



# SALESFORCE CONFIGURATION VS CUSTOMIZATION ESTIMATOR TOOL

## ABSTRACT

Salesforce Configuration vs Customization tool document. Having details about tool, how it works, capabilities and details about manual activities need to do after installing tool in salesforce org.

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## Introduction

Now a days clients prefer OOB configuration over any custom development in salesforce unless no other option left. Hence, to meet client expectations development team use to do development with OOB configuration. However, some of the client wants to know the amount of configuration and customization happened in per release or at org level.

As there is no OOB tool by which development team nor client can get the stats to calculate amount of configuration and customization. Due to which development team has to calculate manually by running Tooling API on each and every salesforce metadata object | store every tooling API result in excel file | differentiate between configured metadata (ex: Lightning flow, fields, process builder, etc) and customized metadata (ex: LWC, Apex class, etc) | get total and difference | get percentage.

Generally, manual processing of tooling API is very time consuming because of:

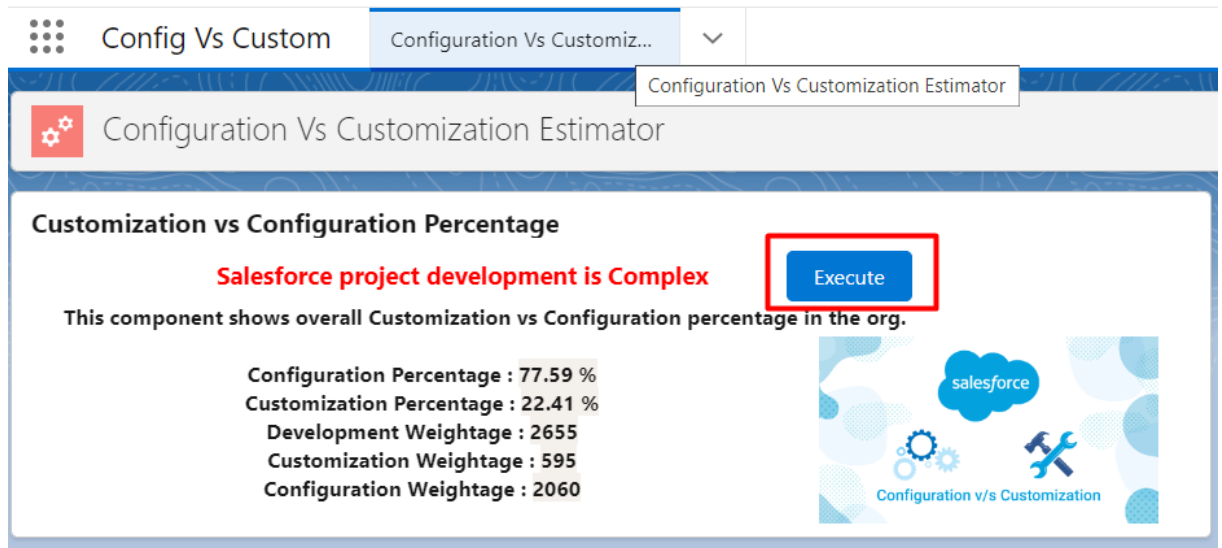
- Creation of tooling API query and get result in excel file.
- Segregate Managed and unmanaged records.
- From unmanaged records further segregate custom and config records.
- Do same for **40 - 45** tooling metadata objects.
- Place the final excel and generate a pivot table.

## About the tool

This is a salesforce tool basically calculate the percentage of CONFIGURATION & CUSTOMIZATION done in salesforce org and gives a visual and instant result on screen. Tool has flexibility to handle almost all salesforce metadata's.

### How tool works

- On trigger of tool, first tool fetches all the configured Tooling sObjects. Ex: Apex class, Trigger, etc...



(To navigate on above screen open "Config Vs Custom" console | click on "Configuration Vs Customization Estimator" tab)

- Prepare Tooling queries dynamically and then execute them. Reference [link](#)
- Then segregate Managed and Unmanaged metadata from tooling query result.
  - If metadata is Managed (ex: metadata created by Package) then tool will simply count the number of metadata's.
  - If metadata is Unmanaged, then tool will segregate customized & configured unmanaged metadata records.
- For configured metadata: tool will again simply count the number of metadata's.
- For customized metadata: tool will check if metadata is related to APEX CLASS, APEX TRIGGER etc.
  - If yes, then dynamically assign customization weightage (already set by admins in config table) to each record based on code length.
  - If no, then count the number of metadata's.
- Calculate the count and name of all metadata created in last x days. Ex: 7 days
- Store all above stats in custom object | Calculate percentage of CUSTOMIZATION & CONFIGURATION | Show final stats on screen.

