
Integrating Oracle HTML DB with the Oracle eBusiness Suite

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Agenda

- **Introduction**
- **Integration Points**
- **“Demo”**
- **Q & A**

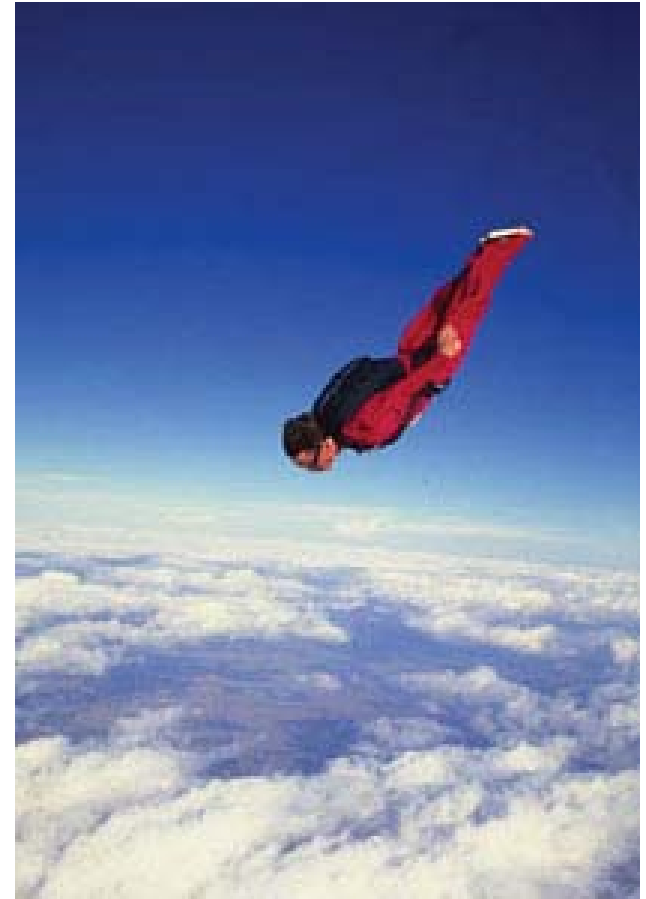
Introduction

Biography

- **Oracle employee for almost 10 years in the Washington, DC region**
 - **From JAN-2002 until SEP-2005 – Senior Product Manager for Oracle HTML DB**
 - **Helped get three major releases out the door**
 - **Presented at OpenWorld, IOUG, ODTUG**
 - **Active OTN Forum participant**

Making the Jump

- **September 9th, 2005: Last Day at Oracle**
- **Started my own company: Sumner Technologies, LLC (<http://sumnertech.com>)**
- **Specialize in HTML DB consulting & training**



Current Major Contract

- **DoD Contract with SAIC**
- **Custom Application integrated with Oracle BOM and HR**
 - **Custom Forms & Workflows**
 - **Deployed to ~2,000 Forms Users**
 - **Sub-set of Custom Functionality needed for ~10,000 users**



HTML DB Applications

- **Currently Developing several Oracle HTML DB Applications**
 - **Chain of Command Node Manager**
 - **Functional Node Manager**
 - **Staffing**
 - **Item Reassignment**
 - **Workflow Response Processor**
 - **Personal Information**
 - **Login Processor**

HTML DB Applications

- **No Base Tables – all data updated via eBusiness Suite APIs**
- **No Additional Licenses**
 - **Customer has 9iR2 Database License**
- **Quick Deployment Time**
 - **First prototype Node Manager took less than a week**
- **No JInitiator or Other Client Software Needed**
 - **Any platform with a modern browser**
- **Completely Integrated**
 - **Portal, eBusiness Suite, Workflow**

Integration Points

Integration Points

- **Custom Application**
- **Single Sign On Server**
- **eBusiness Suite Security Model**
- **Authorization Schemes**
- **Workflow**
- **Administration & Monitoring**

Custom Application

- ***A Custom eBusiness Suite Application*** should be created and registered for your HTML DB Applications
 - Adhere to the Coding Standards defined in Chapter 2 of the Oracle Applications Developer Guide (Part #A83705-03)
- No other special considerations for HTML DB applications required on the eBusiness Suite Side

Custom Application

- **Database Object Locations:**
 - **Tables, Views, Sequences, Triggers all go in the Custom Schema**
 - **Create appropriate Grants & Synonyms in the APPS schema**
 - **All PL/SQL code (Functions, Procedures & Packages) goes in the APPS Schema**

Custom Application

- **On the HTML DB Side:**
 - **Set up your Workspace to parse in the APPS schema**
 - **Create an Authorization Scheme to use the SSO Server from Oracle Portal**
 - **More on this later**
 - **Since you're parsing as APPS, the Object Browser may be slow – consider using another PL/SQL Developer tool**

