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Getting Started

Welcome to Delphix Jet Stream

Jet Stream grants access to the data that users need, whenever they need it. Once users have been assigned a Jet Stream data container, they can control the data available within it. This means they can refresh to the latest production data, roll back to a previous point in the data container's timeline, and share data with another Jet Stream user without requiring any involvement from Information Technology or database administrators (DBAs). Self-service data management allows developers to be more productive while using fewer resources, dramatically improving operational efficiency.

User Roles and Permissions

Jet Stream has two types of users:

Admin User

Admin users have full access to all report data and can configure Jet Stream. Additionally, they can use the Delphix data platform to add/delete Delphix Engines, add/delete reports, add/delete users, change tunable settings, add/delete tags, and create and assign data templates and containers.

Jet Stream Data User

Jet Stream data users have access to production data provided in a data container. The data container provides these users with a playground in which to work with data using the self-service toolbar.

Login

1. Access Jet Stream by opening a web browser using the IP address or DNS qualified host name.
2. Login with the User ID and Password the Delphix Administrator has provided for you.
Jet Stream User Interface

- **Data Container Workspace (Top Half of the Jet Stream Interface)**
  - Data Container Workspace
  - Jet Stream User Log In and Settings Drop Down Menu
  - Data Container Drop Down Menu
  - Data Container View Panel
  - Data Container Self-Service Toolbar
  - Branch Timeline

- **Data Container Report Panel (Bottom Half of the Jet Stream Interface)**
  - Data Container Report Panel
  - Summary
  - Sources
  - History
  - Bookmarks
  - Usage

The Jet Stream User Interface is organized within a single web browser page. The upper half of the screen represents an interactive data container workspace, and the bottom half of the screen serves as a data container report and management panel. The diagram below provides a visual orientation along with descriptive narratives to navigate a user to Jet Stream activities and viewing panels.
Data Container Workspace (Top Half of the Jet Stream Interface)
Jet Stream Data Container Workspace (Top Half), version 1.0.0

Data Container Workspace

1. The Data Container Workspace contains all the tools, actions, and view panels needed to begin using Jet Stream features. For example, the workspace allows a user to view the history of their data on a branch, and to refresh, reset, and restore that data.

Jet Stream User Log In and Settings Drop Down Menu

2. The user login icon in the upper right-hand corner of the screen provides a drop-down menu with options to change your password and/or log out.

Data Container Drop Down Menu

3. The Container drop-down menu in the upper right-hand region of the screen allows you to change which data container (or data
template) is shown in the page. Users can own multiple data containers and can select whichever data containers they want to browse.

**Data Container View Panel**

The Data Container View Panel, found on the left-hand side of the screen, is divided into three tabular sections: **time**, **branches**, and **bookmarks**. These tabs allow you to find and select data that you are interested in. Based on user selections made in the view panel, the corresponding branch timeline can change.

**Data Container Self-Service Toolbar**

The Data Container Self-Service Toolbar allows you to perform tasks and activities with data in the current container, by clicking on the following user action icons:

- **Activate** will make a branch active
- **Bookmark** will mark an interesting point of data on a branch timeline
- **Branch** will create a branch that supports one task. A branch is a group of data time segments called a "timeline."
- **Share** will share a bookmark with users of other data containers from the same template
- **Refresh** will refresh each source in the data container on a branch timeline to the latest data in the corresponding source of the data template.
- **Restore** will restore the data to a point in time from the template, the container, or a shared bookmark.
- **Reset** will reset to the last interesting moment of data time on the current data timeline
- **Stop** will stop a data container
- **Start** will start a data container

**Branch Timeline**

Use this to view the timeline associated with a branch. Note that this only shows the timeline for a single branch. The branch timeline is how a user interacts with data in the container to mark, stamp, and perform tasks that occur at various points in time.

**Data Container Report Panel (Bottom Half of the Jet Stream Interface)**
Data Container Report Panel

The Data Container Report Panel consists of a series of tile buttons to help report on activities being completed in the Data Container. They are summarized below as Summary, Sources, History, Bookmarks, and Capacity.

Summary

The Summary tile allows you to see an overview identifying what data sources are in the data container, properties associated with the data container, and information about operations performed in the data container.
Sources

The Sources tile in the upper left-hand panel bar provides information about each data source, such as the description, name, and properties that the administrator has placed inside the data container. In particular, you can get the connection information to access them from here.

