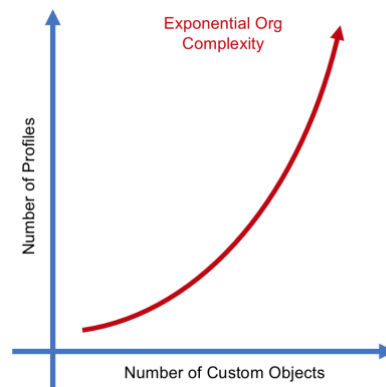


Snapshot Use Cases: Org Cleanup and Optimization

Introduction

Salesforce orgs can become unmanageably complex over time. The complexity might stem from corporate mergers and acquisitions, poor change and release management practices, failed development projects, or disruptive administrative turnover. Complexity can result in slow performance, reduced agility, sluggish adoption, and IT/business misalignment. Older projects must be cleaned up to make room for new initiatives, or any Salesforce org can become unhealthy over time. Many Salesforce orgs become more complex every day.

Consider an org where Profiles and Custom Objects are being created with the Setup Menu at a linear rate. The number of user object permissions in the org will increase at an exponential rate. But when you consider the impact of other entangled assets like Custom Fields, Record Types, Page Layouts, and Apex Classes, the overall complexity of the org will increase at an even higher rate than in this simple example.



This white paper discusses how the Snapshot Org Management product from Metazoa can help you clean up and optimize your Salesforce account. Snapshot provides over fifty reports to help you identify forgotten assets, underutilized fields, and abandoned projects. Once you understand where the problems are, you will be on the right track to simplifying your org and reducing complexity.

Field Usage Report

Some of the Custom Fields in your Salesforce account are more useful than others. Some are rarely used, others not at all. One way to measure usefulness is to look at fields that are empty or contain default values. The more distinct the field values, the more the field is being used, versus fields with more uniform values, which contain lots of duplicate information. The Field Usage Report presents all of this information for any set of selected records.

Once this information has been gathered, judgement is required on a field by field basis to determine usefulness. You may need to drill down and see why a field is more or less distinct. For example, Account Name, Phone, and Website will be almost 100% distinct, but Account Zip Code and State will be more uniform. Often you will discover that more uniform fields are mainly populated by empty or default values. That might point to a field that needs to be deleted, or perhaps that should be a required field. If most of the fields are no longer needed, then the entire object can go.

Field Usage For Sandbox Org (Username: newss@mz.com)

Select Objects
Preview Report
Display Report
Schedule Report

This table shows a preview of the selected object on the first tab.

Account Labels	Type	Total	Used	Empty	Default	Distinct	Used %	Empty %
Billing State/Province	string	1018	71	947	947	24	6.97%	93.03%
Billing State/Province Code	picklist	1018	71	947	947	17	6.97%	93.03%
Industry	picklist	1018	80	938	938	29	7.85%	92.15%
Shipping Country	string	1018	91	927	927	8	8.93%	91.07%
Shipping Country Code	picklist	1018	91	927	80	8	8.93%	91.07%
Billing Zip/Postal Code	string	1018	98	920	920	93	9.62%	90.38%
Billing City	string	1018	123	895	895	94	12.08%	87.92%
Website	url	1018	127	891	891	122	12.47%	87.53%
Company Billing Street	textarea	1018	129	889	889	128	12.67%	87.33%
Account Type	picklist	1018	206	812	812	14	20.23%	79.77%
Billing Country	string	1018	213	805	805	32	20.92%	79.08%
Billing Country Code	picklist	1018	213	805	92	28	20.92%	79.08%
Account Phone	phone	1018	274	744	744	264	26.91%	73.09%
Active	picklist	1018	372	646	646	2	36.54%	63.46%
Region	picklist	1018	378	640	375	3	37.13%	62.87%
Account Depth	picklist	1018	600	418	565	4	58.93%	41.07%
Number picklist	picklist	1018	997	21	997	2	97.93%	2.07%
Record Type ID	reference	1018	998	20	20	4	98.03%	1.97%
A Formula Field	currency (fx)	1018	1018	0	0		100.00%	0.00%
AA_Field	boolean	1018	1018	0	596	2	100.00%	0.00%
Account	double (fx)	1018	1018	0	0		100.00%	0.00%
Account Hierarchy Tier	double (fx)	1018	1018	0	0		100.00%	0.00%
Child Account	boolean (fx)	1018	1018	0	0	2	100.00%	0.00%

Compliance information:

Business Status: Active
Security Classification: Confidential
Compliance Group: HIPAA, GDPR, CC

[Edit Compliance](#)

Show Most Popular Values
 Show Least Popular Values

Value distribution:

Value	Count	Percent
3D Geo GmbH	1	0.09%
Financial Services	1	0.09%
Zonar	1	0.09%
ed.i.solutionsinc	1	0.09%
Zazzle	1	0.09%
ygint	1	0.09%
nders Global Ltd	1	0.09%
XTM Inc.	1	0.09%
WSI	1	0.09%
chead Inc. (TX)	1	0.09%
Kids Company	1	0.09%
sdom University	1	0.09%

The Field Usage Report can identify unused fields and update the compliance information right from the report. Select any field in the Preview tab and click the Edit Compliance button to make changes to the field's compliance metadata. This information includes:

- Business Status
- Security Classification
- Compliance Group
- Description
- Help Text

Picklist Usage Report

The only thing more complex than fields are picklists. Picklists are multiplexed by Record Types, and further complicated by controlling versus dependent picklists. Picklists will have a defined list of values, but they will likely have many other values that have been entered by hand over the years. What values should be on the defined list? What other values need to be remapped to one of the defined values? Which picklist items should be eliminated from the list entirely? The Picklist Usage Report displays all of this information. The Record Types Vs. Picklists Report and the Controlling Vs. Dependent Picklists Report provide additional information about the structure and usage of picklists in your org.

Picklist Usage For Sandbox Org (Username: newss@mz.com)

Select Objects | **Preview Report** | Display Report | Schedule Report

This table shows a preview of the selected object on the first tab.

Account Fields	Picklist Values	Other Values	Master	Account_Rec_Type1	Account_
Account_Depth2__c	Bill				
	Deep				
	Deeper			34	
	Deepest				
	=Shallow=		12	3	
	Deeper & Deeper				
			empty	8	330
AccountSource	Demo Deep				1
	Advertisement				
	Cold Call				
	Employee Referral				
	External Referral				
	Partner				
	Public Relations				
	Web Seminar				
	Trade Show				
	Web				
Word of mouth					

OK Next

Forgotten Assets Report

There are over 150 asset types currently handled by the Metadata API. These metadata assets describe all the customizations in your org. But this information can also be used to discover forgotten, hidden, and inactive assets. In some cases, an asset will not be enabled by any of the Profiles or Permission Sets in the org. In other cases, there will be no metadata references to the asset. Many metadata assets have an “active” or “visible” flag that can be checked. The Data API can also be used to find assets that have no assigned users. Here is a list of common problems that the Forgotten Assets Report can discover:

- Groups not referenced by Custom Objects or Assignment Rules
- Roles, Profiles, and Permission Sets with no assigned users
- Custom Objects and Fields not referenced by other metadata assets
- Record Types, Custom Tabs, and Custom Applications that are not visible
- Web Links not referenced by Page Layouts or Home Page Components
- Inactive Rules: Workflow, Approval, Assignment, Moderation, Escalation...

Forgotten Assets For Sandbox Org (Username: newss@mz.com)
+ □ ■

Select Metadata Types
Display Report
Schedule Report

Check the boxes below to include a me

Quick Find Metadata Types

- Custom Objects (web Links)
- Custom Page Web Links
- Custom Sites
- Custom Tabs
- Data Category Groups
- Duplicate Rules
- Email Templates
- Entitlement Processes
- Escalation Rules (Escalation Rule)
- Flow Definitions
- Flows
- Global Value Sets
- Groups
- Home Page Components
- Keyword Lists
- Letterheads
- Live Chat Buttons
- Live Chat Sensitive Data Rules
- Matching Rules (Matching Rule)

The table has 21 forgotten and 42 total assets.

By	Last Modified Date	Details
	7/9/2013 1:23 PM	Not referenced by Metadata Assets
	8/10/2021 9:33 AM	Not referenced by Metadata Assets
	7/9/2013 1:35 PM	Not referenced by Metadata Assets
	7/9/2013 1:23 PM	Not referenced by Metadata Assets
	7/9/2013 1:23 PM	Not referenced by Metadata Assets
	7/9/2013 1:23 PM	Not referenced by Metadata Assets
	7/9/2013 1:23 PM	Not referenced by Metadata Assets
	4/23/2018 10:21 AM	Not referenced by Metadata Assets
	7/9/2013 1:35 PM	Not referenced by Metadata Assets
	2/20/2016 9:46 AM	Referenced by Workflows
	5/3/2018 9:05 AM	Referenced by Workflows
	3/13/2018 2:47 PM	Referenced by Workflows
	7/9/2013 1:40 PM	Referenced by Networks
	7/9/2013 1:40 PM	Referenced by Networks
	7/9/2013 1:40 PM	Referenced by Approval Processes, Networks
	7/9/2013 1:27 PM	Referenced by Portals
	7/9/2013 1:27 PM	Referenced by Portals

OK
Next

Last Activity Date Report

Some assets are enabled and properly connected to your Salesforce account, but they have not been used in a very long time. Email Templates have a Times Used and Last Used Date field available from the Data API. Likewise, Reports have a Last Run Date. The Refresh Date for Dashboards can be calculated from the connected Reports. You will likely find Reports and Email Templates that have never been used, but be careful, because sometimes these objects are simply new, so be sure to also check the Created and Last Modified Dates. The Last Activity Date Report provides all of this information.