Custom Application Benefits

- **Protection from Upgrades and Patches**
 - **Upgrades and Patches will not impact your custom data, as it is in a separate schema**
- **Conform with Oracle Coding Standards**
 - **Can be useful when calling Oracle Support, for example**

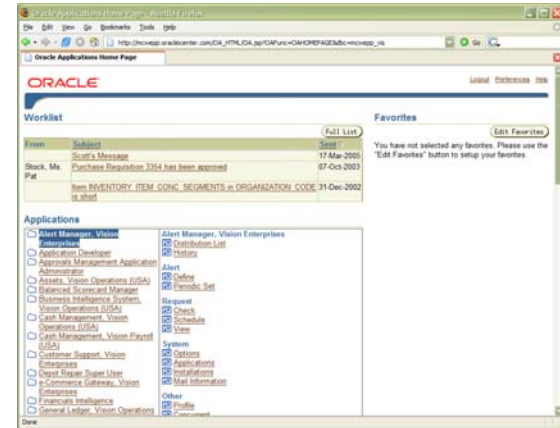
Integration Points

- **Custom Application**
- **Single Sign On Server**
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- **Authorization Schemes**
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Single Sign On Server

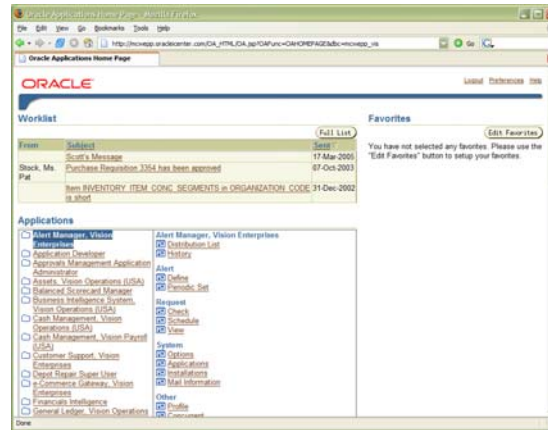
- **Oracle HTML DB can be a Partner Application to the Oracle Single Sign On Server**
- **Thus, when users sign on to Oracle Portal, they are Authenticated to any and all Oracle HTML DB Applications**

Single Sign On Server



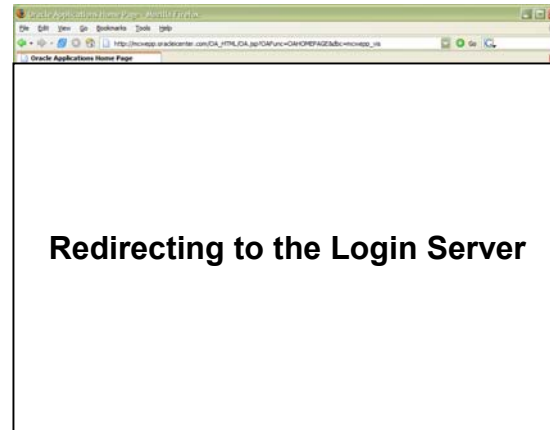
1) User signs on to Oracle eBusiness Suite Home Page

Single Sign On Server



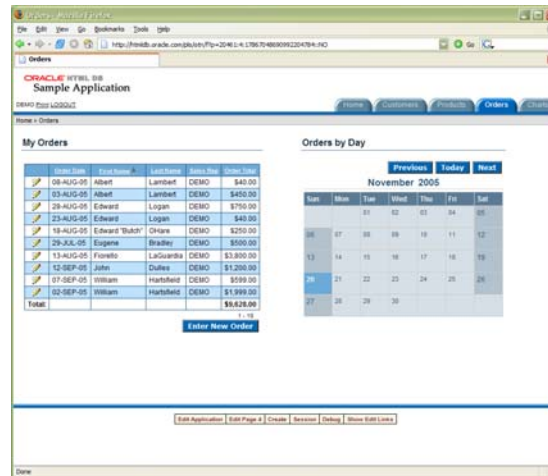
2) User navigates to and clicks HTML DB Application link via standard Application Menus

Single Sign On Server



3) Oracle HTML DB application redirects to the Oracle Login Server to validate Authentication

Single Sign On Server



4) User is Granted or Denied access to Oracle HTML DB Application

Alternative to SSO

- If integrating to the SSO is not possible, consider using a *Custom Authorization Scheme* based on the `fnd_web_sec.validate_login` Procedure

Alternative to SSO

- **Create a Custom *Authentication Function*:**

```
create or replace function custom_ebiz_suite_auth
  (p_username IN VARCHAR2, p_password IN VARCHAR2)
return boolean
as
begin
if fnd_web_sec.validate_login(p_username, p_password) =
  'Y' then
  return true;
else
  return false;
end if;
end;
/
```

