

Cheat Sheet for comprehensive Oracle Certified Professional- Oracle Fusion Middleware 11g Forms Developer Certification

Forms Builder Basics

- **Launching Forms Builder:**

- `frmdbld11.exe` (Windows)
- `frmdbld` (UNIX/Linux)

- **Creating a New Form:**

- `File > New > Form`
- Choose template: `Blank Form` or `Form with Record Group`

- **Opening an Existing Form:**

- `File > Open`
- Navigate to the `.fmb` file

- **Saving a Form:**

- `File > Save`
- `File > Save As` (to save with a new name)

Form Modules

- **Types of Modules:**

- **Form Module:** Main form logic
- **Menu Module:** Custom menus
- **Library Module:** Reusable components

- **Creating a Module:**

- `File > New > Module`
- Select module type: `Form`, `Menu`, `Library`

- **Compiling a Module:**

- `File > Compile`
- Output: `.fmx` file

Form Objects

- **Common Objects:**

- **Canvas:** Display area
- **Block:** Data structure
- **Item:** Data entry fields
- **Trigger:** Event handlers
- **Creating Objects:**
 - `Tools > Object Navigator`
 - Right-click and select `New`
- **Object Properties:**
 - `General` tab: Basic settings
 - `Data` tab: Data source
 - `Layout` tab: Visual properties

Data Blocks and Items

- **Creating a Data Block:**
 - `Tools > Object Navigator > Blocks`
 - Right-click and select `New Data Block`
- **Connecting to a Database:**
 - `Data Block Wizard > Database Block`
 - Select table or view
- **Creating Items:**
 - `Tools > Object Navigator > Items`
 - Right-click and select `New Item`
- **Item Types:**
 - **Display Item:** Read-only
 - **Entry Item:** Editable
 - **Button:** Action trigger

Triggers and PL/SQL

- **Common Triggers:**
 - `WHEN-NEW-FORM-INSTANCE`: Form initialization
 - `WHEN-VALIDATE-ITEM`: Data validation

- `WHEN-BUTTON-PRESSED`: Button click
- **Creating a Trigger:**
 - `Tools > Object Navigator > Triggers`
 - Right-click and select `New Trigger`
- **PL/SQL Basics:**
 - **Variables:** `DECLARE v_name VARCHAR2(50);`
 - **IF-THEN-ELSE:** `IF condition THEN ... ELSE ... END IF;`
 - **Loops:** `FOR i IN 1..10 LOOP ... END LOOP;`

Navigation and Layout

- **Navigation:**
 - **Tab Order:** `Tools > Tab Order`
 - **Navigation Rules:** `Tools > Navigation Rules`
- **Layout:**
 - **Canvas:** `Tools > Object Navigator > Canvases`
 - **Layout Editor:** `Tools > Layout Editor`
- **Alignment:**
 - **Align:** `Tools > Align`
 - **Distribute:** `Tools > Distribute`

Menus and Libraries

- **Creating a Menu:**
 - `File > New > Menu Module`
 - `Tools > Menu Editor`
- **Menu Items:**
 - **Menu:** Top-level menu
 - **Menu Item:** Sub-menu or action
- **Creating a Library:**

- `File > New > Library Module`
- `Tools > Object Navigator > Libraries`

- **Using Libraries:**

- `Tools > Object Navigator > Libraries`
- Right-click and select `Add Library`

Debugging and Testing

- **Debugging:**

- **Breakpoints:** `Tools > Breakpoints`
- **Debugging Window:** `Tools > Debugging Window`

- **Testing:**

- **Run Form:** `Run > Run`
- **Debug Form:** `Run > Debug`

- **Error Handling:**

- **Exception Handling:** `EXCEPTION WHEN OTHERS THEN ...`
- **Logging:** `DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);`

Performance Optimization

- **Data Fetch:**

- **Optimize Fetch:** `Tools > Optimize Fetch`
- **Query Optimization:** `SELECT ... WHERE ROWNUM <= 100;`

- **Caching:**

- **Record Caching:** `Tools > Record Caching`
- **Query Caching:** `SELECT /*+ RESULT_CACHE */ ...`

- **PL/SQL Optimization:**

- **Bulk Processing:** `FORALL i IN 1..100 INSERT INTO ...`
- **Cursor Sharing:** `CURSOR c1 IS SELECT ... FOR UPDATE;`

Security and Auditing

- **User Authentication:**

- **Database Login:** `WHEN-NEW-FORM-INSTANCE`
- **Custom Login:** `CREATE OR REPLACE PROCEDURE login_user ...`
- **Auditing:**
 - **Audit Trail:** `DBMS_FGA.ADD_POLICY ...`
 - **Logging:** `DBMS_APPLICATION_INFO.SET_CLIENT_INFO ...`
- **Data Masking:**
 - **Masking Functions:** `CREATE OR REPLACE FUNCTION mask_data ...`
 - **Dynamic Masking:** `CASE WHEN user_role = 'ADMIN' THEN data ELSE ' ' END;`

Advanced Features

- **Custom Dialogs:**
 - **Creating Dialog:** `File > New > Dialog`
 - **Calling Dialog:** `OPEN_FORM(dialog_name);`
- **Dynamic SQL:**
 - **EXECUTE IMMEDIATE:** `EXECUTE IMMEDIATE 'SELECT ...' INTO ...;`
 - **BULK COLLECT:** `SELECT ... BULK COLLECT INTO ...;`
- **Web Deployment:**
 - **Web Util:** `Tools > Web Util`
 - **Deployment:** `Run > Deploy to Web`

Shortcuts and Tips

- **Shortcuts:**
 - `Ctrl + N`: New Object
 - `Ctrl + O`: Open Form
 - `Ctrl + S`: Save Form
 - `Ctrl + F7`: Compile Form
 - `F5`: Run Form
 - `F9`: Debug Form
- **Tips:**
 - **Use Templates:** Start with a template for faster development.

- **Comment Code:** Use comments to explain complex logic.
- **Regular Testing:** Test frequently to catch issues early.
- **Optimize Queries:** Use indexes and optimize fetch settings.

Example Code Snippets

- Data Validation:

```
WHEN-VALIDATE-ITEM
BEGIN
  IF :ITEM.VALUE < 0 THEN
    MESSAGE('Value must be positive');
    RAISE FORM_TRIGGER_FAILURE;
  END IF;
END;
```

- Button Click:

```
WHEN-BUTTON-PRESSED
BEGIN
  OPEN_FORM('NEW_FORM');
END;
```

- Dynamic SQL:

```
DECLARE
  v_sql VARCHAR2(1000);
  v_result NUMBER;
BEGIN
  v_sql := 'SELECT COUNT(*) FROM employees WHERE department_id =
:dept_id';
  EXECUTE IMMEDIATE v_sql INTO v_result USING :dept_id;
  DBMS_OUTPUT.PUT_LINE('Employee Count: ' || v_result);
END;
```

Resources and References

- Oracle Documentation:

- [Oracle Forms Developer Documentation](https://docs.oracle.com/cd/E11882_01/forms/index.html)

- Community Forums:

- [Oracle Community](<https://community.oracle.com/>)
- [Stack Overflow](<https://stackoverflow.com/questions/tagged/oracle-forms>)

- **Books:**

- "Oracle Forms Developer Advanced Programming Techniques" by Michael McLaughlin
- "Oracle Forms 11g Handbook" by Steve Karam

By Ahmed Baheeg Khorshid

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