



# DB Sizing Toolkits

NetApp Solutions

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# DB Sizing Toolkits

## Oracle Sizing Guidance for Azure NetApp Files

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This solution provides an useful toolkit for sizing compute and storage for Oracle deployment on ANF in Azure cloud.

### Purpose

Moving existing Oracle workload from one platform to another, such as from on-prem to public cloud, needs sizing compute and storage in the target platform to meet performance and service level requirements. This documentation demonstrates a simple toolkit to accomplish that goal.

Unlike a new database application, which may grow over time, an existing Oracle workload has established workload patterns in compute and storage requirements, which are recorded in an Oracle Workload Repository or AWR. This toolkit utilizes an HTML parser to retrieve relevant information from Oracle AWR. The results are supplemented by additional sizing information obtained via SQL scripts against the database to provide meaningful compute and storage guidance when relocating the Oracle database.

This solution addresses the following use cases:

- Provide sizing guidance for Oracle database server compute when relocating database from on-prem to Microsoft Azure cloud.
- Provide sizing guidance for Oracle database server storage when relocating database from on-prem to Microsoft Azure NetApp Files.

### Audience

This solution is intended for the following people:

- A DBA who manages Oracle databases in on-prem private data center or Microsoft Azure cloud environment.
- A storage administrator who manages on-prem storage or Microsoft Azure NetApp Files storage that supports Oracle databases.
- An application owner who likes to migrate Oracle database from on-prem to Microsoft Azure cloud.

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## Solution deployment

### Prerequisites for deployment

Deployment requires the following prerequisites.

- Oracle AWR reports that capture the snapshots of database activities during peak application workload.
- Access to Oracle database to execute SQL scripts with DBA privilege.

### Download the toolkit

Retrieve the toolkit from repository [Oracle Sizing Guidance for ANF](#)

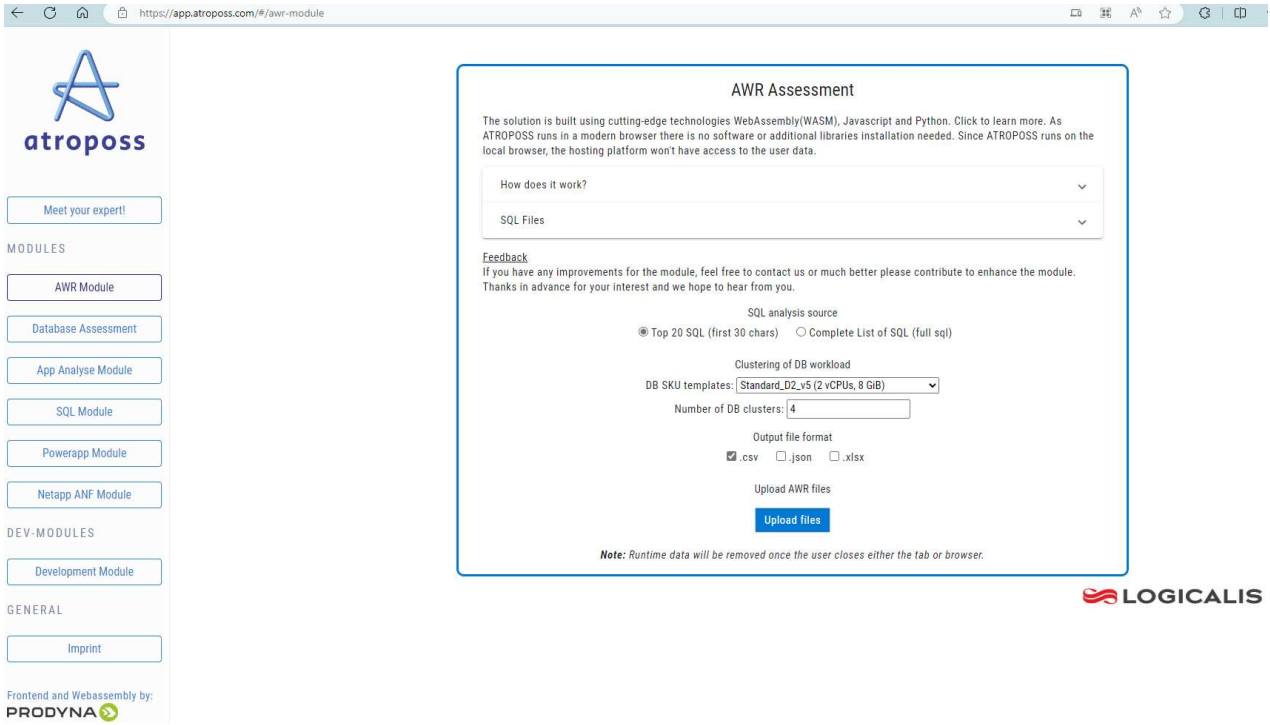
### How to use the toolkit?

