Oracle Application Express API Primer

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Speaker Qualifications:

- Josh Millinger, President, Niantic Systems, LLC
- CS degrees from UW-Madison, Johns Hopkins
- Former Oracle Sales Consultant and Founder of the Oracle Partner Technology Center
- 11+ Years of Oracle Web Development Experience
- Have Been Developing with and Teaching ApEx Since Well Before It Was Even Released as a Product! Started with Excel Migration as first project
• Oracle Consulting with a Focus on Application Express
• Application Express Training
• Oracle Forms/Reports
• Discoverer
• Mentoring
• Customers in the Federal, Commercial, Healthcare, Higher Education, Construction verticals
Apex APIs

• Application Programming Interfaces (API)
  – provide built-in functionality that has been QA’d by Oracle
  – Allow for quicker development as you don’t have to “roll your own”
  – Provide compatibility if underlying Apex structures change
• Documentation location changed in 3.2
  – Now found under API Reference
APIs

- APEX_UTIL
- APEX_MAIL
- APEX_ITEM
- APEX_APPLICATION
- APEX_CUSTOM_AUTH
- APEX_LDAP
- APEX_INSTANCE_ADMIN
- APEX_UI_DEFAULT_UPDATE
• PREPARE_URL
  – When using Session State Protection you must “prepare” any hand coded URL so the appropriate checksum will be created
• SET_SESSION_STATE
  – Allows programmatic setting of session state
• GET_SESSION_STATE
  – Synonym ‘V’
• RESET_AUTHORIZATIONS
  – Ensure that Authorizations are re-calculated the next time they are referenced
APEX_UTIL

- REMOVE_SORT_PREFENCES
- PURGE_REGIONS_BY..
- URL_ENCODE
  - Useful for when you have to create links. It will change the URL’s to be able to be read by a browser
- STRING_TO_TABLE
- TABLE_TO_STRING
APEX_MAIL

- **SEND**
  - To, From, Subject, Text Body, HTML Body
- **ADD_ATTACHMENT**
  - Can be called repeatedly
- **PUSH_QUEUE**
  - Sends emails to SMTP Server
- **APEX_MAIL_ATTACHMENTS View**
- Need to have SMTP_SERVER setup in Internal Workspace

- Usually better practice to maintain own mail queue
APEX_ITEM

- Allows for dynamic creation of form items
- Mainly used for manual Tabular Forms
- Every item will have unique ID
- Common ones used are
  - Checkbox
  - Hidden
  - Text
  - Select_list_from_LOV
• Hidden Items
  – Are usually appended to other items
  – Contain primary key of record

\[
\text{select } \text{apex\_item\_hidden}(1, \text{userid}) \text{ || } \text{apex\_item\_text}(2, \text{name})
\]

from my_users

• Should also use MD5\_CHECKSUM function for protecting against lost updates
APEX_APPLICATION

- Used most commonly when processing arrays after Tabular Forms
- Can also reference package variables
  - View WWV_FLOW in the install schema to view what is available

```sql
FOR i IN 1..APEX_APPLICATION.G_F01.COUNT LOOP
  htp.p('element '||i||' has a value of '||APEX_APPLICATION.G_F01(i));
END LOOP;
```
APEX_CUSTOM_AUTH

- **IS_SESSION_VALID**
  - Checks to see whether user is in a valid Apex session. Commonly used for generic download procedures

- **LOGOUT**

- **LOGIN**

```sql
BEGIN
APEX_CUSTOM_AUTH.LOGIN (p_uname => 'FRANK',
p_password => 'secret99',
p_session_id => V('APP_SESSION'),
p_app_page => :APP_ID||':1');
END;
```
APEX_LDAP

- Large percentage of customers authenticate against LDAP
- If need to do more than the built-in LDAP functionality then you can use this package
- Useful for dual authentication of users (Internal vs. External)
- Did encounter trouble with this against Active Directory
APEX_INSTANCE_ADMIN

- SET_PARAMETER
- GET_PARAMETER
- GET_SCHEMAS
- ADD_SCHEMA
- REMOVE_SCHEMA
- REMOVE_WORKSPACE
- ADD_WORKSPACE

Useful when building a framework around Apex for management of workspaces and schema mappings

Want to create application for setting params outside of INTERNAL workspace
• Allows for manipulation of User Interface Defaults on Tables
• UI Defaults are maintained once across all workspaces
• This may be changing in 4.0 or future releases
• Can change things like Region title, or column widths, types, alignment, format mask, height, etc.
• Not very commonly used.
Thank You!

• If you’re so inclined, send me questions & comments directly:
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