Alternative to SSO

- **Create a new *Authentication Scheme***
- **Select *From Scratch***
- **Enter a *Name***
- **Leave *Sentry Function* empty**
- **Leave *Session Verification Function* empty**
- **Set *Invalid Session Target* = HTML DB Built in Login Page**
- **Leave *Pre-Authentication Process* empty**

Alternative to SSO

- Select *Use my custom function to authenticate* for the **Credentials Authentication Method** and enter `return custom_ebiz_suite_auth;` for the *Authentication Function*
- Leave the *Post-Authentication Process* empty
- Leave all *Cookie Information* empty
- Enter
`wwv_flow_custom_auth_std.logout?p_this_flow=&APP_ID.&p_next_flow_page_sess=&APP_ID.:1:&SESSION.`
for the *Logout URL* (all on one line)
- **Create & Activate your Authentication Scheme**

SSO Benefits

- **Single Point of Administration**
 - FND_USER via Standard COTS Forms
 - Access automatically revoked when users expired or deleted
- **Reuse Existing Directory**
 - Not “another” username & password to remember
- **Self Service Security**
 - Users reset their passwords based on pre-determined policy
- **Users Like It!**
 - Anything that you can do to make users happy is typically a good thing

Integration Points

- **Custom Application**
- **Single Sign On Server**
- **eBusiness Suite Security Model**
- **Authorization Schemes**
- **Workflow**
- **Administration & Monitoring**

eBusiness Suite Security Model

- **HTML DB can be integrated with the standard eBusiness Suite Security Model**
 - **Functions**
 - **Menus**
 - **Responsibilities**

eBusiness Suite Security Model

- **Steps to Integrate:**
 - **Create a Function**
 - **Create a Menu**
 - **Create an Application**
 - **Register a Data Group**
 - **Create a Responsibility**
 - **Create a Package**
 - **Grant Execute on the Package to PUBLIC**
 - **Assign the Responsibility to Users**
 - **Secure the HTML DB Application with an Authorization Scheme**

eBusiness Suite Security Model

- **Create a Function for Each HTML DB Application**
 - **Description Tab**
 - Function: `HTML_DB_100`
 - User Function Name: `Run HTML DB Application 100`
 - **Properties Tab**
 - Type: `SSWA plsql function`
 - Maintenance Mode Support: `None`
 - Context Dependence: `Responsibility`
 - **Web HTML Tab**
 - HTML Call: `apps.htmldb_launcher.launch_100`
 - **Web Host Tab**
 - Agent Name: `pls/htmldb`

eBusiness Suite Security Model

- **Create a Menu**
 - **Menu Name:** HTML_DB_APPS
 - **User Menu Name:** Oracle HTML DB Applications
 - **Seq:** 10
 - **Prompt:** Application 100
 - **Function:** Run HTML DB Application 100
 - **Description:** Oracle HTML DB Application 100

The screenshot shows the 'Menu' configuration window in the Oracle eBusiness Suite Security Model. The window has a title bar 'Menu' and a 'View Tree...' button. The configuration fields are as follows:

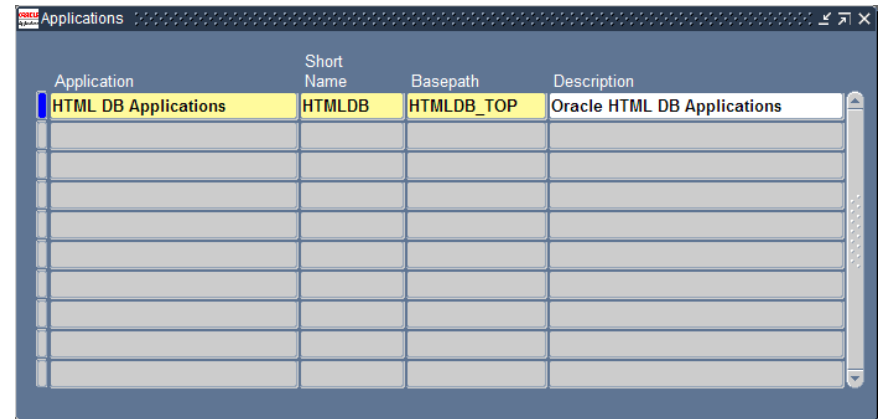
- Menu: HTML_DB_APPS
- User Menu Name: Oracle HTML DB Applications
- Menu Type: (empty)
- Description: (empty)

Below the fields is a table with the following columns: Seq, Prompt, Submenu, Function, Description, and Grant. The first row is highlighted in blue and contains the following data:

Seq	Prompt	Submenu	Function	Description	Grant
10	Application 500		Run HTML DB Applicati	Oracle HTML DB Application 500	<input checked="" type="checkbox"/>
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eBusiness Suite Security Model

- **Create an Application**
 - Application: HTML DB Applications
 - Short Name: HTMLDB
 - Basepath: HTMLDB_TOP
 - Description: Oracle HTML DB Applications

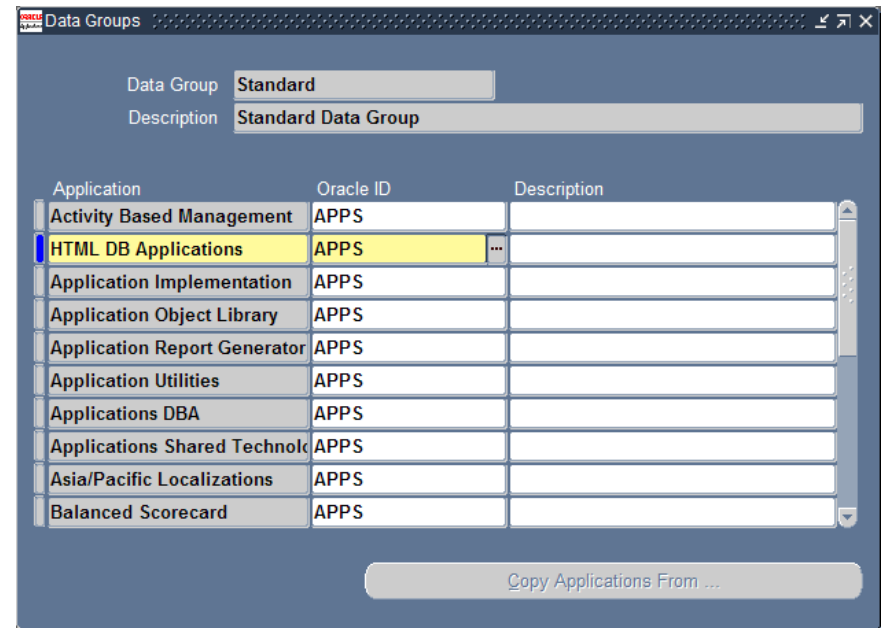


The screenshot shows a window titled "Applications" containing a table with the following data:

Application	Short Name	Basepath	Description
HTML DB Applications	HTMLDB	HTMLDB_TOP	Oracle HTML DB Applications

eBusiness Suite Security Model

- Register a Data Group
 - Query for your Data Group (typically “Standard”)
 - Application: HTML DB Applications
 - Oracle ID: APPS



eBusiness Suite Security Model

- **Create a Responsibility for Each HTML DB Application**
 - Responsibility Name: Oracle HTML DB Applications
 - Application: HTML DB Applications
 - Responsibility Key: HTML_DB_APPS
 - Available From: Oracle Self Service Web Applications
 - Data Group Name: Standard
 - Application: HTML DB Applications
 - Menu: Oracle HTML DB Applications

Responsibilities

Responsibility Name: Oracle HTML DB Applications
Application: HTML DB Applications
Responsibility Key: HTML_DB_APPS
Description:

Effective Dates
From: 19-OCT-2005
To:

Available From
 Oracle Applications
 Oracle Self Service Web Applications
 Oracle Mobile Applications

Data Group
Name: Standard
Application: HTML DB Applications

Request Group
Name:
Application:

Menu: Oracle HTML DB Applications
Web Host Name:
Web Agent Name:

Menu Exclusions | Excluded Items | Securing Attributes

Type	Name	Description

eBusiness Suite Security Model

- **Create a Package in the APPS Schema:**

```
create or replace package htmldb_launcher
is
  procedure launch_100;
end htmldb_launcher;
/
create or replace package body htmldb_launcher
as
procedure launch_100
as
begin
  f(p=>'100:1');
end;
end htmldb_launcher;
/
```

eBusiness Suite Security Model

- **Grant Execute on the Package to PUBLIC**

```
grant execute on htmldb_launcher to  
public;
```

eBusiness Suite Security Model

- **Assign Responsibility to Users**
 - **Assign the Responsibility to appropriate users**
 - **An Apache bounce may be needed for users to see the new Responsibility on their Portal Page**

eBusiness Suite Security Model

- **Secure HTML DB Application with an Authorization Scheme based on a Responsibility**
 - **More about this next**

eBusiness Suite Security Model

- **Best Practices:**
 - **At Least One Responsibility per HTML DB Application**
 - **Additional Responsibilities can be added for different user classes (Admin, Read Only, etc.)**
 - **Define and adhere to a Naming Standard**
 - **Start all HTML DB eBusiness Suite items with HTMLDB_<APP_NAME>**

