



Metadata Restore Using Workbench

User Guide

September 28, 2023
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Introduction

The Smart Metadata Compare tool lets you compare all the metadata objects, such as reports and dashboards, triggers, process builder, and apex classes. It identifies changes between two snapshots of the same environment or across two different environments, such as your Production backup and a Sandbox backup.

We support Restoring the following Metadata objects:

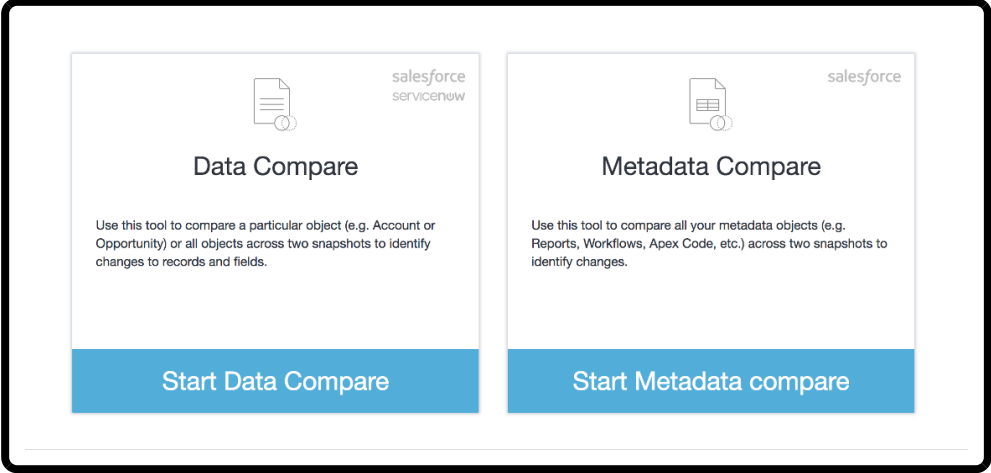
- Apex Classes
- Assignment Rules
- Custom Labels
- Dashboards
- Email Templates
- Flows
- Layouts
- Permission Set Groups
- Permission Sets
- Profiles
- Report Types
- Reports
- Workflows

The object list is constantly being updated.

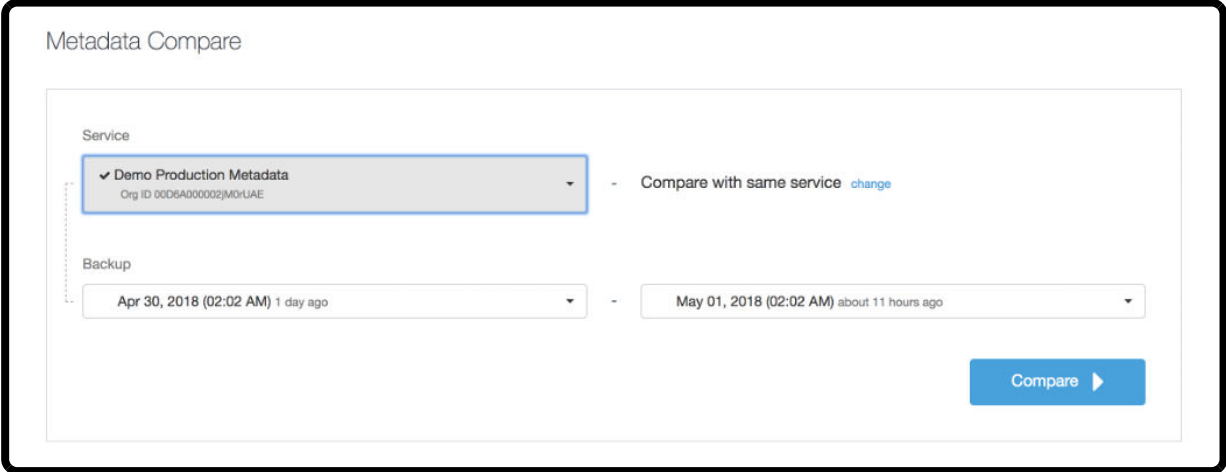


Metadata Compare Process

- 1. Navigate to the Compare tab.
- 2. Click **Metadata Compare**.



- 3. Select the Services you wish to compare. You can compare the same service or change to a different service.



- 4. Select the Backup versions.
- 5. Click **Compare**. The job begins and you are transferred to the Jobs tab.

Identifying the Metadata Modification

- 1. Navigate to the Jobs tab.
- 2. Select the metadata compare job you wish to view.
The Smart Metadata Compare Report appears.

matchingRules	4	-	-	-	4
objectTranslations	6	-	-	-	6
objects	58	-	1	-	58
pages	27	-	-	-	27
permissionsets	4	-	-	-	4

- 3. Identify the object that was removed, changed or added.
- 4. Click the number to display the modification.

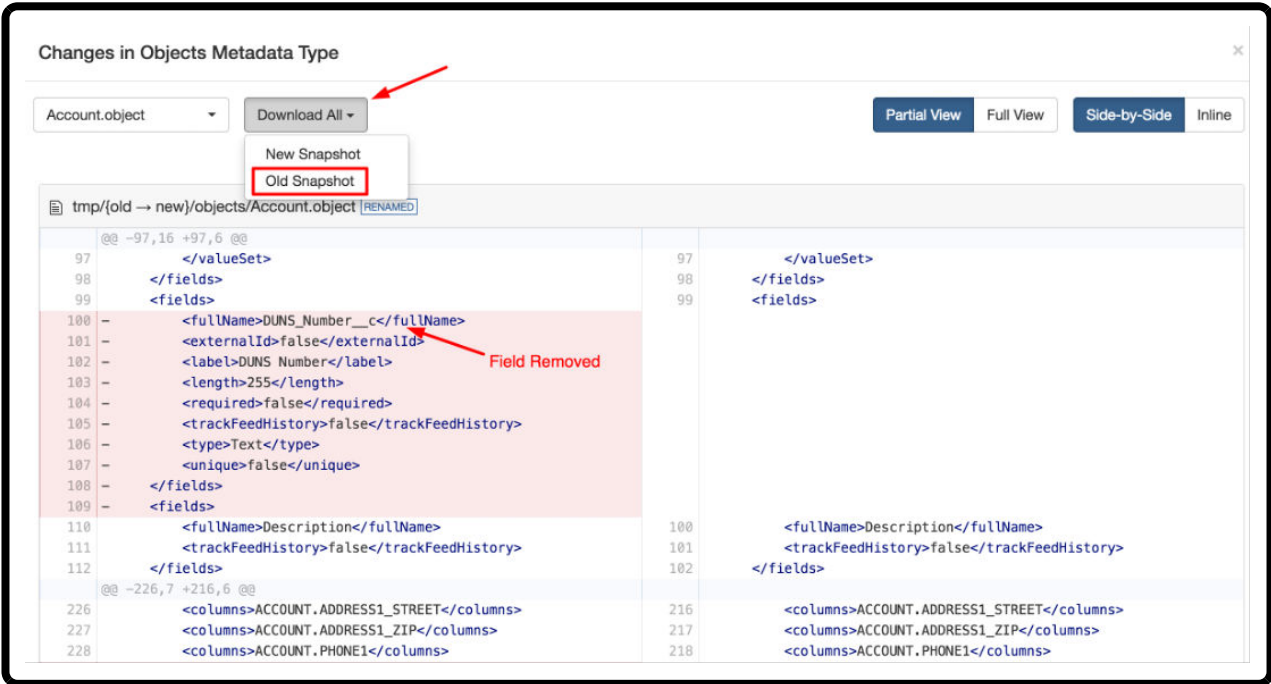
Downloading the Object to Restore to the Old Snapshot