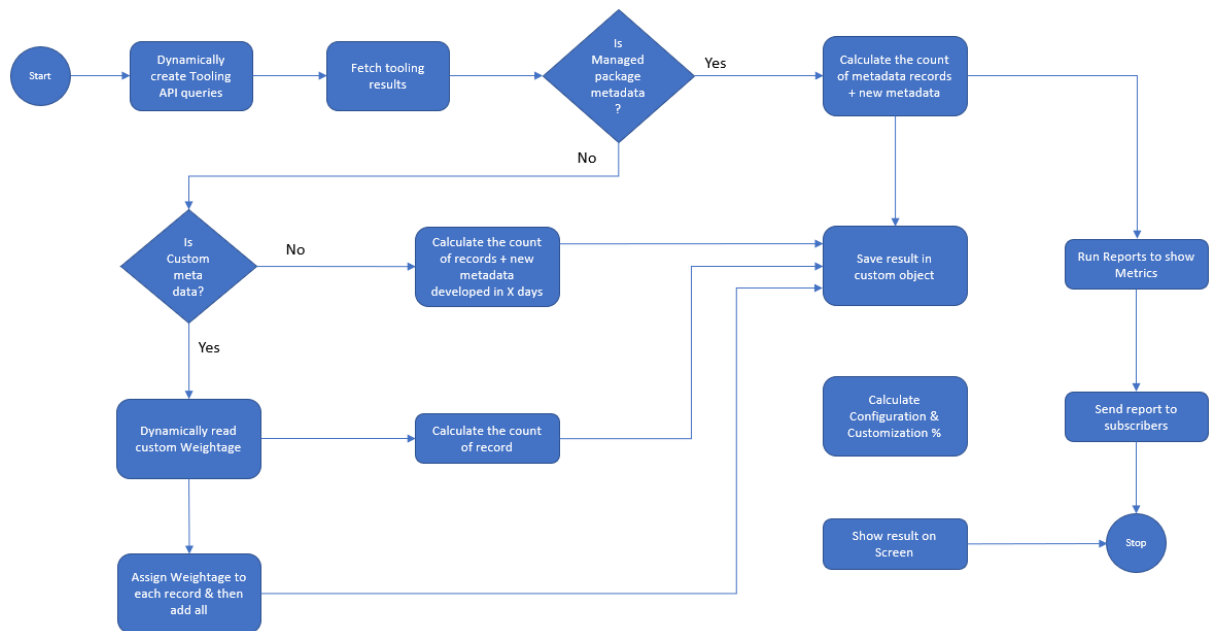
## Capabilities of Tool

- Calculate percentage of customization & configuration happened in salesforce org.
- Calculate Customization & Configuration percentage difference between current and last results.
- Show metrics based on release. (i.e show metrics based on date)
- Can show amount of configuration or customization done on which specific object. Ex:
  - 40 custom metadata records (ex: fields, auto response rule, validation rule) on Case object.
  - 1 custom metadata (ex: Trigger) on Account object.
- Facilitate admins who wants to give dynamic customization weightage-based complexity of customization. Ex: If Apex code is of more than 1000 characters then increase the dynamically customization weightage.
- Dynamic Alerts to admins if configuration or customization percentage exceed to admin set threshold limit.
- Reporting on above.
- Subscription to Dashboard.
- Ability to send manual notifications to target audience.

