



제 32회 Open Technet

올챙이로 살펴보는 ECLIPSE개발

조현종 (Vo.1, 12/09/06)

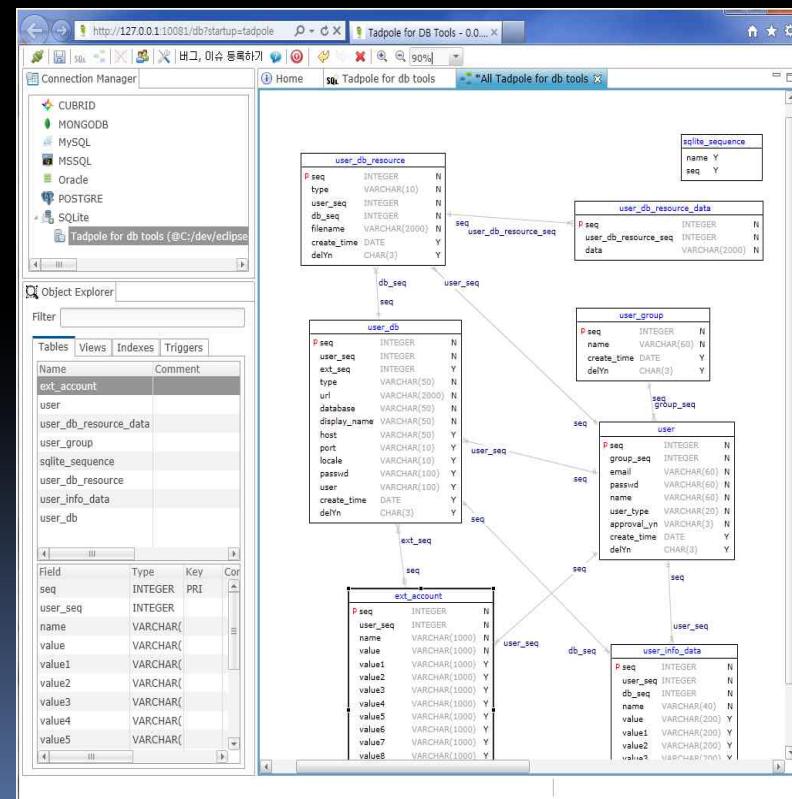
<http://goo.gl/Q6Vax>

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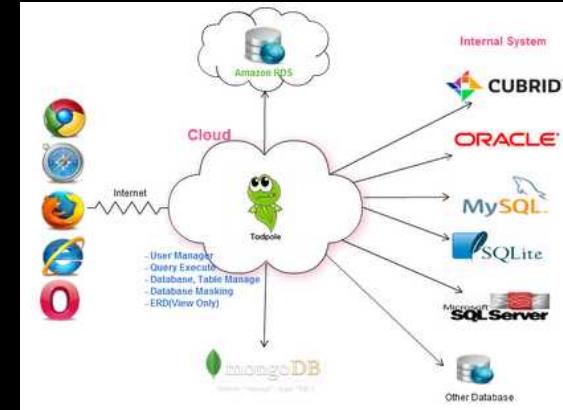
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- 올챙이는?
- Eclipse Overview
- Eclipse Infrastructure
- Plug-in Structure
- Tadpole 개발



올챙이는?

- ▢ 배경
- ▢ 웹 브라우저에서 DB 개발 및 관리 솔루션
- ▢ RDB : CUBRID, MySQL, MSSQL, Oracle, SQLite, Postgre
- ▢ NoSQL : MongoDB

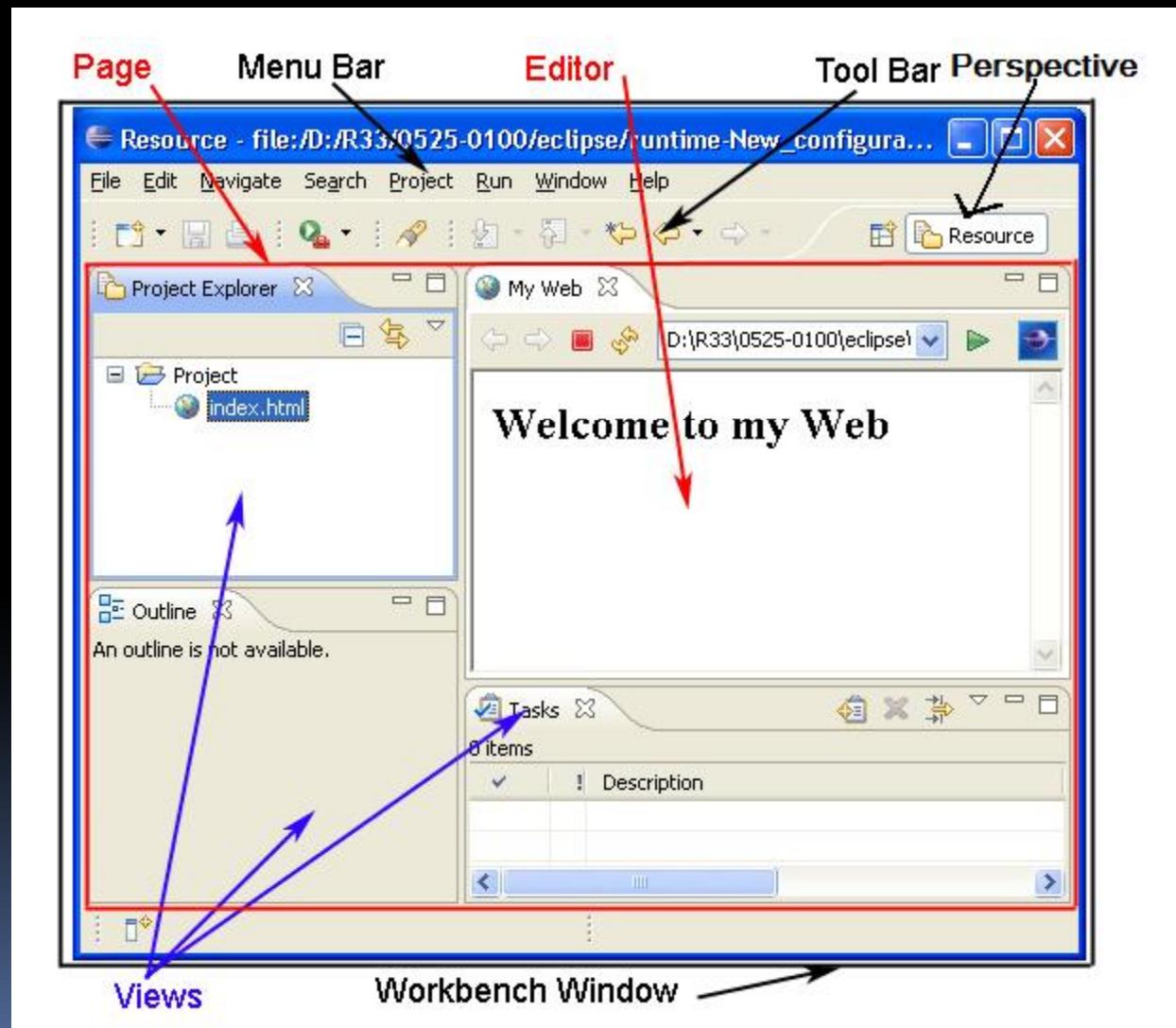


- Main page
 - ▢ <http://goo.gl/eu7PQ>
- 데모 사이트
 - ▢ <http://goo.gl/p3DMA>
- 현재
 - ▢ 0.0.8 SR3 배포 중