History

The History tile reveals a list of actions performed in this data container. Using the filter control on the upper right-hand side of the page is an easy way to find specific activities completed over time.

Bookmarks

The Bookmarks tile allows you to view and edit details about bookmarks within this data container and bookmarks accessible from it.

Usage

The Usage tile allows you to view information about how much storage capacity this container has used.
Jet Stream Data Concepts

- Understanding Data Sources
- Understanding Data Templates
- Understanding Data Containers
- Jet Stream Data Flow
- Understanding Branches
- Understanding Timelines
  - Branch Timeline
  - Container Timeline
  - Selecting a Point in Time with the Time Selector
  - Selecting a Point in Time with the Time Selector Calendar
- Understanding the Self-Service Toolbar
  - Branch Timeline Segments
  - Working with Multiple Branches and Timelines
- Understanding How to Preserve Data in a Point of Time
  - Understanding Bookmarks
  - Bookmarks Tab in the Data Container View Panel
  - Bookmarks Tile in the Data Container Report Panel
  - Bookmark Sharing Permissions
  - Bookmark Appearance
  - Data Container Storage and Retention for Branches and Timelines

Understanding Data Sources

A data source in Delphix can represent a database, an application, or a set of unstructured files. Delphix administrators configure the Delphix Engine to link to data sources, which pulls the data of these sources into Delphix. The Delphix Engine will periodically pull in new changes to the data, based on a specific policy. This, in turn, begins building a custom timeline for each data source. Additionally, the Delphix Engine can rapidly provision new data sources that are space-efficient copies, allowing users to work in parallel without impacting each other.

Understanding Data Templates

Data templates are the backbone of the Jet Stream data container. They are created by you, the Delphix administrator, and consist of the data sources users need in order to manage their data playground and their testing and/or development environments. Data templates serve as the parent for a set of data containers that the administrator assigns to Jet Stream users. Additionally, data templates enforce the boundaries for how data is shared. Data can only be shared directly with other users whose containers were created from the same parent data template.

Understanding Data Containers

A Jet Stream data container allows data users to access and manage their data in powerful ways. Their data can consist of application binaries, supporting information, and even the entire database(s) that underlie it. A Jet Stream data container allows users to:

- Undo any changes to their application data in seconds or minutes
- Have immediate access to any version of their data over the course of their project
- Share their data with other people on their team, without needing to relinquish control of their own container
- Refresh their data from production data without waiting for an overworked DBA

A Jet Stream data container consists of one or more data sources, such as databases, application binaries, or other application data. The user controls the data made available by these data sources. Just like data sources in a template, changes that the user makes will be tracked, providing the user with their own data history.

The Jet Stream Data Container Interface lets users view the details and status of their data container and its associated data sources, as well as manipulating which data is in those sources. The Data Container Interface includes a section called the Data Container Report Panel, which displays details about each source, including the connection information needed to access it - for example, the java database connectivity (JDBC) string for a database. This connection of information is persistent and stable for the life of the data container, regardless of what data the resources are hosting.
Jet Stream Data Flow

The Jet Stream data flow diagram below demonstrates how a Jet Stream data user accesses data sources. Data sources are connected to a Delphix Engine, which is controlled by the Delphix administrator. The Delphix administrator will connect all data sources that developers and quality assurance (QA) teams need to a Jet Stream data template. This data template acts as a parent source to create the data containers that the administrator will assign to Jet Stream data users. Data sources flow from the Delphix Engine into a data template and downstream into a data container, where a Jet Stream data user or users will use the data sources to complete tasks. The data container acts as a self-contained testing environment and playground for the Jet Stream data user. Additionally, Jet Stream data users are able to set, bookmark, and share data points in their container with other Jet Stream data users of other data containers, as long as all the data containers were created from the same parent data template.

Understanding Branches

You can organize data in the data container into task-specific groupings, called "branches." For example, you can use a branch to group all the data you have used while addressing a particular bug, testing a new feature in an application, or exploring a business analytics scenario. By default, Jet Stream automatically creates the first branch of source data for you when you login to Jet Stream for the first time. You can view the default branch and any additional branches that you create over time by clicking the Branch tab. Additionally, to the right of the default branch, you will see an interconnected branch timeline unique to whichever branch is currently active. The illustration below displays both the default branch in the Branch tab of the Data Container View Panel and the default branch timeline.
A branch is used to track a logical task, and contains a timeline of the historical data for that task. One branch is the “active” branch, which means that it is the branch that is currently being updated with new data from the data sources. At any time, you can change which branch is active and thus change which data is in the associated data sources.

