:

- What is a pending commitment?
- What is a total commitment?
- What is a pending expenditure?
- What is an expenditure?
- What is the Cash vs. Available balance?



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Client-side Basics

Pending Commitment:

- Any amount on a **Pending** purchase order that is associated with this fund (this includes both line item totals and other charges at the PO level)

Purchase Order: jb292 - [Pending]

File Order Line Item Tools Help

Save Save and Close Approve Base Currency

Header Footer Notes Properties

Order: Number: jb292 Type: Approval Site: Acquisitions Desk

Vendor: Code: bt Account:

Status Date: 11/30/2008
1 Line Items on Order

Locations: Ship To: Bill To:

Amounts: Line Item Subtotal: \$10.00 Other Charges: \$2.50 Total Order Amount: \$12.50

Currency: Code: USD Rate: 1

Line #/Status	Title	Price (Adj)	# of Cop	Location	Fund	Line Total
1 / Pending	House in the wood : and of	\$10.00	1	Main	Show Me the Money / Allocated fund 2	\$10.00

Add Line (Bib Search) Add Line (Bib Import) Add Line (Template) Delete Line Quick Line Item... Detailed Line Item... MARC...

Client-side Basics

This is how the PO line item amount and other charges are reflected in the fund:

Fund Name: Allocated fund 2
Fund Code:
Fund Category: Allocated Fund Type: General
Begin Date: 7/1/2008 End Date: 7/1/2009
Institution ID: Expend Only

Summary | Override Rules | Transactions | Notes | Properties

Allocations		Commitments		Expenditures	
Original Allocation:	\$75,000.00	Total:	\$0.00	Total:	\$0.00
Increases:	\$0.00	Pending:	\$12.50	Pending:	\$0.00
Decreases:	\$0.00				
Net:	\$75,000.00				

Balances	
Available:	\$75,000.00
Cash:	\$75,000.00

Client-side Basics

Total commitment:

- Any amount on an **Approved** purchase order that is associated with this fund (this includes both line item totals and other charges at the PO level)

The screenshot shows a software window titled "Purchase Order: jb292 - [Approved/Sent] on 11/30/2008". The interface includes a menu bar (File, Order, Line Item, Tools, Help) and a toolbar with icons for Save, Save and Close, Base Currency, and other functions. Below the toolbar are tabs for Header, Footer, Notes, Properties, Vendor History, and Related Invoices. The main area is divided into several sections: Order (Number: jb292, Type: Approval, Site: Acquisitions Desk), Vendor (Code: bt, Account:), Status Date (11/30/2008), Locations (Ship To, Bill To), and Amounts (Line Item Subtotal: \$10.00, Other Charges: \$2.50, Total Order Amount: \$12.50, Currency: USD, Rate: 1). A table below these sections lists line items, with the first row highlighted in pink. The table has columns for Line #/Status, Title, Price (Adjustments), # of Copies, Location, Fund, and Line. The first row contains: 1 / Approved, House in the wood : and ol, \$10.00, 1, Main, Show Me the Money / Allo. At the bottom of the window are buttons for Recv/Mark..., Unmark, Generate Claim, Update Claim, Generate Cancel, Generate Return, Quick Line Item..., Detailed Line Item..., and MARC...

Line #/Status	Title	Price (Adjustments)	# of Copies	Location	Fund	Line
1 / Approved	House in the wood : and ol	\$10.00	1	Main	Show Me the Money / Allo	

Client-side Basics

This is how the PO line item amount and other charges are reflected in the fund:

Fund Name:

Fund Code:

Fund Category: Fund Type:

Begin Date: End Date:

Institution ID: Expend Only

Summary | Qverride Rules | Transactions | Notes | Properties

Allocations		Commitments		Expenditures	
Original Allocation:	\$75,000.00	Total:	\$12.50	Total:	\$0.00
Increases:	\$0.00	Pending:	\$0.00	Pending:	\$0.00
Decreases:	\$0.00				
Net:	\$75,000.00				

Balances	
Available:	\$74,987.50
Cash:	\$75,000.00

Client-side Basics

Pending Expenditure:

- Any amount on an **Pending** invoice that is associated with this fund (this includes both line item totals and other charges at the PO level)

Note: a pending
Total commitment

commitment!
Previously.

