

# Hands-on Lab : Upload and Export using Db2 on Cloud

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**Estimated time needed:** 15 minutes

In this lab, you will learn how to upload and export data in a table using Db2 on Cloud.

## Objectives

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After completing this lab, you will be able to use the Db2 on Cloud to:

- Upload data onto a table in Db2
  - Export data from Db2
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## Software Used in this Lab

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In this lab, you will use [IBM Db2 Database](#). Db2 is a Relational Database Management System (RDBMS) from IBM, designed to store, analyze, and retrieve the data efficiently.

# IBM Db2

To complete this lab you will utilize a Db2 database service on IBM Cloud. If you did not complete the lab below earlier, you may not have access to Db2 on Cloud and should complete that lab before starting this lab.

- [Hands-on Lab : Sign up for IBM Cloud and Create Db2 service instance](#)

## Database Used in this Lab

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The first dataset used in this lab comes from the following source: <https://dataplatfom.cloud.ibm.com/exchange/public/entry/view/5562ced564e776edc5f91e13d48d8309?context=cpdaas>. This dataset is published by **IBM**, and Contains point data for a sample list of hospitals in US. Note that this is sample data for SQL demo purpose and is not necessarily current or accurate.

## Exercise 1: Upload Data into a Table

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In this example exercise, you will go through an example on how to create a table structure on the Db2 UI and upload data into it.

First, you' ll want to go ahead and download the dataset you are going to use in this lab. You can do so by clicking on the following: [hospitals.csv](#)

Now that you have the file on your local machine, let's get started with uploading it onto Db2.

1. Open up and sign into the [IBM Cloud](#).
2. On the tab on the left side of the webpage, click the **Resource list** button.
3. Under the **Services and software** subsection, find and select the Db2 database. It will be titled some variation of "Db2-xx" where xx is some combination of letters and numbers.

Name	Group	Location	Product	Status	Tags
Filter by name or IP address... Filter by group or org... Filter... Filter... Filter... Filter...					
Container Registry (0)					
Satellite (0)					
Cloud Foundry apps (0)					
Cloud Foundry services (0)					
Services and software (5)					
Db2-qk	Default	Dallas	Db2	Active	—
KnowledgeCatalog	Default	Dallas	Watson Knowledge Catalog	Active	cpdaas
WatsonMachineLearning	Default	Dallas	Machine Learning	Active	cpdaas
WatsonOpenScale	Default	Dallas	Watson OpenScale	Active	cpdaas
WatsonStudio	Default	Dallas	Watson Studio	Active	cpdaas
Storage (1)					
CV Studio	Default	Global	Cloud Object Storage	Active	comput... +1
Network (0)					

4. Click the **Go to UI** button to open the User Interface for Db2.

Resource list / Db2-qk Active Add tags

Details Actions...

**Manage**

- Getting started
- Service credentials
- Connections

**Getting started**

Where can I find my credentials?  
Get your username and password by clicking the "Service Credentials" link to the left and selecting "New Credentials".

[Go to UI](#) [Getting started docs](#)