From the Visual Metadata compare, you will be able to understand what exactly changed (here, the custom field DUNS_Number was removed) and from that page, you can download the Old Snapshot (the one before the deletion).

- 1. Click **Download All**.
- 2. Select **Old Snapshot**.

Example:

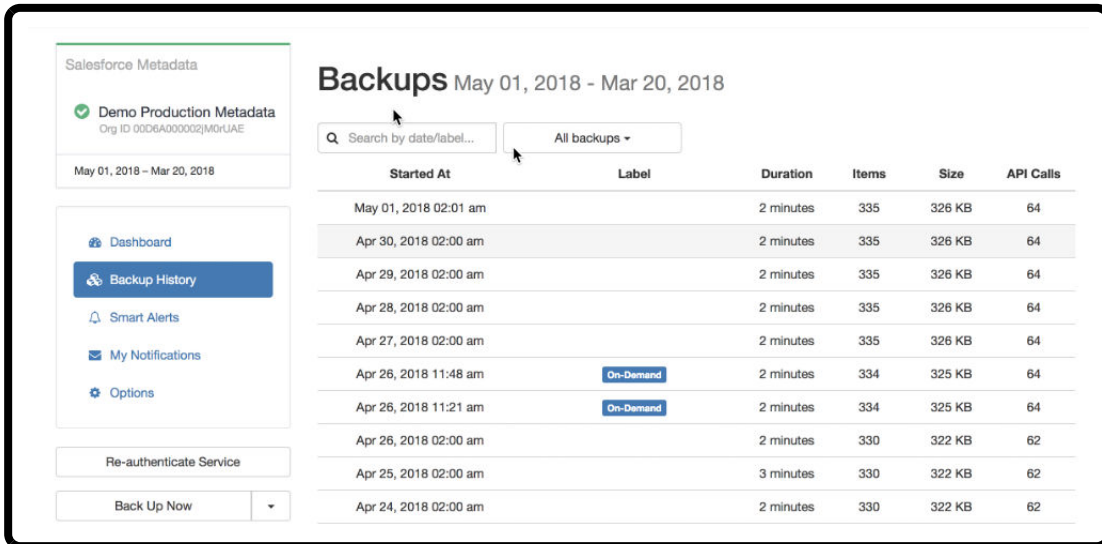
The custom field DUNS_Number was removed.



Downloading the package.xml File

Generate a project manifest file to identify the components that are deployed.

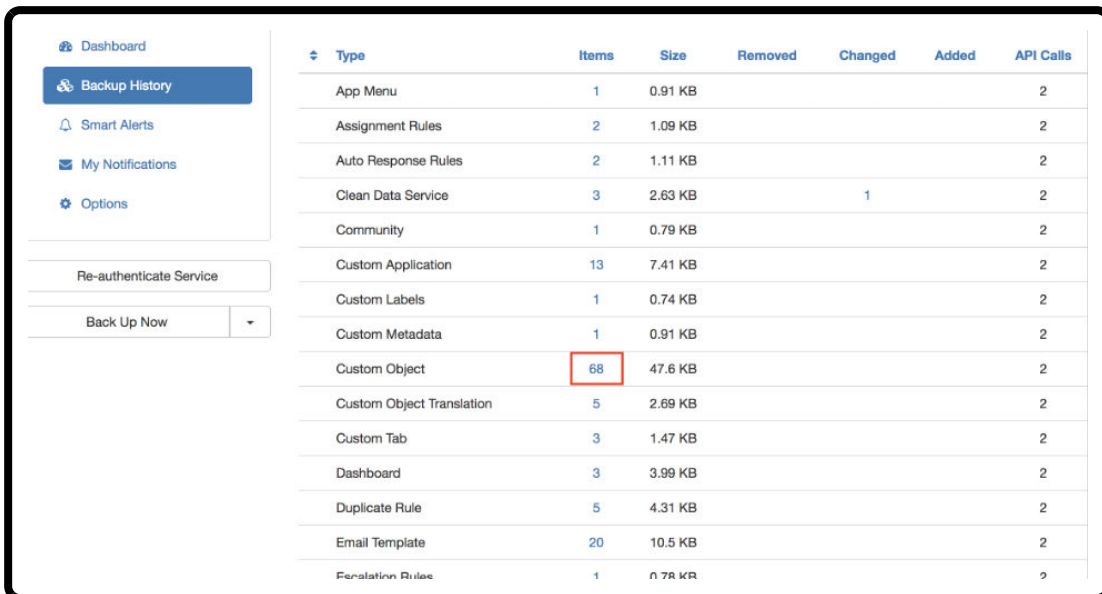
1. Select the service you wish to use.



The screenshot shows the 'Salesforce Metadata' interface. On the left, there is a sidebar with 'Demo Production Metadata' (Org ID 00D6A000002JMHJAE) and a 'Back Up Now' button. The main area is titled 'Backups May 01, 2018 - Mar 20, 2018'. It features a search bar and a dropdown menu for 'All backups'. Below this is a table with columns: Started At, Label, Duration, Items, Size, and API Calls. The table lists several backup entries, with two entries on April 26, 2018, marked as 'On-Demand'.

