

APEX-SERT

Version 5.0 Installation Guide

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1. P R E F A C E

1.1. Audience

The *APEX SERT Installation Guide* is provided as a reference to install APEX-SERT. It is intended for system administrators and/or DBAs. You will require access to the SYS database account and APEX Internal workspace credentials in order to install APEX-SERT.

1.2. Conventions

The following typeset conventions are used throughout this document:

Plain Text

Plain text is nothing more than standard, narrative text. No special actions are required.

Fixed Width

Fixed width is used to denote input required from the user. When something is in the fixed width font, that text should be entered into the corresponding field or region.

Bold

Bold is used to indicate that you should perform an action, such as clicking a link or pressing a button, which corresponds to the value of the Bold text.

Bold Underline

Bold Underline is used to refer to a label or section of a page. Bold Underline labels will typically denote where an action should occur, not the action itself.

2. I N S T A L L A T I O N

Installing APEX-SERT is a simple process that is done entirely via a SQL script. The script will not only install the required database objects, but also create the APEX-SERT workspace and install the APEX-SERT applications. There is only a single manual step that is required to complete the installation.

2.1. Requirements

2.1.1. Software Versions

APEX-SERT 5.0 is certified to run only on **Oracle APEX 5.0**. Earlier and potential future versions of Oracle APEX are not supported with this release.

2.1.2. Resources

In order to install APEX-SERT, you will need access to the following system resources:

- Oracle SYS database account
- Oracle APEX instance administration account

If you do not have access to all of the above, then it is not possible to completely install APEX-SERT. Please consult with your local system administrators and/or DBAs for assistance.

2.1.3. Tablespaces

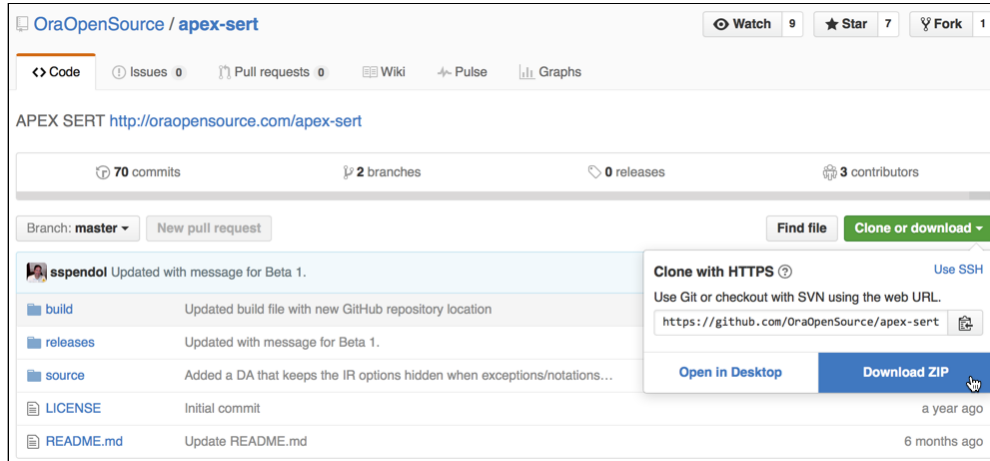
While not necessary, many DBAs prefer to put vendor products in their own tablespace. If you decide to do this, you must create the new tablespace before installing APEX-SERT.

APEX-SERT requires at least 50MB of tablespace, and could require more, depending on how many attribute and attribute sets you create.

2.2. Downloading APEX-SERT

APEX-SERT can be downloaded directly from GitHub. You do not need a GitHub account in order to download it.

- 1) Open a new browser and navigate to <https://github.com/OraOpenSource/apex-sert/releases>
- 2) Click on the **Clone or Download** button; when it expands, click **Download ZIP** to begin the download.



