

Workload Analytics & Reports (WAR)

Steps to Setup APEX Workspace and Install WAR App

STEP 1: [Login to the SQL Developer Web](#) and create a new database user and Grant the following privileges. (OCI Console → Autonomous Database → Select your Database → Tools → SQL Developer Web → SQL)

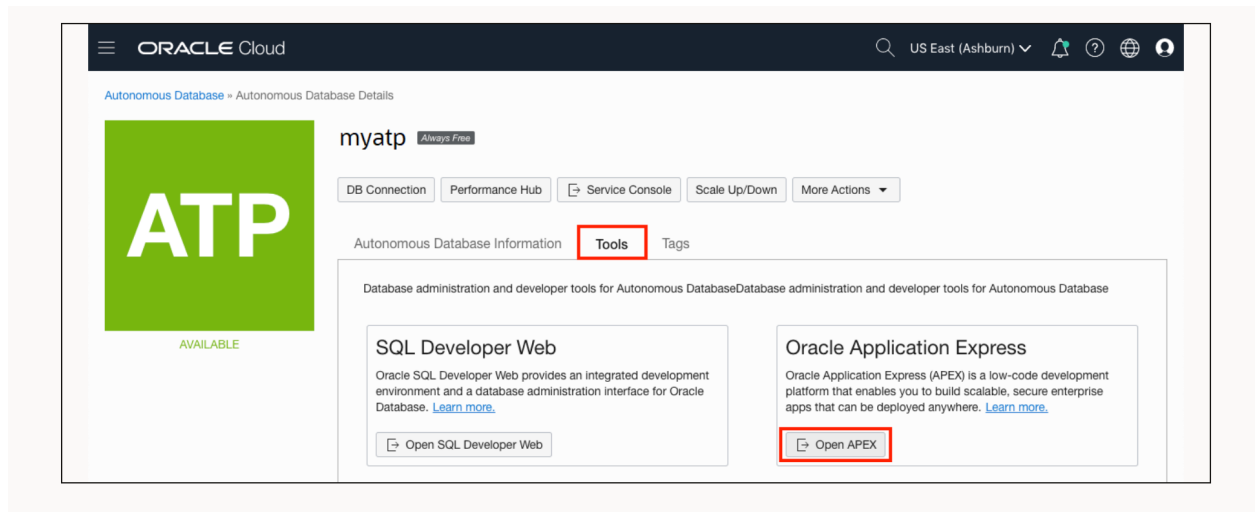
```
-- please replace XXXXXXXX with secure password

CREATE USER WAR_USER identified by XXXXXXXX;

GRANT execute on dbms_workload_repository to WAR_USER;
GRANT execute on dbms_perf to WAR_USER;
GRANT select_catalog_role to WAR_USER;
```

NOTE: It's advised to create a new user/schema to install this app. All the required supporting objects can be created under this new user. WAR_USER is a recommended APEX user schema.

STEP 2: Login to the APEX Administration Services (OCI Console → Autonomous Database → Select your Database → Tools → Open Apex)



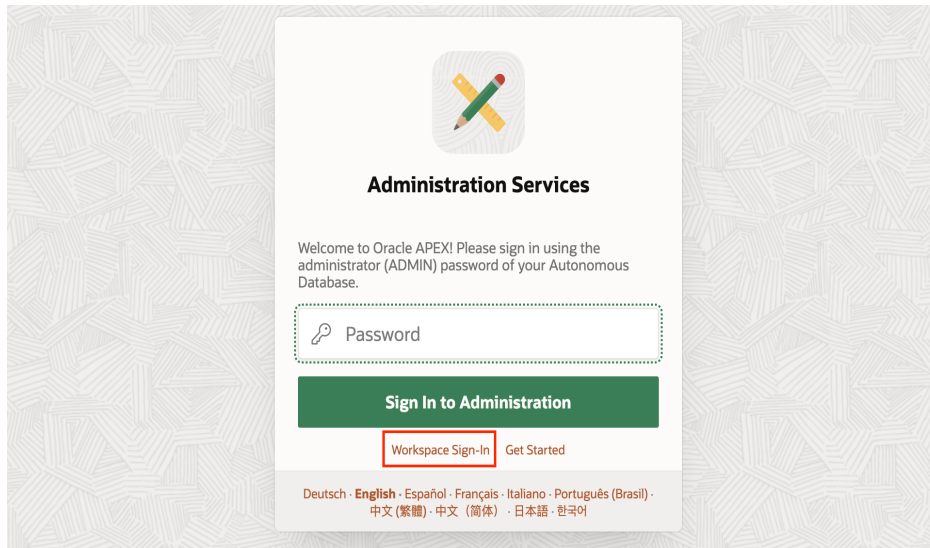
STEP 2.1: [Create a new apex workspace](#)