Started At	Label	Duration	Items	Size	API Calls
May 01, 2018 02:01 am		2 minutes	335	326 KB	64
Apr 30, 2018 02:00 am		2 minutes	335	326 KB	64
Apr 29, 2018 02:00 am		2 minutes	335	326 KB	64
Apr 28, 2018 02:00 am		2 minutes	335	326 KB	64
Apr 27, 2018 02:00 am		2 minutes	335	326 KB	64
Apr 26, 2018 11:48 am	On-Demand	2 minutes	334	325 KB	64
Apr 26, 2018 11:21 am	On-Demand	2 minutes	334	325 KB	64
Apr 26, 2018 02:00 am		2 minutes	330	322 KB	62
Apr 25, 2018 02:00 am		3 minutes	330	322 KB	62
Apr 24, 2018 02:00 am		2 minutes	330	322 KB	62

2. Navigate to the Backup History, and select a backup.



The screenshot shows the 'Backup History' page. The left sidebar is the same as in the previous screenshot. The main area displays a table with columns: Type, Items, Size, Removed, Changed, Added, and API Calls. The 'Items' column for 'Custom Object' is highlighted with a red box, showing the number '68'.

Type	Items	Size	Removed	Changed	Added	API Calls
App Menu	1	0.91 KB				2
Assignment Rules	2	1.09 KB				2
Auto Response Rules	2	1.11 KB				2
Clean Data Service	3	2.63 KB		1		2
Community	1	0.79 KB				2
Custom Application	13	7.41 KB				2
Custom Labels	1	0.74 KB				2
Custom Metadata	1	0.91 KB				2
Custom Object	68	47.6 KB				2
Custom Object Translation	5	2.69 KB				2
Custom Tab	3	1.47 KB				2
Dashboard	3	3.99 KB				2
Duplicate Rule	5	4.31 KB				2
Email Template	20	10.5 KB				2
Escalation Rules	1	0.78 KB				2

3. In the Items column, click the number for the object that you are trying to restore. A zip file is downloaded.

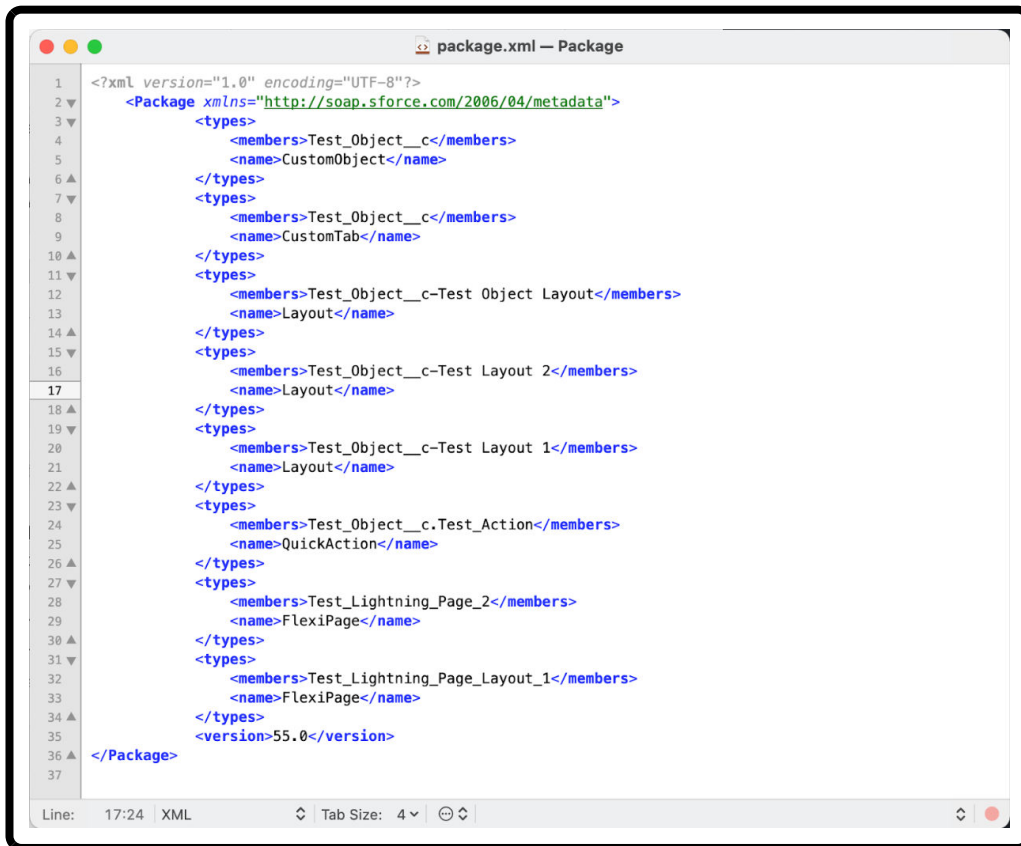


NOTE

Every .zip file contains a package.xml, and a set of directories that contain the components. The manifest file defines the components that you're trying to retrieve or deploy in the .zip file and the API version that's used for the deployment.

Example:

The following is a sample of a complete package.xml file for Custom Objects.



```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <Package xmlns="http://soap.sforce.com/2006/04/metadata">
3   <types>
4     <members>Test_Object__c</members>
5     <name>CustomObject</name>
6   </types>
7   <types>
8     <members>Test_Object__c</members>
9     <name>CustomTab</name>
10  </types>
11  <types>
12    <members>Test_Object__c-Test Object Layout</members>
13    <name>Layout</name>
14  </types>
15  <types>
16    <members>Test_Object__c-Test Layout 2</members>
17    <name>Layout</name>
18  </types>
19  <types>
20    <members>Test_Object__c-Test Layout 1</members>
21    <name>Layout</name>
22  </types>
23  <types>
24    <members>Test_Object__c.Test_Action</members>
25    <name>QuickAction</name>
26  </types>
27  <types>
28    <members>Test_Lightning_Page_2</members>
29    <name>FlexiPage</name>
30  </types>
31  <types>
32    <members>Test_Lightning_Page_Layout_1</members>
33    <name>FlexiPage</name>
34  </types>
35  <version>55.0</version>
36 </Package>
37
```