eBusiness Suite Security Model Benefits

- **Single Point of Administration**
 - All access to applications is maintained in the COTS System Administration screens
 - Data stored in COTS tables FND_USER, FND_USER_RESP_GROUPS & FND_RESPONSIBILITY
- **Easier to Manage Access**
 - Easily determine who has access to which application

eBusiness Suite Security Model Benefits

- **Programmatically Add and Remove Responsibilities via APIs in your HTML DB Applications**
 - `fnd_user_pkg.AddResp(user, app_short_name, resp_key, data_group, comment, start_date, end_date);`
 - `fnd_user_pkg.DelResp(user, app_short_name, resp_key, data_group);`

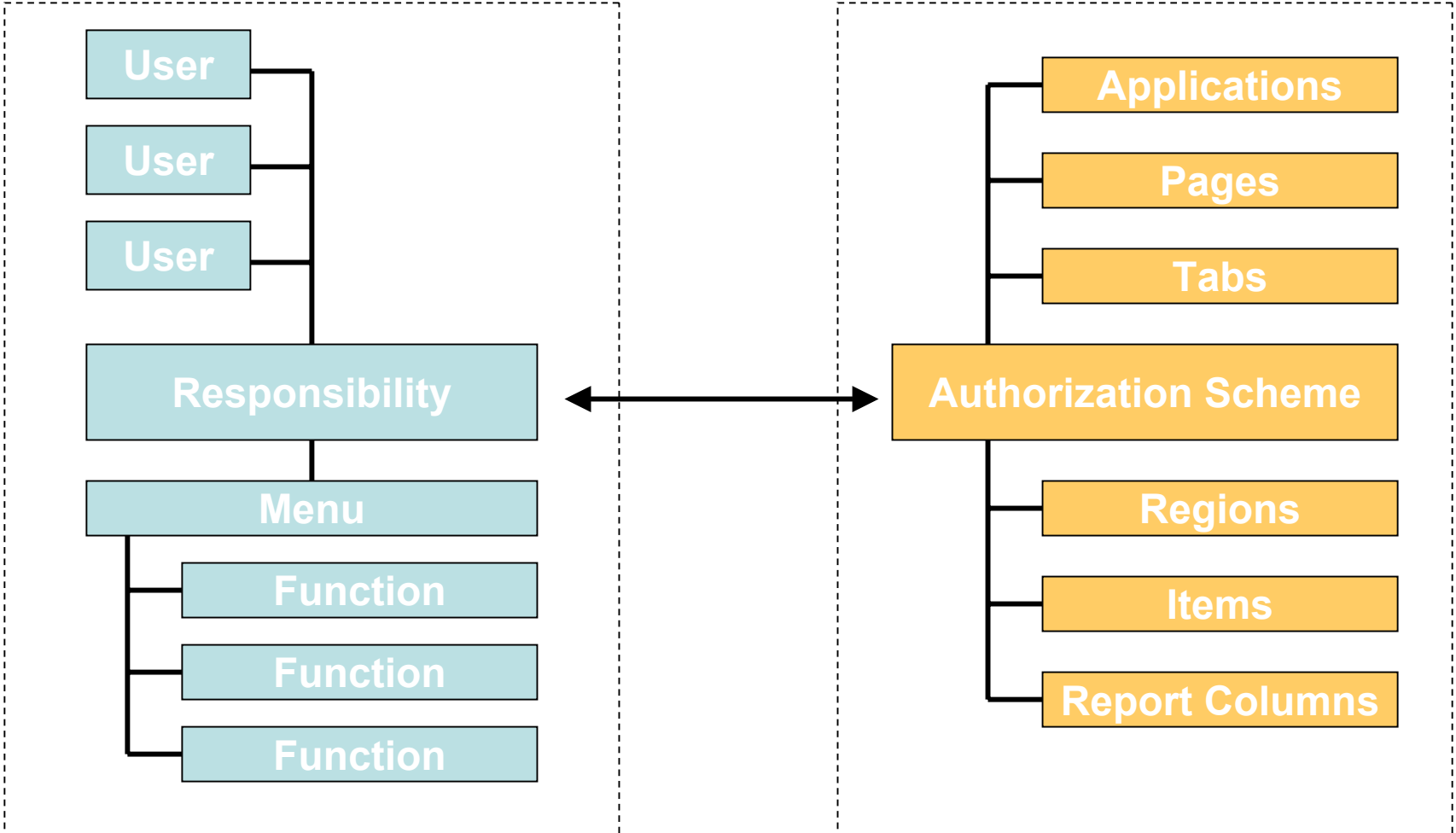
Integration Points

- **Custom Application**
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- **Authorization Schemes**
- **Workflow**
- **Administration & Monitoring**

