

DB-9: Pick An Index, Any Index...

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What's Next...

❖ Prepare

Who I Am...

- ❖ Started working with Progress® v3 (1986)
- ❖ Founded Allegro Consultants in 1993
- ❖ Internationally recognized speaker
- ❖ Author of “Coding Smart” book on ADM2
- ❖ Punster and Frequent Talker

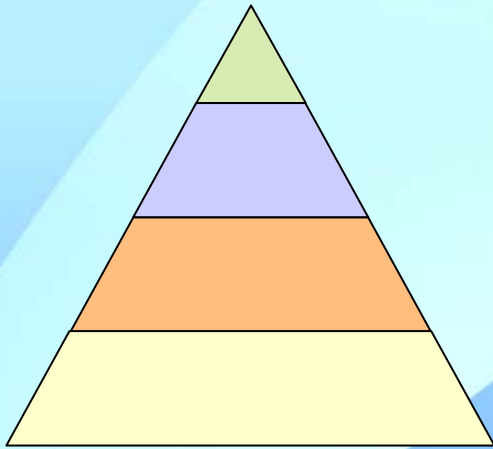
...And Why I Am Here

- ❖ Overview index rules
- ❖ Practical tools, not bookish theory
- ❖ Focus on fact, not guesswork
- ❖ Compile time information
- ❖ Run-time information
- ❖ Show off skill at alliteration

What's Next...

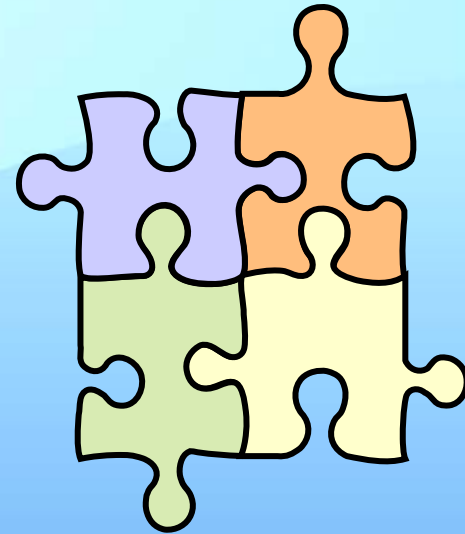
- ❖ Prepare
- ❖ Predict

Index Rules Engines



“Rules based”

VS



“Context based”

Hierarchy For A Single Index

1. Unique index with all components involved in the equality matches
2. Most active equality matches
3. Most active range matches
4. Most active sort matches
5. The primary index
6. First index alphabetically by index name

Multiple Index Usage

- ❖ If indexes are available for both sides of *WHERE... AND/OR*, more than one index can be used
- ❖ Multiple indexes will **only** be used to assist in bracketing records

WHERE...AND...

- ❖ *WHERE* clause includes the use of *AND*
- ❖ All components of each index are involved in equality matches
- ❖ No unique indexes are involved

WHERE...OR...

- ❖ *WHERE* clause includes the use of *OR*
- ❖ Both the left and right side of the *OR* contain at least the lead component of an index
- ❖ These lead components are involved in either equality or range matches

What's Next...

- ❖ Prepare
- ❖ Predict
- ❖ Prevent

Breaking The Engine

USE-INDEX ...

FIND ... WHERE ROWID () = ...

Breaking The Rules

WHERE NOT ...

WHERE <non-indexed field> = ...

WHERE ... MATCHES ...

WHERE IF ...

THEN ... = vcInput

ELSE TRUE

WHERE SUBSTRING (...) = "A"

What's Next...

- ❖ Prepare
- ❖ Predict
- ❖ Prevent
- ❖ Plan

XREF Information

COMPILE prog.p XREF prog.xref



FIND



FOR EACH

Demo - XREF-demo.p

```
Procedure Editor - C:\Work\Prog10.0A\PUG Presentation...
File Edit Search Buffer Compile Tools Options Help

/** define variables **/
DEFINE VARIABLE vrRowid AS ROWID      NO-UNDO.

/** simple FIND statement **/
FIND FIRST Order WHERE Order.CustNum = 200 NO-LOCK NO-ERROR.

/** simple FOR EACH using multiple indices **/
FOR EACH Customer WHERE Customer.SalesRep = "AAA"
                        OR Customer.Country = "BBB"
                        NO-LOCK:

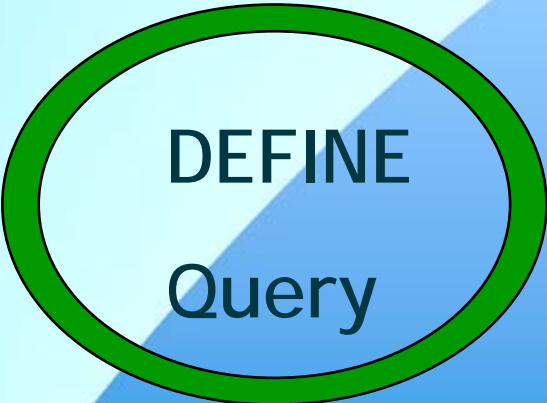
END. /** FOR EACH Customer WHERE... **/

/** find by ROWID **/
FIND Invoice WHERE ROWID(Invoice) = vrRowid NO-LOCK NO-ERROR.


/** simple FOR EACH that needs bucket **/
```