Invoice: jb292 - [Pending]

File Invoice Line Item Tools Help

Save Save and Close Approve Base Currency

Header Footer Notes Properties

Invoice

Number: jb292

Voucher ID: 114

Date: 11/30/2008

Amount: \$12.50

Locations

Bill To:

Vendor

Code: BT

Account:

Status Date: 11/30/2008

1 Line Items on Invoice

Amounts

Line Item Subtotal: \$10.00

Other Charges: \$2.50

Total Invoice Amount: \$12.50

Currency

Code: USD

Rate: 1

Status	Title	Price (Adjustments)	# of Copies	Location	Fund	Lir
Pending	House in the wood : and of	\$10.00	1	Main	Show Me the Money / Allo	

Add Line from Order... Delete Line Quick Line Item... Detailed Line Item... MARC...

Client-side Basics

This is how the invoice line item amount and other charges are reflected in the fund.

The screenshot displays a web-based financial system interface. At the top, there are several input fields for fund information: Fund Name (Allocated fund 2), Fund Code (empty), Fund Category (Allocated), Fund Type (General), Begin Date (7/1/2008), End Date (7/1/2009), and Institution ID (empty). There is also an unchecked checkbox for 'Expend Only'. Below these fields is a tabbed interface with 'Summary' selected. The Summary tab contains four summary boxes: Allocations, Commitments, Expenditures, and Balances. A red box highlights the Summary tab and its content.

Allocations	
Original Allocation:	\$75,000.00
Increases:	\$0.00
Decreases:	\$0.00
Net:	\$75,000.00

Commitments	
Total:	\$12.50
Pending:	\$0.00

Expenditures	
Total:	\$0.00
Pending:	\$12.50

Balances	
Available:	\$74,987.50
Cash:	\$75,000.00

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Client-side Basics

Total expenditure:

- Any amount on an **Approved** invoice that is associated with this fund (this includes both line item totals and other charges at the PO level)

Note: a total expenditure is calculated for an invoice de-commissioned (i.e., approving an invoice de-commissioned).

The screenshot shows a software window titled "Invoice: b292 - [Approved]". The window has a menu bar with "File", "Invoice", "Line Items", "Tools", and "Help". Below the menu bar are buttons for "Save", "Save and Close", and "Base Currency". The main area is divided into several sections:

- Header:** Invoice Number: b292, Voucher ID: 114, Date: 11/30/2008, Amount: \$12.50.
- Vendor:** Code: BT, Account: (empty), Status Date: 11/30/2008, 1 Line Items on Invoice.
- Amounts:** Line Item Subtotal: \$10.00, Other Charges: \$2.50, Total Invoice Amount: \$12.50. Currency: USD, Rate: 1.
- Locations:** Bill To: (empty dropdown).

Below these sections is a table with the following data:

Status	Title	Price (Adjustments)	# of Copies	Location	Fund
Approved	House in the wood : and of	\$10.00	1	Main	Show Me the Money / Alk

A red box highlights the "Approved" status and the first row of the table. At the bottom of the window are several buttons: "Recv/Mod...", "Unmod", "Generate Check", "Update Date", "Generate Label", "Generate Paym", "Quick Line Item", "Detailed Line Item", and "MARC".

Client-side Basics

This is how the invoice line item amount and other charges are reflected in the fund:

Fund Name: Allocated fund 2
Fund Code:
Fund Category: Allocated Fund Type: General
Begin Date: 7/1/2008 End Date: 7/1/2009
Institution ID: Expend Only

Summary | Override Rules | Transactions | Notes | Properties

Allocations		Commitments		Expenditures	
Original Allocation:	\$75,000.00	Total:	\$0.00	Total:	\$12.50
Increases:	\$0.00	Pending:	\$0.00	Pending:	\$0.00
Decreases:	\$0.00				
Net:	\$75,000.00				

Balances	
Available:	\$74,987.50
Cash:	\$74,987.50

Client-side Basics

- Available Balance: The Net Allocation minus what you are planning on spending and what you have actually spent. [Net allocations - (Total Commitments + Total Expenditures) = Available Balance]
- Available Cash: Your net minus what you've actually spent. [Net allocations - Total Expenditures = Cash]

