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A Practical Guide to SAP® Data Warehouse Cloud

- ▶ Basic principles of SAP Data Warehouse Cloud
- ▶ Separation of semantic modeling and the data layer
- ▶ Virtual interaction between operating departments and IT via spaces
- ▶ SAP BW Bridge and Hybrid landscapes

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2 Data management with spaces

One of the core tasks with regard to a data warehouse is data management. In SAP Data Warehouse Cloud, the *spaces* already addressed are responsible for managing virtual and persistent data in the system. This chapter explains what spaces are and how you can use them.

There are many aspects that make up a space and that play a part in *space management*:

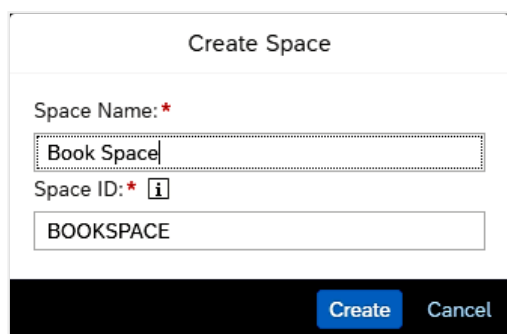
- ▶ Virtual work area
- ▶ Governance and elasticity
- ▶ Assignment of users
- ▶ Source systems
- ▶ Interfaces for external systems
- ▶ Auditing and monitoring

I will address these points individually on the following pages. First, however, let us look at the core question:

What exactly is a space?

A space is a virtual and isolated work area for one or more users of an SAP Data Warehouse Cloud system. Data, data models, business models, system resources, source system connections, users, and much more are created in a space and remain uniquely assigned to that space. This is referred to as *metadata isolation*. The data is located in a database schema specific to the space (*space schema*). This means that before you work with the system, you have to create at least one space, in which further objects are then created.

You create a new space using the CREATE button in the SPACE MANAGEMENT area. The technical name of this space, the SPACE ID, exists only once in the system and is therefore unique (see Figure 2.1).



Create Space

Space Name: *

Book Space

Space ID: * ⓘ

BOOKSPACE

Create Cancel

Figure 2.1: Creating a space

← Space ID

The space ID is defined when you create a space. The system proposes a space ID based on the space name you enter and you can adjust the ID in this dialog box using the following permitted characters:

- ▶ Upper case letters from A to Z, no special characters
- ▶ Numbers from 0 to 9
- ▶ Underscore (_)

The maximum length of the space ID is 20 characters, and for the space name, 30 characters. Reserved keywords, such as SYS, PUBLIC, CREATE, SYSTEM, DBADMIN, SAP_PA_APL, PAL_STEM_TFIDF, DWC_USER_OWNER, DWC_GLOBAL, DWC_TENANT_OWNER, DWC_AUDIT_READER, and DWC_GLOBAL_LOG must not be used. You should also avoid using prefixes such as DWC_ or SAP_.

Once the space has been successfully created, you can no longer change the space ID.

2.1 Space management

You can access the overview of spaces by navigating to  **Space Management** in the system menu on the left-hand side. The screen that appears is divided into four areas (see Figure 2.2).