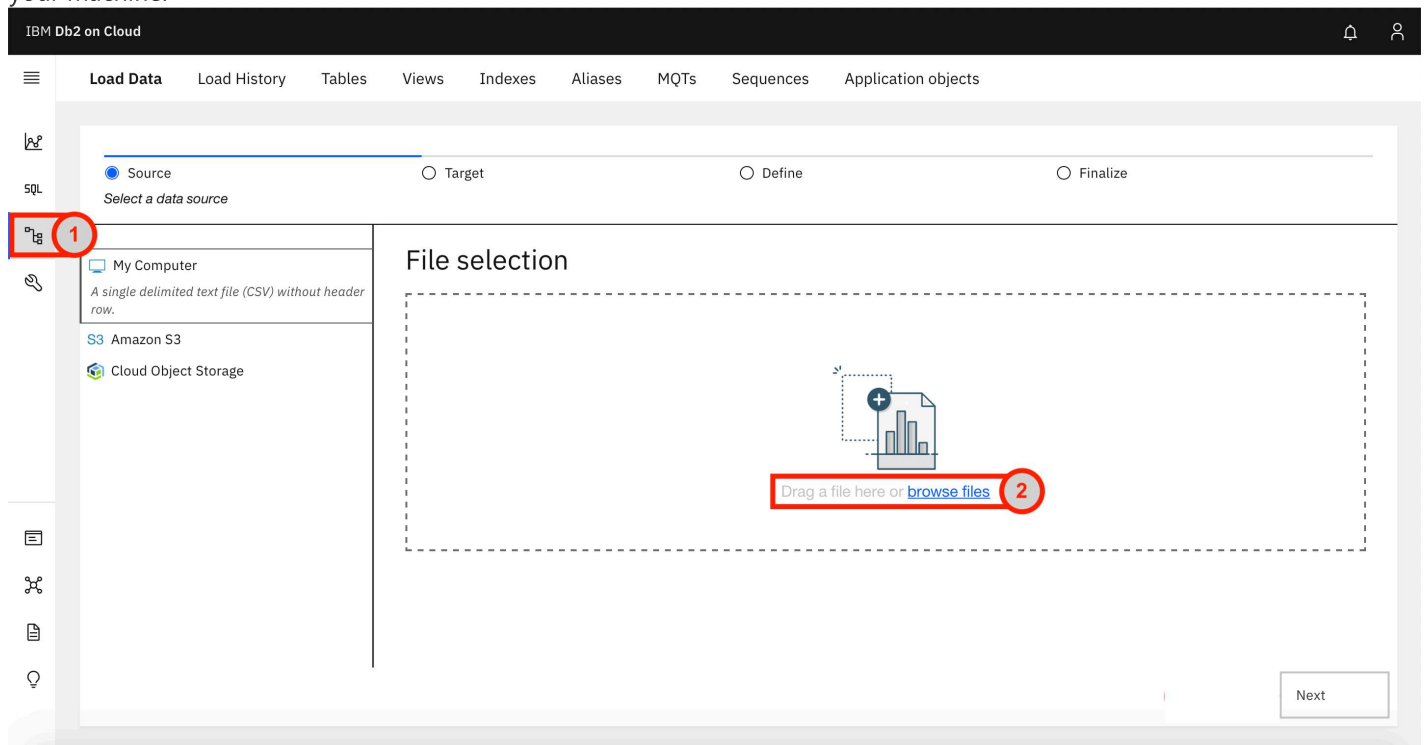
**Need help?**

Use IBM Answers to view recently asked questions or ask your own.  
Still unable to find an answer? Submit a IBM Cloud Support Case to our team.

