



# PL/B Database Support

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# OVERVIEW

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- PL/B Database Instructions
- ODBC Driver Enhancements
- Questions



# PL/B Database Instructions

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- Improved Database interface
- Better performance
- Supports Multiple Database Engines
- Better control over Database Engine Usage



# PL/B Database Instructions

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- Windows
  - ADO
  - MySQL
  - ODBC
  
- Unix/Linux
  - MySQL
  - ODBC
  - PostgreSQL



# PL/B Database Instructions

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- DBFILE
  - DBCONNECT
  - DBDISCONNECT
  - DBTRANSACTION (NEW)





# PL/B Database Instructions

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- ❑ **DBSTATEMENT (NEW)** - defines a working space in a user application that is used to process a SQL statement using a pre-existing DBFILE connection.
- ❑ **DBOPEN** - associates the DBSTATEMENT with the DBFILE that has been previously connected using a DBCONNECT instruction.
- ❑ **DBCLOSE** - closes a DBSTATEMENT statement



# PL/B Database Instructions

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## □ DBFILE or DBSTATEMENT

**DBBREAK**

**DBERROR**

**DBFETCH**

**DBSTATE**

**DBPREPARE (NEW)**

**DBCLEAR**

**DBEXECUTE**

**DBSEND**

**DBFETCHP (NEW)**

**DBRESULT (NEW)**



# PL/B Database Instructions

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- **DBCONNECT**

- Support multiple Database Engines at same time.

- **DBCONNECT** {dbfile},{host},{user},{pass}:  
[, {conn}][, {ext}][, {flags}]





# DBCONNECT

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- {host}
  - <driver>;<host>
  
- <driver>
  - PLBWIN INI
  
- {flags}
  - 1 = Cursor kept at server
  - 2 = Cursor kept at client



# DBCONNECT

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- Example for Program

- MyHost      INIT "MYSQL;;111.0.0.1"

- AdoHost     INIT "DBADO;;DSN=Myodbc3-test"

- Example for PLWIN INI

- MYSQL=Sunwmsql.dll

- DBADO=Sunwado.dll



# DBCONNECT

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- ❑ Example for PLBWIN INI to access SUNFM
  - ❑ Special driver name
  - ❑ MYSQL=FILEMAN,99.0.0.1,3934
  - ❑ DBADO=FILEMAN,99.0.0.1,3934
  
- ❑ Example for SUNFM CFG entries
  - ❑ MYSQL=Sunwmsql.dll
  - ❑ DBADO=Sunwado.dll



# PL/B Database Instructions

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- DBDISCONNECT
  - DBFILE disconnect
  - DBSTATEMENTS closed automatically
  
- DBEXECUTE
  - DBEXECUTE {dbfile|dbstatement}:  
[ USING {parameters}...]
  - Optional parameters used for parameters in SQL statement



# PL/B Database Instructions

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- DBFETCHP (New Instruction)
  - Retrieve previous row of query





## DBOPEN (New Instruction)

- ❑ DBOPEN {dbstatement},{dbfile}:  
[CURSOR={cursor}]
- ❑ DBFILE must be connected
- ❑ Multiple DBSTATEMENTS for one DBFILE
- ❑ Cursor types specified
  - ❑ 0 - Use forward-only cursor (Default)
  - ❑ 1 - Use keyset cursor
  - ❑ 2 - Use dynamic cursor
  - ❑ 3 - Use static cursor



# PL/B Database Instructions

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- DBPREPARE (New Instruction)
  - DBPREPARE {dbfile | dbstatement}
  - SQL statement sent to remote database
  - Prepared for faster access



# PL/B Database Instructions

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- DBRESULT (New Instructions)
  - DBRESULT {dbfile|dbstatement} {sep} {result}
  - Get number of rows affected by SQL operation
    - DELETE
    - INSERT
    - UPDATE



# PL/B Database Instructions

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- DBTRANSACTION (New Instruction)
  - DBTRANSACTION {dbfile},{transtype}
  - Initiate & terminate a transaction
  - {transtype}
    - START
    - COMMIT
    - ROLLBACK



# ODBC Driver Enhancements

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- SUNFM file manager interface
- Driver optimization algorithms
- Optimization for SQL selection combinations
  - '<', '<=', '>', and '>='
  - Only process the range requested in same column





# ODBC Driver Enhancements

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- ❑ Improved Multi-Column Processing
  - ❑ Restriction Numbers Supported
    - ❑ Number identifies column importance
    - ❑ Specified in SASHEMA.INI
    - ❑ [res] is specified by COLnnn declaration
- ❑ Non-zero Restriction Numbers
  - ❑ Temporary Isam working files created
  - ❑ Optimize Data Retrieval

# QUESTIONS?

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That's All!!

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