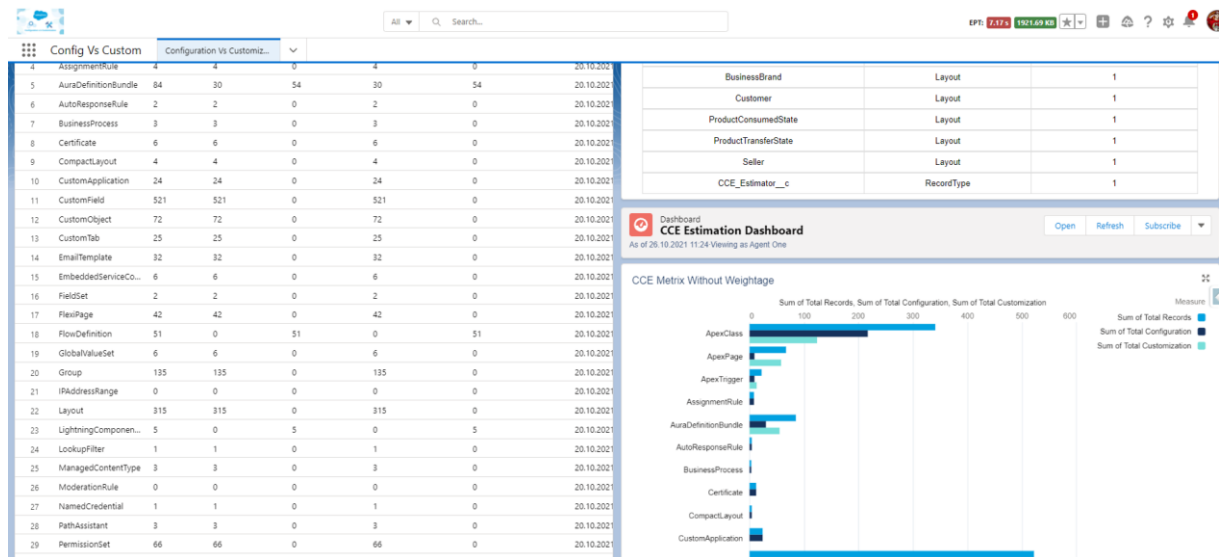
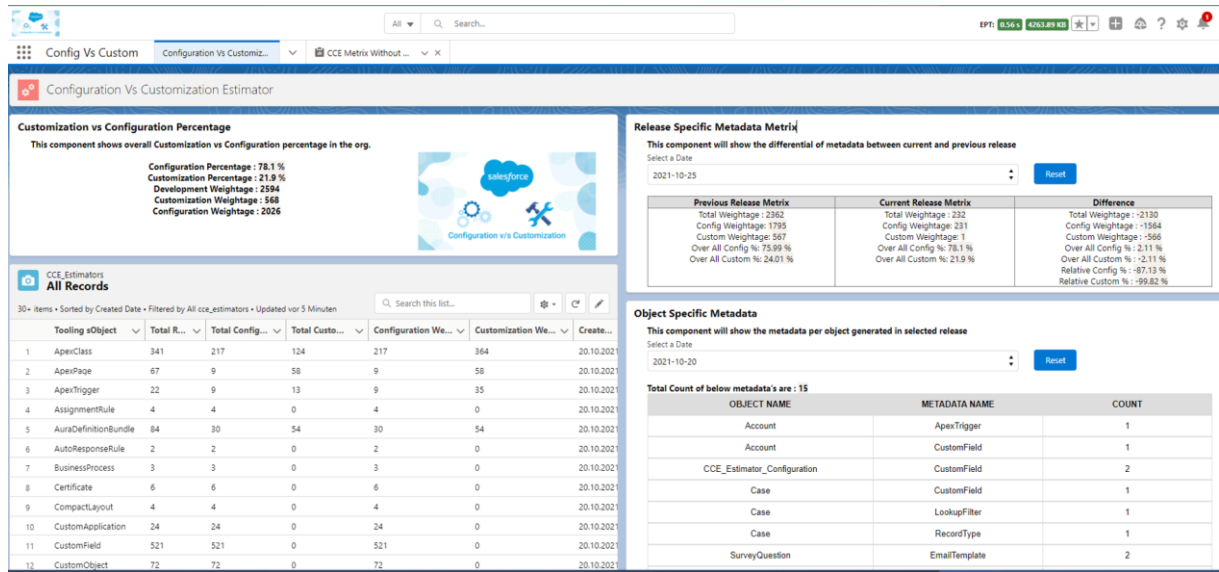
## Target Audience

- Small & large scale client.
- Clients focused on OOB deployment. Like “Sky Deutschland, Munich”
- Best suitable for client those don’t have dedicated Metadata migration tools like Copado, Autorabitt etc.
- Clients those who wants to give dynamic customization weightage-based complexity of customization. Ex: if Apex code is of more than 1000 characters then increase the dynamically customization weightage.
- Clients want such results instantly.
- Clients looking for automation to get report above same after every release.

