House Keeping

- 404 - Developing Web Services with the WTP
  - Tuesday 3:30 pm – 5:00 pm
  - Chris Judd
- 501 – Developing Enterprise JavaBeans with JST
  - Wednesday 9:15 am – 10:45 am
  - Chris Judd
- 701 - Building With the Data Tools Project
  - Wednesday 2:00 pm – 3:30 pm
  - Der-Ping Chou and John Graham

Agenda

- WTP Overview
  - RDB Overview
  - Apache Derby Database
  - Using RDB
  - Conclusion
Web Tools Platform Project (WTP)

- Top Level Eclipse Project
- Development tools for web development
  - No runtime dependencies
  - Vendor extensible
- Subprojects
  - Web Standard Tools (WST)
  - J2EE Standard Tools (JST)
- Version 0.7 was released August 2, 2005.
- Dependencies
  - Eclipse 3.1
  - Eclipse Modeling Framework (EMF) 2.1.0
  - Graphic Editor Framework (GEF) 3.1
  - Java EMF Model (JEM) 1.1

WTP Scope
WTP Installation Options

• All-in-one
  - Eclipse 3.1
  - Eclipse Modeling Framework (EMF) 2.1.0
  - Graphic Editor Framework (GEF) 3.1
  - Java EMF Model (JEM) 1.1

• Update Manager
  - Eclipse.org update site

• Piecemeal

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RDB Overview

- JDBC based database explorer and editor
- Execute SQL and DDL
- View database elements
- View and modify result sets
- Import/Export
- Not complete
- Future Eclipse Data Tools Platform (DTP)

RDB Features

- Perspective
  - none
- Views
  - Database Explorer
  - Data Output
- Editors
  - SQL Editor
- Wizards
  - SQL Scrapbook Page
Create RDB Perspective

1. Open Resource perspective
2. Save perspective as “RDB”
3. Add Database Explorer and Data Output views
4. Arrange views to taste
5. Save perspective as “RDB”
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Apache Derby

- Relational database
- 100% Java
- Small footprint
- Open Source
- Apache License Version 2.0
- http://db.apache.org/derby/
Database Features

- ANSI SQL Standards
  - SQL-92 core subset
  - some SQL-99 features
- Security
- Schema
- Transactional
- Stored Procedures
- Views
- Triggers
- Drivers
  - JDBC
  - ODBC

Uses

- Unit Testing
- Proofs of concepts
- Embedded database
- Small applications
  - Web
  - Desktop
- Java Web Start (JWS) deployment
Competition

• hsqldb
• IBM Cloudscape
• Borland JDataStore
• MySQL
• PostgreSQL
• Oracle
• IBM DB2
• Microsoft SQL Server

Architecture

• Embedded
• Network Server
### Embedded

- Single JVM
- Classpath
  - derby.jar
- Connection string
  - `jdbc:derby:ticket`

### Embedded Connection Information

- **Driver**
  - `org.apache.derby.jdbc.EmbeddedDriver`
- **URL**
  - `jdbc:derby:[subsubprotocol:][databaseName][;attribute=value]*`
  - subprotocol
    - directory
    - classpath
    - jar
### Network Server

- **Classic Client/Server**
- **Separate process/JVM**
- **Multi-user**
- **Multi-application**
- **Server Classpath**
  - `derby.jar`
  - `derbynet.jar`
- **DB2 Universal Driver**
  or
- **Network Client (10.1)**

### DB2 Universal Driver

- **IBM**
- **Client Classpath**
  - `db2jcc.jar`
  - `db2jcc_license_c.jar`
- **Distributed Relational Database Architecture**
Network Connection Information

- **Driver**
  - com.ibm.db2.jcc.DB2Driver

- **Derby**
  -jdbc:derby:net://<host>[;port]/<db>[;<derby attribute>=<value> [;...]] [:<universal attribute>=<value>; [...]]

- **DB2**
  -jdbc:db2j:net://<host>[;port]/<db>[;<derby attribute>=<value> [;...]] [:<universal attribute>=<value>; [...]]

- **URL Attributes**
  - create=<boolean>
  - user=<user id>  *(required by Universal Driver)*
  - password=<password>  *(required by Universal Driver)*
  - readOnly=<boolean>

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Create Connection

- Display database elements
- Context menus
Filtering

- Context filters
  - Schema
  - Tables
  - Views
  - Stored procedures
- Filter Decorator

Data Output

- Sample Content
- Execute SQL
- Read-only
### SQL Editor

- Associated with *.ddl, *.sql and *.sqlpage

#### SQL Scapbook
- Open with
  - Connection context
  - New Wizard
- Ignore version control

#### Features
- Syntax highlighting
- Content assist
- Format
- Content tip

### Other features

- Load/Extract
- Open (editable table)
- Drop table
- Generate DDL
- Drop table
- Work Offline
Preferences

• Window > Preferences > Data

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Preferences

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## Contributions

- **Database Connection Wizards**

- **Eclipse Data Tools Platform (DTP)**
Conclusion

If you need simple data tools for interacting with a database such as editing and executing SQL and DDL than RDB may meet your needs. The RDB component will be replace by the Eclipse Data Tools Platform (DTP) which will include a more comprehensive set of database tools including visual SQL builders and modeling capabilities.

Resources

- Eclipse Data Tools Platform (DTP)
  - [www.eclipse.org/datatools/](http://www.eclipse.org/datatools/)
- SQLExplorer
  - Alternative
  - [sourceforge.net/projects/eclipsesql](http://sourceforge.net/projects/eclipsesql)
Questions?

Please fill out your evaluations.