The toolkit consists of a web-based HTML parser and two SQL scripts to gather Oracle database information. The output is then input into an Excel template to generate sizing guidance of computing and storage for the Oracle database server.

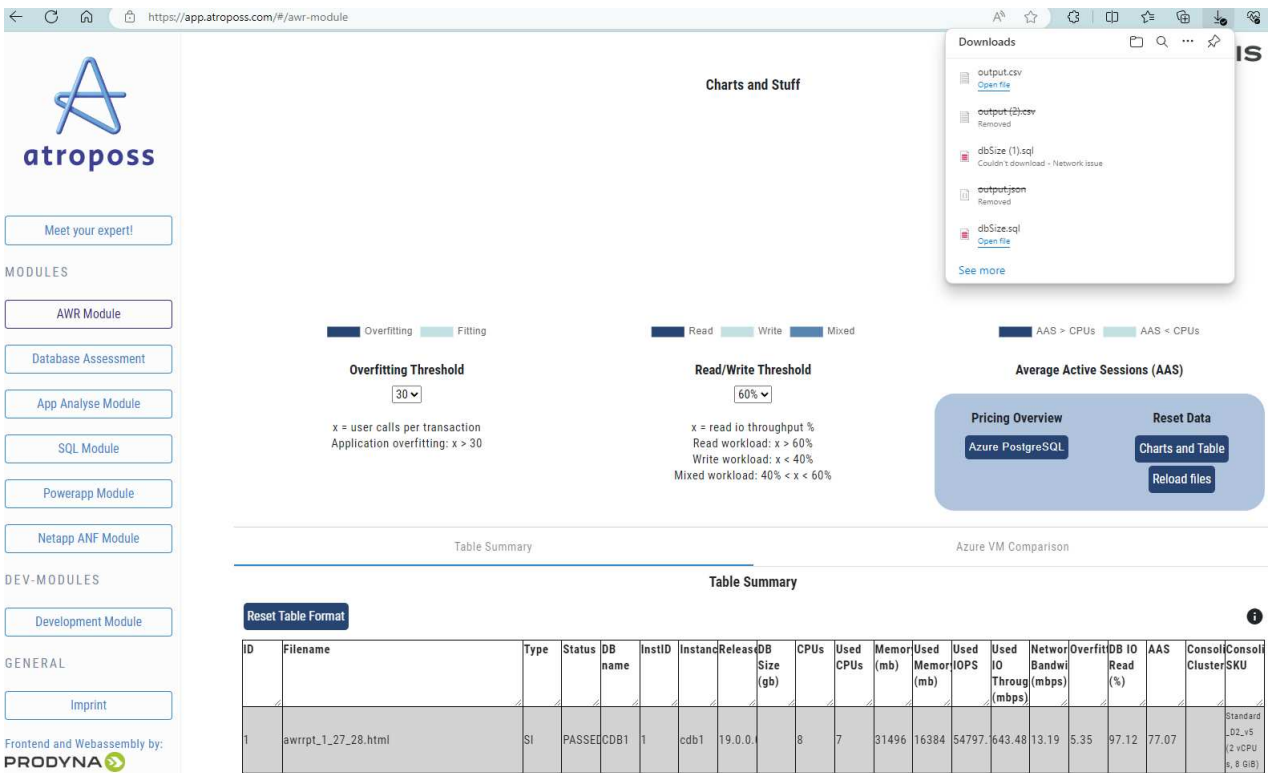
- Use an [HTML parser](#) AWR module to retrieve sizing information of a current Oracle database from an AWR report.
- Execute `ora_db_data_size.sql` as a DBA to retrieve physical Oracle data file size from database.
- Execute `ora_db_logs_size.sql` as a DBA to retrieve Oracle archived logs size with desired archive logs retention window (days).
- Input sizing information obtained above into excel template file `oracle_db_sizing_template_anf.xlsx` to create a sizing guidance on compute and storage for Oracle DB server.