## Flow Diagram



## Final Metrics after calculation





## Features of Tool

### Show release specific metadata Metrix

This feature enables users to see difference between previous and current release matrix. This helps users to identify how much config % and customization % development happened.

#### Release Specific Metadata Metrix

This component will show the differential of metadata between current and previous release

Select a Date

Release 1.2.34 \_\_ 2021-11-04

Reset

Previous Release Metrix	Current Release Metrix	Difference
Total Weightage : 232 Config Weightage: 231 Custom Weightage: 1 Over All Config %: 78.1 % Over All Custom %: 21.9 %	Total Weightage : 22 Config Weightage: 14 Custom Weightage: 8 Over All Config %: 77.98 % Over All Custom %: 22.02 %	Total Weightage : -210 Config Weightage : -217 Custom Weightage : 7 Over All Config % : -0.12 % Over All Custom % : 0.12 % Relative Config % : -93.93 % Relative Custom % : 700 %

### Show Object specific metadata changes per release/deployment

This feature gives an overview of metadata changes happened in a release/deployment on object(s) level. This helps users to identify specifically where exactly what type of development (custom or config) happened.

#### Object Specific Metadata

This component will show the metadata per object generated in selected release

Select a Date

Release 1.2.34 \_\_ 2021-11-04

Reset

Total Count of below metadata's are : 12

OBJECT NAME	METADATA NAME	COUNT
Contact	ApexTrigger	1
CCE_Estimator_ThresholdValue	CustomField	3
CCE_Estimator_ThresholdValue	Layout	1
CCE_Estimator_Configuration	CustomField	3
CCE_Estimator_Config_Cust_Provider	CustomField	3
Case	RecordType	1

As this is an salesforce limitation that whenever deployment happens in salesforce, salesforce give a unique label to that deployment. This unique label is not User friendly. Hence, this by this feature user can give a specific label to each deployment/release.

**This component will help admins to give name to release dates**

Submit

This is a feature of tool where admins can set Threshold limit (range) in system so that if customization and configuration exceeded beyond that threshold limit/Range then tool indicates a warning in red color. Later, admins can notify the same to responsible audience or team by sending email.

Threshold config table for Admins where admins can set the threshold limit.

View: All Records ▾ [Edit](#) | [Create New View](#)

Red warning section if Threshold exceeded.


Config Vs Custom | Configuration Vs Customization

### Configuration Vs Customization Estimator

This component shows overall Customization vs Configuration percentage in the org.

**Customization vs Configuration Percentage**

- Configuration Percentage : 77.98 %
- Customization Percentage : 22.02 %
- Development Weightage : 2616
- Customization Weightage : 576
- Configuration Weightage : 2040



---

**All Records**

30+ Items • Sorted by Created Date • Filtered by All cce\_estimators • Updated vor 21 Minuten

Tooling sObject	Total Records	Total Con....	Total Cu....	Conf....	Custom....	Created
1 ApexClass	1	0	1	0	3	04.11
2 ApexPage	0	0	0	0	0	04.11
3 ApexTrigger	1	0	1	0	3	04.11
4 AssignmentRule	0	0	0	0	0	04.11
5 AuraDefinitionBundle	2	0	2	0	2	04.11
6 AutoResponseRule	0	0	0	0	0	04.11
7 BusinessProcess	0	0	0	0	0	04.11

#### Release Specific Metadata Metrix

This component will show the differential of metadata between current and previous release

Select a Date  
2021-10-25

Previous Release Metrix	Current Release Metrix	Difference
Total Weightage : 2362	Total Weightage : 232	Total Weightage : -2130
Config Weightage: 1795	Config Weightage: 231	Config Weightage : -1564
Custom Weightage: 567	Custom Weightage: 1	Custom Weightage : -566
Over All Config %: 75.99 %	Over All Config %: 78.1 %	Over All Config % : +2.11 %
Over All Custom %: 24.01 %	Over All Custom %: 21.9 %	Over All Custom % : -2.11 %
		Relative Config % : -87.13 %
		Relative Custom % : -99.82 %

ADMIN SET CONFIGURATION THRESHOLD PERCENTAGE EXCEEDED. DO YOU WANT TO ESCALATE THIS INCIDENT?
 Escalate

#### Object Specific Metadata

This component will show the metadata per object generated in selected release

Select a Date

## Escalate to target audience.

Config Vs Custom Configuration Vs Customiz...