XREF Information

COMPILE prog.p XREF prog.xref

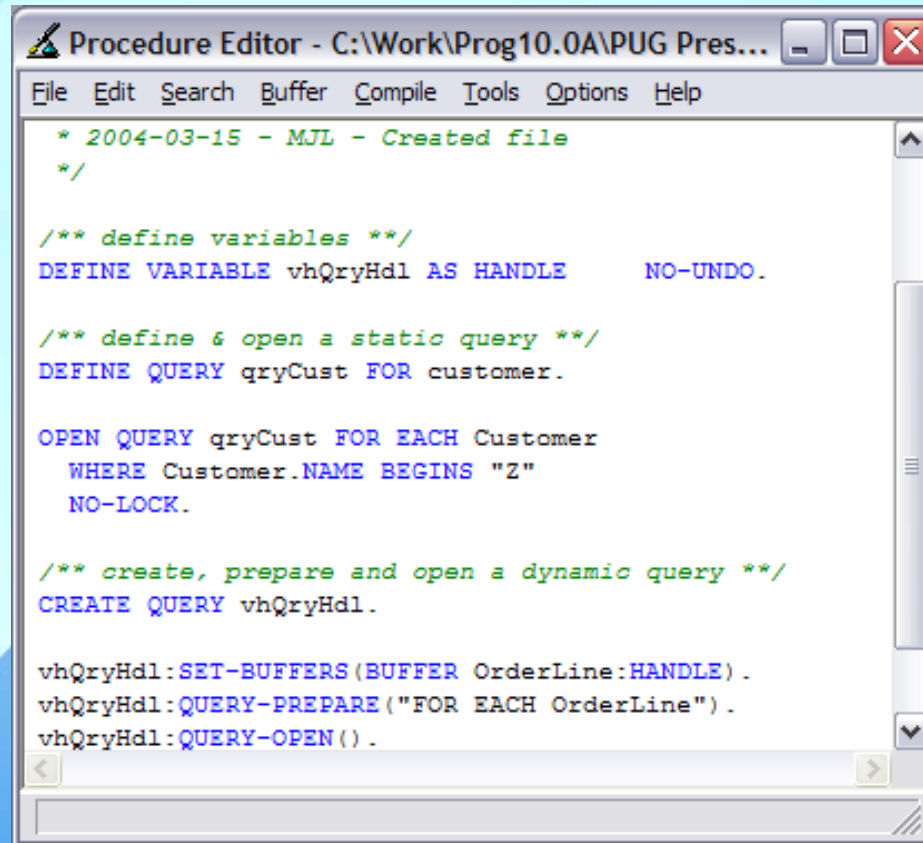


DEFINE
Query



CREATE
Query

Demo - Query-demo.p



The screenshot shows a window titled "Procedure Editor - C:\Work\Prog10.0A\PUG Pres...". The window has a menu bar with "File", "Edit", "Search", "Buffer", "Compile", "Tools", "Options", and "Help". The main text area contains the following code:

```
* 2004-03-15 - MJL - Created file
*/

/** define variables **/
DEFINE VARIABLE vhQryHdl AS HANDLE      NO-UNDO.

/** define & open a static query **/
DEFINE QUERY qryCust FOR customer.

OPEN QUERY qryCust FOR EACH Customer
  WHERE Customer.NAME BEGINS "Z"
  NO-LOCK.

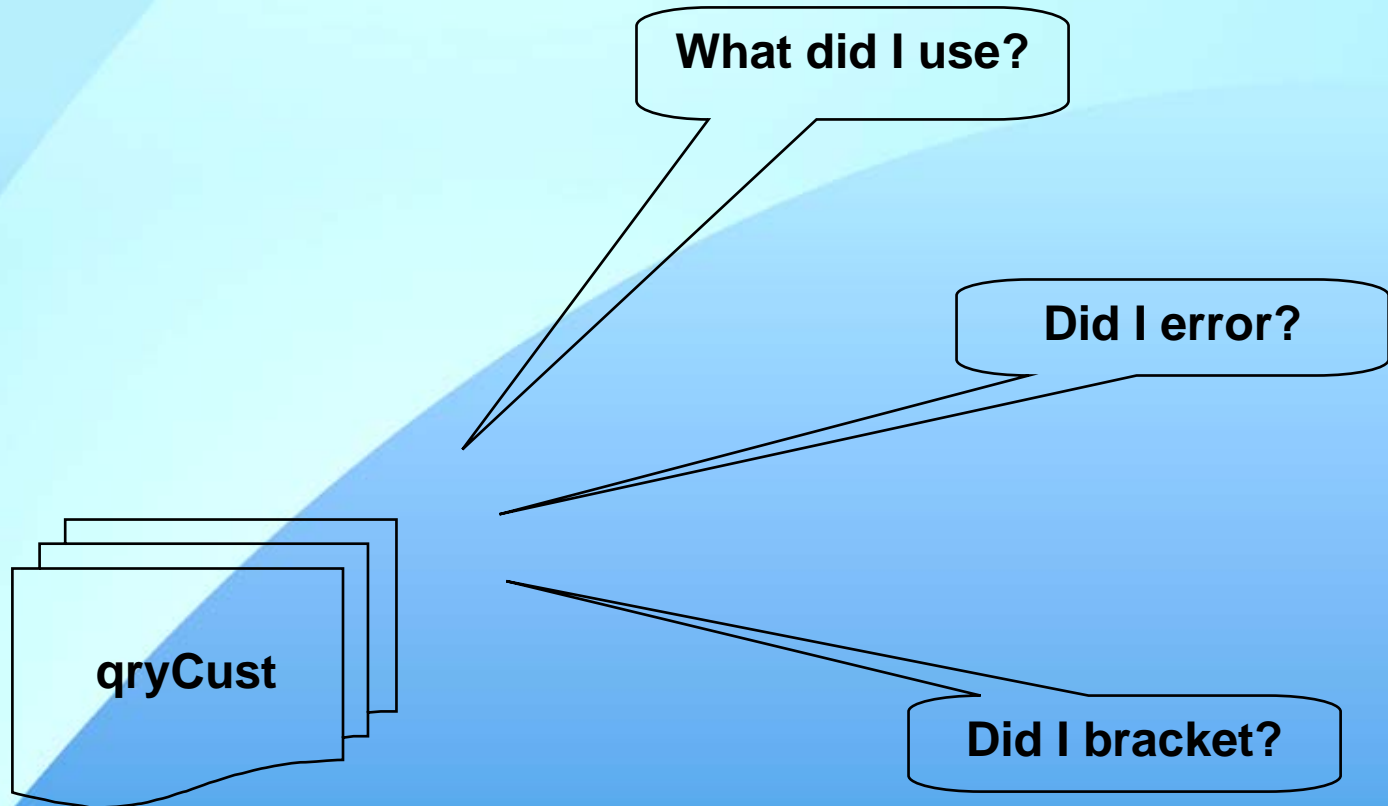
/** create, prepare and open a dynamic query **/
CREATE QUERY vhQryHdl.

vhQryHdl:SET-BUFFERS(BUFFER OrderLine:HANDLE).
vhQryHdl:QUERY-PREPARE("FOR EACH OrderLine").