### Toolkit usage demonstration

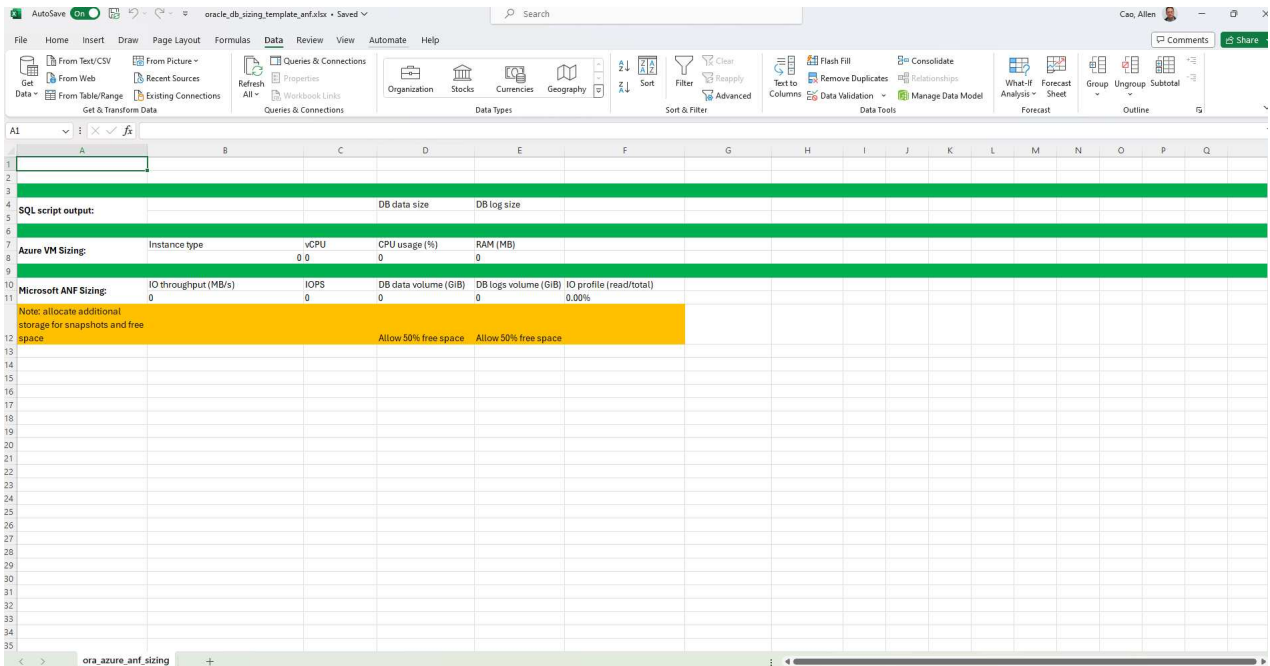
1. Open HTML parser AWR module.