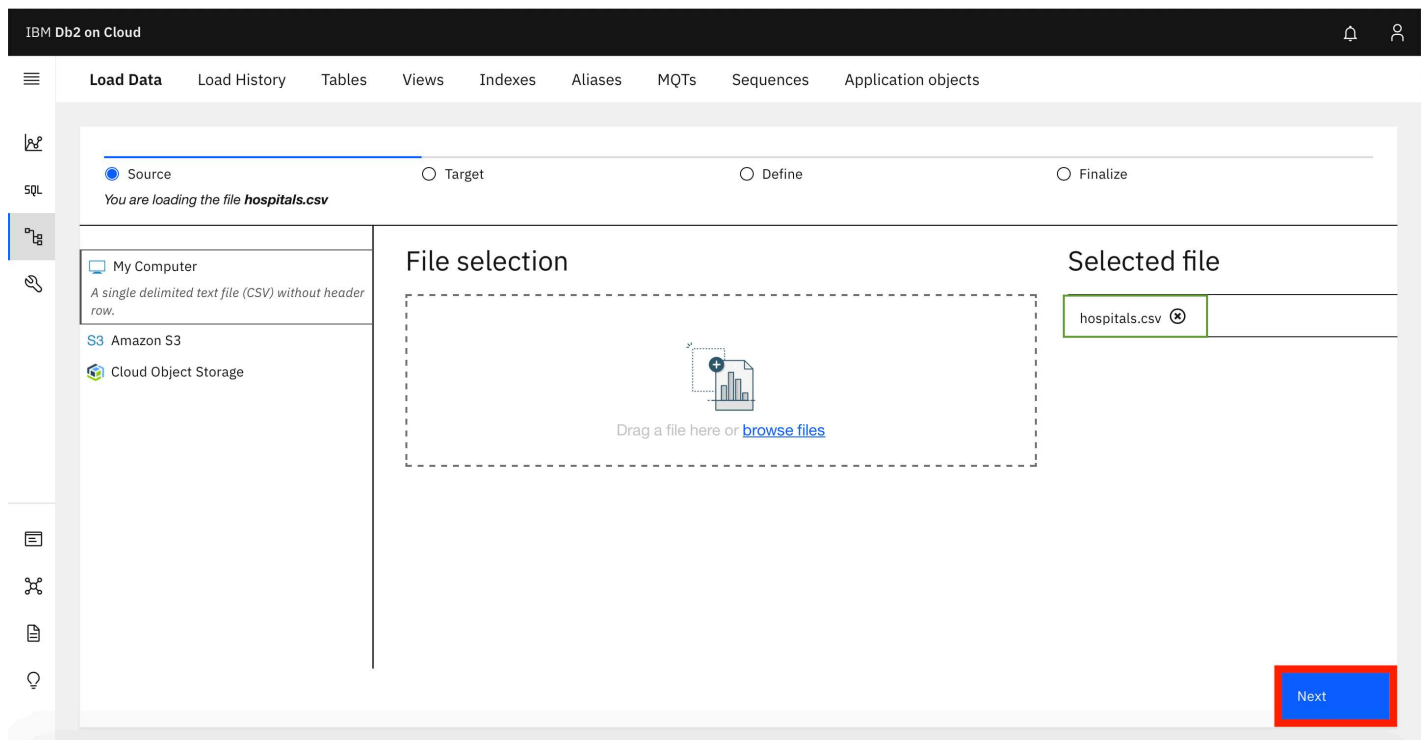
[IBM answers](#) [Support case](#)

5. On the left tab of the Db2 UI, click the **Data** button.

6. Either drag and drop the *hospitals.csv* file you downloaded at the beginning of this lab or click **Browse files** to select in on your machine.



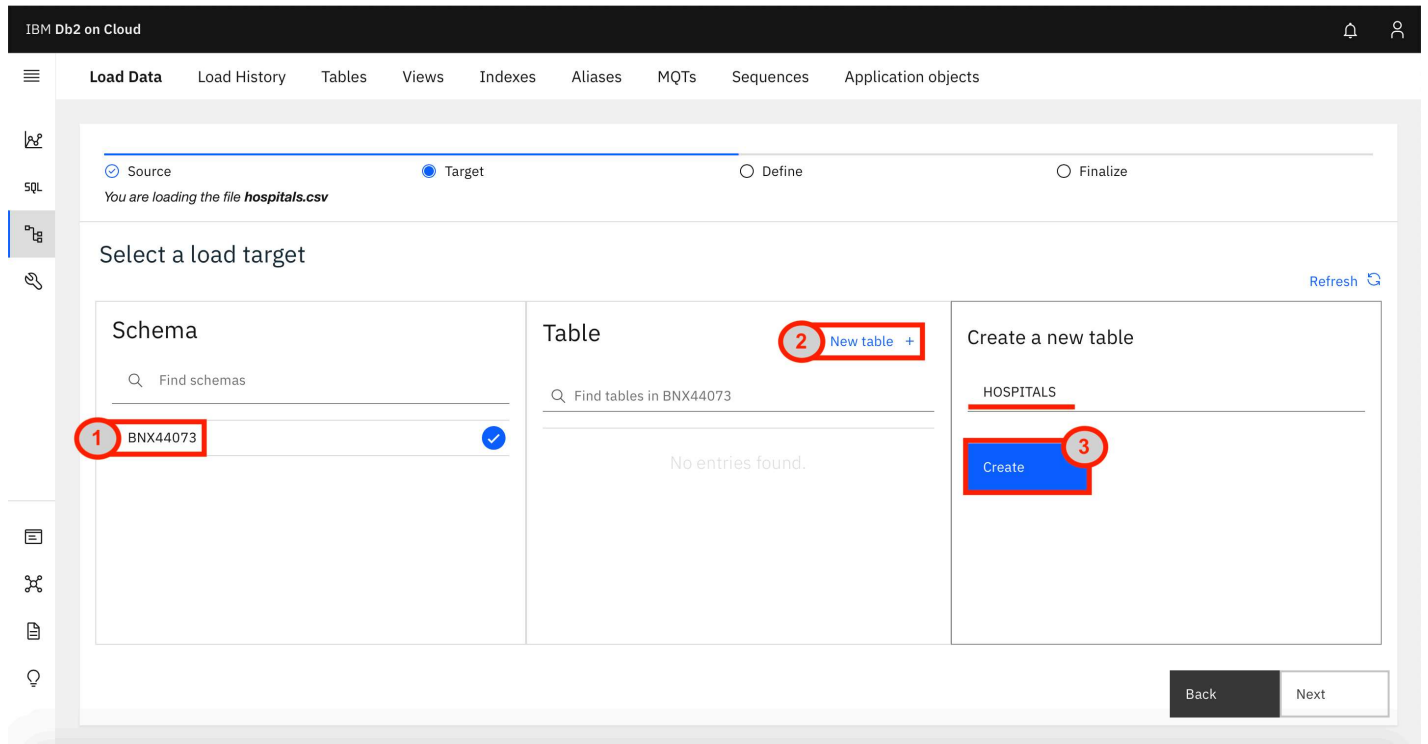
7. Once loaded, you will see the file displayed on the right and the **Next** button at the bottom right of the page will turn blue. When ready, click the **Next** button to continue.