Understanding Timelines

Branch Timeline

A branch timeline acts as a dynamic point-in-time interface for user actions within the branch. You can interact with the source data in the active branch by using both the branch timeline and icons along the Self-Service Toolbar at specific points in time. Common activities include re-setting data sources to run a test, refreshing the data container with the most current source data, and bookmarking data to share or track interesting moments of time along the branch timeline. Users work with one branch at a time to perform a series of actions related to a particular testing or debugging task such as data updates or starting and stopping data. As you work within your data container, you can create more branches over time to run or complete separate tasks. Additionally, the data container tracks each branch and the corresponding actions you perform on the branches. To view the actions completed over the life of a branch, see the container timeline in the Time tab of the Data Container View Panel.
Container Timeline

The **Time** tab displays the data container's timeline, which acts as a wall clock of time. It shows continuous real time across all branches and timeline segments. You can scroll up and down in the container timeline to find the point of time that interests you.
Clicking on a point in time in the container timeline will display the corresponding branch timeline capturing any actions performed on the branch. Additionally, should you need to select a time between tic-marks, you can use the time input field in the time selector on the left side of the screen.

In the time selector, type in a date and time with the following format:

Month/Day/Year Hour:Minute:Second(am|pm). For example: 1/26/2015 1:14:13pm.

2. Press Enter.

The time input field will show the selected time. Now that you have entered the specific time you want, you can use the toolbar to select the data operation that you want performed at this point in time. Data operations can include Create Bookmark, Create Branch, and Restore.

Note: If you type in an invalid time value, or a time that is out of range, the value you typed in will revert to the previous default that existed before.
Selecting a Point in Time with the Time Selector Calendar

1. Locate and Click on the calendar icon on the left of the input field in the time selector.
2. From the flyout that appears, click the date and select a time that you wish to use.
3. Click on the data operation button on the toolbar that you want to perform at this point in time. Data operations can include Reset, Create Branch, and Create a Bookmark.

Note: The flyout will not let you pick a date that is before the first point of data time in the container, or after the present moment.

Understanding the Self-Service Toolbar

The Jet Stream Self-Service Toolbar contains self-service action icons that represent available actions a Jet Stream data user can perform. You can distinguish between available and unavailable icon actions by the use of color on the toolbar. Actions available to you will be red, and actions that are unavailable will be grey. All actions are dynamic, and availability will change based on how you use and work with data in both the branches and data container(s) that are assigned to you.

Jet Stream Self Service Toolbar, Version 1.0.0

For example, your options for actions on the Self-Service Toolbar can change if the branch of the branch timeline you are working with is activated. In the illustration below, the screen shows a user working in an active branch. Notice the bright red star at the end of the timeline. This indicates that the branch is active. Also notice which actions are and are not available to the user on the Self-Service Toolbar.

Jet Stream Self Service Toolbar with a Point In Time selected on an Active Branch Timeline, Version 1.0.0

The Self-Service Toolbar is dynamic and will change based on tasks a user performs in Jet Stream. These workflows will influence how and when self service actions become available on the self-service toolbar.
Branch Timeline Segments

A branch timeline with segments is a visual representation of actions taken on a branch timeline over a time span. The timeline segments represent data in time that is no longer contiguous once a user clicks Create Branch, Refresh, Reset, or Restore on the Self-Service Toolbar. A vertical bar between each of the segments appears to remind a Jet Stream user that the data in one timeline segment is a completely new data start. In other words, while the data within one segment is logically contiguous, the data is never contiguous across segments. For example, the following image above shows a timeline with multiple segments.