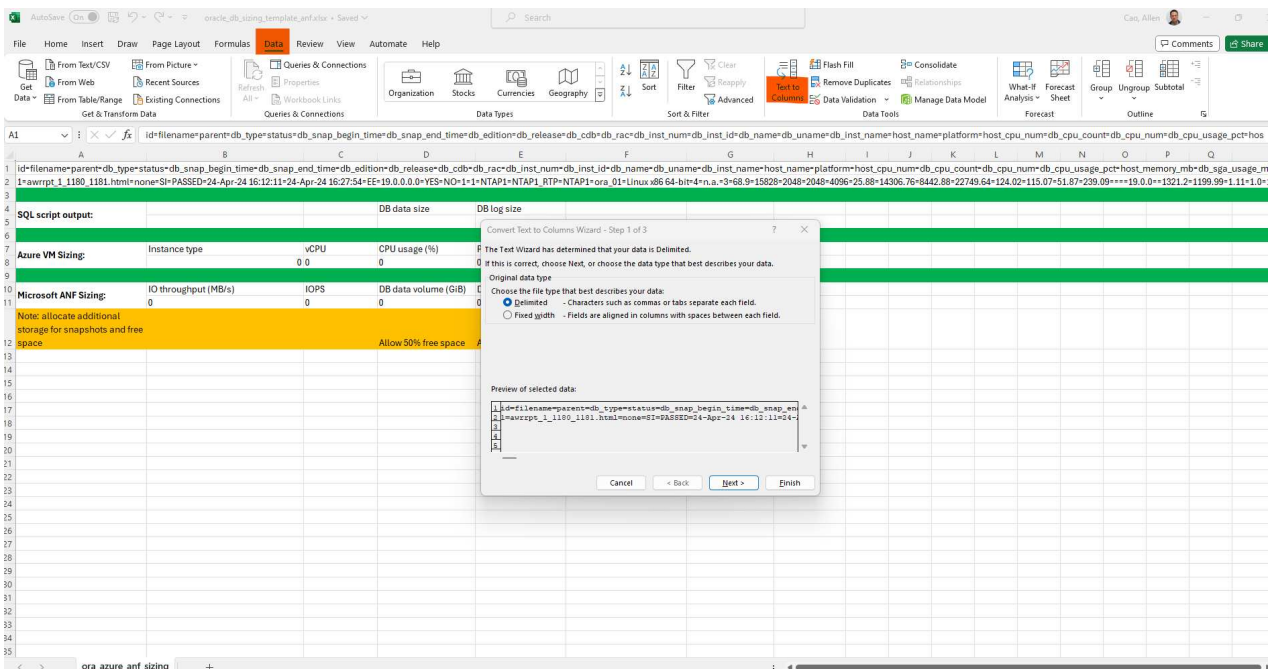
2. Check output format as .csv and click Upload files to upload awr report. The parser returns results in a HTML page with a table summary as well as an output.csv file in Download folder.



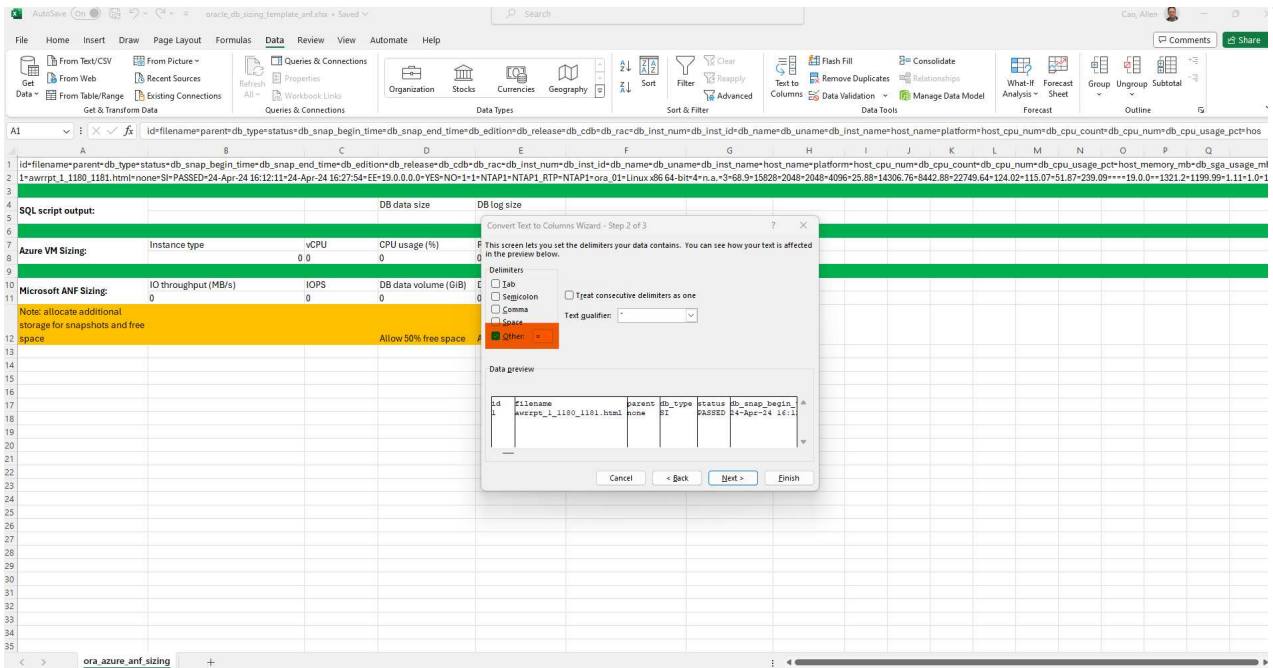
3. Open the excel template file and copy paste the csv content into column A and cell 1 to generate the DB server sizing information.