- 3) Unzip the file that downloads and then navigate to the **releases** directory.
- 4) In that directory, there will be a file with a name similar to **sert_050000.zip**. This ZIP file contains the APEX-SERT installer and corresponding code, so it should be moved to a place where it is possible to access the target database server via SQL*Plus.
- 5) Unzip the file **sert_050000.zip**. It will create a directory named **sert**. that will contain the following files & directories:

```
[oracle@localhost sert]$ ls -al
total 488
drwxr-xr-x. 12 oracle oinstall 4096 Jun 21 13:57 .
drwxr-xr-x.  3 oracle oinstall  41 Jun 21 13:44 ..
drwxr-xr-x.  2 oracle oinstall 4096 Jun 21 13:44 app
drwxr-xr-x.  2 oracle oinstall 4096 Jun 21 13:44 cfg
drwxr-xr-x.  2 oracle oinstall  78 Jun 21 13:44 ctx
drwxr-xr-x.  2 oracle oinstall 4096 Jun 21 13:44 ins
-rw-r--r--.  1 oracle oinstall 18376 Jun 21 13:44 ins.sql
drwxr-xr-x.  2 oracle oinstall  53 Jun 21 13:44 logger
drwxr-xr-x.  2 oracle oinstall 4096 Jun 21 13:44 pkg
drwxr-xr-x.  2 oracle oinstall  47 Jun 21 13:44 prc
drwxr-xr-x.  2 oracle oinstall  98 Jun 21 13:44 syn
drwxr-xr-x.  2 oracle oinstall 4096 Jun 21 13:44 tbl
-rw-r--r--.  1 oracle oinstall 2075 Jun 21 13:44 unins.sql
drwxr-xr-x.  2 oracle oinstall 8192 Jun 21 13:44 vw
```

2.3. Installation

APEX-SERT installs via a single installation script. This script must be run as SYS, and will only take a couple of minutes to complete.

The installation will create two schema in your database:

- **SV_SERT_050000** - Schema which holds all of the APEX-SERT database objects and metadata.
- **SV_SERT_APEX** - Schema which will be used as the Parse As schema for the APEX-SERT APEX applications.

It will also create an APEX workspace called **SERT**. This is where the APEX-SERT APEX applications will be installed. The **SERT** workspace will not contain any developer users or workspace administrators, as it is not necessary nor required that any APEX developer access this workspace.

To install SERT:

- 1) Locate and change directories to the **sert** directory that was created in the last section.
- 2) Enter the following command and press enter:

```
sqlplus sys/<password>@<database> AS SYSDBA
```

Where **<password>** is your password and **<database>** is your database TNSNames entry. Depending on your environment, it may not be necessary to enter a value for **<database>**.

- 3) From the SQL Plus prompt, enter the following and press enter:

```
@ins.sql
```

NOTE: The APEX-SERT scripts must be installed from SQL*Plus at the command line, as they use very specific commands only available via SQL*Plus. These scripts will not run correctly via SQL Developer or any other GUI environment.

- 4) The installer will then start, and you will see the following screen:

```

.
. APEX-SERT
.
.
.
.
===== APEX-SERT =====
Software Version: 050000

Press Enter to continue installation or CTRL-C to EXIT

```

- 5) To begin the installation, press **Enter**.
- 6) When prompted, enter a password for the **SERT Schema** and **SERT Admin User** and an e-mail address for the APEX-SERT Admin User.

```
... Testing for prerequisites
..... Test for SYSDBA privs
..... Test for Oracle 11.2.0.4 or above
..... Test for XE Edition of Oracle
..... Test for Valid Instance of APEX 5.0.0 or above
..... Is current version of SERT already installed
..... Application Alias check is clear
..... Application Alias check is clear
... Test for prerequisites succeeded

Please enter the password for the SERT Schemas: *****
Please enter the password for the SERT Admin user: *****
Please enter the e-mail address the SERT Admin user: admin@server.com
```

This schema password for can be safely changed at any time without any impact on the operation of APEX-SERT.

