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Warning: This documentation is for a pre-release version of pgAdmin 4

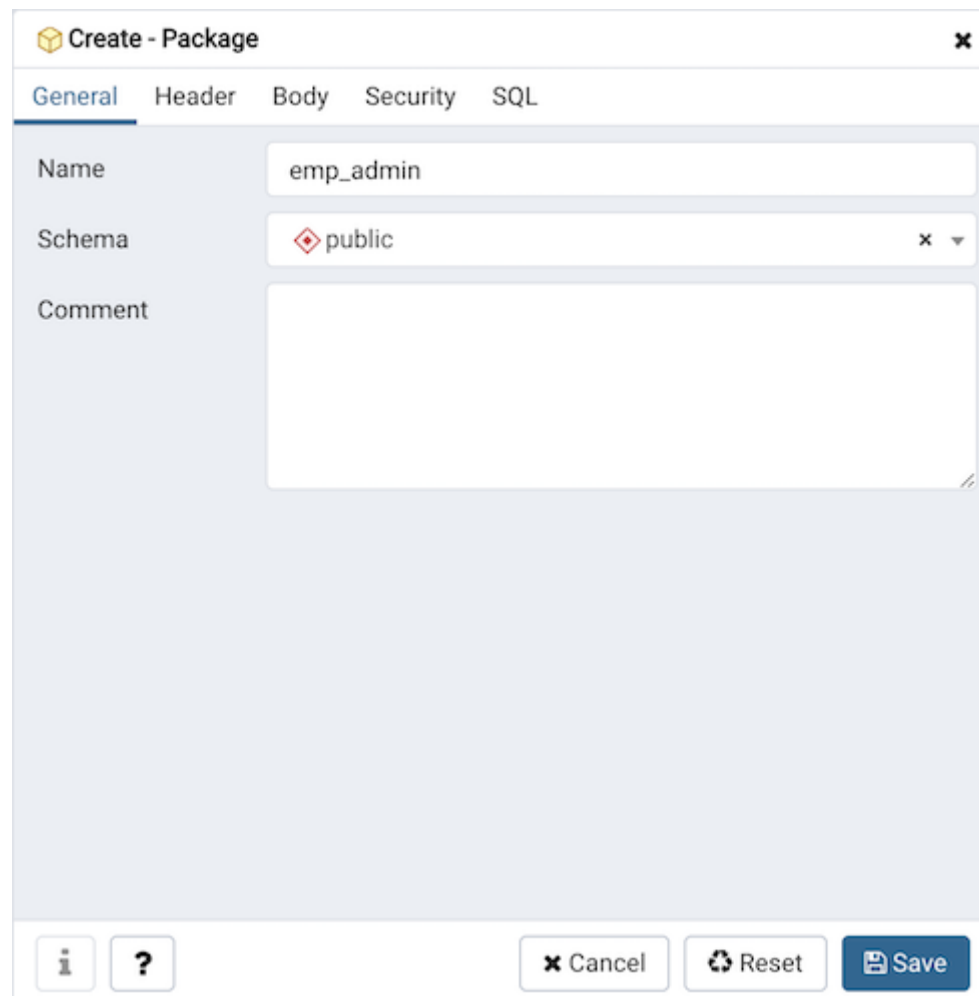
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Package Dialog

Use the *Package* dialog to create a (user-defined) package specification.

The *Package* dialog organizes the management of a package through the following dialog tabs: *General*, *Header*, *Body*, and *Security*. The *SQL* tab displays the SQL code generated by dialog selections.