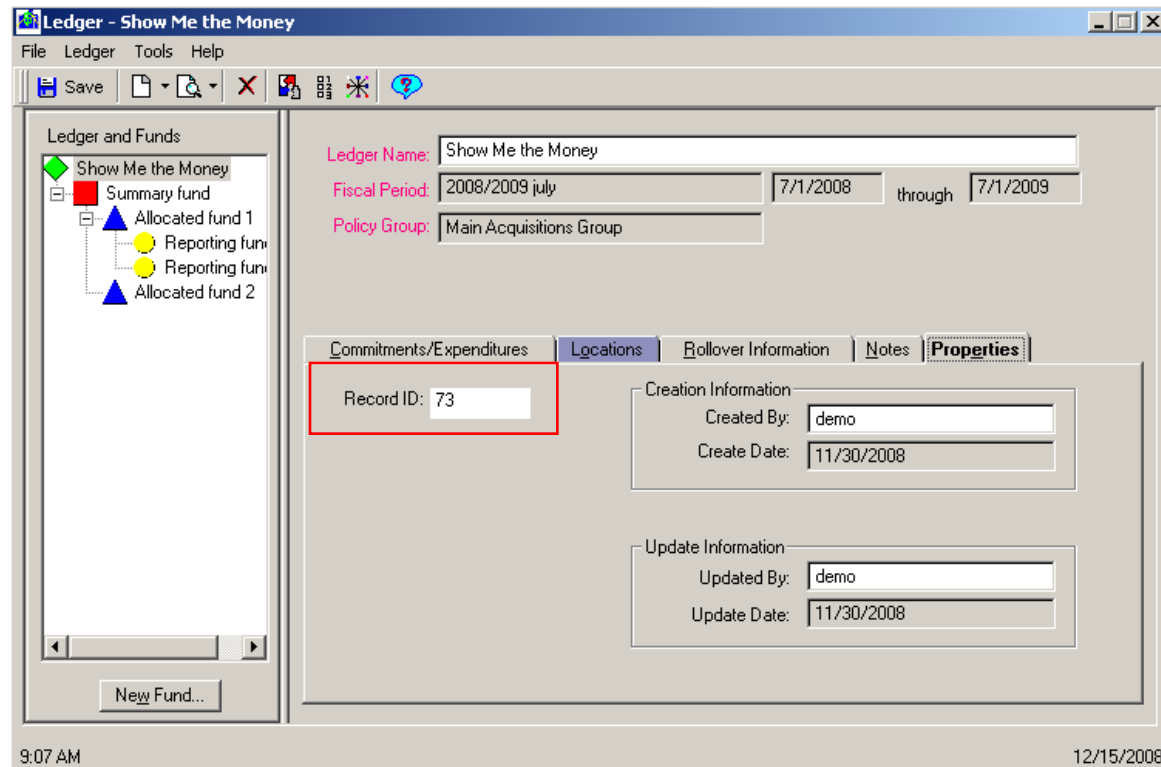
Accessing Financial Data

- How do we access financial data in the database?
- How do we determine which POs, invoices, line items and adjustments are contributing to the totals reflected at the fund level?



Ledger and Fund Data in the Tables

Use the Properties tab to obtain ID of the ledger and the fund in question:



Why Do I Need a Ledger_id?

While the LEDGER table itself doesn't track any important financial data, the ledger_id is used to differentiate between fiscal periods for funds that have the same ID.



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Hands On

Take out your handouts, and let's proceed with Exercise One!

Why Aren't All Fund_ids Unique?

Fiscal Period Close!

- Utility that automates a rollover of fund information from current fiscal period to a new one
- Takes your current ledger and fund structure and creates a brand new ledger that mimics this structure
- Funds on the new ledger share the fund_id of the corresponding fund on the previous fiscal period's ledger
- To track financial data for one of these funds, need to know the ledger_id as well

Fund Table

For purposes of financial data tracking, the most relevant columns in the FUND table are:

- Original_allocation: when you first create an allocated fund, the amount of money you initially dictate is in the fund
- Allocation_increase: the total of any money added to this particular fund.
 - Note that a decrease doesn't decrement this increase counter
- Allocation_decrease: the total of any money subtracted from this particular fund
 - Note that an increase doesn't increment this decrease counter

Fund Table

- Commit_pending: the money attached to pending POs linked to this fund
- Commitments: the money attached to approved POs linked to this fund
- Expend_pending: the money attached to pending invoices linked to this fund
- Expenditures: the money attached to approved invoices linked to this fund

NOTE: The amounts reflected in the FUND table will all have been converted into your database's base currency.

Fund Table

The totals in the Fund table should reflect the information you see on the Summary tab for any given fund.