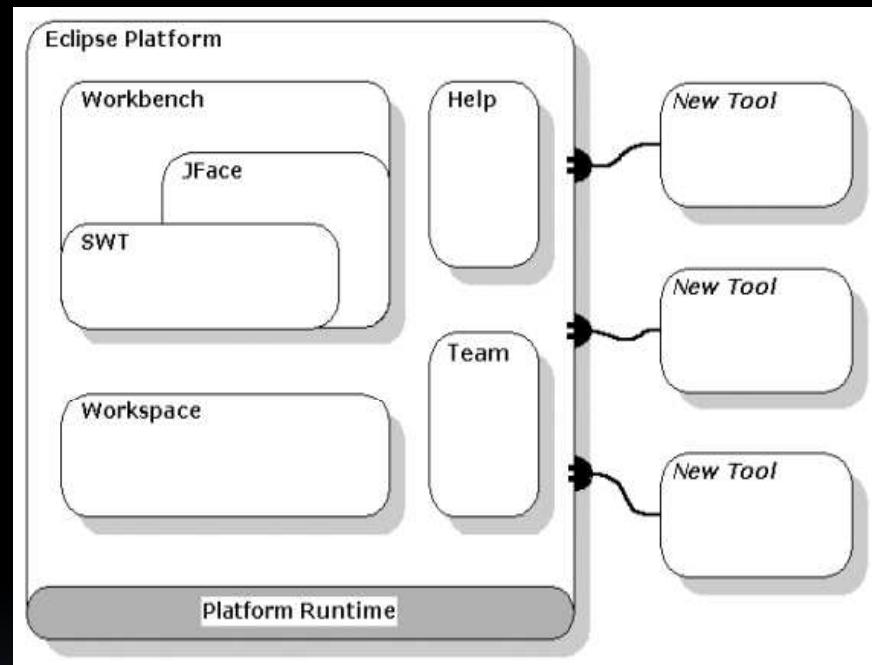
```
1 CREATE TABLE staff (
2   staff_id int(5) NOT NULL AUTO_INCREMENT,
3   first_name varchar(25) NO,
4   last_name varchar(25) NO,
5   address_id int(10) NO,
6   picture blob NO,
7   email varchar(50) NO,
8   active tinyint(1) NO,
9   username varchar(16) NO,
10  password varchar(45) NO,
11  hire_date date NO,
12  manager_staff_id int(5) NO,
13  last_update timestamp NO,
14  PRIMARY KEY (staff_id)
15 ) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

film_id	title	description
1	ACADEMY DINOSAUR	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Canadian Rockies.
2	ACE GOLDFINGER	A Astounding Epitale of a Database Administrator And a Explorer who must Find a Car in An Abandoned Mine.
3	ADAPTATION HOLES	A Astounding Reflection of a Lumberjack And a Car who must Sink a Lumberjack in A Balooch.
4	AFFAIR PREJUDICE	A Fanciful Documentary of a Fribee And a Lumberjack who must Chase a Monkey in A Shaolin Temple.
5	AFRIKA EQUATOR	A Painful Documentary of a Hunter And a Man who must Pursue a Forensic Pathologist in Africa.
6	AGENT SPACEMAN	A Complicated Drama of a Robot And a Spy who must Confront a Guru in Space.
7	AIRPLANE SHIPWRECK	A Touching Saga of a Hunter And a Butler who must Discover a Butcher in A Jet Boat.
8	AIRPORT POLLACK	A Epic Tale of a Moose And a Girl who must Confront a Monkey in Ancient India.
9	ALABAMA DEVIL	A Thoughtful Panorama of a Database Administrator And a Mad Scientist who must Outgun a Lumberjack in A Devil's Den.
10	ALADDIN CALENDAR	A Action-Packed Tale of a Man And a Lumberjack who must Reach a Feminist in Ancient China.
11	ALAMO VIDEOTAPE	A Boring Epic of a Butler And a Cat who must Fight a Pastry Chef In A MySQL Convention.
12	ALASKA PHANTOM	A Fanciful Saga of a Hunter And a Pastry Chef who must Vanquish a Boy in Australia.

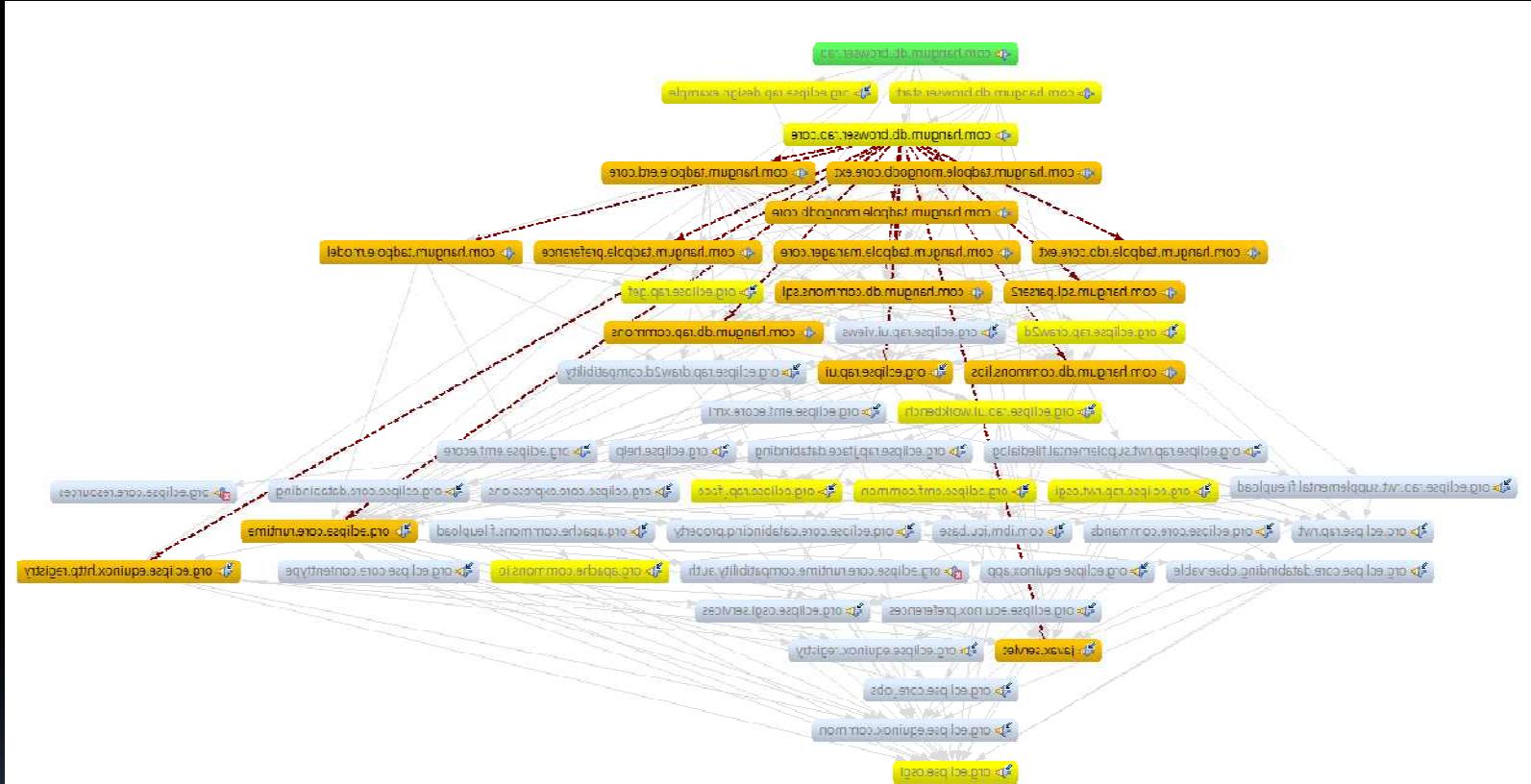
Eclipse Overview



Eclipse Overview



Eclipse Infrastructure



Plug-in Loader

Java Class Library

JVM(Java Virtual Machine)

OS

Plug-in structure

com.hangum.db.browser.rap.core

META-INF