Segmented Branch Timeline, Version 1.0.0

As mentioned above, the branch timeline becomes segmented after you have performed a specific action or task, such as Refresh. Based on the action, two red bubbles will appear in the time segment. The top bubble indicates where the data used for this action came from, for example the data template, a different branch, or a shared bookmark. The second red bubble appears on the timeline as the actual data stream in a point of time from the parent data. It appears because of actions such as Refresh, Reset, Restore, Create Branch, and Bookmark. Clicking the second bubble will show you specific details of the action, such as the specifics of the action including its name, the time the action occurred, and the data sources used at a point in time. This is illustrated below:

Parent Data Sources and Child Data Sources, Version 1.0.0

Working with Multiple Branches and Timelines

As you work in your data container, you can switch between branches at various times to work on resolving a bug or to test a new application feature. For example, consider what occurs on two different branches in a container:

Branch 1:
Branch 1 Timeline, Version 1.0.0

Branch 2:

Branch 2 Timeline, Version 1.0.0

The Jet Stream user may have actually worked with these branches in the following order over time:

<table>
<thead>
<tr>
<th>Branch 1: Create a branch and use</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Branch 1 Timeline" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Branch 2: Create another branch and use</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image2" alt="Branch 2 Timeline" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Branch 1: Activate branch, Restore the data source and use</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Branch 1 Timeline" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Branch 2: Activate branch and create bookmarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4" alt="Branch 2 Timeline" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Branch 2: Refresh the data source from a particular point in time</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5" alt="Branch 2 Timeline" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Branch 2: Reset a branch to the last action (e.g., refresh) on the timeline, and use</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image6" alt="Branch 2 Timeline" /></td>
</tr>
</tbody>
</table>

In the above illustrations, an individual branch’s timeline shows all actions performed on the branch while the branch was active. The active
branch timeline can be interrupted and deactivated when a user chooses to perform actions such as switching to another branch, Create Branch, Activate, or Stop a data container. Additionally, a user will only be able to view actions on a single branch at a time. A better way to manage multiple branches is to go to the Time tab in the Data Container View Panel. The Time tab allows you to access the container timeline, which becomes useful as you toggle back and forth between branches to complete different tasks. The container timeline allows you to view all the continuous data points of time, with all actions taken on all branches in a single data container.

Understanding How to Preserve Data in a Point of Time

The following illustration shows that on 8/27/14, at 9:33:09am, data was reset to the parent data branch (master) at 9:28:48am, capturing data points from 9:33:06am.

The black arrows above point to a tick, (representing a point in time) clicked on the branch timeline. This represents the time the Reset action was performed on the data container. The red arrows point to when time was captured in a data source using the Reset action on the branch timeline. When clicked, the reset bubble provides more details with a flyout, indicating where the data comes from and the time that the data represents. Additionally, the reset bubble detail flip card provides additional information about each data source. Specifically, the blue arrows point to the time used for each data source at this point in the data container. NOTE: This does not show the time that was used for each source that pulled the data.

Time represented on the branch timeline varies based on many factors. For example, after selecting a specific point in time on the branch timeline, the Delphix Engine will map that point in time to the closest usable point in time for each data source. Based on the properties of the underlying data sources, these times may be different. Not all data sources track changes at the same granularity, as illustrated below.
While a branch timeline can follow a continuous time flow, the data sources being selected for each time segment may not be continuous.

**Understanding Bookmarks**

Bookmarks are a way to mark and name a particular moment of data on a timeline. Once created, you can easily locate a bookmark through one of the bookmark viewers in the interface. You can restore the active branch's timeline to the point of data marked with a bookmark. You can also share bookmarks with other Jet Stream users, which allows them to restore their own active branches to the point of data in your container.

**Bookmarks Tab in the Data Container View Panel**

The **Bookmarks** tab is the third tab in the **Data Container View Panel** within the data container workspace of the Jet Stream interface. It allows you to find a bookmark that is within your data container and view the branch where the bookmark has been placed.

**Bookmarks Tile in the Data Container Report Panel**
The **Bookmarks** tile in the **Data Container Report Panel** allows you to see all bookmarks within your container and all bookmarks that other users have made available to you. Here you can also edit details about bookmarks, create new branches, and restore the active branch to the bookmark's point of data time.

![Jet Stream Bookmark Tile, version 1.0.0](image)

**Bookmark Sharing Permissions**

When you first create them, bookmarks are private to your data container, but you can share a bookmark with other Jet Stream data users. Bookmarks that other users have shared with you are called "available" bookmarks. Your bookmarks will only be shared with Jet Stream data users in data containers created from the same data template. This is because all data containers created from the same data template have a compatible set of data sources.