- 7) Select a default & temporary tablespace for the **SV_SERV_050000** database user. It is recommended that you create a new default tablespace specifically for use with APEX-SERV. This task must be done before running the installer.

```
=====
= CREATING SV_SER_050000 USER
=====

Listing all available tablespaces...

Tablespace Name
-----
APEX
DEMO
EXAMPLE
SYSAUX
SYSTEM
TEMP
UNDOTBS1
USERS

Please enter the default tablespace to be used for SV_SER_050000 [USERS] :
Please enter the temporary tablespace to be used for SV_SER_050000 [TEMP] :
```

- 8) Next, select a default & temporary tablespace for the **SV_SERT_APEX** database user.
- 9) APEX-SERT provides an optional component that allows you to examine and report on permissions and privileges of an application's Parse As Schema. However you must grant **SELECT** privileges on 3 DBA views to the **SV_SERT_APEX** user. If you choose not to install this option, SERT will install and function correctly, simply hiding these attributes in the user interface.

```
=====
== P A R S E   A S   S C H E M A   D E T A I L S   O P T I O N
=====

SERT can provide the ability to examine and report on the schema level
privileges of the applications "Parse As" schema. However this requires the
following system privileges to be granted to the PARSE AS SCHEMA.

* GRANT SELECT ON SYS.DBA_SYS_PRIVS TO SV_SERT_APEX
* GRANT SELECT ON SYS.DBA_TAB_PRIVS TO SV_SERT_APEX
* GRANT SELECT ON SYS.DBA_ROLE_PRIVS TO SV_SERT_APEX

If you choose to install this option, the grants will be automatically
apportioned and the feature will be available within SERT
```

- 10) Next, determine if you want APEX-SERT to choose available application IDs, or if you wish to define those manually.

```
=====
== A U T O   A P P L I C A T I O N   I D   A S S I G N M E N T
=====

Let APEX automatically assign Application ID values for SERT? (Y or N) [Y] :
```

- 11) Before the installer starts, a confirmation screen will be displayed. If everything looks good, press **enter** to initiate the installation.

```
=====
== Ready to start SERT Version 050000b1 installation...
=====

Log File           = SERT_install_2016-06-21_13-48-04.log
SERT Schema        = SV_SERT_050000
View System Privileges = yes
App ID Auto Assign  = Y
SERT Application ID  = 0
SERT Management App ID = 0

Press Enter to continue installation or CTRL-C to EXIT
```


The installer will run for a couple of minutes. Upon completion of the installation, you should see the following screen:

```
=====
== P O S T   I N S T A L L A T I O N   S T E P S
=====

In order to be able to launch SERT, paste the following into the System message
region in the INTERNAL workspace:

<a style="font-weight:bold;" href="javascript:var
launchSERT=window.open('sv_sert_apex.launch_sert?p_session_id=' +
$v('pInstance'));">Launch SERT</a>

To access the SERT Admin application, enter the following URL while
substituting HOST, PORT and DAD with those from your APEX environment:

http(s)://HOST:PORT/DAD/f?p=SERT_ADMIN

Please see the SERT Installation Guide for detailed post-installation steps.

===== APEX-SERT =====

Please check the log file for errors.

Please refer to the SERT installation guide for final installation steps.

=====
===== C O M P L E T E =====
=====
```

Be sure to take a moment to inspect the log file, which can be found in the **sert** directory upon completion. There may be one warning message in the log under the **LOGGER** section. It can be safely ignored.

NOTE: *This version of APEX-SERT will not preserve any data in the commercial version of eSERT or sumnevaSERT. No data will be transferred over.*