📄 Last Activity Date For Sandbox Org (Username: newss@mz.com)
+ □ 🗑

Select Objects Preview Report Display Report Schedule Report

✔ Color Code
 [Manage Activity](#)
Smart Deploy

Right-click the table to export the report in a variety of formats.

DocuSign_Connect_for_Salesforce	01Zi000000004tEAA	DocuSign eSigna
Marketing_Executive_Dashboard	01Zi0000000VWPVEA4	Unpa
Salesperson_Dashboard	01Zi0000000VWPYEA4	Unpa
Sales_Executive_Dashboard	01Zi0000000VWPWEA4	Unpa
Snapshot_Pushes04t40000000Fuso	01Zi0000000aef0EAA	Unpa
billtestdash	01Z1Y000000VjgsUAC	Unpa
Sales_Manager_Dashboard	01Zi0000000VWPXEA4	Unpa

Last Activity Date for Object Report

Object Name	Record ID	
All_Successful_Changes_Made_Today	000i0000003BXnnEAG	
Asset_Pushes_This_Month_By_Success	000i0000003BXnrEAG	
All_Successful_Changes_Today_By_User	000i0000003BXnoEAG	
All_Unsuccessful_Changes_Made_Today	000i0000003BXnpEAG	
Today_s_Changes_With_Details	000i0000003BXntEAG	
Today_s_Changes_by_Type	000i0000003BXnuEAG	
All_Unsuccessful_Changes_Today_By_User	000i0000003BXnqEAG	
All_Field_Analyses	000i0000003BYMTEA4	

OK
Next

Profiles and Permission Sets Report

Every user has a Profile that defines what they can see and do. Profile permissions include Application and Tab Visibility, Apex Class and Page Access, Object and Field Permissions, User and Custom Permissions, and Layout Assignments. An administrator can also assign any number of Permission Sets to a user. Permission Sets are similar to Profiles. They are used to grant additional permissions for special situations. Profiles and Permission Sets are the key junction object that manage complexity at the heart of a Salesforce account.

The Profiles and Permission Sets Report provides over 30 different tables that display the use of Profiles and Permission Sets in your org. You can see which Profiles and Permission Sets are assigned to the most users. Perhaps some Profiles and Permission Sets can be consolidated. Another interesting report shows the extent to which various child types are used by each Profile or Permission Set. For example, which Profiles enable the most Apex Classes, or User Permissions? Which Profiles show the most Custom Tabs and Applications? This information will help identify duplicate and underutilized Profiles and Permission Sets that can be removed, refactored, and consolidated.

Profiles And Permission Sets For Sandbox Org (Username: newss@mz.com)

Select Profiles and Permission Sets Display Report Schedule Report

Check the boxes below to include a profile or permission set.

- ▼ Profiles
 - Apex Class Accesses
 - Apex Page Accesses
 - Application Visibility
 - Custom Metadata
 - External Data Sources
 - Field Permissions
 - Flow Accesses
 - Layout Assignments
 - Object Permissions
 - Record Type Layouts
 - Record Type Visibility
 - Tab Visibility
 - User Permissions
 - Custom Permissions
- ▼ Permission Sets
 - Apex Class Accesses
 - Apex Page Accesses
 - Application Visibility