8. Select the schema corresponding to your Db2 userid. It typically starts with 3 letters (not SQL) followed by 5 numbers (but will be different from the **BNX44073** example below).

9. Click the **New table** button.

10. Enter a name for the new table. A good option is `"HOSPITALS"` . Then click the blue `"Create"` button.



11. After creating the table, you will see the `"Next"` button at the bottom right of the webpage turn blue. Click this button to move on to the next step.

12. As you can see, the data from the `hospitals.csv` file is displayed here and columns were automatically created in the new table with the appropriate data type for that column. To move on, click the blue **Next** button.

IBM Db2 on Cloud

Load Data | Load History | Tables | Views | Indexes | Aliases | MQTs | Sequences | Application objects

Source | Target | **Define** | Finalize

You are loading the file **hospitals.csv** into **BNX44073.HOSPITALS**

Code page (character encoding): 1208 (UTF-8) | Separator: , | Header in first row: ☒ | Time & date format:

ID	NAME	CITY	STATE	LON
SMALLINT	VARCHAR(50)	VARCHAR(21)	VARCHAR(2)	DECIMAL
1	Southern Hills Medical Center	BERRY HILL	TN	-0086.721
2	Sycamore Shoals Hospital	ELIZABETHTON	TN	-0082.247
3	Tokona Hospital	GREENEVILLE	TN	-0082.845
4	University of Tennessee Child Development Center	DOWNTOWN MEMPHIS	TN	-0090.037
5	Volunteer General Hospital	MARTIN	TN	-0088.868
6	West Side Hospital	BELLE MEADE	TN	-0086.805
7	William L Bork Memorial Hospital	COLLEGE DALE	TN	-0085.134
8	All Saints Hospital	FORT WORTH	TX	-0097.343
9	Beaumont Army Hospital	CENTRAL EL PASO	NM	-0106.453
10	Burns Hospital	CUERO	TX	-0097.285

Back | **Next**

13. Finally, you will see a summary of the data you are about to upload. To complete the upload process, click the blue “Begin Load” button at the bottom right.

IBM Db2 on Cloud

Load Data | Load History | Tables | Views | Indexes | Aliases | MQTs | Sequences | Application objects

Source | Target | Define | **Finalize**

You are loading the file **hospitals.csv** into **BNX44073.HOSPITALS**

### Review settings

#### Summary

Code page: 1208 (Default)

Separator: , (Default)

Time format: HH:MM:SS (Default)

Date format: YYYY-MM-DD (Default)

Timestamp format: YYYY-MM-DD HH:MM:SS (Default)

String delimiter: (Default)

#### Option

Maximum number of warnings: 1000

Back | **Begin Load**

14. The upload will take a few moment to complete, after which you will be redirected to the page shown below. Click the **View table** button near the top right of the webpage to take a look at the data which you have just uploaded.