Delete all nodes that you will NOT be deploying and only leave the node(s) relevant to the metadata object that you will be deploying. Your final package.xml file will look similar to this if you are only restoring your Account object schema metadata.



```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <Package xmlns="http://soap.sforce.com/2006/04/metadata">
3   <types>
4     <members>Account</members>
5     <name>CustomObject</name>
6   </types>
7   <version>40.0</version>
8 </Package>
```



NOTE

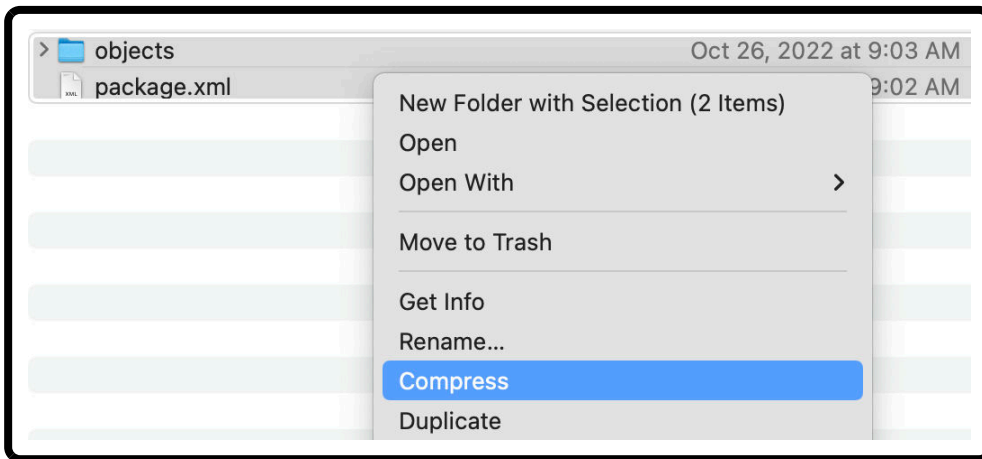
You can retrieve an individual component for a metadata type by specifying its fullName field value in a members element, or you can also retrieve all components of a metadata type by using <members*>/members>.

Creating the .zip file to Deploy

You need to create a zip file of all the object folders and package.xml file to deploy via Workbench.

To create the .zip file:

1. Highlight all of the metadata object folders and the package.xml file.
2. Right click on all the selected items, and select **Compress**.



The zip file is created and saved in the folder.

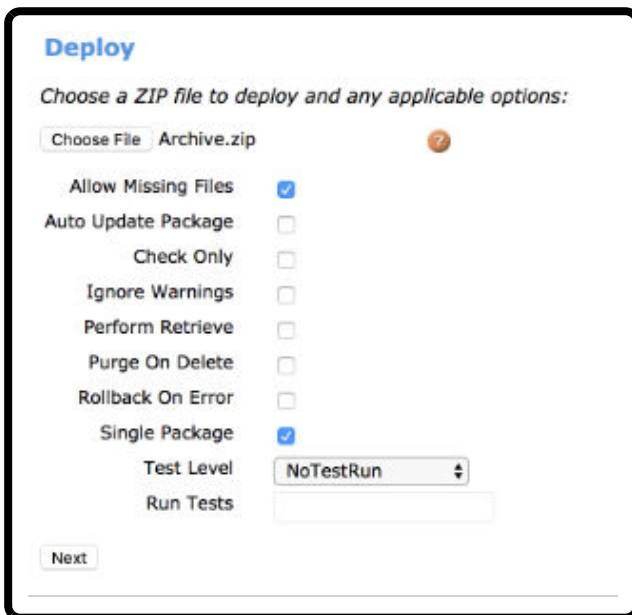
Deploying via Workbench

One more step and the requested metadata will be restored to your org.

1. Navigate to the Workbench website:
<https://workbench.developerforce.com/>
2. Log-in to the Production Sandbox.
3. Click **migration**, and select **Deploy** from the drop-down menu.



4. Choose your zip file and enable **Allowing Missing Files** and **Single Package** checkboxes.
5. Click **Next**.



6. On the bottom left-hand corner, Click **Deploy**.

Deploy MICHAEL ARROUAS OBD AT DEMO MICHAEL ON API 41.0

Successfully staged 4 KB zip file Archive.zip for deployment.

Confirm the following deployment options:

[Expand All](#) | [Collapse All](#)

- > allowMissingFiles: **true**
- > autoUpdatePackage: **false**
- > checkOnly: **false**
- > ignoreWarnings: **false**
- > performRetrieve: **false**
- > purgeOnDelete: **false**
- > rollbackOnError: **false**
- > singlePackage: **true**
- > testLevel: **NoTestRun**
- > runTests:

Warning, this deployment will make permanent changes to this organization's metadata and cannot be rolled back. Use the 'Check Only' option to validate this deployment without making changes.

[Deploy](#)

Metadata is restored, and the results are displayed:

Results

[Expand All](#) | [Collapse All](#)

- > success: **true**
- 📁 componentSuccesses (41)
- 📁 runTestResult (3)

Account Custom Fields & Relationships [New](#) [Field Dependencies](#) [Account Custom Fields & Relationships Help](#) ?

Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By
Edit Del Replace	<u>Business Region</u>	Business_Region__c	Picklist			Michael Arrouas OBD, 11/26/2017 2:53 PM
Edit Del	<u>DUNS Number</u>	DUNS_Number__c	Text(255)			Michael Arrouas OBD, 12/1/2017 12:36 PM
Edit Del	<u>Primary Contact</u>	Primary_Contact__c	Lookup(Contact)	✓		Michael Arrouas OBD, 5/22/2017 10:20 AM
Edit Del	<u>ProspectionTimeStamp</u>	ProspectionTimeStamp__c	Date/Time			Michael Arrouas OBD, 5/22/2017 6:49 PM
Edit Del	<u>Prospection Total Days</u>	Prospection_Total_Days__c	Number(17, 1)			Michael Arrouas OBD, 5/22/2017 6:50 PM



NOTE

After restoring your metadata, you may need to adjust the permissions in Salesforce to grant your users access to the restored components. As a default, when metadata is created in Salesforce it is hidden from all profiles. Navigate to Salesforce > Setup > Field Accessibility and make it visible for the required profile(s).