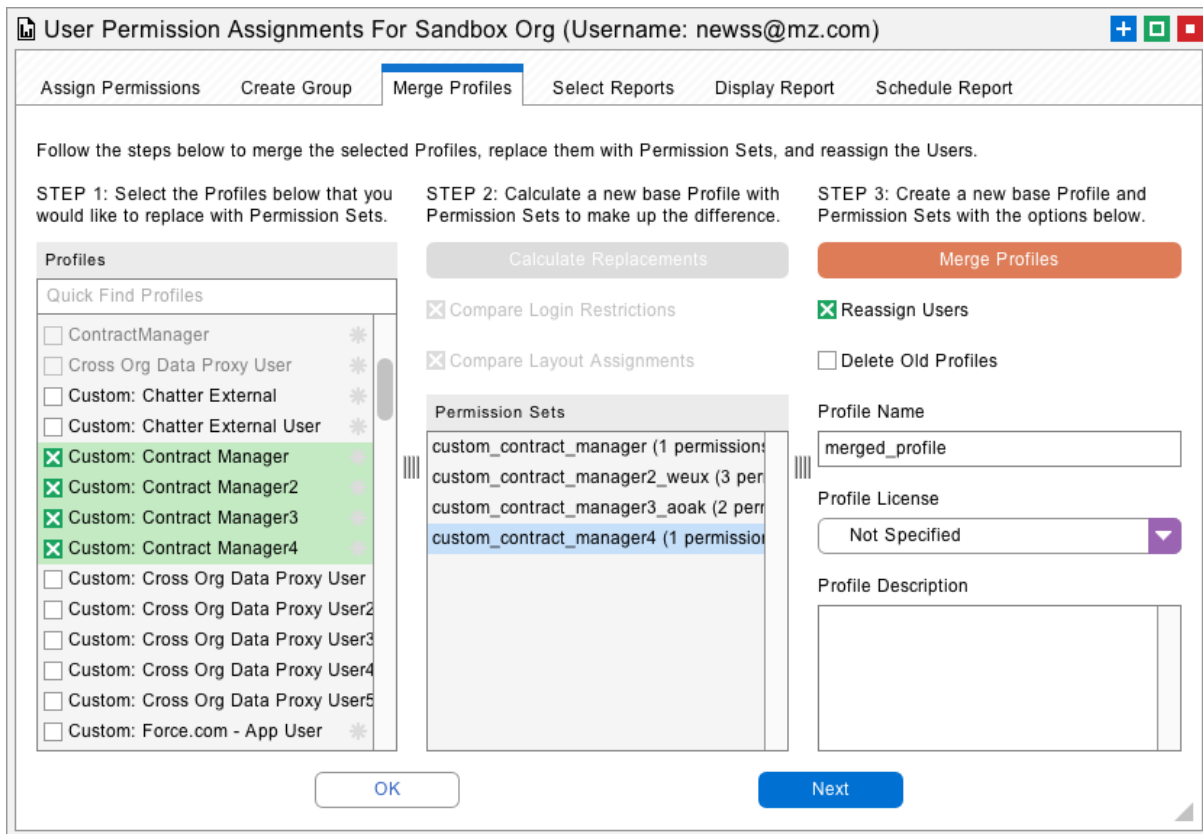
This table shows a preview of the selected profile or permission set.

Object Permissions	A_DX_Object_c	Account
AAA_Clone_Admin	No Access	No Access
Admin	No Access	Create, Delete, Edit
Admin - Non SSO	Full Access	Create, Delete, Edit, R
Bill_Test1	Read, View	Create, Delete, Edit
Bill_Test2	Read, View	Create, Delete, Edit
Chatter External User	No Access	No Access
Chatter Free User	No Access	No Access
Chatter Moderator User	No Access	No Access
Clone_Custom_Profile	Read, View	Create, Delete, Edit
ContractManager	No Access	Create, Delete, Edit
Cross Org Data Proxy User	No Access	Read
Custom: Chatter External	No Access	No Access
Custom: Chatter External User	No Access	No Access
Custom: Contract Manager	No Access	Create, Delete, Edit
Custom: Contract Manager2	No Access	Create, Delete, Edit, R
Custom: Contract Manager3	No Access	Full Access
Custom: Contract Manager4	No Access	Create, Delete, Edit

OK Next

Merging Similar Profiles

The User Permission Assignments dialog provides an easy way to quickly remap the connections between Users, Profiles, Permission Sets, and Permission Set Groups. This interface also provides powerful tools to identify and merge similar Profiles. During this process, Permission Sets are created that make up the difference between the original Profile and the new merged Profile. All users can optionally be reassigned to the new merged Profile and the corresponding Permission Set. This is an incredibly effective tool for discovering and cleaning up similar Profiles.



The screenshot shows the 'Merge Profiles' dialog in the 'User Permission Assignments For Sandbox Org' window. The dialog is divided into three main sections: STEP 1, STEP 2, and STEP 3.

STEP 1: Select the Profiles below that you would like to replace with Permission Sets.

Profiles

- ContractManager
- Cross Org Data Proxy User
- Custom: Chatter External
- Custom: Chatter External User
- Custom: Contract Manager
- Custom: Contract Manager2
- Custom: Contract Manager3
- Custom: Contract Manager4
- Custom: Cross Org Data Proxy User
- Custom: Cross Org Data Proxy User2
- Custom: Cross Org Data Proxy User3
- Custom: Cross Org Data Proxy User4
- Custom: Cross Org Data Proxy User5
- Custom: Force.com - App User

STEP 2: Calculate a new base Profile with Permission Sets to make up the difference.

Calculate Replacements

- Compare Login Restrictions
- Compare Layout Assignments

Permission Sets

- custom_contract_manager (1 permission)
- custom_contract_manager2_weux (3 per
- custom_contract_manager3_aOak (2 per
- custom_contract_manager4 (1 permission)

STEP 3: Create a new base Profile and Permission Sets with the options below.