```
Require-Bundle: org.eclipse.rap.ui;bundle-version="1.3.2",
org.eclipse.core.runtime,
com.hangum.db.commons.libs;bundle-version="1.0.0",
com.hangum.db.commons.sql;bundle-version="1.0.0",
com.hangum.db.rap.commons;bundle-version="1.0.0",
com.hangum.tadpole.erd.core;bundle-version="1.0.0",
Bundle-RequiredExecutionEnvironment: JavaSE-1.6
Bundle-ActivationPolicy: lazy
Export-Package: com.hangum.db.browser.rap.core,
com.hangum.db.browser.rap.core.actions.global,
com.hangum.db.browser.rap.core.dialog.dbconnect,
com.hangum.db.browser.rap.core.editors.intro,
```

plugin.xml

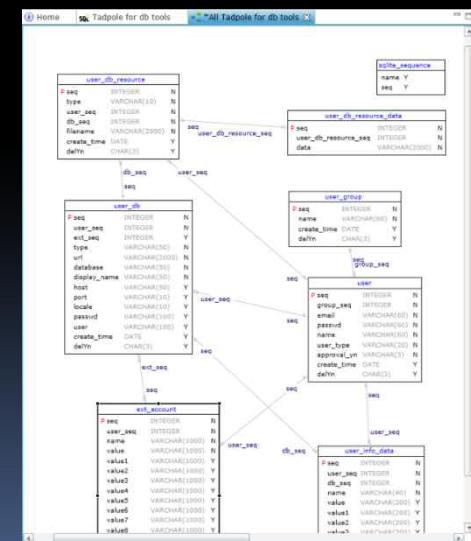
```
<plugin>
  <extension
    point="org.eclipse.ui.views">
    <category
      id="com.hangum.db.browser.rap.core.category.info"
      name="%category.name">
    </category>
    <view
      category="com.hangum.db.browser.rap.core.category.info"
      class="com.hangum.db.browser.rap.core.viewers.connections.ManagerViewer"
      icon="resources/icons/database_table.png"
      id="com.hangum.db.browser.rap.core.view.connection.manager"
      name="%view.name"
      restorable="true">
    </view>
  </extension>
</plugin>
```

SRC

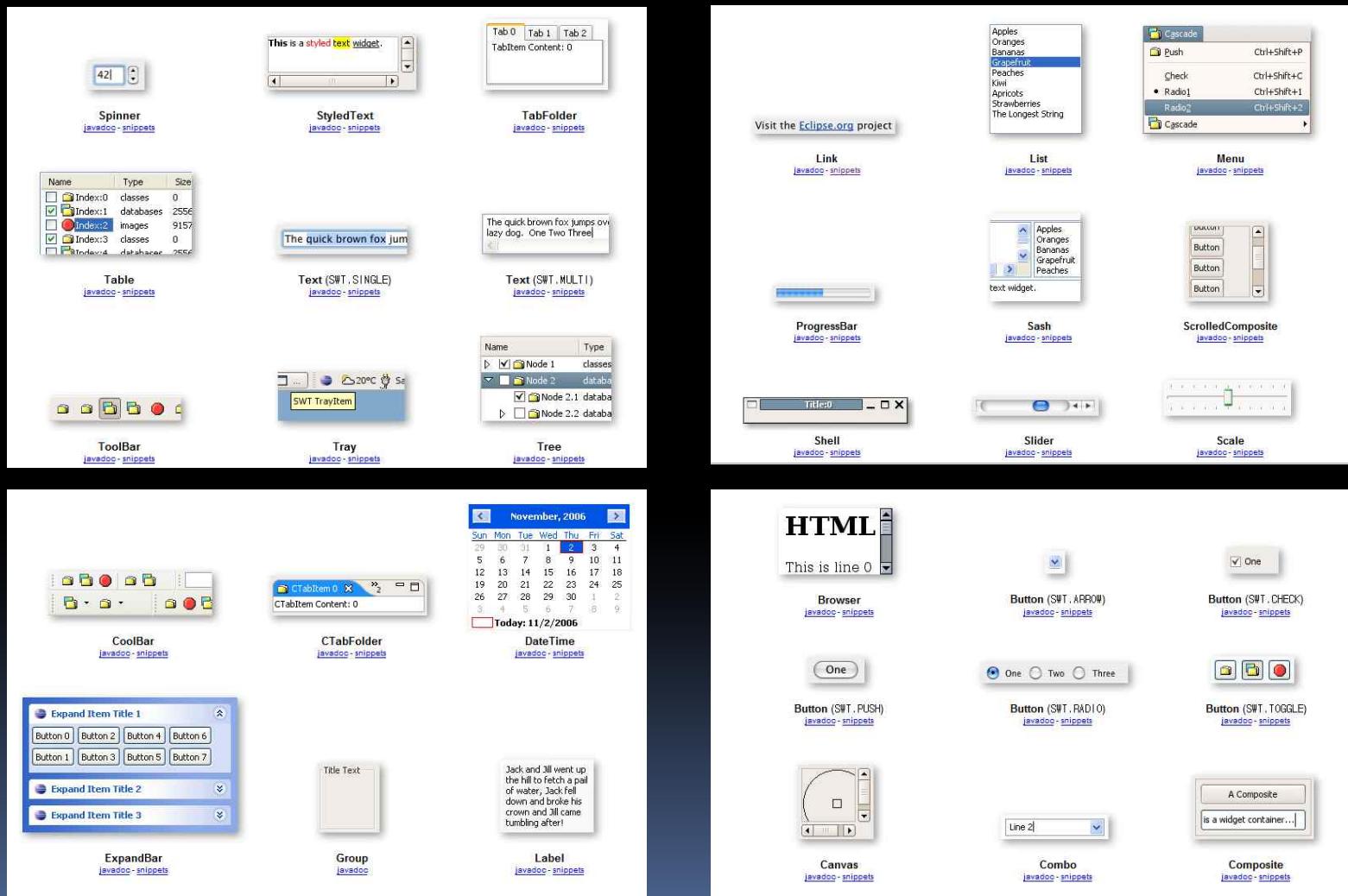
resources

org.eclipse.rap.ui (1.5.0.20120612-1458)

com.hangum.tadpole.manager.core (1.0.0.qualifier)

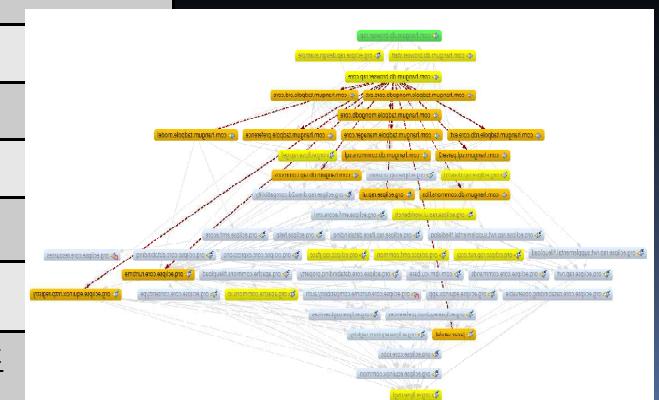


SWT/JFace

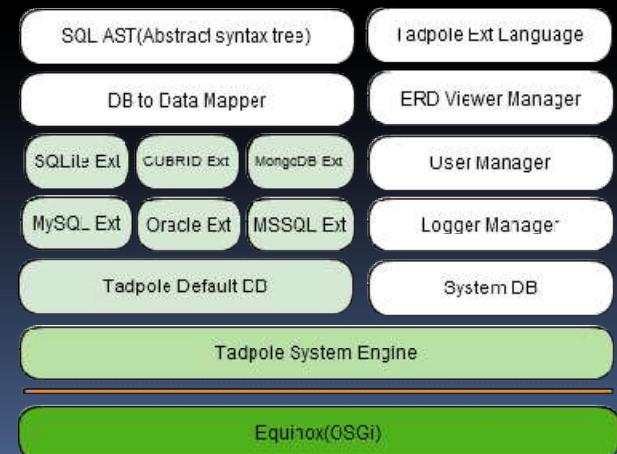
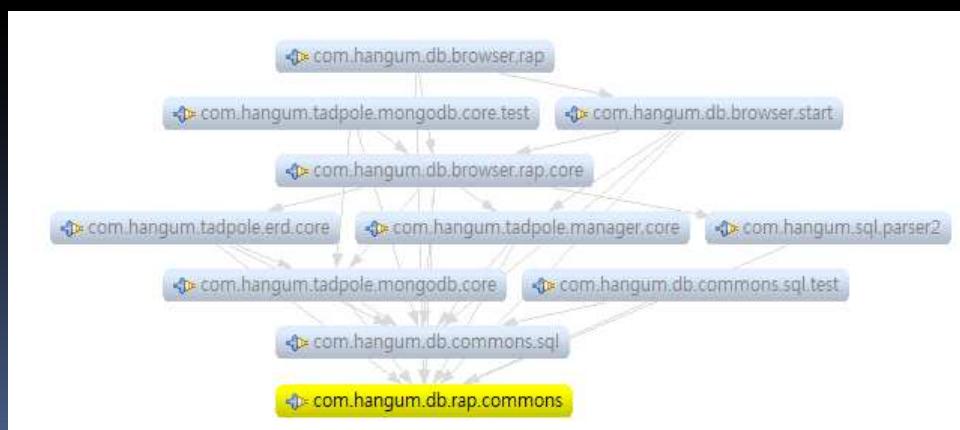
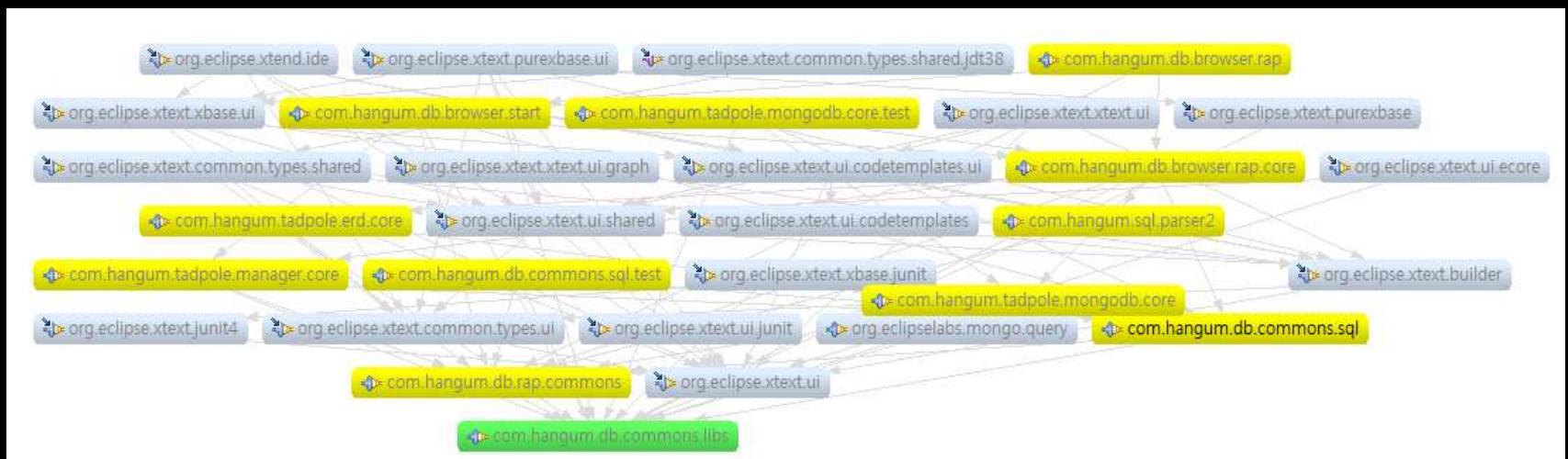


Tadpole Plug-in list

Plug-in	Description
com.hangum.db.browser.rap	<ul style="list-style-type: none">•프로젝트 시작•Standalond 배포
com.hangum.db.browser.rap.core	<ul style="list-style-type: none">•Project explorer•Object explorer•RDB 에디터
com.hangum.db.browser.start	프로젝트 워크 벤치
com.hangum.db.commons.libs	공통 라이브러리 관리(JAR 파일관리)
com.hangum.db.commons.sql	SQL 관리 및 올챙이 내부 시스템 디비
com.hangum.db.rap.commons	공통 코드
com.hangum.sql.parser2	SQL Parser(Formatting)
com.hangum.tadpole.build.war	WAR 파일 배포
com.hangum.tadpole.erd.core	ERD
com.hangum.tadpole.manager.core	매니저
com.hangum.tadpole.model	DTO 모델 정의(ERD의존적)
com.hangum.tadpole.mongodb.core	몽고디비
org.eclipselabs.mongo.query	몽고디비 쿼리 생성
targetProject	Target platform
com.hangum.tadpole.feature com.hangum.tadpole.feature.site	프로젝트 관리 및 buckminster 배포



Tadpole plug-in dependencies

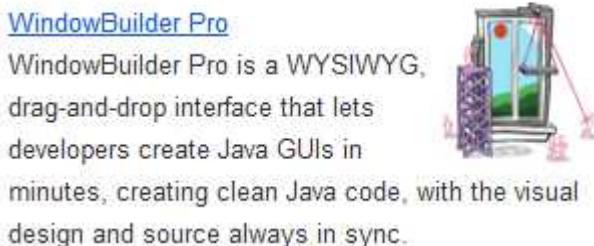
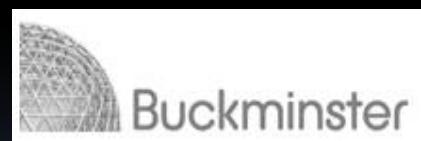
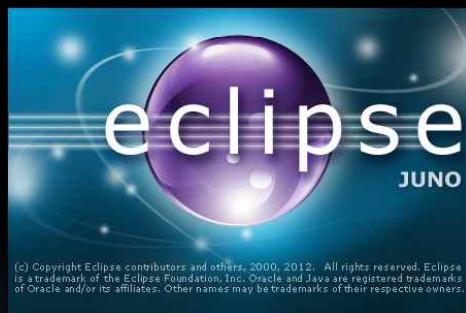


Eclipse Plug-in 개발환경

- PDE(Plug-in Development Environment)

 **Eclipse for RCP and RAP Developers**, 227 MB
Downloaded 46,838 Times [Details](#)

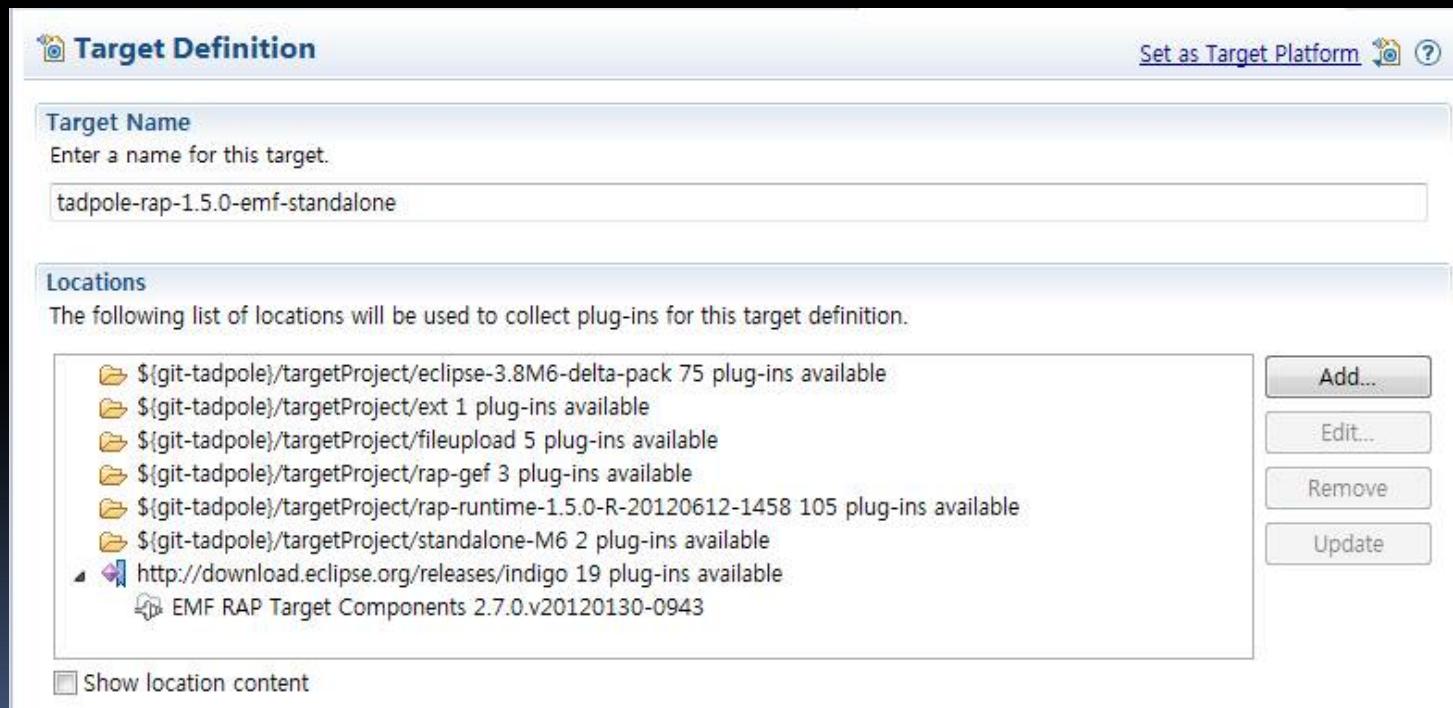
 [Windows 32 Bit](#)
 [Windows 64 Bit](#)



Eclipse ResourceBundle Editor

Target Platform

- 개발하기 전에 제일 먼저 해야 할 일
- 공통 라이브러리 정의



Tadpole Overview

The diagram illustrates the Tadpole ecosystem, showing its integration with various tools and databases.

Object Explorer: A screenshot of the Tadpole interface showing the Object Explorer on the left and a Tree View of a MongoDB document on the right. The document structure includes fields like `category` (Sports), `total_sales` (534.21), and `t1`.

Database Diagram: A detailed database schema diagram showing relationships between tables such as `user`, `user_resource`, `user_resource_data`, `user_seq`, `user_type`, `user_lang`, `user_lang_data`, `user_lang_seq`, `user_lang_seq_data`, and `user_lang_seq_value`. Primary keys and foreign keys are indicated by arrows.

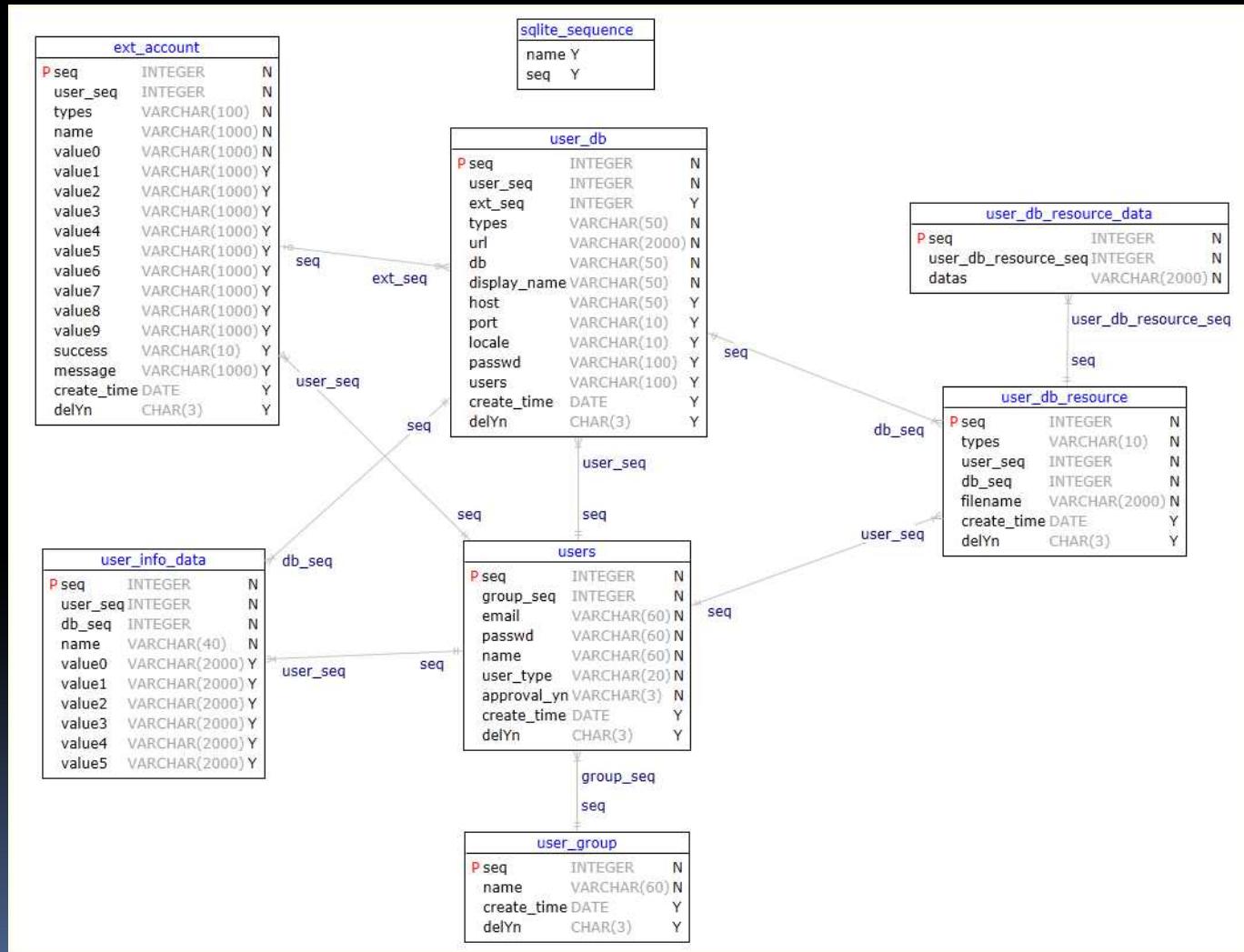
SQL Editor: A screenshot of the ExecuteOrTools Command-line interface showing a complex SQL script being run. The script includes multiple SELECT, INSERT, UPDATE, and DELETE statements, as well as CREATE VIEW, INDEX, and PROCEDURE statements.

Eclipse Integration: A central area showing the integration of Tadpole with Eclipse tools:

- Eclipse RAP:** Represented by a rounded rectangle.
- Eclipse GEF:** Represented by a rounded rectangle.
- Eclipse OrionHub:** Represented by a rounded rectangle.
- Eclipse EMF, Query, Xtext:** A large rounded rectangle below the first three.
- iBatis:** A rounded rectangle.
- mongoDB:** A rounded rectangle.
- Eclipse Bundle:** A large rounded rectangle at the bottom.

Postgre.xml, MSSQL.xml, SQLite.xml, Oracle.xml, MySQL.xml, Cubrid.xml: A vertical stack of XML configuration files for different database systems, with the top one (Postgre.xml) highlighted in yellow.

Tadpole Engine DB



Preference

The screenshot shows the Eclipse IDE interface with two open windows:

- com.hangum.tadpole.preference**: This window displays the "Extensions" configuration. It lists "All Extensions" under the "org.eclipse.ui.preferencePages" category, which includes "General (page)", "User (page)", "RDB (page)", and "MongoDB (page)". On the right, the "Extension Element Details" panel shows settings for a new extension:
 - id***: com.hangum.db.browser.rap.core.page.userInfo
 - name***: User
 - class***: com.hangum.tadpole.preference.ui.UserInfoPreference
 - category**: (empty)
- User Preferences**: A separate preferences dialog window titled "User". It contains fields for a user:

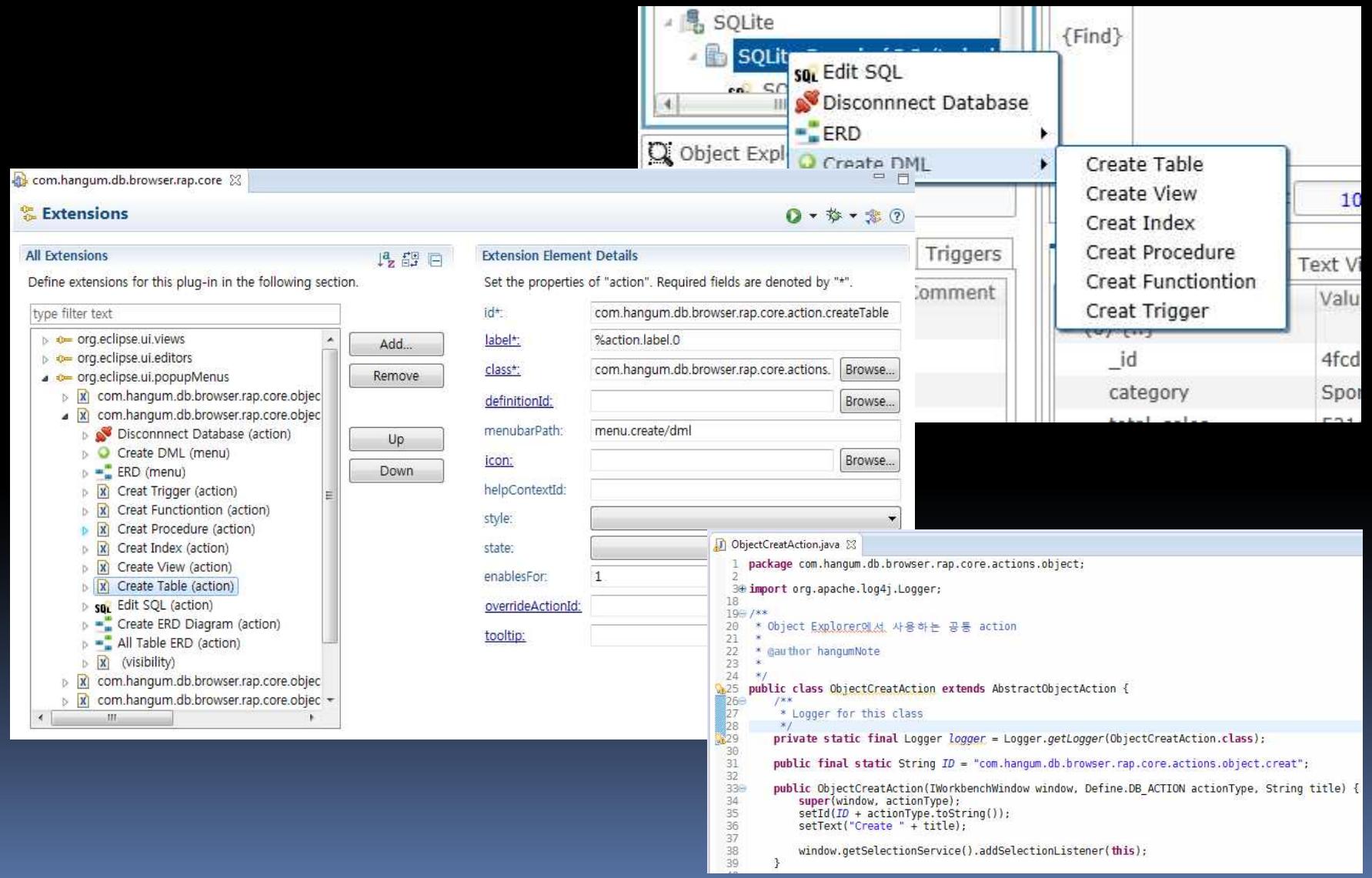
Group Name	tadpole-manager
email	manager.tadpole@gmail.com
password	*****
re password	*****
Name	tadpole-manager

Buttons at the bottom include "Restore Defaults", "Apply", "OK", and "Cancel".

Below these windows, the code editor displays the Java file `UserInfoPreference.java` with the following content:

```
96     return container;
97 }
98
99
100 @Override
101 public boolean performOk() {
102     String pass = textPassword.getText().trim();
103     String rePass = textRePassword.getText().trim();
104
105     if(!pass.equals(rePass)) {
106         MessageDialog.openError(getShell(), Messages.UserInfoPreference_0, Messages.UserInfoPreference_6);
107         return false;
108     }
109     UserDao user = new UserDao();
110     user.setSeq(SessionManager.getSeq());
111     user.setPasswd(pass);
112     try {
113         TadpoleSystem_UserQuery.updateUserPassword(user);
114
115         MessageDialog.openConfirm(getShell(), Messages.UserInfoPreference_0, Messages.UserInfoPreference_8);
116     } catch (Exception e) {
117         logger.error("password change", e); //NON-NLS-1$;
118         MessageDialog.openError(getShell(), "Confirm", e.getMessage()); //NON-NLS-1$
119
120         return false;
121     }
122
123     return super.performOk();
124 }
```

Command and Action



Viewer(Object Explorer)

The screenshot shows the Eclipse IDE interface. At the top, there is a window titled "com.hangum.db.browser.rap.core" containing the "Extensions" configuration. In the "All Extensions" list, the "Object Explorer (view)" item is selected. To the right, the "Extension Element Details" panel shows configuration for this view, including fields like id, name, class, category, icon, and various boolean properties. Below this, another window titled "com.hangum.db.browser.rap.core" displays the Java code for the "ExplorerViewer.java" class:

```
1 package com.hangum.db.browser.rap.core.viewers.object;
2
3 import java.util.ArrayList;
4
5 /**
6  * 선택된 db의 object를
7  * @author hangumNote
8  */
9
10 public class ExplorerViewer extends AbstraceExplorerViewer {
11
12     public static String ID = "com.hangum.db.browser.rap.core.view.object.explorer"; //NON-NLS-1$
13     static Logger logger = Logger.getLogger(ExplorerViewer.class);
14 }
```

The screenshot shows the "Object Explorer" tool window. It has a "Tables" section at the top with a "Filter" input field. Below it is a table with columns "Name" and "Comment". The table lists several database objects:

Name	Comment
values	tutorial_update
system.users	
system.profile	
system.indexes	
store	
sample_table	
sample_data	

Below this is another table section with columns "Field", "Type", and "Key". It lists fields for the "values" table:

Field	Type	Key
_id	org.bson.t	Y
exchange	java.lang.S	M
stock_symbol	java.lang.S	M
date	java.lang.S	M
open	java.lang.E	M
high	java.lang.E	M
low	java.lang.E	M
close	java.lang.E	M

Editor(SQL Editor)

The screenshot displays three main components of the Eclipse IDE:

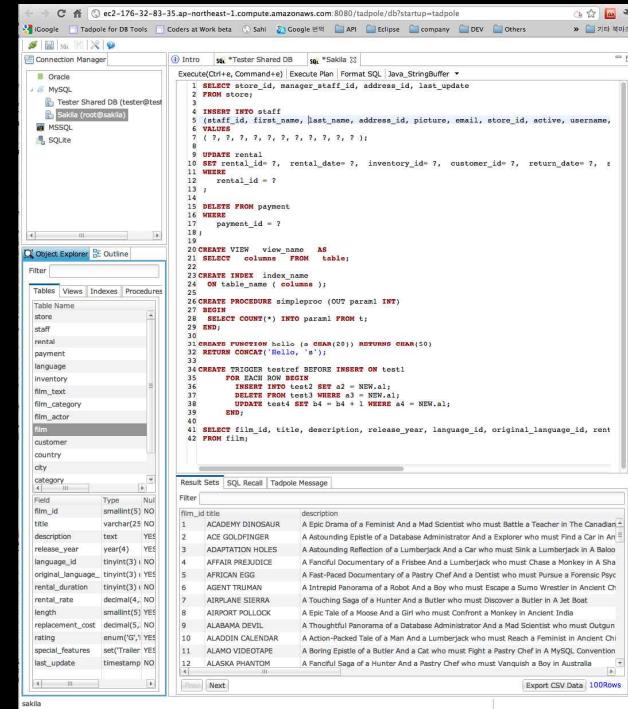
- Left Panel (All Extensions):** Shows the configuration of an "editor" extension. The selected item is "Main Editor (editor)".
 - id:** com.hangum.db.browser.rap.core.editor.main
 - name:** %editor.name.0
 - icon:** resources/icons/sql-query.png
 - extensions:** (empty)
 - class:** com.hangum.db.browser.rap.core.editor.MainEditor
 - command:** (empty)
 - launcher:** (empty)
 - contributorClass:** (empty)
 - default:** false
 - filenames:** (empty)
- Top Right Panel (SQL Editor View):** Shows a list of SQL queries:

```
1 SELECT id, name
2 FROM sample_ta2ble;
3
4 SELECT id, name
5 FROM s2ample_table;
```
- Bottom Right Panel (Code Editor View):** Shows the Java code for the MainEditor class:

```
1 package com.hangum.db.browser.rap.core.editors.main;
2
3 import java.sql.PreparedStatement;
4
5 /**
6  * 쿼리 수행 및 검색 창 .
7  *
8  * 메디터는 org.eclipse.orion.client-20120810-1752 로 작업 .
9  *
10 * @author hangumNote
11 */
12 public class MainEditor extends EditorPart {
13     /** Editor ID. */
14     public static final String ID = "com.hangum.db.browser.rap.core.editor.main"; //NON-NLS-1$
15     /** Logger for this class. */
16     private static final Logger logger = Logger.getLogger(MainEditor.class);
17 }
```

Perspective

- 화면(Viewer, Editor) 배치



```
1 package com.hangum.db.browser.rap;
2
3 import org.eclipse.ui.IFolderLayout;
4
5 /**
6  * Configures the perspective layout. This class is contributed
7  * through the plugin.xml.
8  */
9 public class Perspective implements IPerspectiveFactory {
10
11     public void createInitialLayout(IPageLayout layout) {
12         String editorArea = layout.getEditorArea();
13         layout.setEditorAreaVisible(true);
14         layout.setFixed(true);
15
16         IFolderLayout leftFolder = layout.createFolder("id"+ManagerViewer.ID, IPageLayout.LEFT, 0.27f, editorArea);
17         leftFolder.addView(ManagerViewer.ID);
18
19         IFolderLayout leftUnderFolder = layout.createFolder("id"+ExplorerViewer.ID, IPageLayout.BOTTOM, 0.3f, "id"+ManagerViewer.ID);
20         leftUnderFolder.addView(ExplorerViewer.ID);
21         leftUnderFolder.addView(IPageLayout.ID_OUTLINE);
22
23     }
24
25 }
26
27
28 }
```

EMF (Data Modeling)

- Model to Java, Test code generation

The screenshot shows an IDE interface with two open windows. The left window is titled 'tadpole.ecore' and displays the contents of the file 'platform:/resource/com.hangum.tadpole.model/model/tadpole.ecore'. It shows a tree structure with the root 'tadpole' containing 'DB -> ERDInfo', 'Table', 'Column', 'Relation', 'View -> Table', 'ERDInfo', and 'UserComment'. Under 'Table', there is a reference to 'Rectangle [org.eclipse.draw2d.geometry.Rectangle]'. The right window is titled 'Table.java' and shows the generated Java code for the 'Table' class. The code includes imports for 'com.hangum.tadpole.model' and 'org.eclipse.draw2d.geometry.Rectangle', a copyright notice, and a detailed Javadoc comment describing the class's features and supported methods. The code then defines the 'Table' class as a public interface extending 'EObject'.