**Bookmark Appearance**

- A bookmark that is private
Data Container Storage and Retention for Branches and Timelines

Bookmarks mark a moment of data. Jet Stream will never automatically delete the data marked by a bookmark. However, Jet Stream will automatically delete a bookmark with an expiration date set after it has expired. For more information on setting or removing an expiration date see Working with Data Operations and Sources in a Container. Jet Stream may delete data from any time in the past on your branches, depending on the retention policies configured by your administrator. If you select a moment of data that has been deleted, the flyout will indicate that retention has removed data for this point in time.
Jet Stream Data Container and Retention, version 1.0.0
Working with Data Operations and Sources in a Container

- Getting Started
  - Activity One: How to Start and Stop a Data Container
- Working with a Branch, a Branch Timeline, and the Self-Service Toolbar
  - Activity Two: Using Reset from a Bookmark to Facilitate Destructive Testing
    - Create a Bookmark
    - Reset to Data from a Bookmark
  - Activity Three: Using Refresh to Get the Latest Data From a Data Template
  - Activity Four: Using Restore to Return Data Back to a Point in Time
  - Activity Five: Restoring to a Point on the Parent Template
  - Activity Six: Create a New Branch and Switch Between Branches
    - Active Branch
  - Activity Seven: Rename and/or Delete a Branch
    - Rename the Default Branch
    - Delete a Created Branch
- Working with Bookmarks
  - Activity Eight: Share a Bookmark with Other Jet Stream Users
    - Share a Bookmark
    - Un-share a Bookmark
    - Delete a Bookmark
  - Activity Nine: Editing Bookmarks
    - Rename a Bookmark
    - Edit the Description of a Bookmark
    - Remove the expiration date of a Bookmark
    - Set or update the expiration date of a Bookmark
  - Activity Ten: Filter and View Bookmarks
    - View Only Your Created Bookmarks
    - View Bookmarks You Have Shared with Others
    - View Bookmarks That Others Have Shared with You
    - Adding Tags To Your Bookmark
    - Finding Bookmarks
- Working with Multiple Container Owners
  - Know the Other Owners
  - What operations could disrupt others using my container?
  - What should I do?

Getting Started

Data Containers can be shared between multiple Jet Stream users. In this situation, Jet Stream users should coordinate with their co-owners when performing data operations that could disrupt other user's workflow such as stopping or refreshing the Data Container.

Activity One: How to Start and Stop a Data Container

Starting a Data Container does the following:
- Starts the data sources
  - This means that each data source listed in the Source Details section of the Data Container page will start using CPU and network resources on the target system it is running on
- Makes the data in the active branch available
  - Once the container has been started, the data represented by the active branch is available

Stopping a Data Container does the following:
- Shuts down the data sources
  - This means each data source listed in the Source Details section of the Data Container page will stop using CPU and network resources on the target system.
1. To start a Data Container, click **Start** on the **Self-Service Toolbar**.
2. To stop a Data Container, click **Stop** on the **Self-Service Toolbar**.

**Working with a Branch, a Branch Timeline, and the Self-Service Toolbar**

**Activity Two: Using Reset from a Bookmark to Facilitate Destructive Testing**

*Reset* is a Jet Stream data user workflow that is optimized to enable destructive testing. *Reset* automatically restores the data to the last operation conducted in the data container, which can include creating a bookmark, resetting, or restoring data. As an example, you can do a refresh and then get your data into a state required for testing. Once you are satisfied with the state of your data, you can create a bookmark, which will preserve the data at this point in time.

Afterwards, you can then run destructive tests on the data. When you are done, you can click the **Reset** icon, which will automatically restore the state of the container to the last operation – in this case, the bookmark. This workflow ensures that each test has a clean copy of the data and is not impacted by the results of other tests. You only need to create a bookmark and click **Reset** on the **Self-Service Toolbar**.

**Create a Bookmark**

1. Select a **Data Point** on a branch's timeline.
2. Click the **Bookmark** icon on the **Self-Service Toolbar**.
3. Type a **new name** in the **Bookmark Window**.
4. Optionally, fill in a **description**.
5. Optionally, set an expiration date. The bookmark will be automatically deleted at the end of this day.
6. Optionally, add one or more **tags**. These can be used to help filter a set of bookmarks.
7. Click **Create**.
After the bookmark has been created, you will see the bookmark icon appear on the timeline. When you click the Reset button, all data will be reset to that point of time.

**Reset to Data from a Bookmark**

1. Click the Reset icon.
   This action reflects the moment of data marked by the closest operation bubble (Refresh, Restore, Reset, or Bookmark) into a new timeline segment on the active branch. It also copies the moment of data into the data sources.