3. INSTALLATION

3.1. Launch APEX-SERT Link

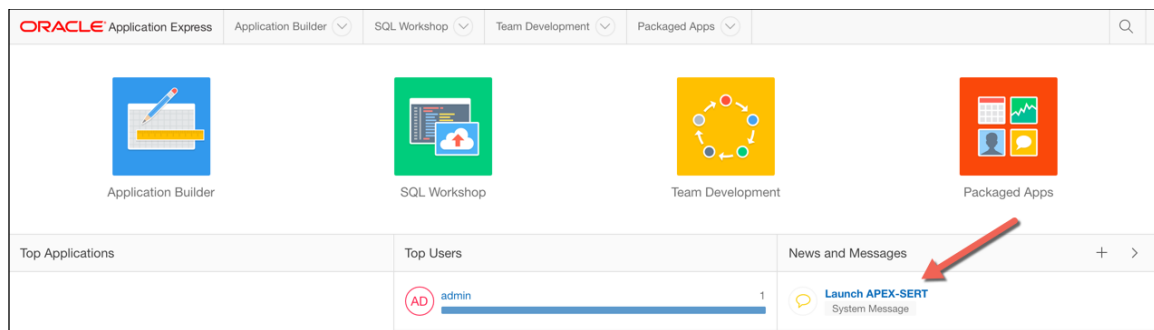
After APEX-SERT is installed, a small update needs to be made to the **System Message** in order to provide users with a way to launch it. This can only be done by an APEX Instance Administrator.

- 1) Login to the **INTERNAL** workspace with the **ADMIN** user.
- 2) Once logged on, click on **Manage Instance**.
- 3) In the **Messages** region, click on **Define System Message**.
- 4) Set **System Message** to **Custom Message**, and copy and paste the code below into the **Message** region:

```
<a style="font-weight:bold;" href="javascript:var
launchSERT=window.open('sv_sert_apex.launch_sert?p_session_id=' +
$v('pInstance'));">Launch APEX-SERT</a>
```

- 5) Click **Apply Changes**.

To ensure that the launch code works, log in to any APEX workspace. Upon login, there should be a link under the **News and Messages** region that reads **Launch APEX-SERT**. Clicking on this link will launch APEX-SERT in a new window or tab.



3.2. wwv_flow_epg_include_local Function

If you are using ORDS with APEX, then you may need to modify a function to authorize the APEX-SERT launcher.

First of all, ORDS must be configured to utilize a validation function. To check this, edit the **defaults.xml** file in the ORDS configuration directory. Towards the end of the file the following two rows need to be present:

```
<entry key="security.requestValidationFunction">wwv_flow_epg_include_modules.authorize</entry>
<entry key="security.validationFunctionType">plsql</entry>
```

If these rows are present, then ORDS is using the function **wwv_flow_epg_include_modules.authorize** from the APEX_050000 schema to determine which procedures can be called from the URL. This is the default setting that is configured when recent versions of ORDS are installed.

Once this have been confirmed, changes to a local function called **wwv_flow_epg_include_mod_local** need to be made. This local function is called by **wwv_flow_epg_include_modules.authorize**, so any changes made to it will not disrupt APEX or ORDS.

The source of **wwv_flow_epg_include_mod_local** can be found in the APEX directory under the **core** subdirectory in the file **wwv_flow_epg_include_mod_local.sql**. This function must be created in the **APEX_050000** schema. Since in most, if not all cases, the **APEX_050000** schema is locked, it may have to be created from SYS or SYSTEM.

Before creating the function, two small changes need to be made to it:

- 1) Comment out the first line; it should start with **return false;**
- 2) Add a reference to **SV_SERT_APEX.LAUNCH_SERT** towards the end of the function, as illustrated below:

```
create or replace function wwv_flow_epg_include_mod_local(
    procedure_name in varchar2)
return boolean
is
begin
    --return false; -- remove this statement when you modify this function
    --
    -- Administrator note: the procedure_name input parameter may be in the format:
    --
    --     procedure
    --     schema.procedure
    --     package.procedure
    --     schema.package.procedure
    --
    -- If the expected input parameter is a procedure name only, the IN list code shown below
    -- can be modified to itemize the expected procedure names. Otherwise you must parse the
    -- procedure_name parameter and replace the simple code below with code that will evaluate
    -- all of the cases listed above.
    --
    return true;

    if upper(procedure_name) in (
        'SV_SERT_APEX.LAUNCH_SERT') then
        return TRUE;
    else
        return FALSE;
    end if;
end wwv_flow_epg_include_mod_local;
```

Once these changes are made, you may need to restart ORDS for them to take effect.