Notes :

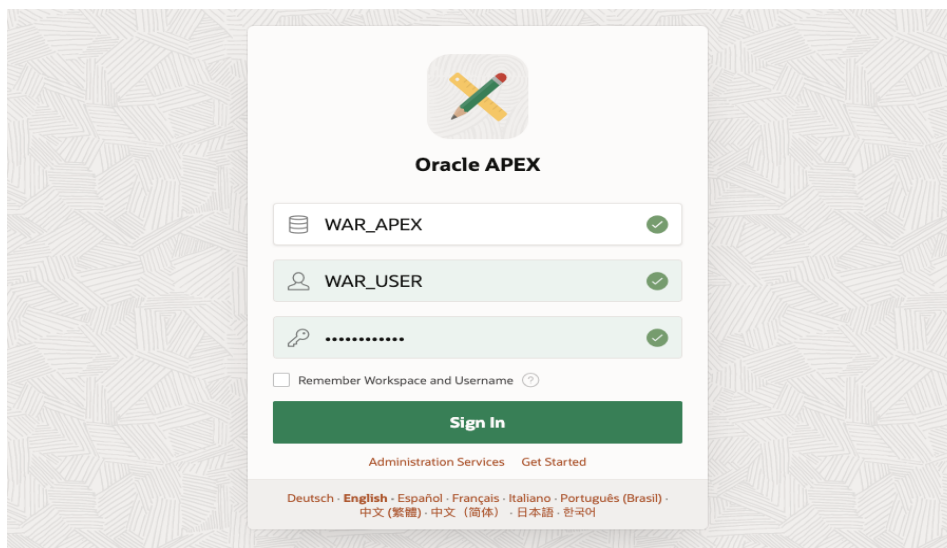
- Please select “Existing Schema” option while creating a new workspace.
- Use the database user/schema (WAR_USER) created in step 1 to the new workspace created here.

The screenshot shows the 'Create Workspace' dialog box. It has a title bar with a close button. The main text says: 'Identify an existing database user to use with your new workspace. This will allow applications in your workspace to access data stored within this schema.' There are four input fields: 'Database User' with the value 'WAR_USER', 'Workspace Name' with the value 'WAR_APEX', 'Workspace Username' with the value 'WAR_USER', and 'Workspace Password' which is masked with asterisks. Each field has a help icon. Below the fields is a tab labeled 'Advanced'. At the bottom, there are three buttons: a back arrow, a 'Cancel' button, and a green 'Create Workspace' button.

STEP 3: Login to the APEX Workspace (OCI Console → Autonomous Database → Select your Database → Tools → Open Apex → Workspace Sign-In)



- Provide the Workspace Name, Username and the Password then click “Sign In” (Details provided in STEP 2)



STEP 4: Import the f101.sql file into your APEX workspace.

- Navigate to the App Builder → Import
- Drag and drop the application .sql file and click Next.
- Leave the defaults as they are, then continue through the remaining steps in the wizard to finish installing the application.

Get Started with WAR:

Login Page: Sign in to the application using the Username and Password created earlier

The login page features a central white card on a background of faint SQL code. At the top of the card is a blue database icon. Below it, the title 'Workload Analytics & Reports (WAR)' is displayed. The login form includes a username field with 'WAR_USER' entered, a password field with masked characters, a 'Remember username' checkbox, and a 'Sign In' button.