Merge Profiles

- Reassign Users
- Delete Old Profiles

Profile Name
merged_profile

Profile License
Not Specified

Profile Description

Buttons: OK, Next

Apex Code Quality

Another useful tool for cleaning up your org is the static analysis of Apex Code Quality. This report uses the PMD Static Analysis tools to analyze over 50 different quality parameters. This report can be scheduled to send out email alerts when quality problems appear in any org. The categories include:

- Best Practices
- Code Style
- Code Design
- Documentation
- Error Prone
- Performance
- Security

Apex Code Quality For Sandbox Org (Username: newss@mz.com)
+ □ ×

Select Apex Classes | Display Report | Schedule Report

Hide Details
 Color Code
 Clean Report
 Manage Quality

Show Optional Changes
 Show Recommended Chang
 Show Required Changes
 Sort By Rule ▼

Right-click the table to export the report in a variety of formats.

Code Quality for Apex Class ChangePasswordControllerTest

Rule Set	Rule	Priority	Action	Problem
BestPractices	ApexAssertionsShouldIncludeMessage	3	Change Recommended	'System.assertEquals' should
Documentation	ApexDoc	4	Change Optional	Missing ApexDoc @
BestPractices	ApexUnitTestShouldNotUseSeeAllDataTrue	3	Change Recommended	Apex unit tests should not use @

Code Quality for Apex Trigger chatter_answers_question_escalation_to_case_trigger

Rule Set	Rule	Priority	Action	Problem
Security	ApexCRUDViolation	1	Change Absolutely Required	Validate CRUD permission before SOQL/D
Security	ApexCRUDViolation	1	Change Absolutely Required	Validate CRUD permission before SOQL/D
Performance	AvoidDmlStatementsInLoops	2	Change Highly Recommended	Avoid DML statements inside loc
BestPractices	AvoidLogicInTrigger	3	Change Recommended	Avoid logic in triggers
Performance	AvoidSoqlInLoops	2	Change Highly Recommended	Avoid Soql queries inside loop

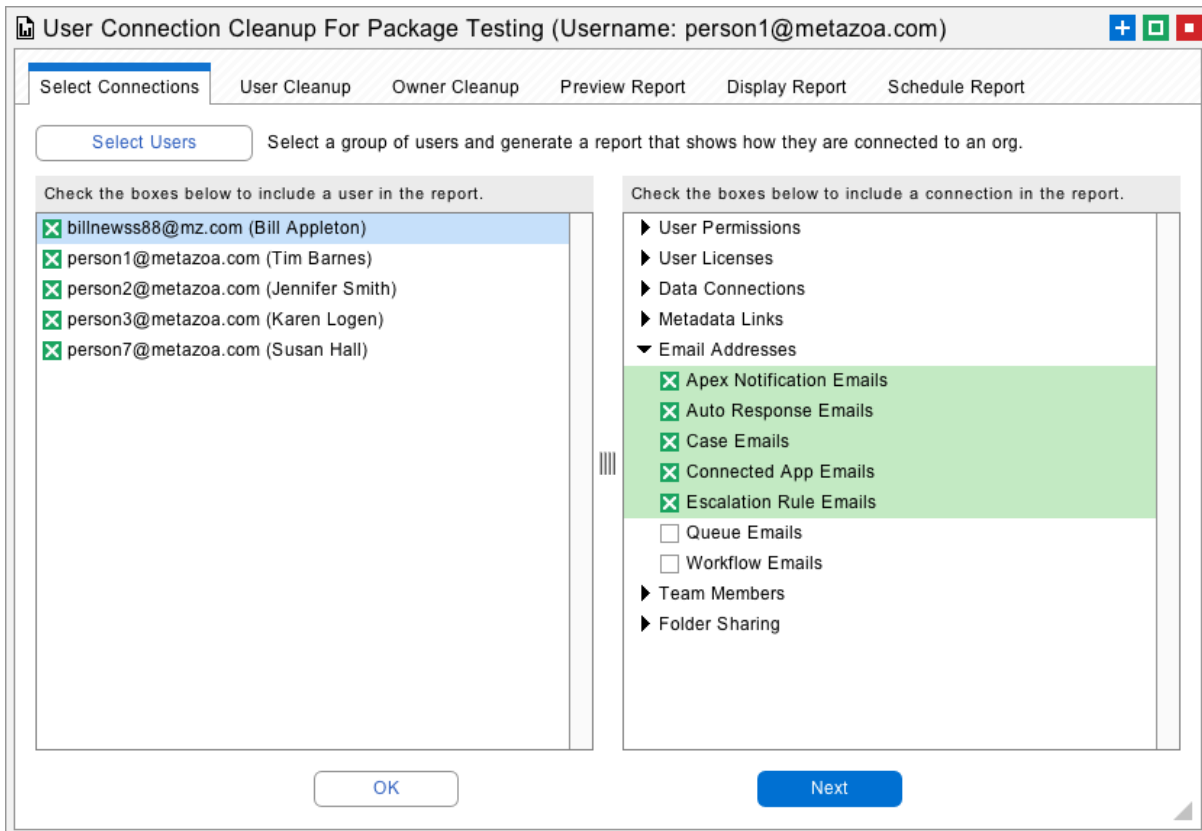
Code Quality for Apex Class ChatterAnswers