The screenshot shows the 'Load Data' interface in IBM Db2 on Cloud. The top navigation bar includes 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Load details' section shows a 'WARNING' icon with '96 warnings'. The 'Status' tab is active, displaying a donut chart with '6,501 Rows read', '6,501 Rows loaded', and '0 Rows rejected'. The 'Settings' tab shows 'My computer' as the source and 'hospitals.csv' as the target file. The 'Errors' tab shows '0 Errors' and '96 Warnings'. The 'Warnings' tab shows 'No errors' and 'But, there are 96 warnings.' A red arrow points to the 'View Table' button.

15. As you can see, the data in the *hospitals.csv* file was successfully uploaded into a SQL table on the Db2 database.

The screenshot shows the 'BNX44073.HOSPITALS' table in IBM Db2 on Cloud. The table has 13 rows and 7 columns: ID, NAME, CITY, STATE, LON, and LAT. The data is as follows:

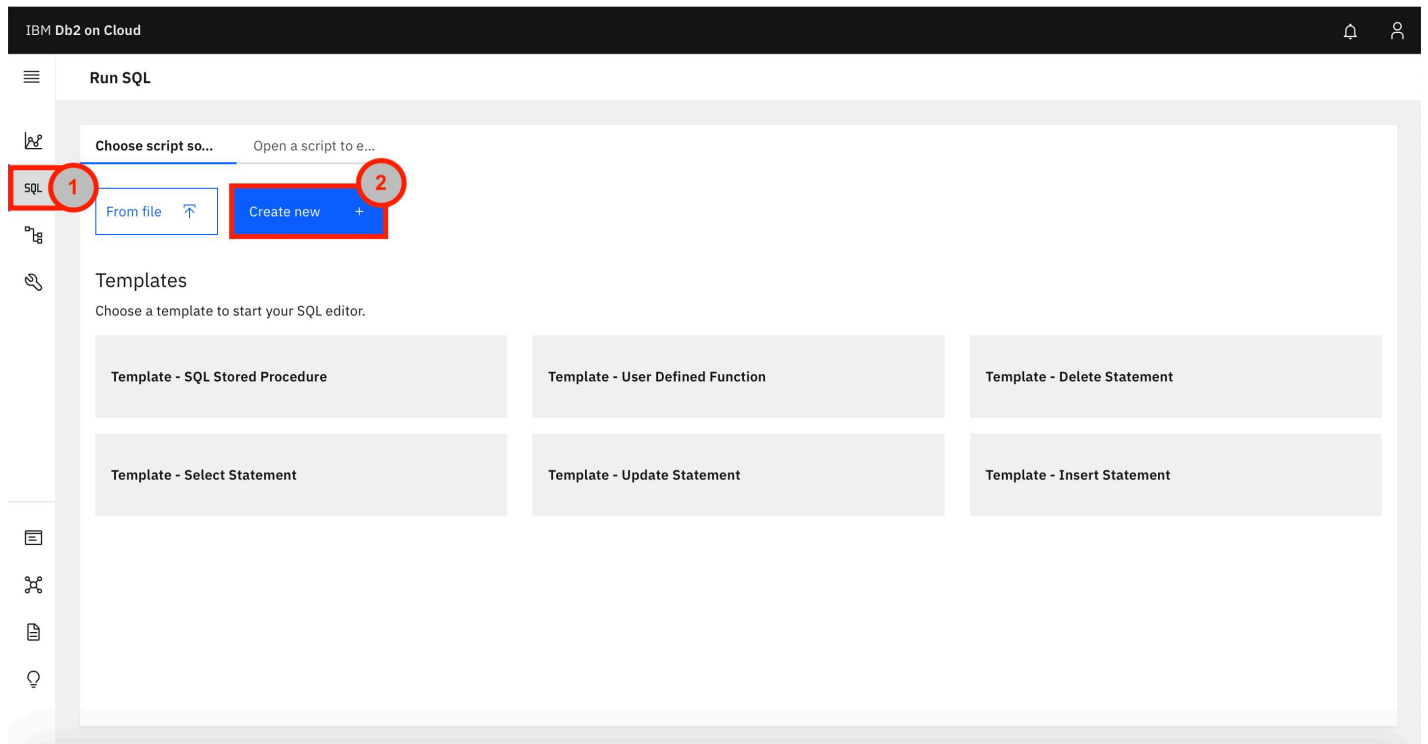
ID	NAME	CITY	STATE	LON	LAT
1	Southern Hills Medical Center	BERRY HILL	TN	-86.721939	36.077843
2	Sycamore Shoals Hospital	ELIZABETHTON	TN	-82.247635	36.346218
3	Tokona Hospital	GREENEVILLE	TN	-82.845711	36.151772
4	University of Tennessee Child Dr	DOWNTOWN MEMPHIS	TN	-90.037033	35.142872
5	Volunteer General Hospital	MARTIN	TN	-88.868393	36.335064
6	West Side Hospital	BELLE MEADE	TN	-86.809723	36.153667
7	William L Bork Memorial Hospit	COLLEGE DALE	TN	-85.134125	35.056461
8	All Saints Hospital	FORT WORTH	TX	-97.343361	32.729851
9	Beaumont Army Hospital	CENTRAL EL PASO	NM	-106.453598	31.822046
10	Burns Hospital	CUERO	TX	-97.285271	29.099424
11	Club of Christ Hospital	JEFFERSON	TX	-94.347420	32.440712
12	Danforth Memorial Hospital	TEXAS CITY	TX	-94.901306	29.392733
13	Eldridge Memorial Hospital	FIRST COLONY	TX	-95.617439	29.628016