**Activity Three: Using Refresh to Get the Latest Data From a Data Template**

Start a new timeline segment with the most recent point of data from the Data Container's Data Template.

1. Click the Refresh icon.

   Refresh creates a new timeline segment on the active branch. This refreshes each source in the data container to the latest data in the corresponding source of the data template.

**Activity Four: Using Restore to Return Data Back to a Point in Time**

This starts a new timeline segment on the active branch with the selected point of data.

1. Select one of the following:
1. **A point of data** on a timeline.
2. **A bookmark** on a timeline.
3. **A bookmark** under the **Bookmarks** tile in the **Data Container Report Panel**.

2. Click the **Restore** icon.

If you restore data back to a point in time on the data template master timeline, Jet Stream will ask you which data container to restore into. It will then:

- Reflect the selected point of data into a new timeline segment on the active branch
- Copy the moment of data into the data sources

If the timeline segment on a branch timeline was created by a **Restore** operation, then the segment starts with the moment of data from the branch that was selected when the **Restore** operation was done. This is illustrated below.

**Note**: The parent branch for this segment can be the same branch of which this segment is a part. It is possible to restore the active branch from a point in time on the same branch.

---

**Activity Five: Restoring to a Point on the Parent Template**

Data templates serve as the parent for a set of data containers, and as a Jet stream data user, you have the flexibility to restore your container to any point on the template.

1. Choose the container tab and select the template above the currently selected container.
The branch timeline will now show the timeline for the parent template.

2. Select one of the following:
   - A point of data on the timeline
   - A bookmark on the timeline
   - A bookmark under the Bookmarks tile in the Data Container Report Panel

3. Click the restore icon.

4. A dialog will pop up. Use it to select the container you'd like to restore.
Activity Six: Create a New Branch and Switch Between Branches

Developers and QA teams can have multiple branches that can represent data from different points in time or different sources. You have many options for how you create a new branch. These include:

- A **point of data** time on a data timeline within the Jet Stream data container, or
- A **bookmark** bubble on the timeline, or
- A **bookmark** in the Bookmarks tile in the Data Container Report Panel

1. Click the **Branch** icon to create a new branch.
2. Enter a **name** for the new branch.
3. Click **OK**.
4. Click the **Activate** icon in the **Self-Service Toolbar**.

If the inactive branch is not showing in the data container workspace:

1. Find the **branch** in the **Branch** tab.
2. Click the **Activate** icon.
3. After a moment, the branch will become active.

**Active Branch**

Within a single data container, only one branch is active at any given time. The data located at the red star of the active branch’s timeline is the newest copy of the data from the data container’s data sources. The active branch is distinguished by a red star, which appears at the far right of the timeline, alongside its name in the **Branch Name** area, and in the **Branch** tab.

![Active Branch vs Inactive Branch](image)

**Activity Seven: Rename and/or Delete a Branch**

**Rename the Default Branch**

1. Select the **Default Branch** in the **Branch** tab.
2. Click the **Pencil** icon to the right of the name.
3. Enter the **new name**.
4. Click the **Checkmark** icon.

**Delete a Created Branch**

1. Select the **branch** in the **Branch** tab.
2. Click the **Delete** icon to the right of the name.
3. Click **Delete** in the confirmation window that appears.

**Working with Bookmarks**

Working with bookmarks is an easy way to share data with other Jet Stream users of any container created from the same template. By sharing with others, you can integrate testing, development and QA needs. For example, in the past if someone found a bug they would have to wait until it was fixed. But with bookmarks they can simply say "the problem is at this bookmark," they do not have to stop their work while someone tries to fix the problem. Sharing a bookmark allows users to work with data as they see fit. Bookmarks mark a moment of data. Jet Stream will never automatically delete the data marked by that bookmark. However, Jet Stream will automatically delete a bookmark with an expiration date set at the end of that day.
Activity Eight: Share a Bookmark with Other Jet Stream Users

Share a Bookmark

1. Select a **bookmark** by clicking one of the following:
   a. The bookmark's **bubble** on the **branch timeline**.
   b. The **Bookmarks** tab in the data container workspace.
   c. The **Bookmarks** tile in the **Data Container Report Panel**.

2. Click the **Share** icon.

**Note:** You cannot share a bookmark that you or another user have already shared.

Un-share a Bookmark

1. Select a **bookmark** by clicking one of the following:
   a. The bookmark's **bubble** on the **branch timeline**.
   b. The **Bookmarks** tab in the data container workspace.
   c. The **Bookmarks** tile in the **Data Container Report Panel**.