Summary	Override Rules	Transactions	Notes	Properties	
Allocations		Commitments		Expenditures	
Original Allocation:	\$125,000.00	Total:	\$0.00	Total:	\$12.50
Increases:	\$0.00	Pending:	\$0.00	Pending:	\$0.00
Decreases:	\$0.00				
Net:	\$125,000.00				
				Balances	
				Available:	\$124,987.50
				Cash:	\$124,987.50

Fund Table

This is how that fund is represented at the database level:

```
SQL> select original_allocation, allocation_increase, allocation_decrease,  
2  commit_pending, commitments, expend_pending, expenditures  
3  from fund  
4  where fund_id = 738 and ledger_id = 73;
```

ORIGINAL_ALLOCATION	ALLOCATION_INCREASE	ALLOCATION_DECREASE	COMMIT_PENDING
12500000	0	0	0
0	0	1250	

Fund Table

What level of the hierarchy am I viewing?

To determine the relationship between this fund and the other funds on this ledger:

– Check category column:

- 0 = Summary fund
- 1 = Allocated fund
- 2 = Reporting fund

– Check parent_fund column:

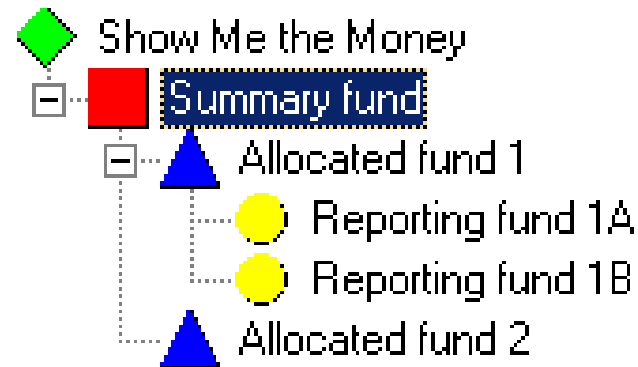
- This gives the id for the fund that summarizes the current fund's data
- If the parent_fund value is null, this is the highest fund in the hierarchy

Fund Table

This example shows the Summary fund at the top of the hierarchy:

```
SQL> select category, parent_fund from fund
      2 where fund_id = 738 and ledger_id = 73:
```

CATEGORY	PARENT_FUND
-----	-----
0	0



Fund Table

If you look at an Allocated fund that is summarized by this fund, you'll see the parent information:

```
SQL> select category, parent_fund from fund
      2  where fund_id = 739 and ledger_id = 73;
```

CATEGORY	PARENT_FUND
1	738



Hands On

Take out your handouts, and let's proceed with Exercise Two!

Voyager Tables

Voyager tables are used to track the following items:

- Purchase Order
- Invoice
- Line Item Level Specifics

FUND_TRANSACTION

- Tracks the type of activity that is affecting a fund
- Tracks the amount associated with this activity
- Tracks which PO or invoice contains the transaction

FUND_TRANSACTION

The trans_type column records what type of activity occurred:

- 1 = Initial allocation
- 2 = Fund increase
- 3 = Fund decrease
- 4 = Commitment
- 5 = Expenditure
- 6 = Transfer in
- 7 = Transfer out

FUND_TRANSACTION

Other useful columns for tracking:

- Amount (the total associated with this transaction)
- Reference_no (depending on the trans_type, this is either the associated invoice or PO number)
- Statistical_fund (this is the Reporting Fund fund_id if the line item is using a Reporting Fund)
- Trans_date (the date the transaction occurred)
- Operator_id (the user associated with the transaction)

Note: If the trans_type is 4 or 5 (commitments or expenditures) and the line item is using a Reporting Fund, look for fund_id of the parent Allocated Fund

FUND_TRANSACTION

Example fund as it displays in the client.

Summary	Override Rules	Transactions	Notes	Properties
Allocations				
Original Allocation:		\$75,000.00		
Increases:		\$0.00		
Decreases:		\$0.00		
Net:		\$75,000.00		
Commitments				
Total:		\$0.00		
Pending:		\$0.00		
Expenditures				
Total:		\$12.50		
Pending:		\$0.00		
Balances				
Available:		\$74,987.50		
Cash:		\$74,987.50		

FUND_TRANSACTION

Example fund as it appears in the database:

```
SQL> select * from fund_transaction where fund_id = 740 and ledger_id = 73:
```

FUND_ID	AUDIT_ID	LEDGER_ID	TRANS_TYPE	AMOUNT	TRANS_DAT	OPERATOR_I
REFERENCE_NO	STATISTICAL_FUND		NOTE			
740	894	73	1	7500000	30-NOV-08	demo
jb292	740	896	73	4	1250	30-NOV-08 demo
			740			
jb292	740	897	73	4	-1250	30-NOV-08 demo
			740			
jb292	740	898	73	5	1250	30-NOV-08 demo
			740			

FUND_TRANSACTION

The query shows:

- Initial allocation transaction of \$75,000
- Commitment of \$12.50, on PO jb292, which was then later de-committed
- Expenditure of \$12.50 on invoice jb292
 - Accounts for the de-commitment; approving an invoice de-commits the money associated with that line item
- Activity occurred on Nov. 30, 2008, and the associated operator was “demo”

To obtain this data in the client, several different searches would have to be executed, and a number of different records displayed.