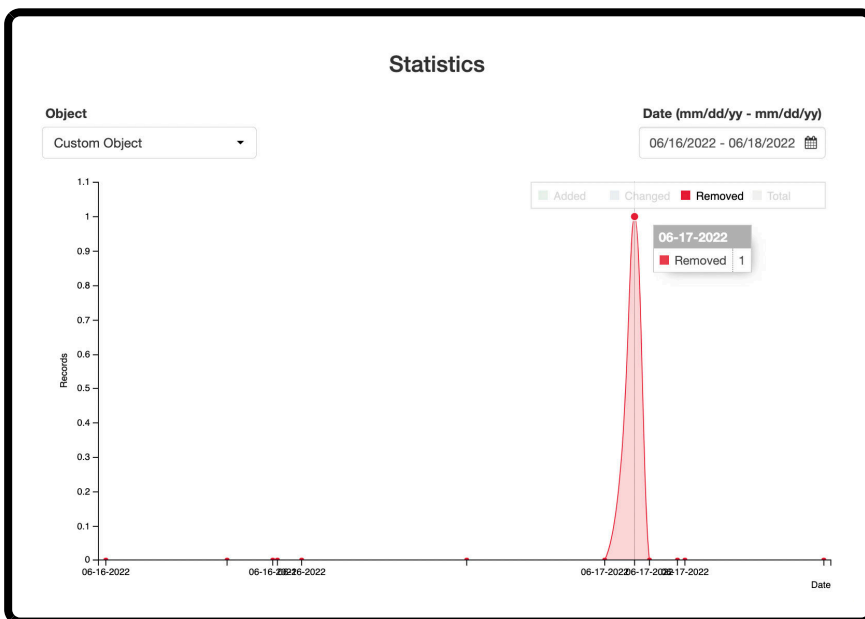
Restoring a Custom Object Using Workbench

If a Custom Object is deleted or corrupted, you may want to restore that Custom Object. Restoration requires the download of multiple metadata components, creation of a package.xml file and deployment of the package via workbench. This document contains instructions for testing the process and an example for guidance for restoration in your environment.

Identifying the Custom Object Metadata Modification

There are several ways to identify when the custom object modification occurred in the metadata backup.

1. Navigate to the service you wish to use. The dashboard appears.
2. In the statistics area:



- a. In the *Object* drop-down, select "Custom Object".
- b. Select a custom range using the Date picker menu, or select a default timeframe.
- c. Click the Removed toggle below the chart to filter which data sets to display.
- d. Click on the node on the graph to open the Backup where the Object was identified as deleted. The backup summary opens.

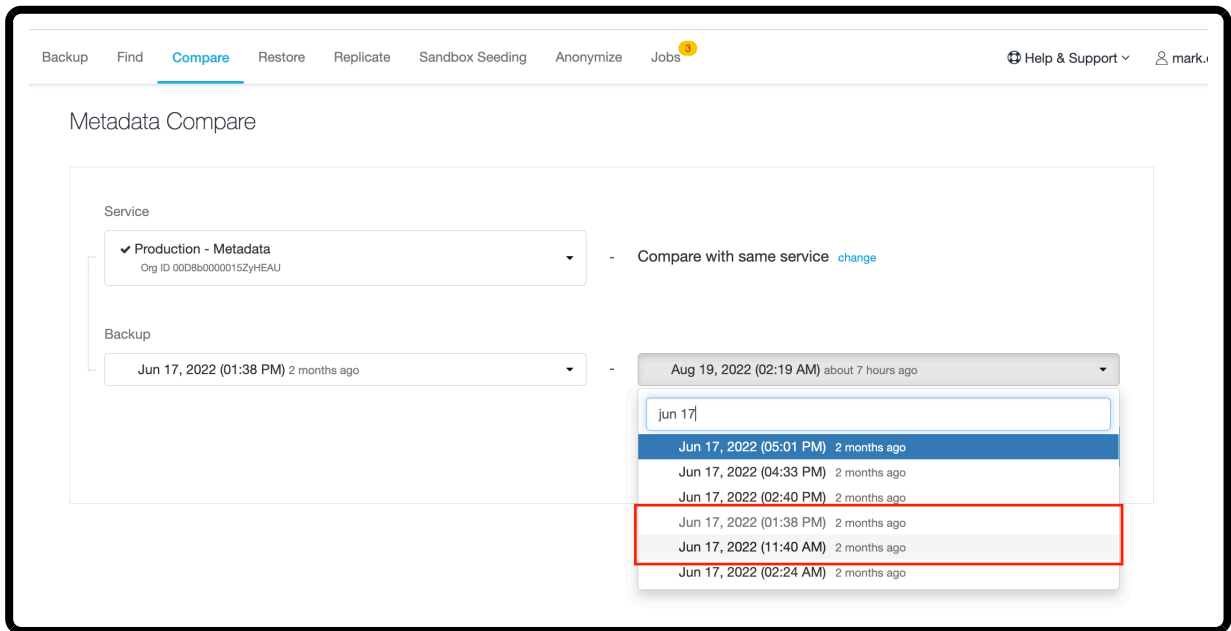
The figure is a screenshot of the Salesforce Metadata backup summary page. The page title is "Backup from June 17, 2022 13:21". Below the title, it shows "Type: Full", "Metadata Types: 143", "Items: 8,227", "API Calls: 224", and "Size: 52.9 MB". There are buttons for "Compare...", "Export...", and "Backup from". Below this is a table with columns: Type, Items, Size, Removed, Changed, Added, and API Calls. The table lists various metadata types, including Custom Object, with corresponding values for each column. The "Compare..." button is highlighted with a red box.

Type	Items	Size	Removed	Changed	Added	API Calls
Layout	285	259 KB	-2			2
Flexi Page	67	60.1 KB	-2			2
Custom Object Translation	1,393	667 KB	-1			2
Custom Object	312	361 KB	-1			2
Sharing Rules	174	56.5 KB	-1			2
Topics For Objects	152	60.1 KB	-1			2
Custom Tab	55	19.9 KB	-1			2
Quick Action	33	18.8 KB	-1			2

3. Click **Compare** to initiate a compare job.



- From the Compare screen, the Backup you located will automatically be chosen for comparison in the left-hand Backup selection.



- Use the right-hand backup selection, to locate and select the backup that occurred directly prior to the backup where the Object was identified as deleted.

