

◆ STEP 5: Reusable Package: AppUtility

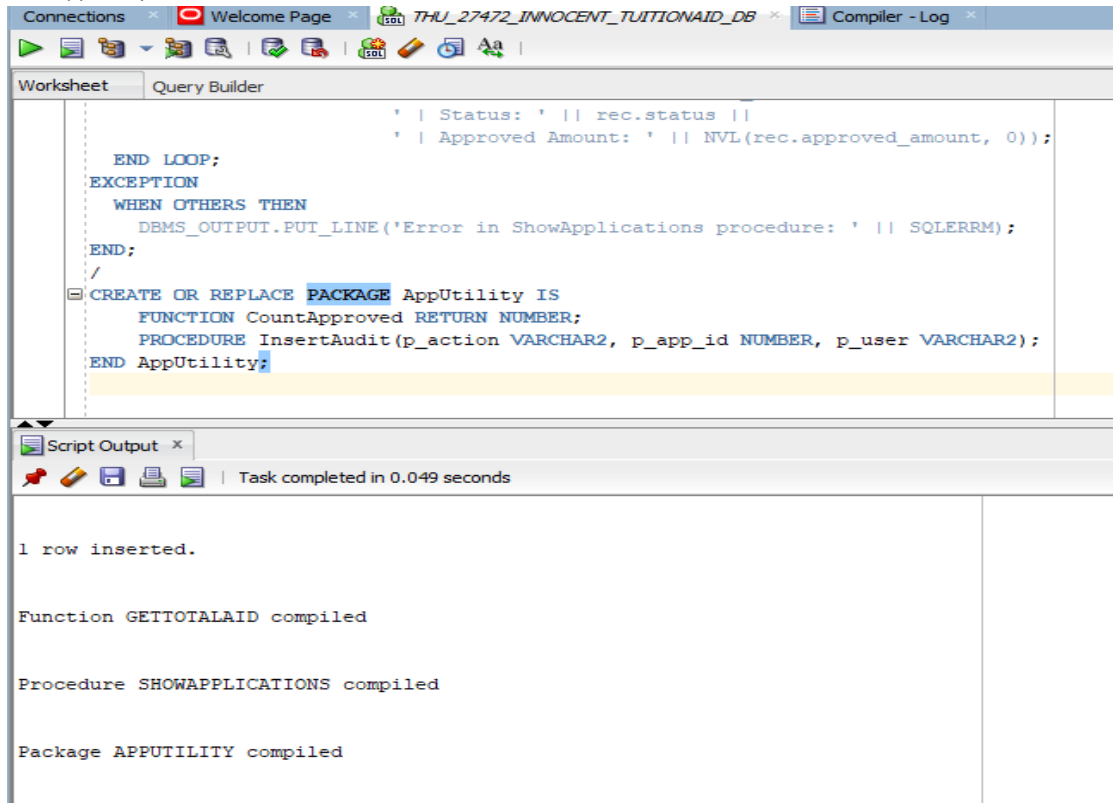
🧩 Package Specification:

CREATE OR REPLACE PACKAGE AppUtility IS

 FUNCTION CountApproved RETURN NUMBER;

 PROCEDURE InsertAudit(p_action VARCHAR2, p_app_id NUMBER, p_user VARCHAR2);

END AppUtility;



The screenshot shows the SQL Developer interface with the 'Query Builder' tab active. The main window displays the package specification code for 'AppUtility'. Below the code editor, the 'Script Output' window shows the results of the compilation, indicating that the package and its components were successfully compiled.

```

        ' | Status: ' || rec.status ||
        ' | Approved Amount: ' || NVL(rec.approved_amount, 0));

    END LOOP;
EXCEPTION
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('Error in ShowApplications procedure: ' || SQLERRM);
END;
/
CREATE OR REPLACE PACKAGE AppUtility IS
    FUNCTION CountApproved RETURN NUMBER;
    PROCEDURE InsertAudit(p_action VARCHAR2, p_app_id NUMBER, p_user VARCHAR2);
END AppUtility;
```

Script Output x

Task completed in 0.049 seconds

```

1 row inserted.

Function GETTOTALAID compiled

Procedure SHOWAPPLICATIONS compiled

Package APPUTILITY compiled
```

🧩 Package Body:

CREATE OR REPLACE PACKAGE BODY AppUtility IS

 FUNCTION CountApproved RETURN NUMBER IS

 cnt NUMBER;