Hands On

Take out your handouts, and let's proceed with Exercise Three!

Detailed Tracking of Totals in the Database

Tracking totals associated with:

- Purchase orders
- Invoices

PURCHASE_ORDER

PURCHASE_ORDER financial information

- Line_item_subtotal (adds all individual line item totals together)
- Adjustments_subtotal (adds any PO level adjustments together)
- Total (line_item_subtotal + adjustments_subtotal)

PURCHASE_ORDER

Example Purchase Order:

Purchase Order: jb292 - [Approved/Sent] on 11/30/2008

File Order Line Item Tools Help

Save Save and Close Base Currency

Header Footer Notes Properties Vendor History Related Invoices

Order
Number: jb292
Type: Approval
Site: Acquisitions Desk

Vendor
Code: BT
Account:

Status Date: 11/30/2008
1 Line Items on Order

Locations
Ship To:
Bill To:

Amounts
Line Item Subtotal: \$10.00
Other Charges: \$2.50
Total Order Amount: \$12.50

Currency
Code: USD
Rate: 1

Line #/Status	Title	Price (Adjustments)	# of Copies	Location	Fund	Line
1 / Approved	House in the wood : and ol	\$10.00	1	Main	Show Me the Money / Allo	

Recv/Mark... Unmark Generate Claim Update Claim Generate Cancel Generate Return Quick Line Item... Detailed Line Item... MARC...

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PURCHASE_ORDER

Example Purchase Order as it appears in the table:

```
SQL> select po_id, line_item_subtotal, adjustments_subtotal,  
2 total from purchase_order where po_number = 'jb292';
```

PO_ID	LINE_ITEM_SUBTOTAL	ADJUSTMENTS_SUBTOTAL	TOTAL
292	1000	250	1250

Invoice

INVOICE table financial data:

- Line_item_subtotal
- Adjustments_subtotal
- Total
- Invoice_total (this corresponds to the “Amount” field in the invoice header)

Invoice

Example Invoice:

Invoice: jb292 - [Approved]

File Invoice Line Item Tools Help

Save Save and Close Base Currency

Header Footer Notes Properties

Invoice

Number: jb292

Voucher ID: 114

Date: 11/30/2008

Amount: \$12.50

Locations

Bill To:

Vendor

Code: BT

Account:

Status Date: 11/30/2008

1 Line Items on Invoice

Amounts

Line Item Subtotal: \$10.00

Other Charges: \$2.50

Total Invoice Amount: \$12.50

Currency

Code: USD

Rate: 1

Status	Title	Price (Adjustments)	# of Copies	Location	Fund	Lir
Approved	House in the wood : and ol	\$10.00	1	Main	Show Me the Money / Allo	

Recv/Mark... Unmark Generate Claim Update Claim Generate Cancel Generate Return Quick Line Item... Detailed Line Item... MARC...

Invoice

Example Invoice as it appears in the database:

```
SQL> select invoice_total, line_item_subtotal, adjustments_subtotal,  
2 total, invoice_id from invoice where invoice_number = 'jb292';
```

INVOICE_TOTAL	LINE_ITEM_SUBTOTAL	ADJUSTMENTS_SUBTOTAL	TOTAL	INVOICE_ID
1250	1000	250	1250	114

Detailed Tracking of Totals in the Database

How do the PURCHASE_ORDER and INVOICE tables relate to what displays in the ledger?

- Several tables make the link between a PO or invoice and fund's Summary tab
- PO_FUNDS
- INVOICE_FUNDS

PO_FUNDS

- po_id (the unique identifier associated with each PO)
- ledger_id
- fund_id
- commit_pending
- Commitments
- expend_pending
- expenditures

PO_FUNDS

Here is an example of a PO with different funds selected on different line items.