Authorization Schemes

- **Authorization Schemes are built-in HTML DB security components**
- **Can be associated with almost anything – from an entire Application to a Report Column**
- **Based on a variety of criteria**
 - **Item = Value, PL/SQL Function, Exists/Not Exists Query**

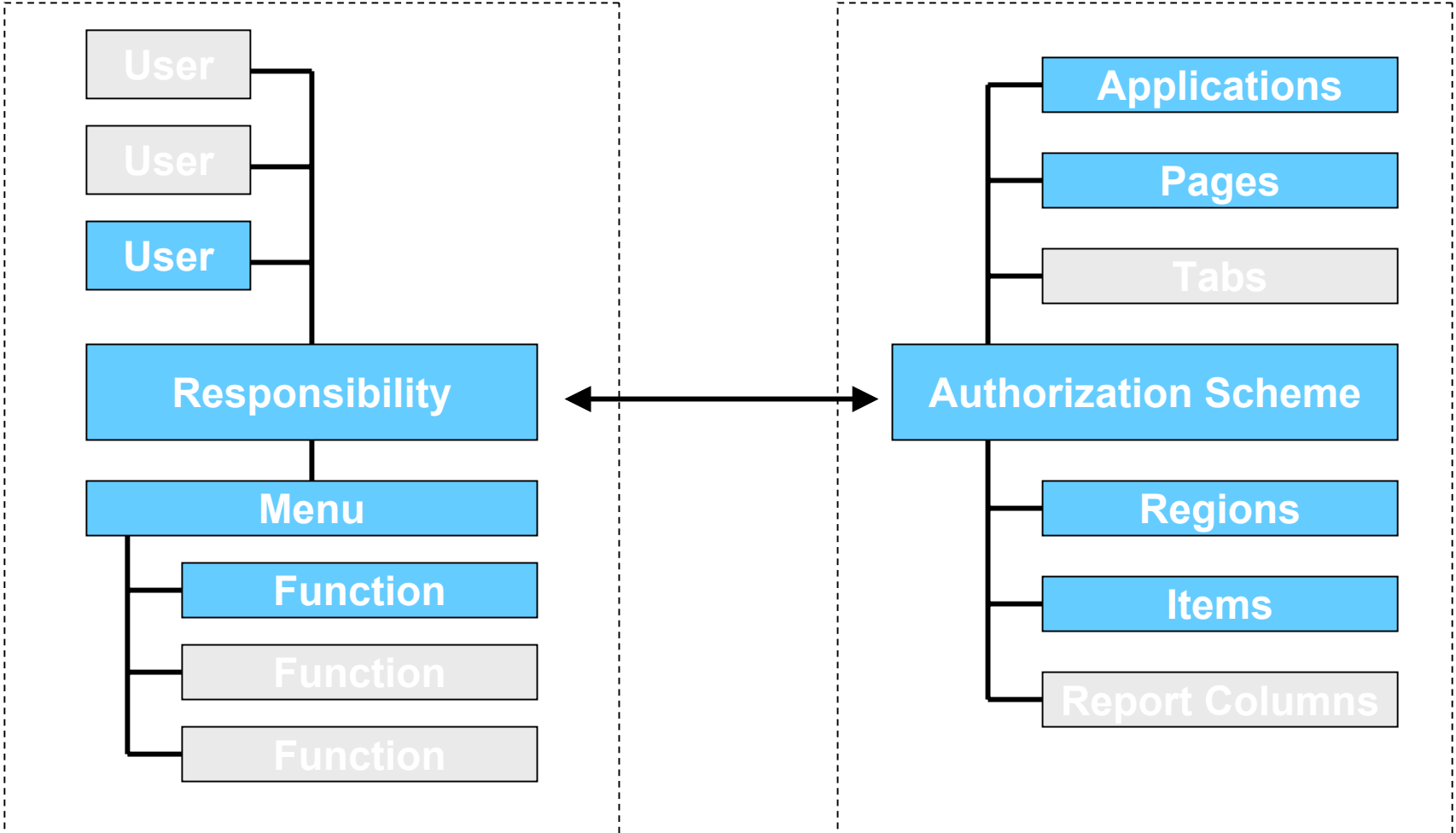
Authorization Schemes



Oracle eBusiness Suite

Oracle HTML DB

Authorization Schemes



Oracle eBusiness Suite

Oracle HTML DB

Authorization Schemes

- **Sample Authorization *Exists* Scheme**

```
select 1 from apps.fnd_user_resp_groups ur,  
       apps.fnd_user u, apps.fnd_responsibility r  
where u.user_name = :APP_USER  
      and u.user_id = ur.user_id  
      and ur.responsibility_id = r.responsibility_id  
      and r.responsibility_key like 'HTMLDB_APP100%'  
      and (ur.end_date is null or ur.end_date > sysdate)
```