Downloading the Custom Objects XML file




IMPORTANT

Folder and file names are case sensitive. These are downloaded in the correct formatting and should not be modified.

- Create a new folder on your desktop.
- Navigate to the Jobs tab, and select the metadata compare job you wish to use. The Smart Metadata Compare Report appears.

Smart Metadata Compare Report

Below is the breakdown of changes between the two requested snapshot dates (4 month period); clicking on a table value will open the relevant ZIP file, ready for deployment with the Force.com IDE.

	Total in Old	Removed	Changed 	Added	Total in New
appMenus	2	-	1	-	2
applications	136	-	1	+1	137
aura	5292	-	292	-	5292
classes	16580	-	1009	+22	16602
cleanDataServices	3	-	3	-	3
components	638	-	2	-	638
experiences	2664	-	6	+4	2668
flows	278	-	1	-	278
installedPackages	72	-	2	-	72
layouts	1858	-9	9	+9	1858
matchingRules	5	-	-	+1	6
networks	30	-	1	-	30
notificationTypeConfig	1	-	1	-	1
objects	1791	-12	74	+30	1809
pages	2824	-	67	-	2824

3. Click the number in the *Removed* column to download the XML file.
For information about the *Changed* column, see [here](#).
4. Move and store each unzipped object folder and its associated file(s) to the new folder you created on your desktop.



NOTE

For a 'complete' object restore, you will need the content contained in the object **"objects"** file, and any related component stored in the separate object files. The XML file for **"objects"** includes:

- Standard and Custom Fields
- Compact Layouts
- Field Sets
- Buttons
- Links
- Record Types
- Validation Rules

The XML file does not include:

- layouts (Page Layouts)
- flexipages (Lightning Page Layouts)
- quickActions (Actions)
- tabs (Tab)
- Object visibility/FLS Permissions

These missing components are contained in separate object files which can be downloaded and included as part of your Workbench restore.

Creating the Custom Objects package.xml file

You need to create package.xml file and include a reference for each component to be deployed. For example, each flexipage, layout, object, quickAction, tab, etc.



IMPORTANT

The formatting within the package.xml file is case sensitive.

1. Start with the Base package.xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<Package
xmlns="http://soap.sforce.com/2006/04/metadata">
<version>55.0</version>
</Package>
```

2. Add a reference for each individual component you want to be included in the restore.

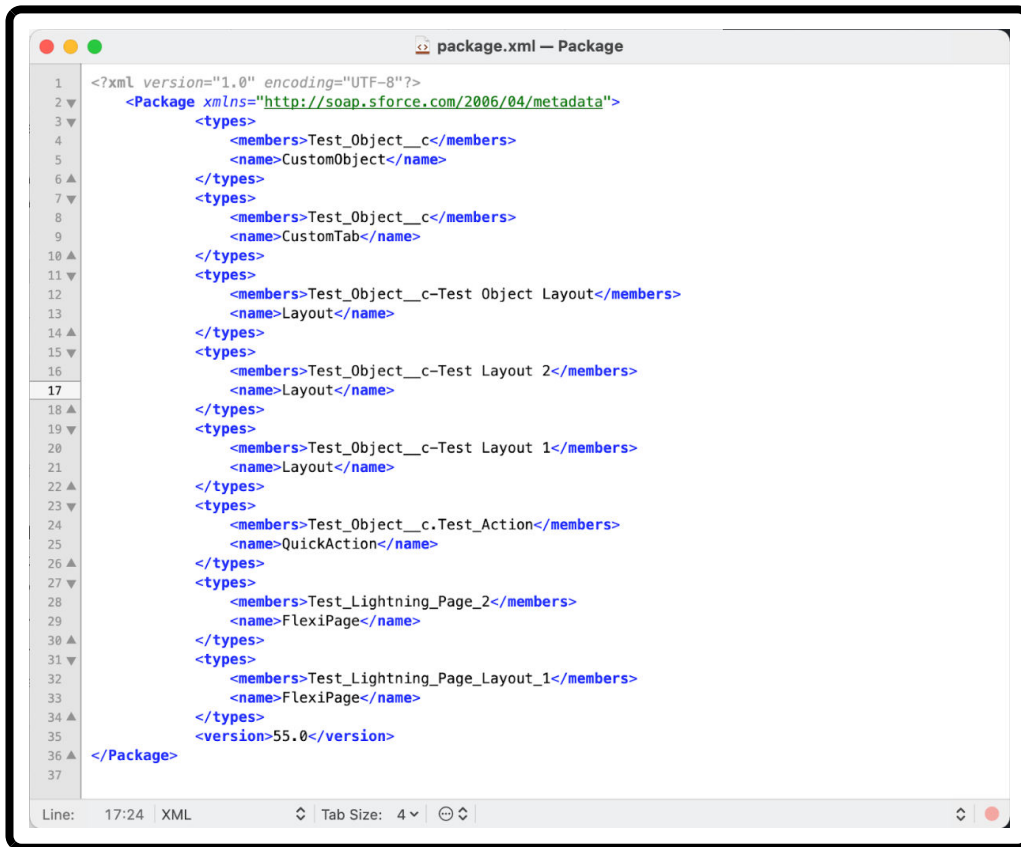
For example:

```
<types>
<members>Test_Lightning_Page_2</members>
<name>FlexiPage</name>
</types>
```

- An individual object reference includes a header, member, name, and footer.
 - The <members> tag should include the name of the component without the extension.
 - The <name> tag should include the name of the metadata component. For more information about how to format these component names, see [here](#).
3. If required, you can add additional components to be included in the restore. Include the header, member, name, and footer reference below the previous component.
 4. Save your completed package.xml file in the new folder you created on your desktop.

Example:

The following is a sample of a complete package.xml file for Custom Objects.

A screenshot of a code editor window titled "package.xml — Package". The editor displays XML code for a package. The code includes a root element <?xml version="1.0" encoding="UTF-8"?>, followed by a <Package xmlns="http://soap.sforce.com/2006/04/metadata"> element. Inside the Package element, there are several <types> blocks, each containing <members> and <name> elements. The members and names include Test_Object__c, CustomObject, CustomTab, Layout, Test Object Layout, Test Layout 2, Test Layout 1, QuickAction, Test_Lightning_Page_2, FlexiPage, and Test_Lightning_Page_Layout_1. The package version is set to 55.0. The editor interface shows line numbers from 1 to 37 on the left, and a status bar at the bottom indicating "Line: 17:24 XML" and "Tab Size: 4".

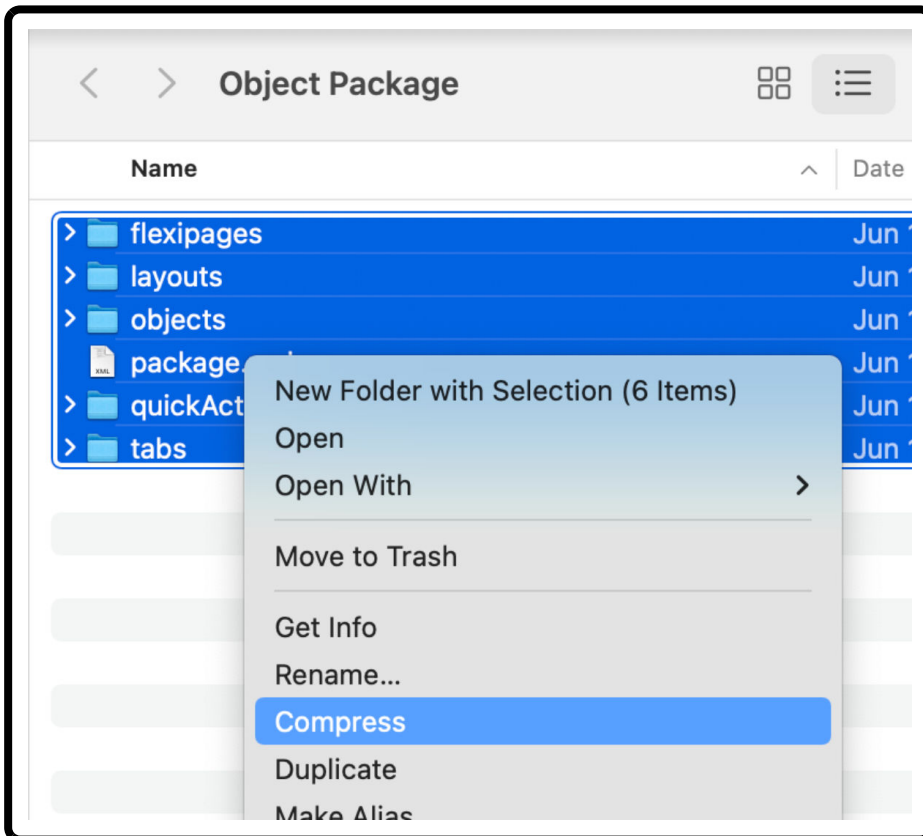
```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <Package xmlns="http://soap.sforce.com/2006/04/metadata">
3   <types>
4     <members>Test_Object__c</members>
5     <name>CustomObject</name>
6   </types>
7   <types>
8     <members>Test_Object__c</members>
9     <name>CustomTab</name>
10  </types>
11  <types>
12    <members>Test_Object__c-Test Object Layout</members>
13    <name>Layout</name>
14  </types>
15  <types>
16    <members>Test_Object__c-Test Layout 2</members>
17    <name>Layout</name>
18  </types>
19  <types>
20    <members>Test_Object__c-Test Layout 1</members>
21    <name>Layout</name>
22  </types>
23  <types>
24    <members>Test_Object__c.Test_Action</members>
25    <name>QuickAction</name>
26  </types>
27  <types>
28    <members>Test_Lightning_Page_2</members>
29    <name>FlexiPage</name>
30  </types>
31  <types>
32    <members>Test_Lightning_Page_Layout_1</members>
33    <name>FlexiPage</name>
34  </types>
35  <version>55.0</version>
36 </Package>
37
```

Creating the Custom Object .zip file to Deploy

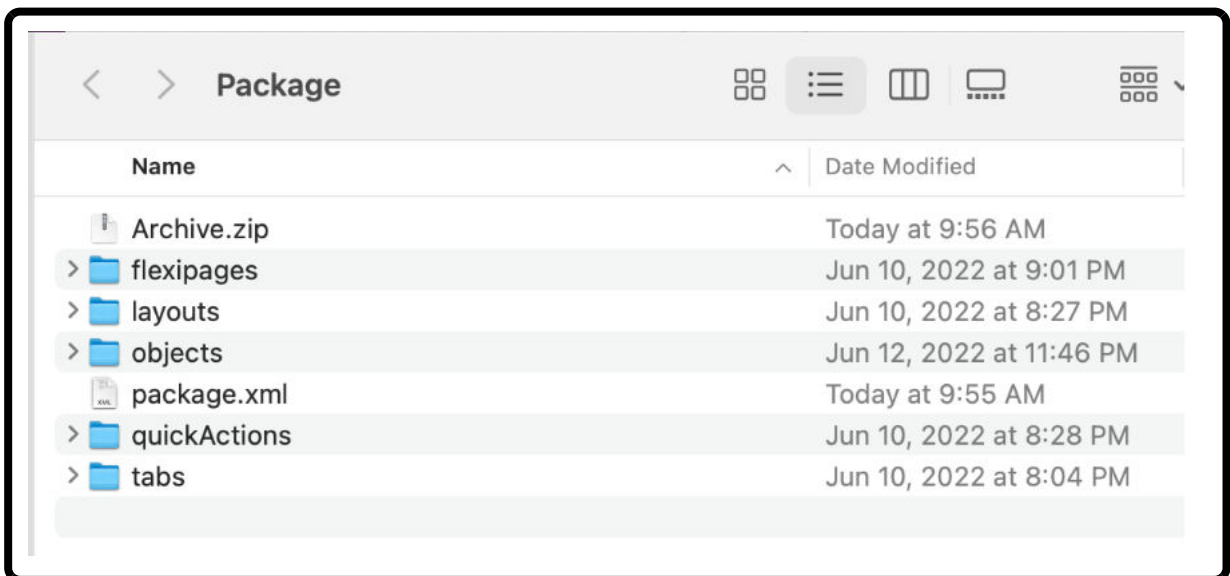
You need to create a zip file of all the object folders and package.xml file to deploy via Workbench.

To create the .zip file:

1. Navigate to the folder you created on your desktop.
2. Highlight all of the metadata object folders and the package.xml file.
3. Right click on all the selected items, and select **Compress**.



The zip file is created, and saved in the folder.



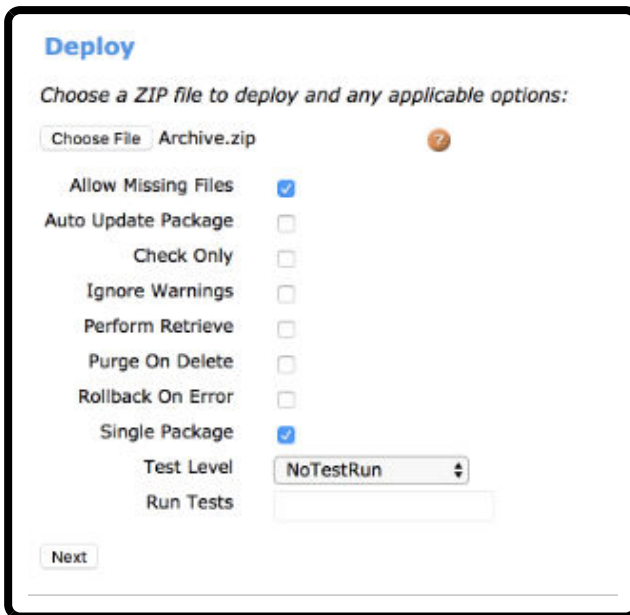
Deploying the Custom Object via Workbench

One more step and the requested metadata will be restored to your org.

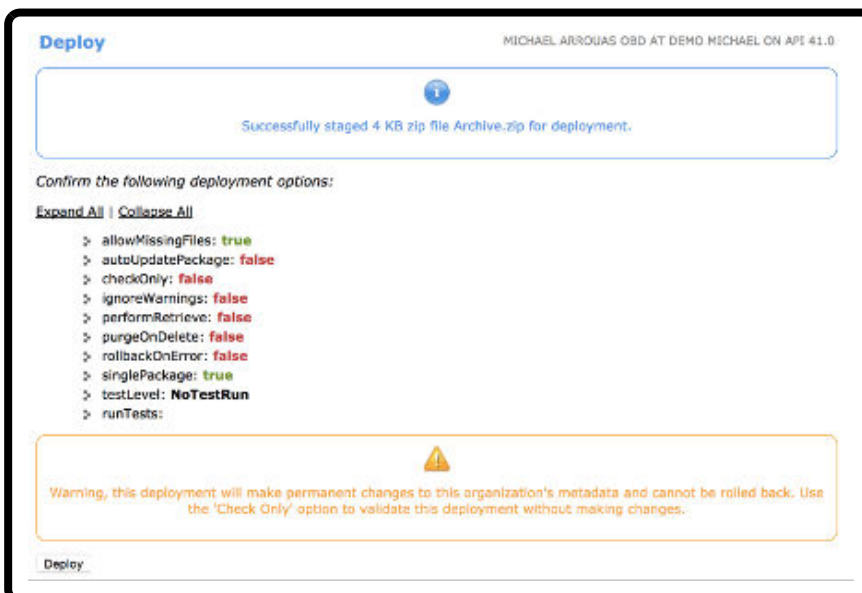
1. Navigate to the Workbench website:
<https://workbench.developerforce.com/>