Purchase Order: jb284 - [Pending]

File Order Line Item Tools Help

Save Save and Close Approve Base Currency

Header Footer Notes Properties Vendor History

Order: Number: jb284 Type: Approval Site: Acquisitions Desk

Vendor: Code: BT Account: Status Date: 11/20/2008 2 Line Items on Order

Locations: Ship To: Bill To:

Amounts: Line Item Subtotal: \$75.00 Other Charges: \$0.00 Total Order Amount: \$75.00

Currency: Code: USD Rate: 1

Line #/Status	Title	Price (Adjustm	# of Copies	Location	Fund	Line Total	Line Item
1 / Received C	Muddy hymnal.	\$50.00	1	Main	08/09 Subj Simple Ledger / Humanities	\$50.00	Subscrip
2 / Pending	Astounding; John W. Camp	\$25.00	1	Main	08/09 Subj Simple Ledger / Social Sciences	\$25.00	Single P.

Add Line (Bib Search) Add Line (Bib Import) Add Line (Template) Delete Line Quick Line Item... Detailed Line Item... MARC...

PO_FUNDS

```
SQL> select * from po_funds where po_id = 284;
```

PO_ID	LEDGER_ID	FUND_ID	COMMIT_PENDING	COMMITMENTS	EXPEND_PENDING
EXPENDITURES					
284	62	554	5000	0	0
0					
284	62	566	2500	0	0
0					

```
SQL> select fund_name from fund where fund_id in (554,566)
2 and ledger_id = 62;
```

FUND_NAME

Humanities
Social Sciences

```
SQL> select ledger_name from ledger where ledger_id = 62;
```

LEDGER_NAME

08/09 Subj Simple Ledger

INVOICE_FUNDS

- INVOICE_FUNDS: same kind of data, but for invoices instead of POs.
- Using the above example again:
 - Approve the PO: an order must be Approved before a line item can be invoiced
 - Create an invoice for it

NOTE: The act of approving the PO shifts the pending commitments in PO FUNDS to commitments.

```
SQL> select * from po_funds where po_id = 284;
```

PO_ID	LEDGER_ID	FUND_ID	COMMIT_PENDING	COMMITMENTS	EXPEND_PENDING

EXPENDITURES					

284	62	554	0	5000	0
0					
284	62	566	0	2500	0
0					

INVOICE_FUNDS

- Once the invoice is created, the data is in both tables
- Remember that when the invoice is pending, the money is both a commitment and a pending expenditure

```
SQL> select * from invoice_funds where invoice_id = 119;
```

INVOICE_ID	LEDGER_ID	FUND_ID	COMMIT_PENDING	COMMITMENTS	EXPEND_PENDING

EXPENDITURES					

119	62	554	0	0	5000
0					
119	62	566	0	0	2500
0					

INVOICE_FUNDS

- Once invoice is approved, the information is removed from PO_FUNDS
- Moves from expend_pending to expenditures in INVOICE_FUNDS

```
SQL> select * from po_funds where po_id = 284;
```

```
no rows selected
```

```
SQL> select * from invoice_funds where invoice_id = 119;
```

INVOICE_ID	LEDGER_ID	FUND_ID	COMMIT_PENDING	COMMITMENTS	EXPEND_PENDING

EXPENDITURES					

119 5000	62	554	0	0	0
119 2500	62	566	0	0	0

Hands On

Take out your handouts, and
let's proceed with Exercise
Four!

LINE_ITEM

To access the information in this table, the most helpful identifiers are:

- line_item_id: the unique identifier of a line item; you can get this from the Properties tab in the Detailed Line Item view in the Acq client
- po_id: this will give you data for any line item associated with this PO; as you can have multiple line items per PO, using po_id may retrieve multiple rows
- bib_id: this will give you data for any line item linked to this bib record; may retrieve multiple rows

LINE_ITEM

The columns that are most useful for financial data are:

- unit_price: the price per copy
- line_price: the total cost of this line item, across copies and including line item level adjustments
- Quantity: the total number of copies
- prepay_amount: if you've filled in the "PrePay Amount per Copy" field for this line item

LINE_ITEM

In this example, there are two copies on order for one line item, both attached to different funds.

Line Item - Acting as reading : the place of the reading process in the actor's work / David C...

File View Tools Help

Save Save and Close

Problems Claims Properties

Delivery Options Notes Order Payment History Receive/Mark

Bib Record Price Copies/Funds Copy Status Type

Order/Invoice Order jb297

Intended Location	# of Copies	Fund Allocation	Holdings
Juvenile Education	1	08/09 Subj Simple Ledger/Social Scienc	Juvenile E
Main	1	08/09 Subj Simple Ledger/Humanities	Main - PN2

Add... Edit... Delete... View Fund...