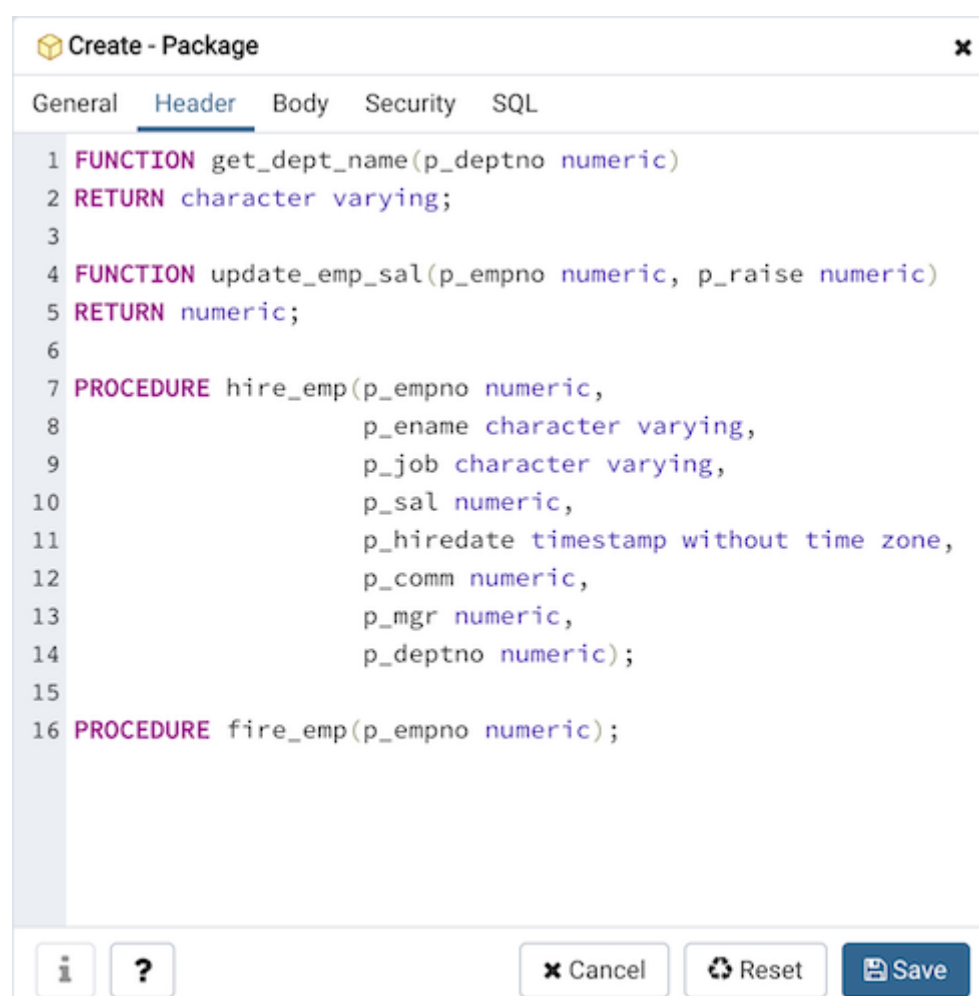


The screenshot shows the 'Create - Package' dialog box with the 'General' tab selected. The 'Name' field contains 'emp_admin'. The 'Schema' dropdown menu is set to 'public'. The 'Comment' field is empty. At the bottom, there are buttons for 'Cancel', 'Reset', and 'Save', along with information and help icons.

Use the fields in the *General* tab to identify the package:

- Use the *Name* field to add a descriptive name for the package. The name of a new package must not match any existing package in the same schema.
- Select the schema in which the package will reside from the drop-down listbox in the *Schema* field.
- Store notes about the package in the *Comment* field.

Click the *Header* tab to continue.



The screenshot shows the 'Create - Package' dialog box with the 'Header' tab selected. The SQL code editor displays the following code:

```
1 FUNCTION get_dept_name(p_deptno numeric)
2 RETURN character varying;
3
4 FUNCTION update_emp_sal(p_empno numeric, p_raise numeric)
5 RETURN numeric;
6
7 PROCEDURE hire_emp(p_empno numeric,
8                   p_ename character varying,
9                   p_job character varying,
10                  p_sal numeric,
11                  p_hiredate timestamp without time zone,
12                  p_comm numeric,
13                  p_mgr numeric,
14                  p_deptno numeric);
15
16 PROCEDURE fire_emp(p_empno numeric);
```

At the bottom, there are buttons for 'Cancel', 'Reset', and 'Save', along with information and help icons.

Use the *Header* field to define the public interface for the package.

Click the *Body* tab to continue.

Create - Package

General Header **Body** Security SQL

```

1 --
2 -- Function that queries the 'dept' table based on the dept
3 -- number and returns the corresponding department name.
4 --
5 FUNCTION get_dept_name(p_deptno numeric) RETURN character v
6   v_dname          VARCHAR2(14);
7 BEGIN
8   SELECT dname INTO v_dname FROM dept WHERE deptno = p_deptno;
9   RETURN v_dname;
10 EXCEPTION
11   WHEN NO_DATA_FOUND THEN
12     DBMS_OUTPUT.PUT_LINE('Invalid department number ' || p_deptno);
13   RETURN '';
14 END;
15 --
16 -- Function that updates an employee's salary based on the
17 -- employee number and salary increment/decrement passed
18 -- as IN parameters. Upon successful completion the function
19 -- returns the new updated salary.
20 --
21 FUNCTION update_emp_sal(p_empno numeric, p_raise numeric) RETURN

```

Buttons: ? Cancel Reset Save

Use the *Body* field to provide the code that implements each package object.

Click the *Security* tab to continue.