Home Page: Select the radio button to choose the specific AWR time period data and then click on the **Analyze** button

This will be the Home page once you login. Here we mainly have two modes of operations

- **Single:** you can select any AWR time period and do your analysis (**Select only one**).
- **Compare:** Select one or two checkboxes if you would like to compare two periods of the workload from the same database or two workloads from different databases (**Select up to two**).

Workload Analytics & Reports (WAR)

war_admin

WAR

Select a Database and Analyze Automatic Workload Repository (AWR) data

Analyze

Mode

Compare

Single

Source DB

Current

Other

Search: All Text Columns

Go

Actions

	DB ID	CON ID	Version	DB Name	Instances List	Instance Startup	Begin Interval Time	End Interval Time	Begin Snap ID	End Snap ID	Snaps
<input type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-06-12 09:41	2022-06-12 09:41:16	2022-12-09 03:02:11	3154	7447	1123
<input type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-05-29 09:54	2022-05-29 09:54:39	2022-11-20 09:02:02	2798	6997	1007
<input checked="" type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-05-15 10:08	2022-05-15 10:08:29	2022-11-06 10:03:19	2463	6662	664
<input type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-05-01 15:52	2022-05-01 15:52:32	2022-10-23 17:00:01	2132	6333	338
<input type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-05-01 10:19	2022-05-01 10:19:01	2022-10-23 10:00:58	2127	6326	6
<input type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-04-17 09:23	2022-04-28 23:01:41	2022-10-23 09:04:03	2068	6325	1064
<input type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-06-26 09:32	2022-06-26 09:32:17	2022-10-09 09:04:55	3470	5989	1175
<input type="radio"/>	3344274033	313	19.0.0.0.0	BHWK52XZDIGTZVP_WARTEST(Linux x86 64-bit)	1,2,3,4,5,6,7,8	2022-04-17 10:40	2022-04-17 10:40:06	2022-05-01 10:01:30	2126	2126	1

1 rows selected

<

>

1

>

1 - 8 of 8

Dashboard Page: All the details of your selection will be shown show on this page.
Select any component from Actions to analyze the data.

Workload Analytics & Reports (WAR)

war_user

Dashboard

Change Database

BHWK52XZDIGTZVP_WARAPPTTEST(Linux x86 64-bit)

3167871415

VERSION

19.0.0.0.0

INSTANCES LIST

8

Begin Time

12/08/2022 03:00

End Time

12/09/2022 03:00

Begin Time defaulted to 24 hrs before End Time.

Actions

Top Activity

Analyze the performance trend of the system including top SQL and top wait events.

Load Profile

Analyze historical system statistics information in DBA_HIST_SYSSTAT and DBA_HIST_SYS_TIME_MODEL.

Wait Events

Analyze the top 10 wait event charts. The wait events are sorted by total wait time.