LINE_ITEM

- line_price is the total line item cost
- unit_price the price per copy (unit_price x quantity = line price)

```
SQL> select unit_price, line_price, quantity, prepay_amount  
2 from line_item where line_item_id = 430;
```

UNIT_PRICE	LINE_PRICE	QUANTITY	PREPAY_AMOUNT
5000	10000	2	0

Note that the LINE_ITEM table doesn't track specific copy information -- we'll need to find that elsewhere.

LINE_ITEM

- LINE_ITEM_FUNDS connects copy level information to ledger and fund data.
- Uses the individual copy_id instead of the line_item_id
- LINE_ITEM doesn't track copy_id
- Use LINE_ITEM_COPY_STATUS to grab the copy_ids associated with the line item

LINE_ITEM_COPY_STATUS

Used for tracking:

- location
- mfhd
- line item status
- invoice item status

Status details have consequences for whether the total associated with the copy displays as a pending or total commitment, and if a line item rolls.

LINE_ITEM_COPY_STATUS

line_item_status and invoice_item_status are stored as a numeric value; LINE_ITEM_STATUS defines these values:

```
SQL> select * from line_item_status;
```

```
LINE_ITEM_STATUS LINE_ITEM_STATUS_DESC
```

```
-----  
0 Pending  
1 Received Complete  
2 Backordered  
3 Returned  
4 Claimed  
5 Invoice Pending  
6 Invoiced  
7 Cancelled  
8 Approved  
9 Received Partial
```

Keep these values in mind when we look at the copy status table!

LINE_ITEM_COPY_STATUS

- grab the copy_ids
- note that the line item is pending (0) on the PO
- note that the line item is not yet invoiced (0)

In this example, totals display as pending commitments for the funds to which they're attached

```
SQL> select * from line_item_copy_status where line_item_id = 430:
```

LINE_ITEM_ID	LOCATION_ID	COPY_ID	MFHD_ID	LINE_ITEM_STATUS
430	6	453	57326	0
	0 18-DEC-08		0	
430	8	450	40293	0
	0 18-DEC-08		0	

LINE_ITEM_FUNDS

Now we can use the copy_ids we found to look at the copies in the LINE_ITEM_FUNDS table.

```
SQL> select * from line_item_funds where copy_id in (450,453):
```

COPY_ID	SPLIT_FUND_SEQ	LEDGER_ID	FUND_ID	PERCENTAGE	PREPAY_PERCENTAGE
450	1	62	554	100	100
5000	0				
453	1	62	566	100	100
5000	0				

- Each copy only linked to one fund, percentage columns are 100
- Extended fund allocation will show percent per fund

LINE_ITEM_FUNDS

This example shows a line item with one copy, but with 75% of the total committed to one fund, and 25% committed to a different fund:

The screenshot shows a software window titled "Line Item - Eighteen-eighties : essays by fellows of the Royal Society of Literature / edited ...". The interface includes a menu bar (File, View, Tools, Help) and a toolbar with icons for Save, Save and Close, and other functions. Below the toolbar are several tabs: Problems, Claims, Properties, Delivery Options, Notes, Order, Payment History, and Receive/Mark. The "Order" tab is active, and within it, the "Copies/Funds" sub-tab is selected. The main area displays "Order/Invoice" information for "Order jb298". A table shows the following data:

Intended Location	# of Copies	Fund Allocation	Hold
Main	1	Extended Fund Allocation	Main

Below this, a detailed view for "Copy # 1" shows "Extended Fund Allocation" with a sub-table of fund allocations:

Fund Allocation	Percentage
08/09 Subj Simple Ledger/Social Sciences	75%
08/09 Subj Simple Ledger/Humanities	25%

At the bottom of the window are buttons for "Add...", "Edit...", "Delete...", and "View Fund...".

LINE_ITEM_FUNDS

At the database level, you can copy the two different funds to which it is linked, and the percentage associated with each allocation.