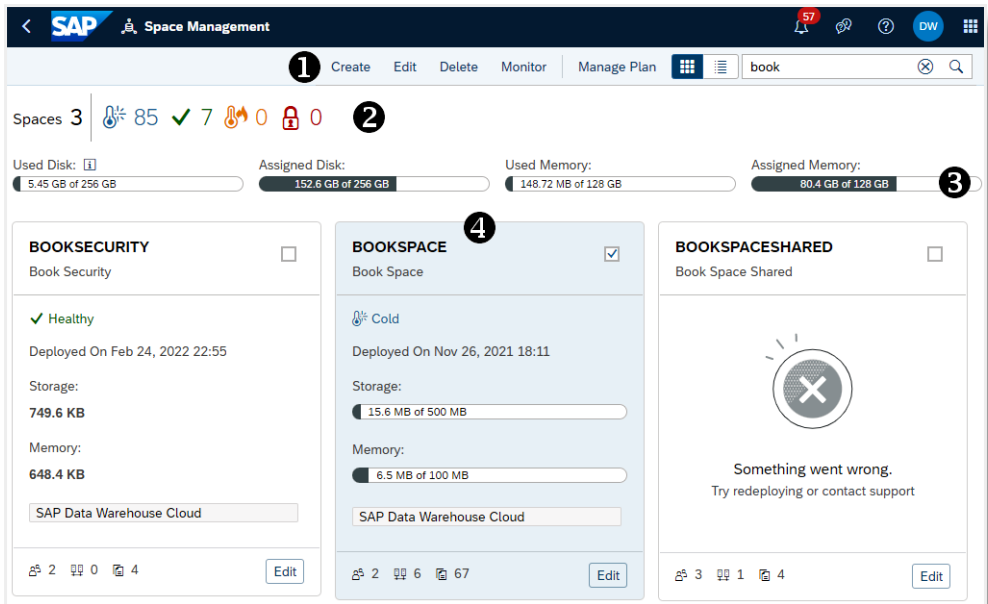


Figure 2.2: Space overview

- 1 At the top right, there is a menu bar with a **search function**, which is particularly helpful if you have defined a lot of spaces in the system. In this example, we have used a filter to search for spaces with *book* in the name. To the left of the search function, you can switch between a **layout** in table form (📄) or in tile form (📱). The MANAGE PLAN button currently has no function. You can create a new space by clicking CREATE, and you can EDIT, DELETE, or MONITOR an existing space if selected.
- 2 Below this menu bar, all existing spaces are listed, grouped by various categories. In this line, from left to right, we can see:
 - ▶ The number of spaces displayed—in this example, three spaces for the filter *book*.
 - ▶ Eighty-five (85) of the spaces are deemed **cold** (they will be shown in blue in your system), as they use only a maximum of five percent of their assigned storage space. Seven (7) spaces use six (6) to ninety (90) percent of the assigned storage space (this number will appear in green), and no spaces use more than ninety (90) percent (this number will appear in red).
 - ▶ On the far right, the lock symbol indicates locked spaces.

- 3 Directly below this line, the display shows the existing system resources in the form of used and assigned disk and in-memory resources. In the current example, of the total of 256 GB on the user disk, only 152.6 GB is assigned to the existing spaces, and in turn, only 5.45 GB of the storage is actually being used. With regard to the in-memory storage, 80.4 GB is assigned, and only 148.72 MB is being used.
- 4 At the bottom of the overview, you see all existing spaces as tiles; here, they are filtered by the *book* search term entered. The individual tiles already show some interesting information.

At the very top of the middle tile, we see the technical space name (BOOK-SPACE), the name (BOOK SPACE), and the status, that is, whether the space is COLD, HEALTHY (left tile), or something went wrong in deployment (right tile). The two bars show the fill level of the disk and in-memory storage. At the very bottom, we can see three further symbols with values in the middle tile:

- Number of users assigned to the space (here, 2)
- Number of source systems connected (6)
- Number of data models the space contains (67)

If you switch to the tabular overview of the spaces by clicking , in principle, you see the same information but just displayed differently (see Figure 2.4, using a different example).

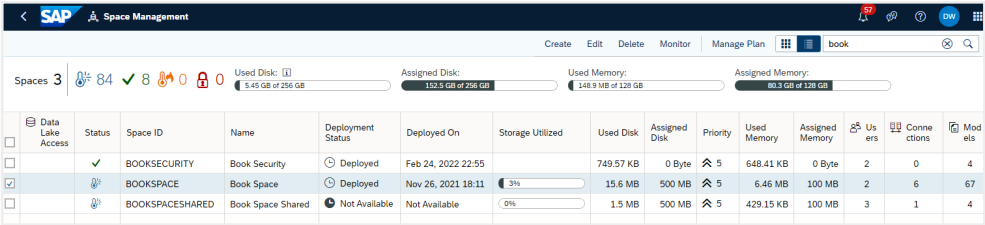


Figure 2.4: Tabular space overview

The information icon  next to the USED Disk bar provides a breakdown of the different types of data consuming disk storage (see Figure 2.4):

- DATA IN SPACES: All data that is stored in spaces.
- OTHER DATA: Includes data stored in database user group schemas and SAP HANA data (such as statistics schemas).

- ▶ **AUDIT LOG DATA:** Data related to audit logs.
- ▶ **ADMINISTRATIVE DATA:** Data used to administer the tenant and all spaces (such as space quota, space version); includes all information stored in the central schemas (DWC_GLOBAL, DWC_GLOBAL_LOG, DWC_TENANT_OWNER).

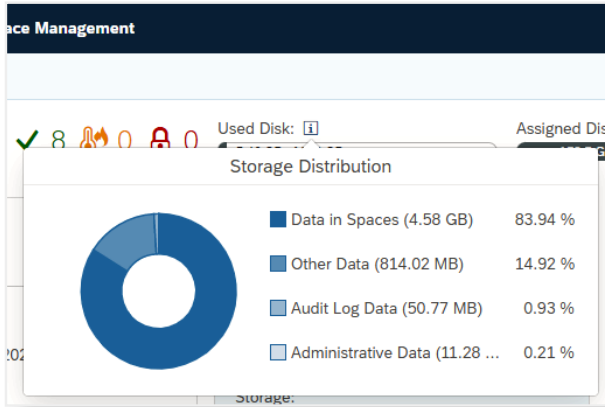


Figure 2.5: Storage distribution of overall tenant

By clicking on a space, either in the tabular display or the tile display, you can access the space settings, which are described below.

2.2 General space settings

In the header of the screen shown in Figure 2.6, there are buttons with the following functions:

- ▶ **SAVE:** Save the changed values for a space.
- ▶ **DEPLOY:** Deploy the space settings to the database.
- ▶ **MONITOR:** Switch to the monitoring of a space.
- ▶  and **DELETE:** Click the button and then choose the DELETE option to delete a space.

Below the header, we see the **GENERAL SETTINGS** area. This includes the **SPACE ID**, **SPACE NAME**, **SPACE STATUS**, and **SPACE TYPE** fields, whereby here, only the name can be changed. This area also shows when the space was created, deployed, and which user created it.

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