```
2 * <copyright>
7 package com.hangum.tadpole.model;
8
9 import org.eclipse.draw2d.geometry.Rectangle;
13
14 /**
15 * <!-- begin-user-doc -->
16 * A representation of the model object 'Table'.
17 * <!-- end-user-doc -->
18 *
19 * <p>
20 * The following features are supported:
21 * <ul>
22 * <li>{@link com.hangum.tadpole.model.Table#getColumns <em>Columns</em>}</li>
23 * <li>{@link com.hangum.tadpole.model.Table#getDb <em>Db</em>}</li>
24 * <li>{@link com.hangum.tadpole.model.Table#getName <em>Name</em>}</li>
25 * <li>{@link com.hangum.tadpole.model.Table#getConstraints <em>Constraints</em>}</li>
26 * <li>{@link com.hangum.tadpole.model.Table#getIncomingLinks <em>Incoming Links</em>}</li>
27 * <li>{@link com.hangum.tadpole.model.Table#getOutgoingLinks <em>Outgoing Links</em>}</li>
28 * <li>{@link com.hangum.tadpole.model.Table#getLogicalName <em>Logical Name</em>}</li>
29 * <li>{@link com.hangum.tadpole.model.Table#getComment <em>Comment</em>}</li>
30 * <li>{@link com.hangum.tadpole.model.Table#getUserCommentReference <em>User Comment Reference</em>}</li>
31 * </ul>
32 * </p>
33 *
34 * @see com.hangum.tadpole.model.TadpolePackage#getTable()
35 * @model
36 * @generated
37 */
38 public interface Table extends EObject {
```

GEF(ERD)

com.hangum.tadpole.erd.core

Extensions

All Extensions

Define extensions for this plug-in in the following section.

Extension Element Details

Set the properties of "editor". Required fields are denoted by "+".

id* :	com.hangum.tadpole.erd.core.editor
name* :	Tadpole ERD
icon :	resources/icons/erd.png
extensions :	
class :	com.hangum.tadpole.erd.core.editor.Tadpc
command :	
launcher :	
contributorClass :	com.
default :	false
filenames :	
symbolicFontName :	
matchingStrategy :	

TadpoleEditor.java

```

1 package com.hangum.tadpole.erd.core.editor;
2
3 import java.io.InputStream;
4
5
6 /**
7 * tadpole editor
8 *
9 * @author hangum
10 */
11 public class TadpoleEditor extends GraphicalEditor { //WithFlyoutPalette {
12     public static final String ID = "com.hangum.tadpole.erd.core.editor"; //$NON-NLS-1$
13     /**
14      * Logger for this class
15      */
16     private static final Logger logger = Logger.getLogger(TadpoleEditor.class);
17
18     /** first init data */
19     private DB db;
20     private UserDBDAO userDB;
21     private UserDBResourceDAO userDBErd;
22     /** 처음로드될때부터 모든 테이블 로드 인지 */
23     private boolean isAllTable = false;
24
25 }

```

The ER diagram illustrates the database schema with the following tables and their relationships:

- user_db_resource** (Primary Key: seq)
 - Relationships: user_db_resource_seq (seq) to user_db_resource_seq, user_db (db_seq), and user_db_resource_data (seq).
- user_db** (Primary Key: seq)
 - Relationships: user_db_seq (seq) to user_db_seq, user_group (group_seq), and user (db_seq).
- user_group** (Primary Key: seq)
 - Relationships: user_group_seq (seq) to user_group_seq and user (group_seq).
- user** (Primary Key: seq)
 - Relationships: user_seq (seq) to user_seq, user_group (group_seq), and user_info_data (user_seq).
- ext_account** (Primary Key: seq)
 - Relationships: user_seq (seq) to user_seq, db_seq, and user_info_data (user_seq).
- user_info_data** (Primary Key: seq)
 - Relationships: user_info_data_seq (seq) to user_info_data_seq and user_info_data (user_seq).
- sqlite_sequence** (Primary Key: name)
 - Relationships: user_db_resource (seq) to sqlite_sequence (name), user_db (seq) to sqlite_sequence (name), and user (seq) to sqlite_sequence (name).

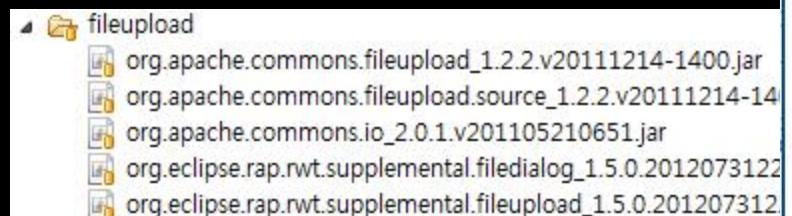
Themes(css)

The screenshot illustrates the process of applying a custom theme (theme1.css) to an RAP application. It consists of four windows:

- Top Left:** A MongoDB connection manager window showing various database connections.
- Top Right:** A "Preferences" dialog for the "General" section, with "Session time out" set to 60 and "Export delimit" set to a blank value.
- Bottom Left:** An "Extensions" configuration window for the "com.study.rap.sample" plugin. It shows the "theme1" entry selected in the list, with its properties displayed in the details panel. The "file" field is highlighted with a red box.
- Bottom Right:** A code editor window displaying the CSS code for the "theme1.css" file. The code defines a style for a button with ID "button".

```
58Button {  
59   color: #705e42;  
60   padding: 3px 6px 3px 4px;  
61   font: bold 12px Arial, Helvetica, sans-serif;  
62 }
```

File upload

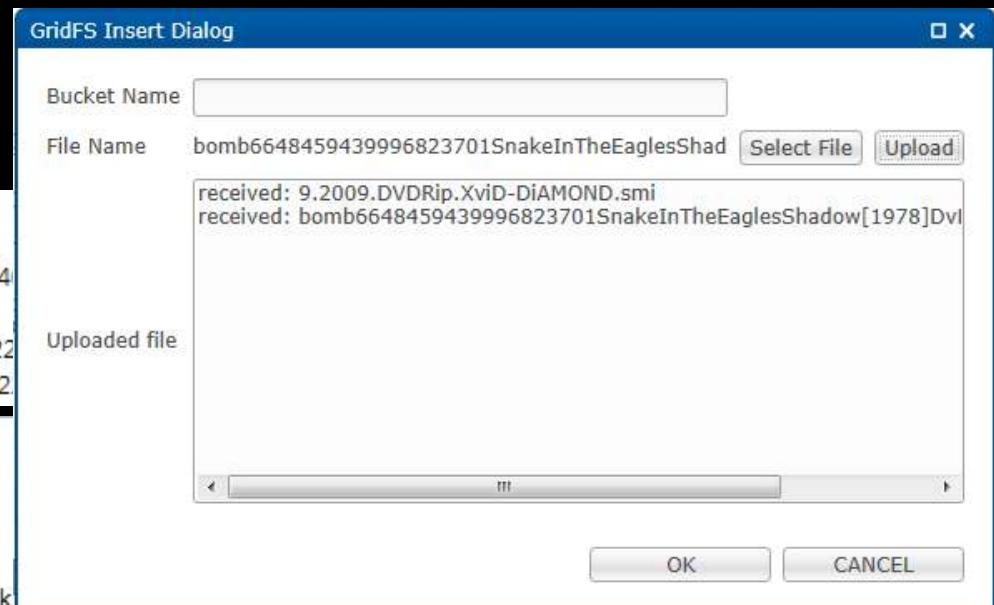