Configuration Vs Customization Estimator

Customization vs Configuration Percentage

This component shows overall Customization vs Configuration percentage

Configuration Percentage : 78.1 %  
Customization Percentage : 21.9 %  
Development Weightage : 2594  
Customization Weightage : 568  
Configuration Weightage : 2026

CCE\_Estimators  
All Records  
30+ items • Sorted by Created Date • Filtered by All  
cce\_estimators • Updated vor einer Stunde

Tooling »Object	Total Records	Total Con...
1 ApexClass	0	0
2 ApexPage	0	0
3 ApexTrigger	0	0
4 AssignmentRule	4	4
5 AuraDefinitionBundle	1	0
6 AutoResponseRule	2	2
7 BusinessProcess	0	0

Modal/PopUp Box

Send Escalation Email

Email-Id

Subject

Message

Salesforce Sans 12 B I U

Type something interesting

Send Email

Cancel

Metadata between current and previous release

Reset

Release Matrix	Difference
Total Weightage : 232	Total Weightage : -2130
Config Weightage: 231	Config Weightage : -1564
Custom Weightage: 1	Custom Weightage : -566
All Config %: 78.1 %	Over All Config % : 2.11 %
All Custom %: 21.9 %	Over All Custom % : -2.11 %
	Relative Config % : +87.13 %
	Relative Custom % : -99.82 %

PERCENTAGE EXCEEDED. DO YOU WANT TO ESCALATE THIS INCIDENT ?

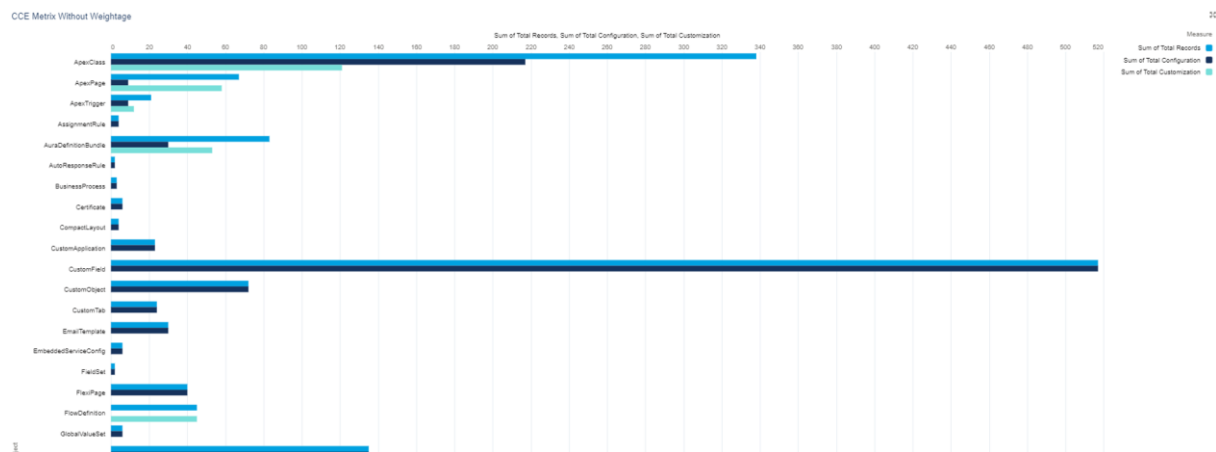
Escalate

This component will show the metadata per object generated in selected release

Select a Date

## Report

Reporting and Dashboard are possible in this tool. Default report is placed in console.



## Adding new/more metadata in tool repository

This capability allows users to add more or new metadata's into tool and track them also. For that user need to navigate to "Config Vs Custom" console | click on "CCE Estimator Configuration" tab | click on New button | add metadata and its relevant details | Save.