OK
Next

User Connection Cleanup

The User Connection Cleanup report documents 50 different ways that a user can be connected to a Salesforce org. These connections can be by username, user ID, or by user email address. This information starts to become very interesting when we start looking at inactive users. Inactive users can manage active users, receive system emails, and oversee important metadata assets. This report allows you to clean up inactive users by deleting junction objects in some situations and reassigning an active user in other situations. Here are the different categories that can be cleaned up:

- Object Ownership
- User Permissions
- User Licenses
- Data Connections
- Metadata Links
- Email Addresses
- Team Members
- Folder Sharing



The screenshot shows a web application window titled "User Connection Cleanup For Package Testing (Username: person1@metazoa.com)". The interface has a navigation bar with tabs: "Select Connections", "User Cleanup", "Owner Cleanup", "Preview Report", "Display Report", and "Schedule Report". The "User Cleanup" tab is active.

Below the navigation bar, there is a "Select Users" button and a text prompt: "Select a group of users and generate a report that shows how they are connected to an org." Below this, there are two columns of checkboxes for selecting users and connections.

Check the boxes below to include a user in the report.

- billnewss88@mz.com (Bill Appleton)
- person1@metazoa.com (Tim Barnes)
- person2@metazoa.com (Jennifer Smith)
- person3@metazoa.com (Karen Logen)
- person7@metazoa.com (Susan Hall)

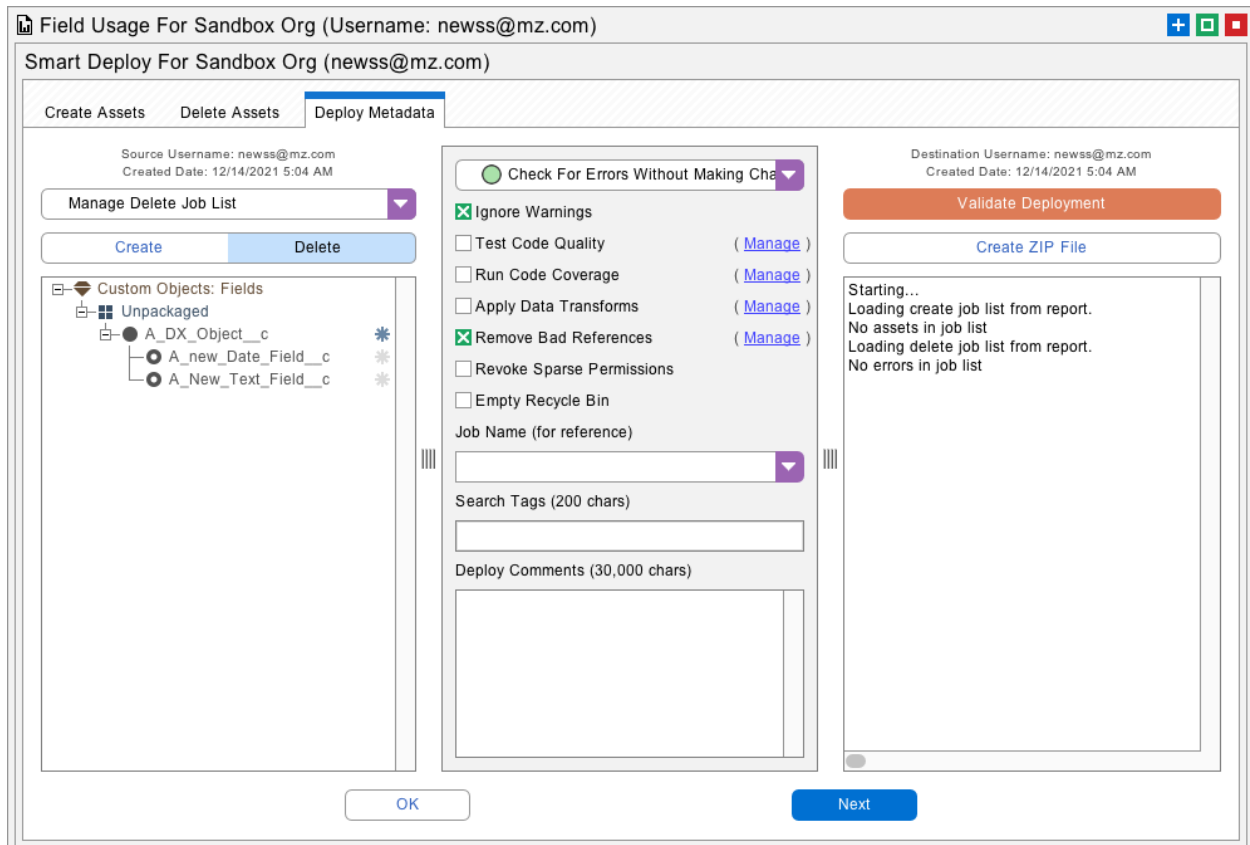
Check the boxes below to include a connection in the report.