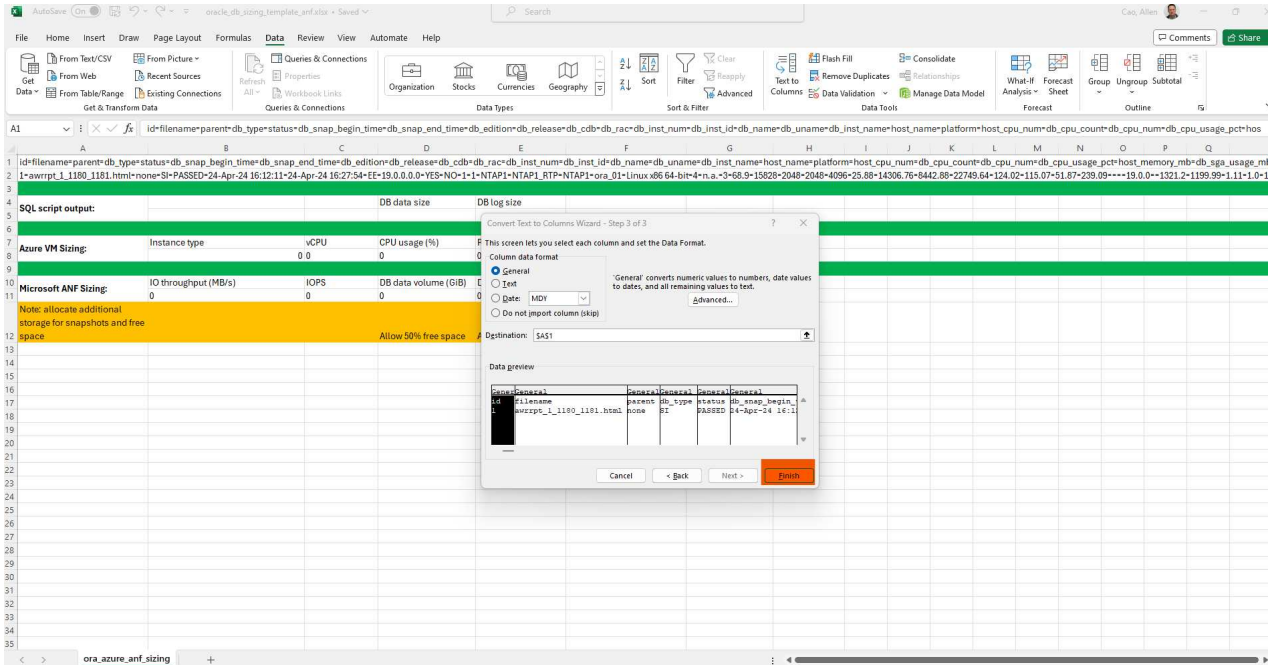
4. Highlight column A and fields 1 and 2, click on Data, then Text to Columns to open the Text Wizard. Choose Delimited, then Next to next screen.