```
/*
 * 저장 이벤트
 *
 * @return
 */
private String startUploadReceiver() {
    final DiskFileUploadReceiver receiver = new DiskFileUploadReceiver();
    FileUploadHandler uploadHandler = new FileUploadHandler(receiver);
    uploadHandler.addUploadListener(new FileUploadListener() {

        public void uploadProgress(FileUploadEvent event) {
        }

        public void uploadFailed(FileUploadEvent event) {
            addToLog( "upload failed: " + event.getFileName() ); //NON-NLS-1$
        }

        public void uploadFinished(FileUploadEvent event) {
            addToLog( "received: " + event.getFileName() ); //NON-NLS-1$
            listFiles.add(receiver.getTargetFile().getAbsolutePath());
        }
    });
    return uploadHandler.getUploadUrl();
}
```



Session

- 사용자 로그인 정보
- 사용자 기초 정보

```
/*
 * 신규 user의 사용자를 등록
 *
 * @param email
 * @param name
 */
public static void newLogin(int groupSeq, int seq, String email, String password) {
    HttpSession sStore = RWT.getSessionStore().getHttpSession();

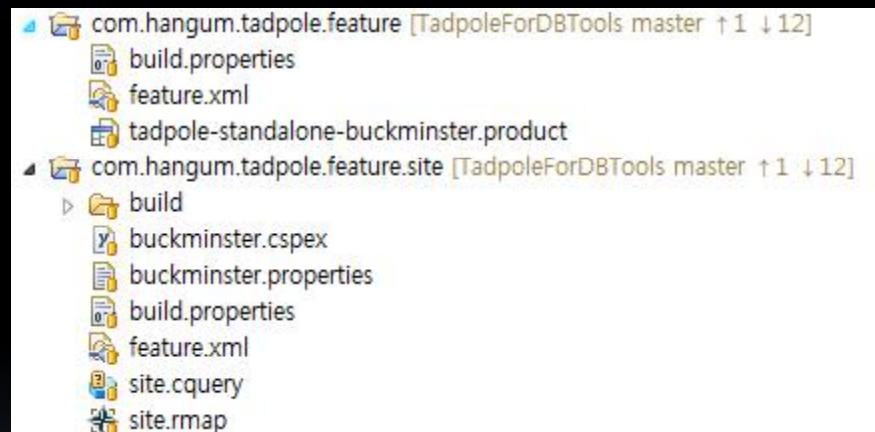
    sStore.setAttribute(SESSION_NAME.GROUP_SEQ.toString(), groupSeq);
    sStore.setAttribute(SESSION_NAME.SEQ.toString(), seq);
    sStore.setAttribute(SESSION_NAME.LOGIN_EMAIL.toString(), email);
    sStore.setAttribute(SESSION_NAME.LOGIN_PASSWORD.toString(), password);
    sStore.setAttribute(SESSION_NAME.LOGIN_NAME.toString(), name);
    sStore.setAttribute(SESSION_NAME.LOGIN_TYPE.toString(), userType);
    sStore.setAttribute(SESSION_NAME.MANAGER_SEQ.toString(), managerSeq);
}

public static int getGroupSeq() {
    HttpSession sStore = RWT.getSessionStore().getHttpSession();
    return (Integer)sStore.getAttribute(SESSION_NAME.GROUP_SEQ.toString());
}
```

Server Push(UICallback)

feature

- 제품의 구조 정의
 - 제품의 배포
 - 제품의 업데이트



Test

The screenshot shows the Eclipse IDE interface with two main windows. The left window displays the code for `TadpoleSystem_UserDBQueryTest.java`, which is a JUnit test case for a database query system. The right window is titled "Dependencies" and lists the required plug-ins for the test plugin.

TadpoleSystem_UserDBQueryTest.java

```
1 package com.hangum.db.system;
2
3 import java.util.List;
4
5 /**
6  * {@link com.hangum.db.system.TadpoleSystem_UserDBQuery 시스템 UserDB 테스트}
7  *
8  * @author hangum
9  */
10 public class TadpoleSystem_UserDBQueryTest extends TestCase {
11     public UserDBDAO userDb = null;
12     public int groupSeq = 0;
13
14     protected void setUp() throws Exception {
15         /**
16          * {@link com.hangum.db.system.TadpoleSystem_UserDBQuery#newUserDB(UserDBDAO) UserDB등록 테스트}
17         */
18         public void testNewUserDB() {
19             UserDBDAO userDb2 = TadpoleSystemConnector.getUserDB();
20             userDb2.setDisplay_name("junit testName");
21
22             try {
23                 userDb = TadpoleSystem_UserDBQuery.newUserDB(userDb2, groupSeq);
24
25                 assertNotNull(userDb);
26             } catch (Exception e) {
27                 e.printStackTrace();
28                 fail("newUserDB exception");
29             }
30         }
31
32         /**
33          * {@link com.hangum.db.system.TadpoleSystem_UserDBQuery#getUserDB(int) 세션의 데이터를 가져오기 위한 코드 인데}
34         */
35     }
36 }
```

Dependencies

Required Plug-ins

Specify the list of plug-ins required for the operation of this plug-in.

- org.eclipse.rap.ui (1.5.0)
- org.eclipse.core.runtime
- com.hangum.db.commons.libs (1.0.0)
- com.hangum.db.commons.sql (1.0.0)
- com.hangum.db.rap.common (1.0.0)
- org.eclipse.rap.junit (1.5.0)

Add... Remove Up Down Properties...

Product(Standalone)

The screenshot shows the Eclipse Product Configuration interface for a product named "tadpole-standalone.product".

Overview Tab:

- General Information:** This section describes general information about the product.
 - ID: []
 - Version: []
 - Name: tadpole-standalone
 - The product includes native launcher artifacts
- Product Definition:** This section describes the launching product extension identifier and application.
 - Product: com.hangum.db.browser.rap.product
 - Application: org.eclipse.ui.ide.workbench
 - The product configuration is based on: plug-ins features
- Testing:** 1. Synchronize this configuration with the product's defining plug-in. 2. Test the product by launching a runtime instance of it:
 - Launch a RAP Application
 - Launch an Eclipse application
 - Launch a RAP Application in Debug mode
- Exporting:** Use the [Eclipse Product export wizard](#) to package and export the product defined in this configuration.

Dependencies Tab:

linux | macosx | solaris | windows | generate a default config.ini file use an existing config.ini file File: Browse...

Start Levels Tab:

Specify custom start levels for plug-ins.

Plug-in	Start Level	Auto-Start
com.hangum.db.browser.rap	default	true
com.hangum.db.browser.rap.core	default	true
com.hangum.db.browser.start	default	true
com.hangum.db.commons.libs	default	true
com.hangum.db.commercial	default	false

Properties Tab:

Specify configuration properties that will be added to generated config.ini files

Name	Value
[]	[]

Product(WAR)

The screenshot shows the Eclipse IDE interface with a focus on the 'Export' dialog and a code editor.

Export Dialog: A modal window titled 'WAR product export' is open. It contains fields for 'ID' (empty), 'Version' (empty), and 'Name' (set to 'tadpole.war'). Below these is a section for 'Export Options' with a 'Browse...' button. At the bottom are 'Finish' and 'Cancel' buttons.

Code Editor: The main workspace shows a file named 'tadpole.war' with a size of 25,533KB, last modified on 2012-08-31 at 4:28. The code editor displays the XML configuration for a Web Application (web.xml). The XML content is as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.2//EN" "http://java.sun.com/j2ee/dtds/web-app_2_2.dtd">
<web-app id="WebApp">
    <servlet id="bridge">
        <servlet-name>equinoxbridgeservlet</servlet-name>
        <display-name>Equinox Bridge Servlet</display-name>
        <description>Equinox Bridge Servlet</description>
        <servlet-class>org.eclipse.equinox.servletbridge.BridgeServlet</servlet-class>

        <!-- Framework Controls could be useful for testing purpose, but
            we disable it per default -->
        <init-param>
            <param-name>enableFrameworkControls</param-name>
            <param-value>false</param-value>
        </init-param>

        <!-- Enable multi-language support for the extension registry -->
        <!-- the OSGi console is useful for trouble shooting but will fill up your
            appserver log quickly, so deactivate on production use. Uncomment
            the -console parameter to enable OSGi console access. -->
        <init-param>
            <param-name>commandline</param-name>
            <param-value>-registryMultiLanguage -consolelog -test -debuglog -ws rap</param-value>
        </init-param>

        <load-on-startup>1</load-on-startup>
    </servlet>

```