vhQryHdl:QUERY-OPEN().
```

What's Next...

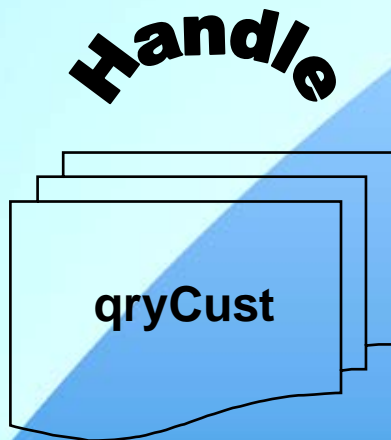
- ❖ Prepare
- ❖ Predict
- ❖ Prevent
- ❖ Plan
- ❖ Prove

If A Query Could Talk...



How To Ask

DEFINE VARIABLE vhQryCust AS HANDLE
CREATE QUERY vhQryCust



DEFINE QUERY qCust
QUERY qCust:

vhQryCust = QUERY qCust:HANDLE

What to Ask

What did I use?

vhQry:INDEX-INFORMATION()

Did I error?

ERROR-STATUS:NUM-MESSAGES

Did I bracket?

**ENTRY(1, vhQry:I-I) = "WHOLE-
INDEX"**

qryCust

Demo - wQueryTest.w

Query Test Station

Database / Table Information

DataBase:

Table:

Fields:

Field Name	Type
Name	character
Phone	character
PostalCode	character
SalesRep	character
State	character
Terms	character

Index Information

Indices:

☐ Primary ☐ Unique ☒ Word Index

Field Name	Asc?
Comments	Yes

Query Information

FOR EACH Customer WHERE...