5. Check Other, then enter '=' as Delimiters. Click on Next to next screen.



6. Click on **Finish** to complete the string conversion into readable column format. Note the VM and ANF sizing fields have been populated with data retrieved from the Oracle AWR report.



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q		
1	id	filename	parent	db_type	status	db_snap_begin_time	db_snap_end_time	db_edition	db_releas_db_cdb	db_rac	db_inst_ni	db_inst_ic	db_name	db_unam	db_inst_n	host_nam	platform	
2		1 awrrpt_1_1180_1181.html	none	SI	PASSED	4/24/2024 16:12	4/24/2024 16:27	EE	19.0.0.0.0	YES	NO	1	1	NTAP1	NTAP1_RT	NTAP1	ora_01	Linux x86
4	SQL script output:			DB data size	DB log size													
7	Azure VM Sizing:		Instance type	vCPU	CPU usage (%)	RAM (MB)												
8		SI	4	68.9	15828													
10	Microsoft ANF Sizing:		IO throughput (MB/s)	IOPS	DB data volume (GiB)	DB logs volume (GiB)	IO profile (read/total)											
11			239.09	22749.64	0	0	62.89%											
12	Note: allocate additional storage for snapshots and free space			Allow 50% free space	Allow 50% free space													

7. Execute script ora\_db\_data\_size.sql, ora\_db\_logs\_size.sql as a DBA in sqlplus to retrieve existing Oracle database data size and archived logs size with the number of days of retention window.



```

[oracle@ora_01 ~]$ sqlplus / as sysdba

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Mar 5 15:25:27 2024
Version 19.18.0.0.0

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Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 -
Production
Version 19.18.0.0.0

SQL> @/home/oracle/ora_db_data_size.sql;

Aggregate DB File Size, GiB Aggregate DB File RW, GiB Aggregate DB
File RO, GiB
-----
-----
                                159.05                                159.05
0

```

```

SQL> @/home/oracle/ora_db_logs_size.sql;
Enter value for archivelog_retention_days: 14
old 6:      where first_time >= sysdate -
&archivelog_retention_days
new 6:      where first_time >= sysdate - 14

Log Size, GiB
-----
          93.83

SQL>

```



The database sizing information retrieved using above scripts is the sum of actual size of all physical database data files or log files. It does not factor into the free space that may be available inside each data file.

8. Input the result into excel file to complete the sizing guidance output.

id	filename	parent	db_type	status	db_snap_begin_time	db_snap_end_time	db_edition	db_releas	db_cdb	db_rac	db_inst_ni	db_inst_ic	db_name	db_uname	db_inst_ni	host_nam	platform
1	awrrpt_1_1180_1181.html	none	SI	PASSED	4/24/2024 16:12	4/24/2024 16:27	EE	19.0.0.0.0	YES	NO	1		1.NTAP1	NTAP1_RT	NTAP1	ora_01	Linux x86
SQL script output:			DB data size	DB log size													
			159.05	93.83													
Azure VM Sizing:			Instance type	vCPU	CPU usage (%)	RAM (MB)											
			SI	4	66.9	15828											
Microsoft ANF Sizing:			IO throughput (MB/s)	IOPS	DB data volume (GiB)	DB logs volume (GiB)	IO profile (read/total)										
			239.09	22749.64	318.1	187.66	62.89%										
Note: allocate additional storage for snapshots and free space			Allow 50% free space	Allow 50% free space													

9. ANF uses a three-tier service level (Standard, Premium, Ultra) to manage database volume throughput limit. Refer to [Service levels for Azure NetApp Files](#) for details. Based on sizing guidance output, choose an ANF service level that provides throughput that meet the requirement for the database.

## Where to find additional information

To learn more about the NetApp database solutions, review the following website [NetApp Enterprise Database Solutions](#)

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