Authorization Schemes

- **Best Practices:**
 - **Create multiple Authorization Schemes & Responsibilities per Application based on User Roles**
 - **Set Authorization Scheme to Per Session, not Per Page View**
 - **Choose a Unique Naming Standard for Responsibility Keys**
 - **Default Role: HTMLDB_APP100**
 - **Admin Role: HTML DB_APP100_ADMIN**
 - **Update Role: HTMLDB_APP100_UPDATE**
 - **This way, any user with HTMLDB_APP100% can gain default level access to the system**

Integration Points

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Workflow

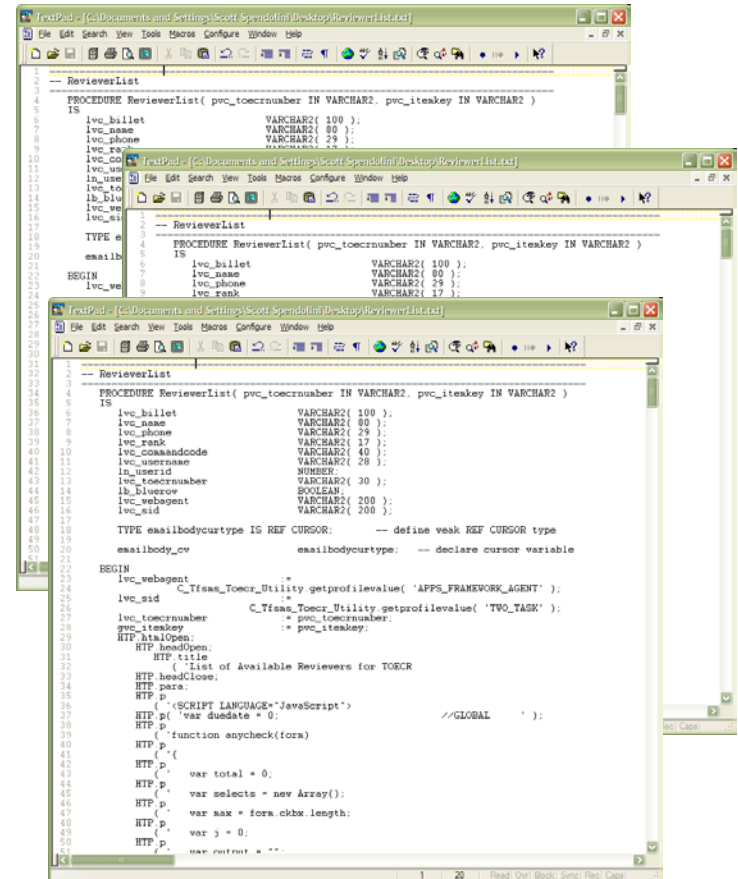
- **Supplement Notifications**
- **Response Processing**

Workflow

- **Supplement Notifications**
 - **Some notifications require additional data to be input**
 - **Before HTML DB, hand-coded forms were used to select the data**
 - **Inefficient, not secure, hard to maintain**
 - **A simple 1-page HTML DB Application was created to facilitate data entry**

Workflow

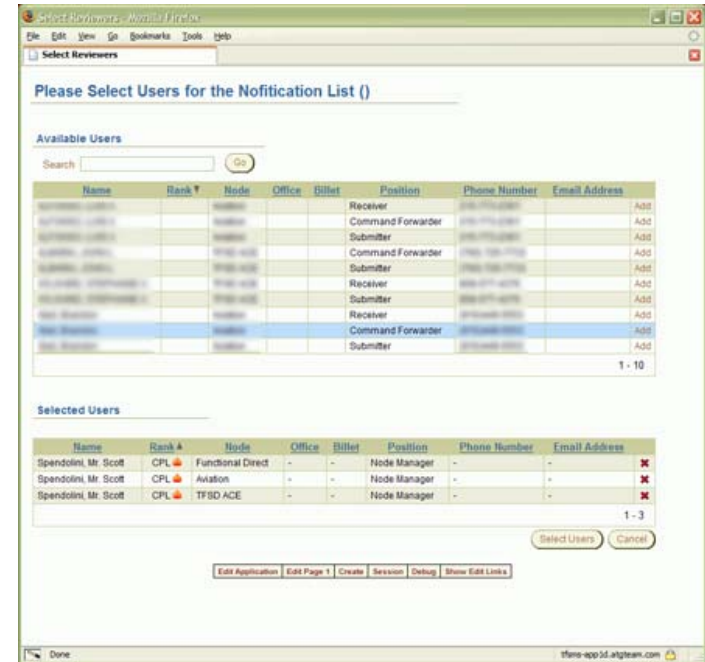
- **Before HTML DB:**
 - **Over 750 lines of PL/SQL & JavaScript code**
 - Most of it for validating the Due Date field
 - **Can't Search Report**
 - **Can't Sort Report**
 - **No Security**
 - **2 days Development Time**