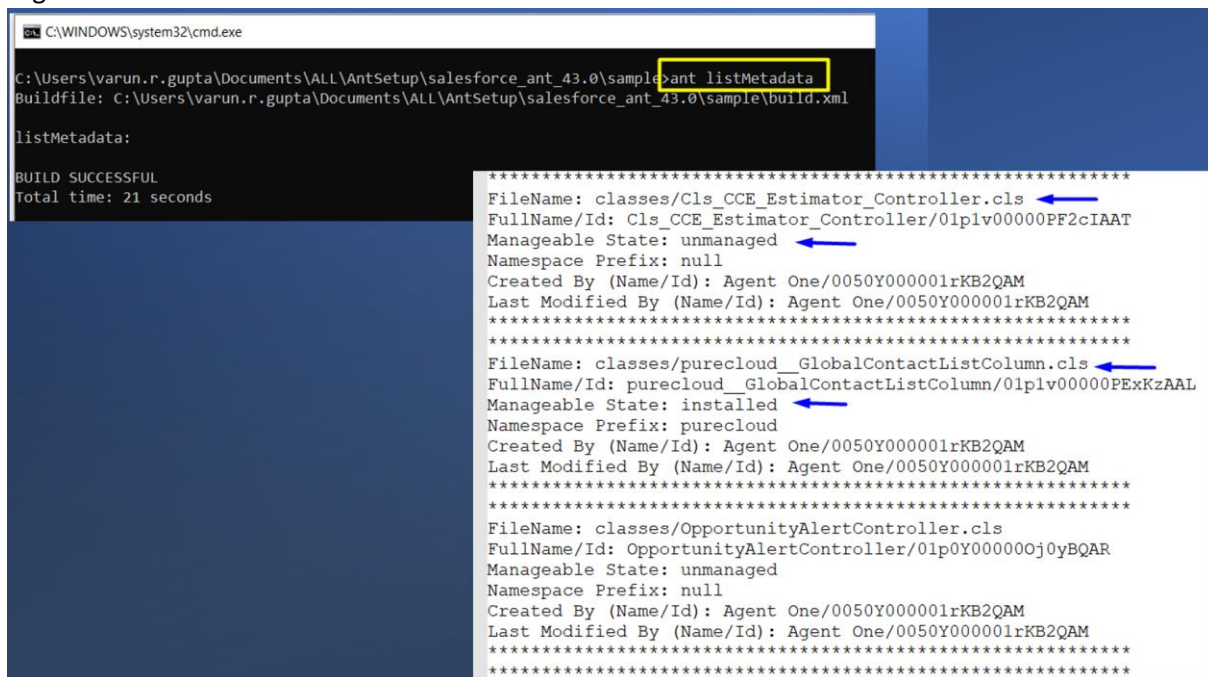
Config Vs Custom CCE Estimator Configuration									
CCE Estimator Configuration									
43 items • Sorted by CCE Estimator Configuration Name • Filtered by All cce estimator configuration • Updated vor ein paar Sekunden									
	<input type="checkbox"/>	CCE Estimator Configura...	Created Date	Tooling sObject	Active	Type Name	Manageable State	Length Without Co...	ObjNameOrId
1	<input type="checkbox"/>	AEC-00001	27.09.2021 12:34	ApexClass	<input checked="" type="checkbox"/>	Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2	<input type="checkbox"/>	AEC-00002	27.09.2021 12:34	ApexPage	<input checked="" type="checkbox"/>	Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3	<input type="checkbox"/>	AEC-00003	27.09.2021 12:35	ApexTrigger	<input checked="" type="checkbox"/>	Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TableEnumOrId
4	<input type="checkbox"/>	AEC-00004	27.09.2021 12:36	AuraDefinitionBundle	<input checked="" type="checkbox"/>	Developname	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5	<input type="checkbox"/>	AEC-00006	27.09.2021 12:40	Certificate	<input checked="" type="checkbox"/>	Developname	<input type="checkbox"/>	<input type="checkbox"/>	
6	<input type="checkbox"/>	AEC-00007	27.09.2021 12:41	LightningComponentBundle	<input checked="" type="checkbox"/>	Developname	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7	<input type="checkbox"/>	AEC-00008	27.09.2021 18:02	CompactLayout	<input checked="" type="checkbox"/>	Developname	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SubjectType
8	<input type="checkbox"/>	AEC-00010	28.09.2021 04:58	EmailTemplate	<input checked="" type="checkbox"/>	Name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RelatedEntityType
9	<input type="checkbox"/>	AEC-00011	28.09.2021 17:14	CustomTab	<input checked="" type="checkbox"/>	MasterLabel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10	<input type="checkbox"/>	AEC-00012	28.09.2021 17:40	CustomField	<input checked="" type="checkbox"/>	Developname	<input checked="" type="checkbox"/>	<input type="checkbox"/>	TableEnumOrId

## Disclaimer

Same could be possible via Metadata migration tools. Ex: Ant, Copado, Auto Rabbit, etc...