- User Permissions
- User Licenses
- Data Connections
- Metadata Links
- Email Addresses
 - Apex Notification Emails
 - Auto Response Emails
 - Case Emails
 - Connected App Emails
 - Escalation Rule Emails
 - Queue Emails
 - Workflow Emails
- Team Members
- Folder Sharing

At the bottom of the window, there are two buttons: "OK" and "Next".

Smart Deploy

All these reports let you discover assets that need to be cleaned up or optimized. Snapshot also provides an easy method to delete these assets right from the report interface. On the Display Report tab, you will notice the Smart Deploy button. This button launches our deployment interface with the assets that need to be cleaned up already selected for you. You can make these metadata changes in your org from here, or you can save the Job List for future metadata deployments during the release cycle.



The screenshot shows the 'Smart Deploy For Sandbox Org (newss@mz.com)' interface. At the top, there are tabs for 'Create Assets', 'Delete Assets', and 'Deploy Metadata'. The 'Deploy Metadata' tab is active. The interface is divided into three main sections:

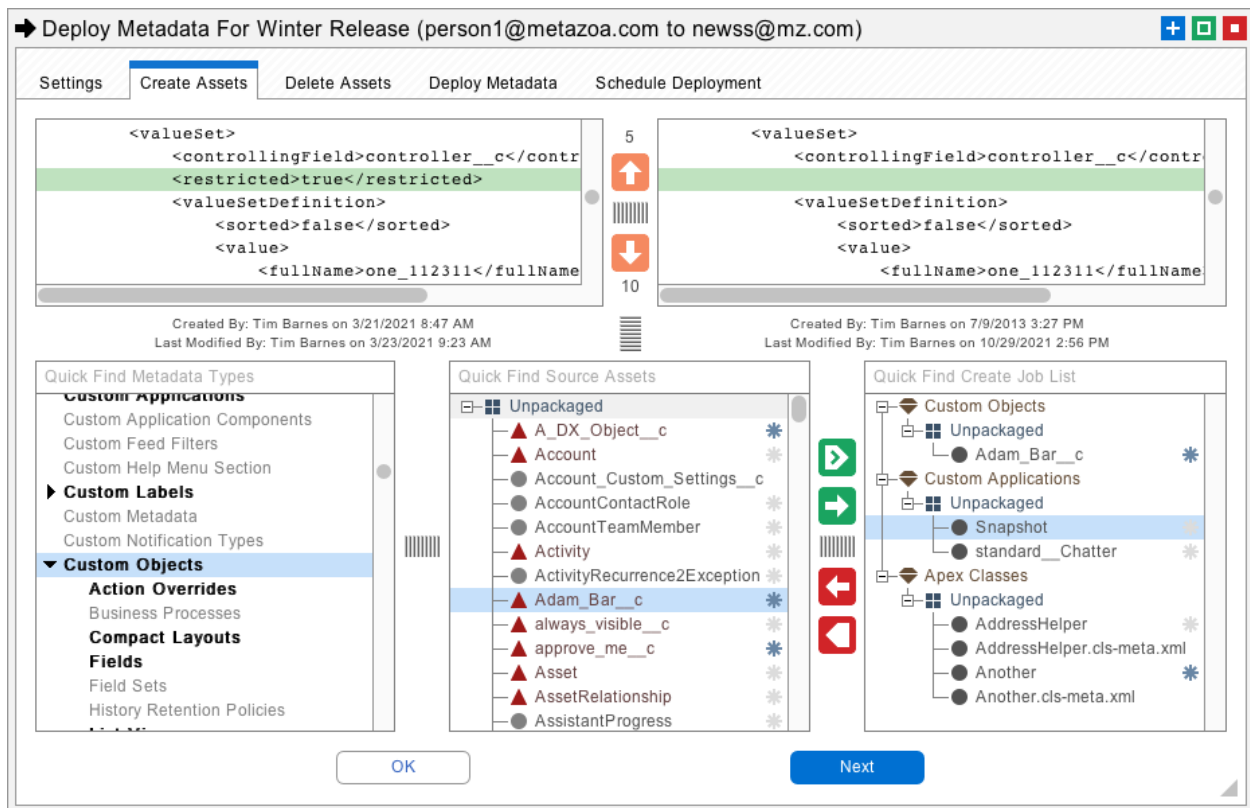
- Left Panel:** Shows a tree view of 'Custom Objects: Fields' under 'Unpackaged'. Three objects are listed: 'A_DX_Object__c', 'A_new_Date_Field__c', and 'A_New_Text_Field__c'. Each object has a star icon next to it. Below the tree are 'Create' and 'Delete' buttons.
- Middle Panel:** Contains deployment options and settings. At the top, it says 'Check For Errors Without Making Changes'. Below are several checkboxes: 'Ignore Warnings' (checked), 'Test Code Quality' (unchecked), 'Run Code Coverage' (unchecked), 'Apply Data Transforms' (unchecked), 'Remove Bad References' (checked), 'Revoke Sparse Permissions' (unchecked), and 'Empty Recycle Bin' (unchecked). Each unchecked option has a '(Manage)' link. Below these are fields for 'Job Name (for reference)', 'Search Tags (200 chars)', and 'Deploy Comments (30,000 chars)'. At the bottom of this panel are 'OK' and 'Next' buttons.
- Right Panel:** Shows 'Destination Username: newss@mz.com' and 'Created Date: 12/14/2021 5:04 AM'. It features a 'Validate Deployment' button and a 'Create ZIP File' button. Below these is a status box that reads: 'Starting... Loading create job list from report. No assets in job list. Loading delete job list from report. No errors in job list'.