AWR Reports

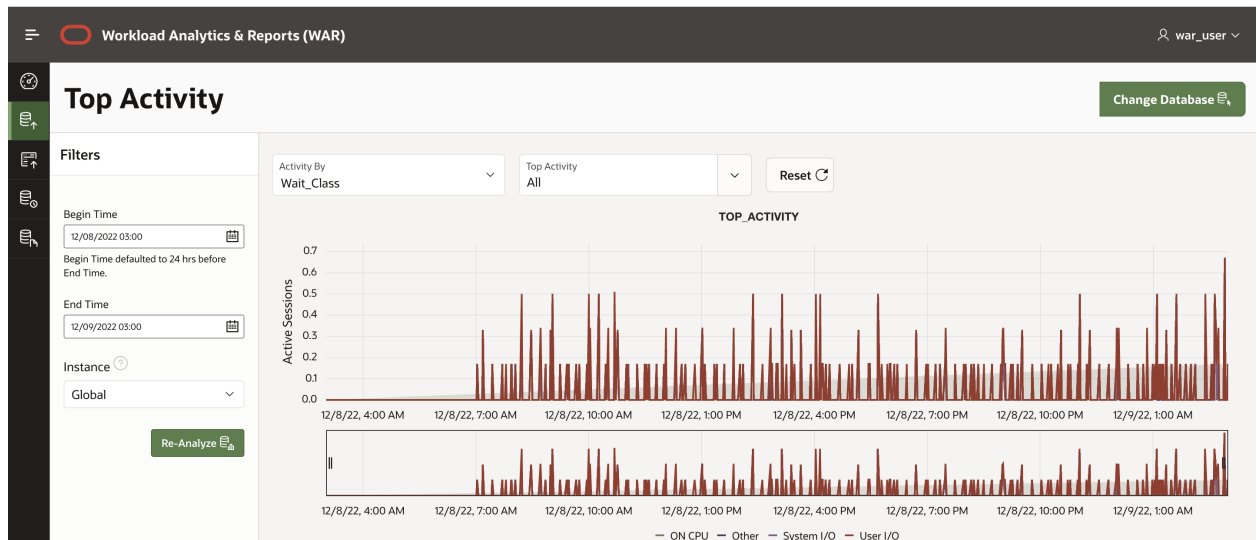
Analyze the Automatic Workload Repository(AWR) reports.

Note: Begin Time is defaulted to 24 hrs before End Time.

Brief introduction about each component

Top Activity:

- **Top Activity Chart:** You can see the performance trend of the system from the Top Activity Chart (as known as ASH Chart).



- **Top SQL and Top Wait Events:** You can see top SQL and top wait events within the selected timeframe of the Activity chart view port. (Drag/Slide the overview section below the activity chart to see the specific top SQL and top wait events in that selected timeframe).

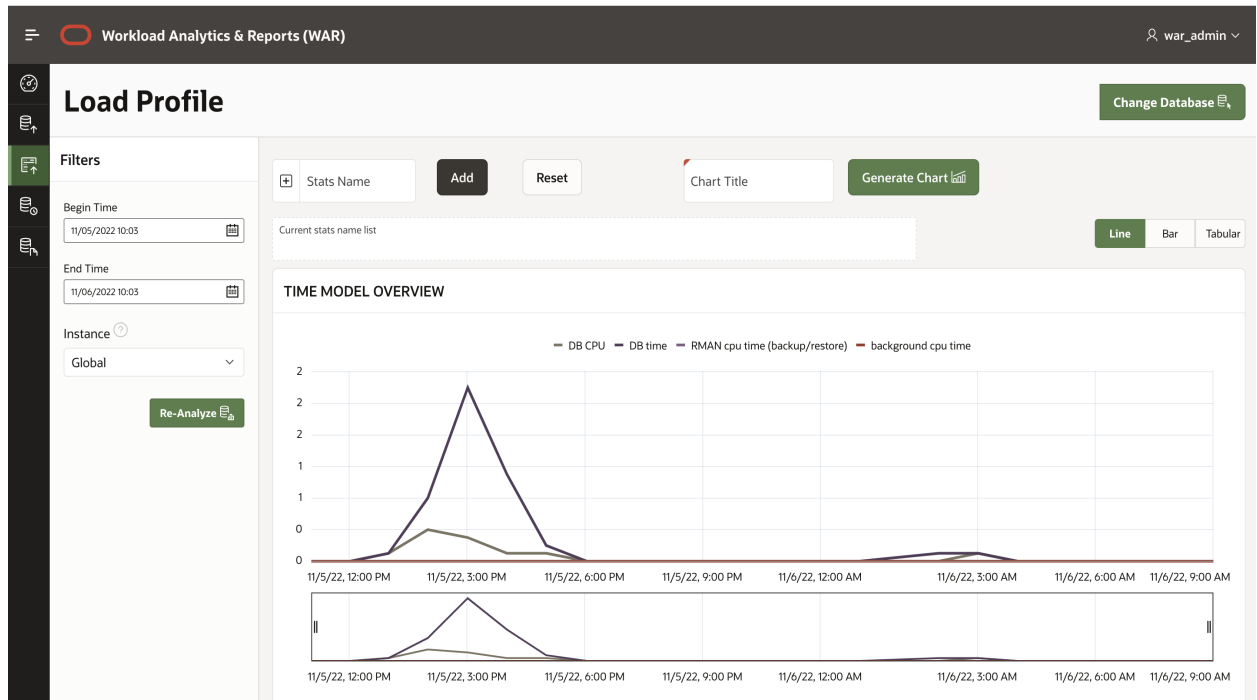
The screenshot shows the 'Top Activity' section of the Workload Analytics & Reports (WAR) interface. Below the chart, there are two tables: 'TOP SQL' and 'TOP EVENT'. The 'TOP SQL' table shows the top SQL queries, including SQL ID, SQL Opname, AAS SQL, and SQL Monitor. The 'TOP EVENT' table shows the top wait events, including Activity, AAS, Event Name, and Wait Class. The tables are filtered by the same time range and instance as the chart above.