Note: Same copy_id, as in this case it is one copy allocated across two funds

```
SQL> select * from line_item_funds where copy_id = 454;
```

COPY_ID	SPLIT_FUND_SEQ	LEDGER_ID	FUND_ID	PERCENTAGE	PREPAY_PERCENTAGE
454	1	62	554	25	25
875	0				
454	2	62	566	75	75
2625	0				

INVOICE_LINE_ITEM

- unit_price
- line_price
- quantity

To access the information in this table, the most helpful identifiers are:

- inv_line_item_id (the unique identifier for an invoice line item)
- invoice_id
- line_item_id

INVOICE_LINE_ITEM

```
SQL> select unit_price, line_price, quantity from invoice_line_item  
2 where inv_line_item_id = 146;
```

UNIT_PRICE	LINE_PRICE	QUANTITY
5000	10000	2

Note that the line item and invoice item statuses have changed in line_item_copy_status because an invoice was created:

```
SQL> select * from line_item_copy_status where line_item_id = 430:
```

LINE_ITEM_ID	LOCATION_ID	COPY_ID	MFHD_ID	LINE_ITEM_STATUS
INVOICE_ITEM_STATUS	STATUS_DA	ITEM_ID		
430	6	453	57326	8
	5 19-DEC-08		0	
430	8	450	40293	8
	5 19-DEC-08		0	

INVOICE_LINE_ITEM_FUNDS

- Very similar to LINE_ITEM_FUNDS
- Stores both copy id and inv line item id

```
SQL> select * from invoice_line_item_funds  
2 where inv_line_item_id = 146;
```

COPY_ID	INV_LINE_ITEM_ID	SPLIT_FUND_SEQ	LEDGER_ID	FUND_ID	PERCENTAGE
453 5000	146	1	62	566	100
450 5000	146	1	62	554	100

Hands On

Take out your handouts,
and let's proceed with
Exercise Five!

Tracking Financial Data

- Currency conversion
- Adjustments



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Currency Conversion

Foreign currencies:

- Sometimes stored in currency listed on PO/invoice
- Sometimes stored in base currency

Currency Conversion

PURCHASE_ORDER and INVOICE

- Subtotal and total values stored in the currency on the PO or invoice
- Currency is stored in the currency_code column

So, for example, if the PO total is 75,000 lira:

Amounts		Currency	
Line Item Subtotal:	<input type="text" value="75,000"/>	Code:	<input type="text" value="ITA"/>
Other Charges:	<input type="text" value="0"/> ...	Rate:	<input type="text" value="1000"/>
Total Order Amount:	<input type="text" value="75,000"/>		

Currency Conversion

The values in the database will also be in lira:

```
SQL> select line_item_subtotal, adjustments_subtotal,  
2 total, currency_code from purchase_order where po_number = 'jb295';
```

LINE_ITEM_SUBTOTAL	ADJUSTMENTS_SUBTOTAL	TOTAL	CUR
75000	0	75000	ITA

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Currency Conversion

LINE_ITEM and INVOICE_LINE_ITEM

- Prices stored here are in the foreign currency specified on the PO or invoice.

```
SQL> select unit_price, line_price from line_item  
2 where line_item_id = 427;
```

```
UNIT_PRICE  LINE_PRICE  
-----  
          75000          75000
```

Currency Conversion

LINE_ITEM_FUNDS and INVOICE_LINE_ITEM_FUNDS

- Store prices in the foreign currency associated with the PO or invoice

```
SQL> select * from line_item_funds where copy_id in  
2 (select copy_id from line_item_copy_status where line_item_id = 427);
```

COPY_ID	SPLIT_FUND_SEQ	LEDGER_ID	FUND_ID	PERCENTAGE	PREPAY_PERCENTAGE
446		1	62	100	100
75000	0				

Currency Conversion

PO_FUNDS AND INVOICE_FUNDS

- Store the values converted into your base currency
- For above example, the pending commits are stored as 75.00 in US dollars.

```
SQL> select * from po_funds where po_id in  
2 (select po_id from purchase_order where po_number = 'jb295');
```

PO_ID	LEDGER_ID	FUND_ID	COMMIT_PENDING	COMMITMENTS	EXPEND_PENDING
295	62	554	7500	0	0

EXPENDITURES

0					
---	--	--	--	--	--

Adjustments

- Can exist at the PO/invoice level or the line item level
- Linked to individual funds
- Still factor into a fund's commitments and expenditures
- Most info lives in PRICE_ADJUSTMENT

Adjustments

PRICE_ADJUSTMENT

- object_type (A=PO level; B=PO line item; C=invoice; D=invoice line item)
- Object_id (po_id, invoice_id, line_item_id, invoice_line_item_id)
- Reason_id (the adjustment reason you've selected, corresponds to the ADJUST_REASON table)
- Method (How to Apply? 1=Amount, 2=Per Copy, 3=Percentage)

Questions and Brainstorming

- Local scenarios you're facing and would like to discuss
- Sample questions from handout

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THANK YOU!

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