Create - Package

General Header Body **Security** SQL

Privileges +

Grantee	Privileges	Grantor
enterprisedb	<input checked="" type="checkbox"/> EXECUTE <input checked="" type="checkbox"/> WITH GRANT OPTION	enterprisedb

Buttons: ? Cancel Reset Save

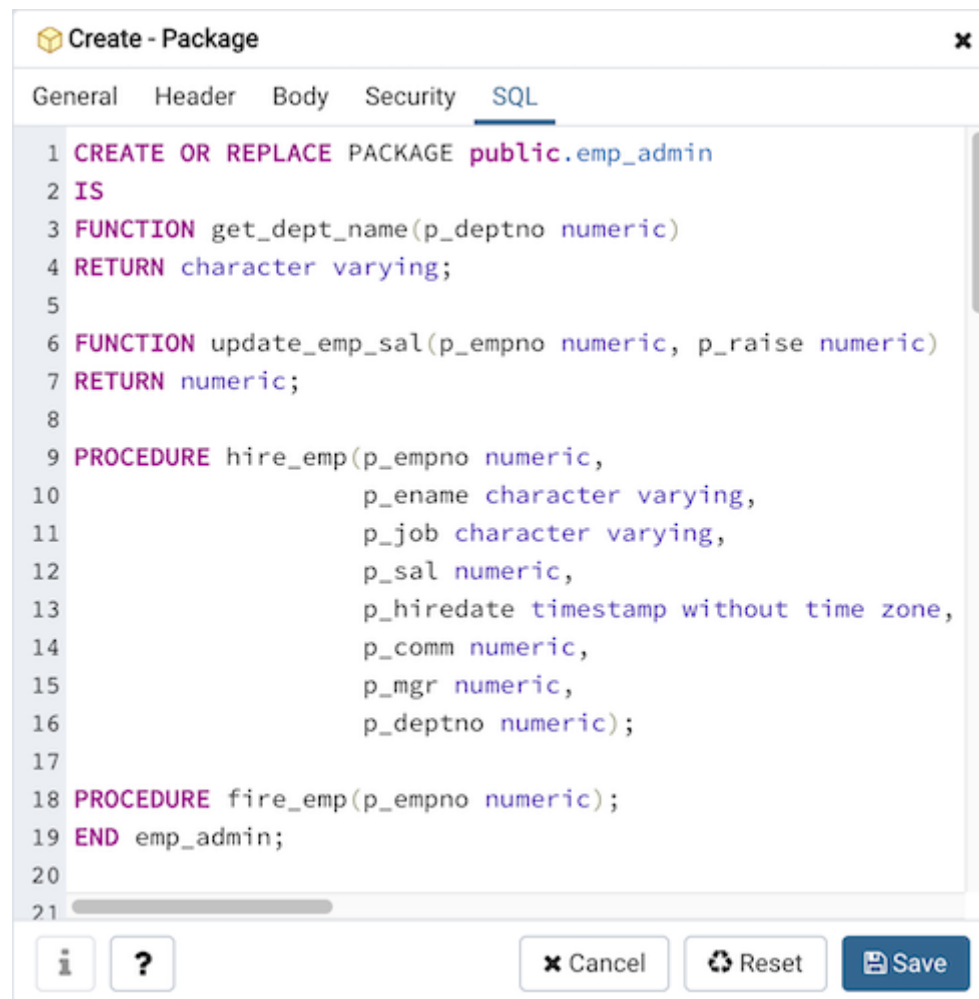
Use the fields in the *Security* tab to to assign EXECUTE privileges for the package to a role. Click the *Add* icon (+) to set privileges for the package:

- Select the name of the role from the drop-down listbox in the *Grantee* field.
- Click inside the *Privileges* field. Check the boxes to the left of a privilege to grant the selected privilege to the specified user.
- The current user, who is the default grantor for granting the privilege, is displayed in the *Grantor* field.

Click the *Add* icon (+) to assign additional privileges; to discard a privilege, click the trash icon to the left of the row, and confirm the deletion in the *Delete Row* popup.

Click the *SQL* tab to continue.

Your entries in the *Package* dialog generate a SQL command that creates or modifies a package definition:



The screenshot shows a dialog box titled "Create - Package" with a close button (X) in the top right corner. The dialog has four tabs: "General", "Header", "Body", and "SQL". The "SQL" tab is selected and highlighted. The SQL editor contains the following code:

```
1 CREATE OR REPLACE PACKAGE public.emp_admin
2 IS
3 FUNCTION get_dept_name(p_deptno numeric)
4 RETURN character varying;
5
6 FUNCTION update_emp_sal(p_empno numeric, p_raise numeric)
7 RETURN numeric;
8
9 PROCEDURE hire_emp(p_empno numeric,
10                   p_ename character varying,
11                   p_job character varying,
12                   p_sal numeric,
13                   p_hiredate timestamp without time zone,
14                   p_comm numeric,
15                   p_mgr numeric,
16                   p_deptno numeric);
17
18 PROCEDURE fire_emp(p_empno numeric);
19 END emp_admin;
20
21
```

At the bottom of the dialog, there are three buttons: "Cancel", "Reset", and "Save". The "Save" button is highlighted in blue.

The example shown demonstrates creating a package named *empinfo* that includes two function and two procedure.

- Click the *Save* button to save work.
- Click the *Cancel* button to exit without saving work.
- Click the *Reset* button to delete any changes to the dialog.