 BEGIN

 SELECT COUNT(*) INTO cnt FROM Application WHERE status = 'Approved';

 RETURN cnt;

 END;

 PROCEDURE InsertAudit(p_action VARCHAR2, p_app_id NUMBER, p_user VARCHAR2) IS

BEGIN

INSERT INTO Application_Log (action_performed, application_id, performed_by)

VALUES (p_action, p_app_id, p_user);

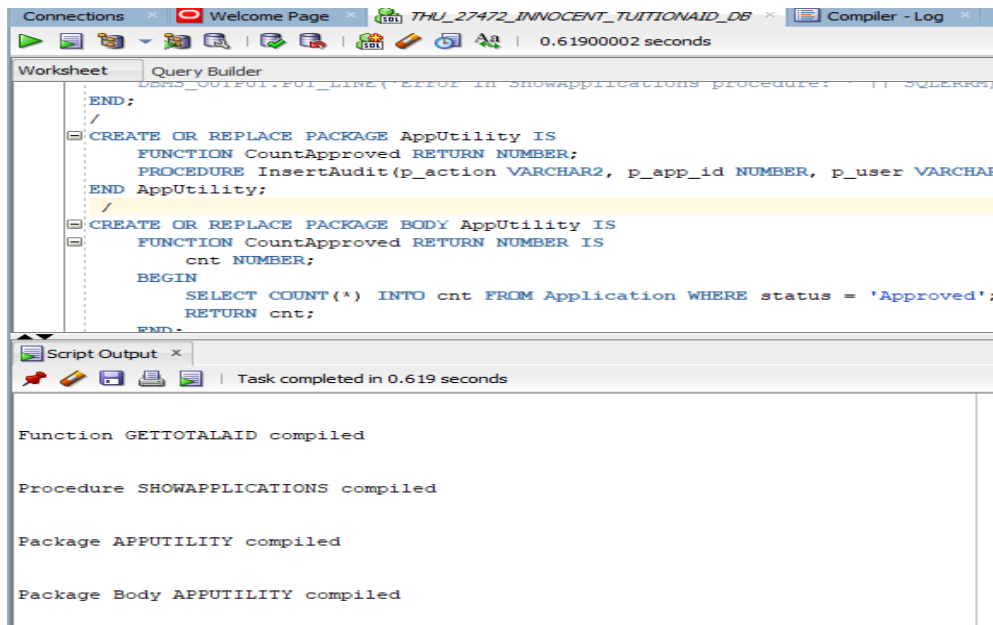
EXCEPTION

WHEN OTHERS THEN

DBMS_OUTPUT.PUT_LINE('Audit failed.');

END;

END AppUtility;



The screenshot shows the Oracle SQL Developer interface. The top toolbar includes icons for Connections, Welcome Page, and a specific database connection 'THU_27472_INNOCENT_TUITIONAID_DB'. The 'Query Builder' tab is active, displaying the PL/SQL code for the 'AppUtility' package. The code defines a function 'CountApproved' and a procedure 'InsertAudit'. Below the code editor, the 'Script Output' window shows the compilation results: 'Function GETTOTALAID compiled', 'Procedure SHOWAPPLICATIONS compiled', 'Package APPUTILITY compiled', and 'Package Body APPUTILITY compiled'. The task completed in 0.619 seconds.

```
END;  
/  
CREATE OR REPLACE PACKAGE AppUtility IS  
    FUNCTION CountApproved RETURN NUMBER;  
    PROCEDURE InsertAudit(p_action VARCHAR2, p_app_id NUMBER, p_user VARCHAR2);  
END AppUtility;  
/  
CREATE OR REPLACE PACKAGE BODY AppUtility IS  
    FUNCTION CountApproved RETURN NUMBER IS  
        cnt NUMBER;  
    BEGIN  
        SELECT COUNT(*) INTO cnt FROM Application WHERE status = 'Approved';  
        RETURN cnt;  
    END;  
END;
```

Script Output x
Task completed in 0.619 seconds

Function GETTOTALAID compiled
Procedure SHOWAPPLICATIONS compiled
Package APPUTILITY compiled
Package Body APPUTILITY compiled

What It Does:

This package groups:

- A function to **count approved applications**
- A procedure to **log actions**, with error handling

Why It Matters:

- **Modularization:** Easier to maintain and reuse logic
- **Security:** Package privileges can be managed better
- **Clean code:** Centralized logic for data operations