Release Management

Smart Deploy is great for quick changes, but some cleanup and optimization work must be carefully planned in order to avoid disruption to the production org. Here are some of the best practices for cleaning up your org during the release cycle:

- Identify problematic assets that need to be cleaned up or optimized
- Test what happens when these customizations are deleted in a Sandbox
- Communicate to other users what customizations are being removed
- Restrict access to the assets with user Profiles or by disabling the assets
- Monitor the impact of the changes before actually deleting the assets
- Decommission the assets with change and release management software

The adoption of an effective change and release management practice will ensure that your Salesforce org remains healthy. In fact, org cleanup and optimization should become a regular priority in the release cycle. Snapshot provides tools that can help, including powerful interfaces for Taking Snapshots and Deploying Metadata. These tools will ensure that your Salesforce org continues to grow with new capabilities and robust user adoption but without crippling complexity.



Deploy Metadata For Winter Release (person1@metazoa.com to newss@mz.com)

Settings | Create Assets | Delete Assets | Deploy Metadata | Schedule Deployment

```

<valueSet>
  <controllingField>controller_c</controllingField>
  <restricted>true</restricted>
  <valueSetDefinition>
    <sorted>>false</sorted>
  <value>
    <fullName>one_112311</fullName>
  </valueSet>

```

Created By: Tim Barnes on 3/21/2021 8:47 AM
Last Modified By: Tim Barnes on 3/23/2021 9:23 AM

```

<valueSet>
  <controllingField>controller_c</controllingField>
  <valueSetDefinition>
    <sorted>>false</sorted>
  <value>
    <fullName>one_112311</fullName>
  </valueSet>

```

Created By: Tim Barnes on 7/9/2013 3:27 PM
Last Modified By: Tim Barnes on 10/29/2021 2:56 PM

Quick Find Metadata Types

- Custom Applications
 - Custom Application Components
 - Custom Feed Filters
 - Custom Help Menu Section
- Custom Labels
 - Custom Metadata
 - Custom Notification Types
- Custom Objects
 - Action Overrides
 - Business Processes
 - Compact Layouts
 - Fields
 - Field Sets
 - History Retention Policies

Quick Find Source Assets

- Unpackaged
 - A_DX_Object_c
 - Account
 - Account_Custom_Settings_c
 - AccountContactRole
 - AccountTeamMember
 - Activity
 - ActivityRecurrence2Exception
 - Adam_Bar_c
 - always_visible_c
 - approve_me_c
 - Asset
 - AssetRelationship
 - AssistantProgress

Quick Find Create Job List

- Custom Objects
 - Unpackaged
 - Adam_Bar_c
 - Custom Applications
 - Unpackaged
 - Snapshot
 - standard_Chatter
 - Apex Classes
 - Unpackaged
 - AddressHelper
 - AddressHelper.cls-meta.xml
 - Another
 - Another.cls-meta.xml

OK Next

Org Cleanup and Optimization

Snapshot provides over fifty reports to help you understand and visualize the complexity of your Salesforce org. Most Salesforce accounts get more complex every day. Cleanup and optimization should become a regular part of your change and release management practice. Let us know if we can help you clean up and optimize your Salesforce account.

support@metazoa.com

1-833-METAZOA

1-833-638-2962

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