2. Log-in to the Production Sandbox.
3. Click **migration**, and select **Deploy** from the drop-down menu.



4. Choose your zip file, and enable the enable **Allowing Missing Files** and **Single Package** check boxes.
5. Click **Next**.



6. On the bottom left-hand corner, click **Deploy**.



Metadata is restored, and the results are displayed:

Results

[Expand All](#) | [Collapse All](#)

➤ success: true

- componentSuccesses (41)
- runTestResult (3)

Account Custom Fields & Relationships New Field Dependencies Account Custom Fields & Relationships Help ?

Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By
Edit Del Replace	Business Region	Business_Region__c	Picklist			Michael Arrous OBD, 11/26/2017 2:53 PM
Edit Del	DUNS Number	DUNS_Number__c	Text(255)			Michael Arrous OBD, 12/1/2017 12:36 PM
Edit Del	Primary Contact	Primary_Contact__c	Lookup(Contact)	✓		Michael Arrous OBD, 5/22/2017 10:20 AM
Edit Del	ProspectionTimeStamp	ProspectionTimeStamp__c	Date/Time			Michael Arrous OBD, 5/22/2017 6:49 PM
Edit Del	Prospection Total Days	Prospection_Total_Days__c	Number(17, 1)			Michael Arrous OBD, 5/22/2017 6:50 PM



NOTE

After restoring your metadata, you may need to adjust the permissions in Salesforce to grant your users access to the restored components. As a default, when metadata is created in Salesforce it is hidden from all profiles. Navigate to Salesforce > Setup > Field Accessibility and make it visible for the required profile(s).

Final Steps for Object visibility and FLS Permissions

When the Custom Object is deleted, all configured permissions around Object visibility and FLS are lost. To restore permissions for Object visibility and FLS, you need to also restore the previous Profile settings. To do this, you need to run a Metadata Profile Restore job against the most recent backup before the Object deletion vs. the backup taken after the Object is restored.

Salesforce Metadata Restore Please review the missing and modified metadata objects

Job ID #1310529

40%

Restore **profiles** between the backup [Test Object + Records + Modified Permissions - Pre-Delete of Jun 17, 2022 \(11:40 AM\)](#) and the backup [Test Object + Records + Modified Permissions - Post-Object Restore of Jun 17, 2022 \(02:40 PM\)](#) from [\[Salesforce Metadata\] Production - Metadata](#) to [\[Salesforce Metadata\] Production - Metadata](#).

Review the data that will be restored to your Org.

▼ Restore profiles Deselect all

- Restore modified profile: Admin
- Restore modified profile: ContractManager
- Restore modified profile: Customer Community Login User
- Restore modified profile: Customer Community User
- Restore modified profile: Global App Demo User
- Restore modified profile: Global Field Sales
- Restore modified profile: Global Integration User
- Restore modified profile: Global Intern User
- Restore modified profile: Global Marketing User
- Restore modified profile: Global Read Only User
- Restore modified profile: Global Sales User
- Restore modified profile: Global Service Rep User
- Restore modified profile: Global Service User
- Restore modified profile: Global System Administrator
- Restore modified profile: Global Test User
- Restore modified profile: High Volume Customer Portal User
- Restore modified profile: Identity User