## Exercise 2: Export a Table from Db2

In Exercise 1, you learned how to upload data from a file into a Db2 database. Now in this exercise, you will gain hands-on experience in the inverse of this. Using the Db2 UI, you will export a table from the database into a *csv* file. In particular, you will export a Db2 System Table called **SYSTABLES**, which stores metadata about all other database objects. We won't get into much detail about System Tables in this lab as it will be covered in more depth in a later lab. For now, we can treat it as just a table we wish to export. Let's get started.

1. First, click the **SQL** button on the left tab of the webpage.

2. Click the blue **Create new** button to enter a custom SQL script.



3. Enter the following SQL command in the script editor to query the entire **SYSTABLES** table.

```
1    SELECT * FROM SYSIBM.SYSTABLES;
```

4. Click the blue **Run all** button to execute the command.

5. You will see the result of the query displayed on a window on the right half of the webpage. Above the result preview, click the indicated download button to export the table as a *csv* file.

IBM Db2 on Cloud

Run SQL

\*Untitled - 1

SQL

1. SELECT \* FROM SYSIBM.SYSTABLES; **1**

Run all **2** ☒ Remember my selection

Result - Oct 6, 2021 6:40:42 PM

SELECT \* FROM SYSIBM.SYSTABLES Run time: 0.004 s **3**

Result set 1

NAME	CREATOR	TYPE	CTIME
SYSTABLES	SYSIBM	T	2021-02-03 18:03:59.356402
SYSCOLUMNS	SYSIBM	T	2021-02-03 18:03:59.356402
SYSINDEXES	SYSIBM	T	2021-02-03 18:03:59.356402
SYSVIEWS	SYSIBM	T	2021-02-03 18:03:59.356402
SYSVIEWDEP	SYSIBM	T	2021-02-03 18:03:59.356402

Result set is truncated, only the first 44 rows have been loaded. Select "View all loaded data" on the right top of the result to view all loaded rows.

## Exercise 3: Try it Yourself!

In this practice exercise, you will get a chance to put what you learned in the first two exercises to use. Using the Db2 UI and the SQL script editor, attempt the following:

Export the **name**, **tbname**, and **tbcreator** columns of the **SYSIBM.SYSCOLUMNS** table.

► [Hint \(Click Here\)](#)

► [Solution \(Click Here\)](#)

**Congratulations! You have completed this lab, and you are ready for the next topic.**

## Author(s)

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# Changelog

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Date	Version	Changed by	Change Description
2023-05-10	2.1	Eric Hao & Vladislav Boyko	Updated Page Frames
2021-07-08	1.0	Sandip Saha Joy	Created initial version
2021-10-04	2.0	David Pasternak	Rewrote with updated instructions

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