2. Click the **Unshare** icon.

**Note:** You cannot unshare a bookmark that is already private or a bookmark which someone else has shared.

Delete a Bookmark
1. Select a **bookmark** by clicking one of the following:
   a. The bookmark's **bubble** on the **branch timeline**.
   b. The **Bookmarks** tile in the **Data Container Report Panel**.

2. Click the **Delete** icon.

### Activity Nine: Editing Bookmarks

#### Rename a Bookmark

1. Click the **Bookmarks** tile found in the **Data Container Report Panel**. A selection of bookmarks will appear based on whether you have chosen to view private, shared, and/or available bookmarks. Whichever bookmark tile you click, a bookmark tile will appear in the **Data Container Report Panel**.
2. In the **detail bookmarks** window, click the **Edit** icon to the right of its name.
3. Enter the **new name** in the edit field and click the **checkmark** to the right of the field to accept and save the new name.

#### Edit the Description of a Bookmark

1. Select a **bookmark** by clicking the **Bookmarks** tile in the **Data Container Report Panel**.
2. Click the **Edit** icon to the right of its name.

#### Remove the expiration date of a Bookmark

1. Select a **bookmark** by clicking the **Bookmarks** tile in the **Data Container Report Panel**.
2. Click the **Edit** icon to the right of its name.
3. Uncheck the "Will be deleted after" **checkbox** and click the **checkmark** to the right of the date selector.

#### Set or update the expiration date of a Bookmark

1. Select a **bookmark** by clicking the **Bookmarks** tile in the **Data Container Report Panel**.
2. Click the **Edit** icon to the right of its name.
3. Check the "Will be deleted after" **checkbox**
4. Pick a new date using the date selector and click the **checkmark** to the right of the date selector.

### Activity Ten: Filter and View Bookmarks

#### View Only Your Created Bookmarks

In the **Bookmarks** tile in the **Data Container Report Panel**, bookmarks that belong to you are shown. To see only your own bookmarks:

1. Click the **Bookmarks** tile in the **Data Container Report Panel**.
2. De-select **Available**.

#### View Bookmarks You Have Shared with Others

1. Click the **Bookmarks** tile in the **Data Container Report Panel**.
2. De-select **Private**.
3. De-select **Available**.
4. Only your shared bookmarks will be shown.
View Bookmarks That Others Have Shared with You

1. Click the **Bookmarks** tile in the **Data Container Report Panel**.
2. De-select **Private**.
3. De-select **Shared**.
4. Select **Available**.
5. These are the bookmarks that have been shared with you.

Adding Tags To Your Bookmark

1. Click the **Bookmarks** tile in the **Data Container Report Panel**.
2. Select the **bookmark** to which you want to add tags.
3. Click **Add a Tag**.
4. Enter the **tag name**.
5. Click the **Accept** icon.

Your tags will be shown at the bottom of the **Bookmarks** tile in the **Data Container Report Panel**.

**Note:** You can only add tags to bookmarks that you have created.

Finding Bookmarks

In either the **Bookmarks** tab in the data container workspace or the **Bookmarks** tile in the **Data Container Report Panel**:

1. Type into the **Filter** field.

This will only show bookmarks that have names or tags that match the text you have entered.

Working with Multiple Container Owners

Multiple Jet Stream users can be assigned to be an owner of a single Jet Stream data container. With this comes the ability to share a single Jet Stream data container amongst a group of people, such as a team. These users all share access to the same data container; actions taken by one user will impact all users. This means that if User A makes Branch X the active branch, User B will also see Branch X as the active branch. Here are some tips to help minimize disruptions when sharing a container.

Know the Other Owners

Jet Stream users cannot see the other users with whom they share the container. Work with the Jet Stream Administrator to find out who is sharing your data container.

What operations could disrupt others using my container?

Potentially disruptive operations include:

- Refresh
- Switching active branches
- Deleting bookmarks
- Creating Branches
- Un-sharing bookmarks
- Restore
- Reset
- Staring/ stopping your container

What should I do?