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Workflow

- **With HTML DB**
 - **2 HTML DB Pages & 35 Lines of Code (96% savings!)**
 - **Searchable Report**
 - **Sort by Any Column**
 - **Integrated with Single Sign On Security**
 - **30 minutes Development Time**



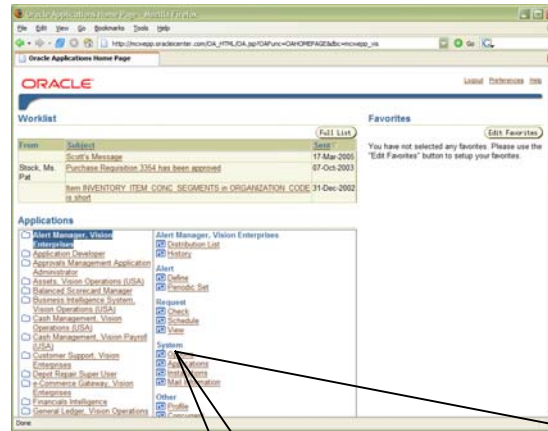
Workflow

- **Response Processing**
 - **Substitute for Workflow Response Processing**
 - **Used HTML DB because IMAP port cannot be opened**

Workflow

- **User receives Workflow Notification**
- **Notification has custom links**
- **User clicks a link**
- **A key is sent to HTML DB**
- **If it's a valid Key, the Response is Processed**
- **Otherwise, the attempt is logged and no action is taken**

Workflow



A\$4KN#s(1n@d)9no

2) User clicks on a custom link in the E-Mail which contains a unique Key

Workflow

A\$4KN#s(1n@d)9no



KEY	VALID	USERNAME	ACTION
A\$4KN#s(1n@d)9no	Y	SCOTT	Approve Item
%d92(!kMX0Ss)31q6	Y	SHANNON	Start Approval

3) The Key is sent to Oracle HTML DB where it is checked against a table of valid keys

Workflow

A\$4KN#s(1n@d)9no



KEY	VALID	USERNAME	ACTION
A\$4KN#s(1n@d)9no	N	SCOTT	Approve Item
%d92(!kMX0Ss)31q6	Y	SHANNON	Start Approval

4) If the Key is valid & matches the signed on user, the action is taken and the key is then invalidated

Workflow

Ks*3mD4(*%mdSd24%



KEY	VALID	USERNAME	ACTION
A\$4KN#s(1n@d)9no	Y	SCOTT	Approve Item
%d92(!kMX0Ss)31q6	Y	SHANNON	Start Approval

5) If the Key is invalid, the IP Address and Invalid Key is logged and no action is taken

Workflow Benefits

- **Easy to enhance standard Notifications**
- **Less Code to Maintain**
- **Another way to handle Response Processing**

Integration Points

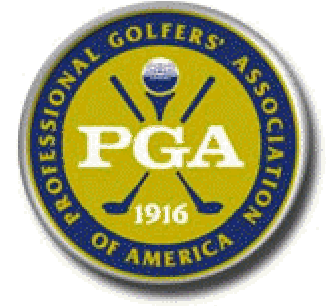
- **Custom Application**
- **Single Sign On Server**
- **eBusiness Suite Security Model**
- **Authorization Schemes**
- **Workflow**
- **Administration & Monitoring**

Administration & Monitoring

- **Simple to build HTML DB Admin & Monitoring applications**
- **Can call eBusiness Suite APIs**
 - **Create and Remove Users & Responsibilities**
- **Useful for Auditing Reports and Charts**
- **Can be in the same application but restricted by a Responsibility to Admin Users**

Another Quick Example

eBusiness Suite Supplement



- **PGA of America runs Oracle Financials 11i**
 - **Plain Vanilla Implementation with No Customizations**
- **Small organization with an even smaller IT department**
- **In the process of consolidating Accounting for all 41 sections**
- **Oracle HTML DB Reference**
 - **<http://htmldb.oracle.com/references>**

eBusiness Suite Supplement

- **Dashboard Application**
 - **Monitors Key Financial Statistics**
 - **First Version was Live in a Week**
- **Purse Management System**
 - **Pays tournament winners**
- **Integrated with**
 - **SiteMinder Single Sign On**
 - **Oracle Project Accounting, Purchasing & Payables**
- **Total Cost Savings of over \$250,000**

“Demo”

Q & A