Name = "AAA" and SalesRep = "BBB"

Build Query **Exit**

Query Used

FOR EACH Customer WHERE Name = "AAA" and SalesRep = "BBB"

Indices Chosen

Name
SalesRep

What's Next...

- ❖ Prepare
- ❖ Predict
- ❖ Prevent
- ❖ Plan
- ❖ Prove
- ❖ Process

OpenEdge® 10 - Log Manager

- ❖ New features in OpenEdge 10
- ❖ Both command-line and run-time controls
- ❖ Highly configurable

Log Manager Controls

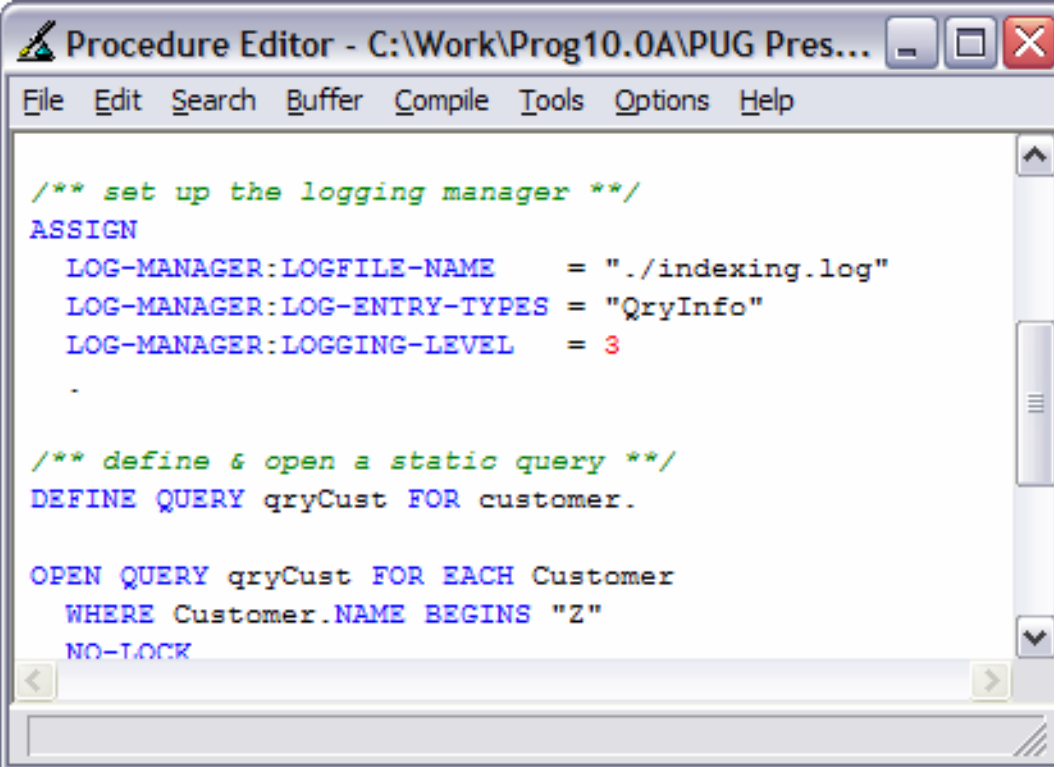
Command Line

- ❖ -clientlog
- ❖ -logentrytypes
- ❖ -logginglevel
- ❖ -numlogfiles
- ❖ -logthreshold

LOG-MANAGER

- ❖ :LOGFILE -NAME
- ❖ :LOG-ENTRY-TYPES
- ❖ :LOGGING-LEVEL
- ❖ :NUM-LOG-FILES
- ❖ :LOG-THRESHOLD

Demo - Logging-demo.p



The screenshot shows a 'Procedure Editor' window with a menu bar (File, Edit, Search, Buffer, Compile, Tools, Options, Help) and a text area containing the following SQL code:

```
/** set up the logging manager */  
ASSIGN  
    LOG-MANAGER:LOGFILE-NAME      = "./indexing.log"  
    LOG-MANAGER:LOG-ENTRY-TYPES   = "QryInfo"  
    LOG-MANAGER:LOGGING-LEVEL     = 3  
.  
  
/** define & open a static query */  
DEFINE QUERY qryCust FOR customer.  
  
OPEN QUERY qryCust FOR EACH Customer  
    WHERE Customer.NAME BEGINS "Z"  
    NO-LOCK
```

Now that I've rambled on,
are there any questions?



Thanks for attending...