Let's take example of ANT migration tool :

- Use listMetadata command. [LINK](#)
- The **listMetadata** target retrieves property information about metadata components in your organization.



```
C:\WINDOWS\system32\cmd.exe
C:\Users\varun.r.gupta\Documents\ALL\AntSetup\salesforce_ant_43.0\sample>ant listMetadata
Buildfile: C:\Users\varun.r.gupta\Documents\ALL\AntSetup\salesforce_ant_43.0\sample\build.xml

listMetadata:

BUILD SUCCESSFUL
Total time: 21 seconds

*****
FileName: classes/Cls_CCE_Estimator_Controller.cls
FullName/Id: Cls_CCE_Estimator_Controller/01plv00000PF2cIAAT
Manageable State: unmanaged
Namespace Prefix: null
Created By (Name/Id): Agent One/0050Y000001rKB2QAM
Last Modified By (Name/Id): Agent One/0050Y000001rKB2QAM
*****
FileName: classes/purecloud_GlobalContactListColumn.cls
FullName/Id: purecloud_GlobalContactListColumn/01plv00000PEXKzAAL
Manageable State: installed
Namespace Prefix: purecloud
Created By (Name/Id): Agent One/0050Y000001rKB2QAM
Last Modified By (Name/Id): Agent One/0050Y000001rKB2QAM
*****
FileName: classes/OpportunityAlertController.cls
FullName/Id: OpportunityAlertController/01p0Y000000j0yBQAR
Manageable State: unmanaged
Namespace Prefix: null
Created By (Name/Id): Agent One/0050Y000001rKB2QAM
Last Modified By (Name/Id): Agent One/0050Y000001rKB2QAM
*****
```

### Drawbacks:

- Unable to identify the size of metadata. Ex: unable to identify the line/size of Apex class and Apex trigger. **Hence, dynamically assigning customization weightage is not possible.**
- In Build.xml file we need to specify the metadata type for each metadata that we want to consider and then run command for each metadata type. Ex: one time for Apex class, then for Quick action, then for trigger, and so on...

```
<!-- Retrieve the information of all items of a particular metadata type -->
<target name="listMetadata">
  <sf:listMetadata username="${sf.username}" password="${sf.password}" sessionId="${sf.sessionId}" serverurl="${sf.serverurl}" metadataType="ApexClass"
  resultFilePath="listMetadata/list.log"/>
</target>
```

## [How to install tool in salesforce org](#)

Below are the activities that need to perform to properly install tool, Up & running.

### [Creation of connected app](#)

First activity is to create a connected app in system. This connected app is used internally by tool to execute tooling API internally on click of execute button.

Below are the details that need to populate in connected app:

API Name	CCE_Estimator_Connected_App
Selected OAuth Scopes	Full access (full)  Perform requests at any time (refresh_token, offline_access)
Callback URL	https://<your salesforce domain>/services/authcallback/CCE_Estimator_AuthProvider

NOTE: Leave other sections as is (default)

### [Installation of unmanaged package](#)

Install unmanaged package in your salesforce org.

### [Manual configuration](#)

This activity is needed because via unmanaged package “Auth. Provider” & “Named Credentials” are developed in your salesforce org. But these components need your newly created connect app details.

### [Configure Auth. Provider](#)

After installation of unmanaged package navigate to Auth. Provider | CCE\_Estimator\_AuthProvider | Replace below section details:

Consumer Key	Copy paste the Consumer Key from Connected App created above
Consumer Secret	Copy paste the Consumer Secret from Connected App created above
Authorization Endpoint URL	https://<Your salesforce domain>/services/oauth2/authorize
Token Endpoint URL	https://<Your salesforce domain>/services/oauth2/token

Save the changes.

### Configure Named Credential

Navigate to Named Credentials | CCE\_Estimator\_NamedCredential | Replace below section details:

URL	Your salesforce domain
Authentication Provider	CCE_Estimator_AuthProvider

Save the changes.