The more owners you have for a single container, the more processes you should put into place in order to coordinate usage between users. Each team is different, but strategies include
- designating a person to perform certain data operations
- saving your work with a bookmark or a creating/ working on a personal branch
- being aware of who is using your data container / data before performing operations
Understanding Jet Stream Usage

- Jet Stream Usage Management Dashboard Overview
- Container Usage Overview
- Bookmarks Usage Overview
- Branches Usage Overview

Jet Stream Usage Management Dashboard Overview

Jet Stream data templates are comprised of dSources, virtual databases (VDBs), and vFiles. These data sources are controlled by the standard policies configured in the Admin App of the Delphix Engine. As with existing containers, space will be reclaimed by the retention policy over time. As retention cleans up historical data, users will no longer be able to use those points in time to restore or branch. In Jet Stream, an admin can create a bookmark on the data template timeline, which will prevent retention from cleaning up the data that a bookmark references.

Jet Stream data containers are comprised of VDBs provisioned from the sources defined in the data template. Similar to VDBs in the existing Admin App, data containers' VDBs will share blocks with the source from which they are provisioned. This prevents the referenced data on the source from being cleaned up by retention. Retention for these VDBs is controlled by the standard Delphix retention policies. As on templates, bookmarks in data containers will prevent storage from being reclaimed by retention. In addition, Jet Stream will ensure that the latest data on each Jet Stream branch is never removed.

The Usage pages of the data templates and data containers provide information that can help you understand how storage is being used, how to reclaim space, and how much space you are able to reclaim.

Usage Overview is a top-level page, along with the Data Mgmt and Mgmt Overview pages. It contains the space usage breakdowns by data templates and users.

Container Usage Overview

The Usage Details page, shows the space used by data containers provisioned from the template and the bookmarks created on the template.
Container Usage, Version 4.2

The stacked bar graph shows information about the top 10 space users. You can re-sort the graph based on the fields in the Sort by legend on the top right-hand corner of the screen as seen in the image above. For example, if you want to know which data containers are sharing the most data with others, you can un-select Shared (others data) and Unique by clicking them in the legend.

Note: When the legend items are not selected, their corresponding colored boxes turn gray and the data is removed from the chart. The data and name will reappear when you re-select by click on the preferred grayed-out category.

The field categories display the following information:

- **Unique** – The amount of space that will be freed if you delete this data container. This assumes that also delete underlying data sources.
- **Shared (others data)** – The amount of space that cannot be freed on the parent data template (or sibling data containers) because it is also being referenced by this data container due to Restore or Create Branch operations. The snapshots on the template or sibling container are what use up the space.
- **Shared (self data)** – The amount of space that cannot be freed on this data container because it is also being referenced by sibling data containers due to Restore or Create Branch operations, via shared bookmarks.
- **Unvirtualized** – The amount of space that would be used by the data in this container without Delphix virtualization.

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**Bookmarks Usage Overview**

As shown in the image above, the Container Usage page provides the usage information about bookmarks created on a template. The primary categories of information include Unique, Shared (others data), and Shared (self data).
The field categories display the following information:

- **Unique** – The amount of space that will be freed if you delete this bookmark
- **Shared** – The amount of space referenced by this bookmark that cannot be freed by deleting this bookmark because it is also referenced by neighboring bookmarks or branches that have been created or restored from this bookmark
- **Externally Referenced** – The amount of space referenced by this bookmark that cannot be freed by deleting this bookmark because it is also being referenced outside of Jet Stream – for example, by a retention policy.

### Branches Usage Overview

As detailed in the image above, the Container Usage Details page shows the usage information about the branches and bookmarks created on a container. The primary categories of information include **Unique**, **Shared (others data)**, and **Shared (self data)**.
The Container Usage Details page, Version 4.2

The field categories display the following information:

- **Unique** – The amount of space that will be freed if you delete this branch
- **Shared (others data)** – The amount of space that cannot be freed on the parent data template or sibling branches because it is also being referenced by this branch due to Restore or Create Branch operations. The snapshots on the template or sibling container are what use up the space.
- **Shared (self data)** – The amount of space that cannot be freed on this branch because it is also being referenced by sibling data containers due to Restore or Create Branch operations, via shared bookmarks.
Jet Stream Resources

Access more resources at http://docs.delphix.com/display/DOCS50/Delphix+Engine+4.1+Documentation
Jet Stream Support

Ask the community for support @ [+])https://community.delphix.com/delphix}. If you are seeing an issue that cannot be resolved with help from the community, contact your in-house Delphix administrator and have them file a support case as appropriate.