Activity SQL	SQL Opname	AAS SQL	SQL ID	SQL Monitor
1.28 %	SELECT	0	12fffmc95v7g	sqlmon
1.7 %	INSERT	0	4p5r3qzkwus9s	sqlmon
1.7 %	SELECT	0	417pd1uc35v8u	sqlmon
1.7 %	SELECT	0	djq3xdrtzw9ju	sqlmon
1.7 %	SELECT	0	dd9td6tcht765	sqlmon
2.13 %	SELECT	0	8skbgyk31q91g	sqlmon
2.13 %	SELECT	0	b9nbhsbx8tqz5	sqlmon
2.13 %	SELECT	0	7wws857h2z0mx	sqlmon
2.98 %	PL/SQL EXECUTE	0	93w8sdxh08qwf	sqlmon
6.4 %	UPSERT	0	8xbt6t0s3jn0t	sqlmon

Activity	AAS	Event Name	Wait Class
43 %	0	Disk file Mirror Read	User I/O
43 %	0	direct path write	User I/O
43 %	0	PGA memory operation	Other
43 %	0	reliable message	Other
43 %	0	latch: ges resource hash list	Other
1.28 %	0	DLM cross inst call completion	Other
1.28 %	0	cell single block physical read	User I/O
1.7 %	0	cell multiblock read request	User I/O
2.13 %	0	control file sequential read	System I/O
2.13 %	0	enq: ZZ - update hash tables	Other
2.55 %	0	cell single block read request	User I/O
2.55 %	0	direct path read	User I/O
2.98 %	0	cell multiblock physical read	User I/O

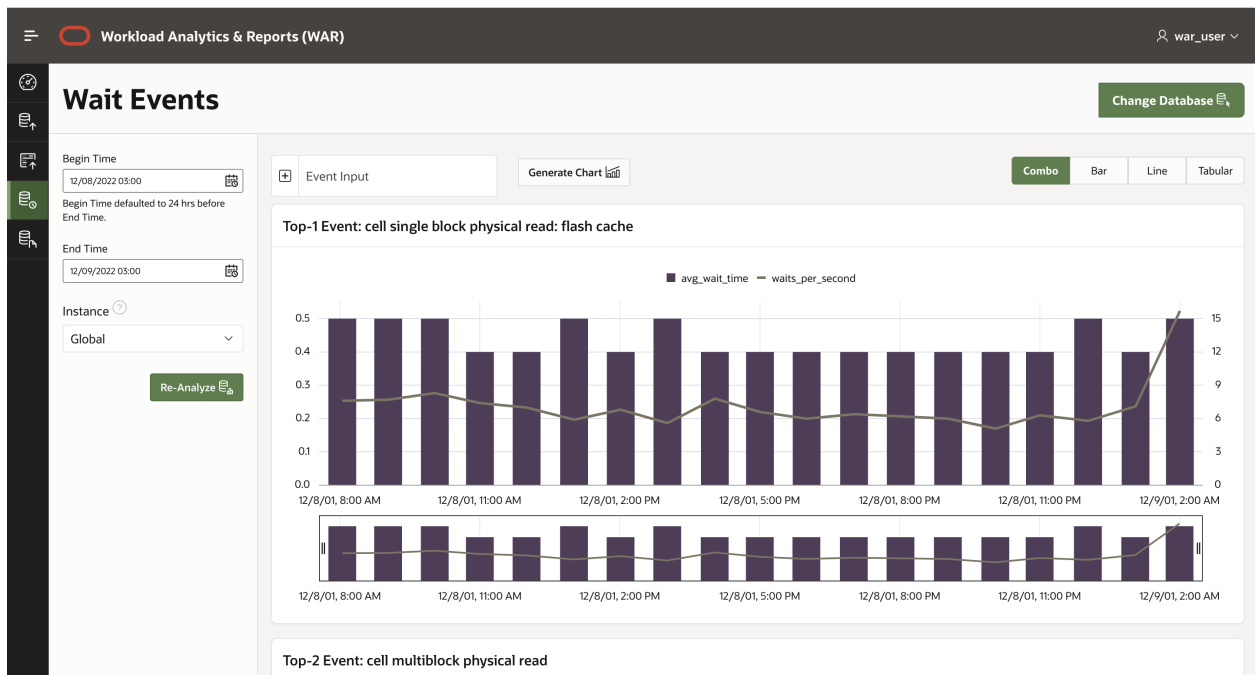
Load Profile:

- This page categorizes and displays historical system statistics information in DBA_HIST_SYSSTAT and DBA_HIST_SYS_TIME_MODEL
- You can also search for specific system statistics you want. Please refer to [Statistics Descriptions](#) for all the system statistics recorded.
- Multiple statistics can be added in the same customized chart, and you can also customize the chart title. Add each statistic one by one and then give the chart title finally click the **"Generate Chart"** button e.g., 'sorts (rows)', 'sorts (disk)'.



Wait Events:

- This tab shows the top 10 wait event charts. The wait events are sorted by total wait time.
- When you click on the bar of a specific snap period on the bar chart of a wait event, the wait event histogram information for this snap_id will be displayed.
- You can also search and generate a chart for a specific wait event. Please refer to [descriptions for wait events](#) to check detailed descriptions for those wait events of greatest interest.



AWR Reports:

- Select the begin and end snapshot id and click the "**Generate AWR**" button to get the AWR report.

The screenshot displays the 'Workload Analytics & Reports (WAR)' application interface. The main heading is 'AWR Reports'. On the left, there are input fields for 'Begin Time' (12/08/2022 03:00), 'End Time' (12/09/2022 03:00), and 'Instance' (Global). A 'Re-Analyze' button is located below these fields. The main area contains a table with columns 'Snap Id' and 'End Interval Time'. The table lists 19 snapshots, with snapshots 15, 16, and 17 highlighted in green and their selection checkboxes checked. A search bar at the top of the table area allows searching across all text columns. At the bottom right, there is a 'Generate AWR' button. The bottom status bar shows navigation icons and page information.

	Snap Id	End Interval Time
<input type="checkbox"/>	19	2022-12-09 01:03:20
<input type="checkbox"/>	18	2022-12-09 00:02:58
<input checked="" type="checkbox"/>	17	2022-12-08 23:00:34
<input checked="" type="checkbox"/>	16	2022-12-08 22:03:19
<input checked="" type="checkbox"/>	15	2022-12-08 21:02:54
<input type="checkbox"/>	14	2022-12-08 20:01:34
<input type="checkbox"/>	13	2022-12-08 19:01:15
<input type="checkbox"/>	12	2022-12-08 18:00:57
<input type="checkbox"/>	11	2022-12-08 17:00:36
<input type="checkbox"/>	10	2022-12-08 16:02:15
<input type="checkbox"/>	9	2022-12-08 15:01:53
<input type="checkbox"/>	8	2022-12-08 14:01:35
<input type="checkbox"/>	7	2022-12-08 13:01:11
<input type="checkbox"/>	6	2022-12-08 12:00:30
<input type="checkbox"/>	5	2022-12-08 11:00:10
<input type="checkbox"/>	4	2022-12-08 10:02:46