

The Salesforce logo, consisting of the word "salesforce" in a white, lowercase, sans-serif font, is enclosed within a blue, cloud-like shape.

# Enhanced Lightning Grid

## User Guide

Salesforce Labs



# Contents

- Overview of Component
- Installation
- How to configure the Lightning Component
  - Simple Mode
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- Security
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# Overview

Component that allows the customisation of presentation of data within a 'related list' :

- Pagination of records
- Sorting of records
- Filtering of records

In addition, can be used outside of the 'related list' scenario to render different information on any Lightning page – including Community pages

Package by Salesforce Labs.

Note:

- Source code is not available.
- Support is not provided

# Multiple Data Providers

4 Data Providers provide different features and capabilities

DataProvider	Complexity	Details
1. Relationship	Low	Uses a relationship name and a fieldset name to determine the fields available. No support for custom Actions.
2. Custom Object	Medium	Uses Sortable Data Grid object to store configuration Supports custom Actions
3. Metadata	Medium	Same features as Custom Object, but stores the configuration in a custom metadata type (useful for automated deployments)
4. Custom Apex	High	Designed for complex configurations – build a custom data service to provide data/sorting etc. Could be used to merge data from multiple external data sources into one view, or to override Field Level Security.

In most scenarios, Option 1 or 2 is sufficient. Options 3 and 4 are for edge cases

## 2 Recommended Configuration options

### Relationship Mode:

Uses metadata to determine its behavior:

- A relationship name on an object
  - Eg Contacts on the Account object
- And a field set to determine the fields to display
  - Set up a field set and use this as the fieldset name
  - Note that as of Winter 18 you can only create a fieldset using Salesforce Classic

### Custom Object Mode:

Uses data to determine its behavior

Configuration is set up in three custom objects:

- 'Sortable Data Grid' – core object
- 'Sortable Data Grid Field' - fields to display
- 'Sortable Data Grid Action' – buttons to display

Allows richer configuration options – such as:

- Support for custom buttons
- Support for deeper tree navigation
- Support for server side filtering



A stylized, low-poly mountain range is depicted on the left side of the slide. The mountains are rendered in various shades of green and teal, with some peaks appearing more prominent than others. The overall style is geometric and modern.

# Installation

# Installation / Requirements

Ensure that My Domain is configured on your org.

Installation creates a new Lightning app that can be found in the App Launcher: 'Sortable Data Grids'

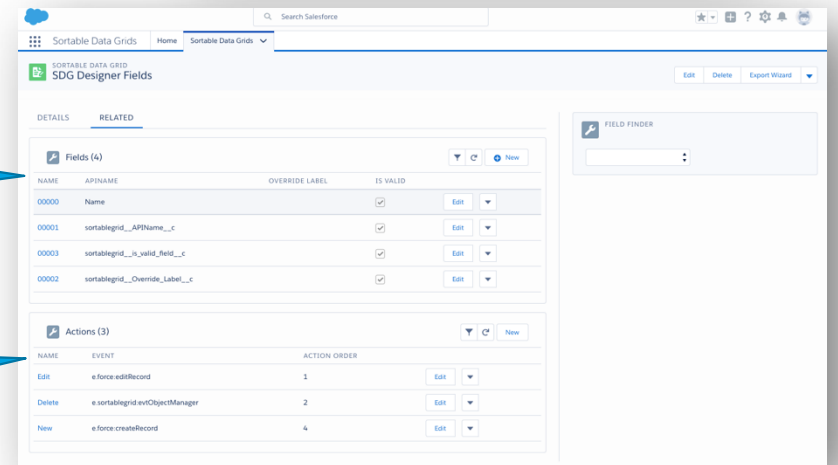
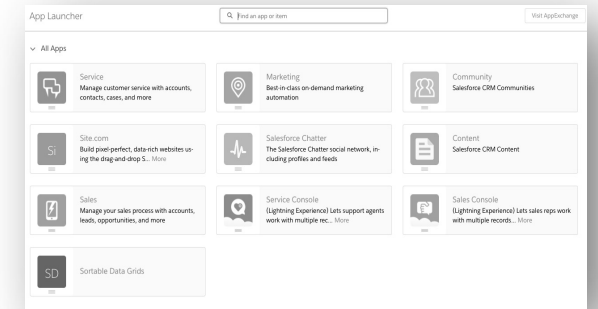
The installer creates two Sortable Data Grid Configurations as Metadata types:

- SDG Designer Fields
- SDG Designer Actions

These are both used on the Sortable Data Grid page layout if you can see how they operate.

Now you can create your own configuration using either:

- Relationship mode
- Custom Object mode



# Relationship Mode Configuration

Simplest configuration



# Relationship Mode

- In this example, we want to render a list of Contacts on the Account page.
- Switch to Classic mode
- Create and configure a field set on the object you want to render

## Contact Field Sets

A field set is a grouping of fields. Field sets can be displayed on Visualforce pages and added to managed packages. Administrators can add, remove, or rearrange fields from the field set, without altering the Visualforce page.

Field Sets			
Action	Field Label	API Name	Where is this used?
<a href="#">Edit</a>   <a href="#">Del</a>	default	default	Used in Enhanced Data Grid

default

Save Cancel Undo Redo Field Set Properties

Contact

Account ID  
Created By ID  
Last Modified By ID  
Master Record ID  
Owner ID  
Reports To ID

Quick Find Contact Name

Account Name	Clean Status	Created By	Department	Email Bounced Date	Fax C
Assistant	Contact	Created Date	Description	Email Bounced Reason	Home
Asst. Phone	Contact ID	Data.com Key	Do Not Call	Email Opt Out	Is Em
Birthdate	Contact Owner	Deleted	Email	Fax	Jigsa

Drag any of the fields above into one of the lists below.

Available for the Field Set

Drag and drop the fields you want administrators to have available to add to the Field Set.

In the Field Set

- Name
- Home Phone
- Email
- Account ID > Account Name
- Account ID > Customer Priority
- Account ID > Type

# Relationship Mode

## Configure in Lightning App Builder

2. Place component where desired in UI panel

4. Save and Activate the page

1. Use component called 'Enhanced Lightning Grid'

3. Complete the designer fields:

- Title
- RelationshipName
- FieldSetName

Leave SDG Configuration blank  
Use SVG names from:  
<https://www.lightningdesignsystem.com/icons/>

The screenshot shows the Lightning App Builder interface for an 'Account Record Page'. On the left, the 'Lightning Components' panel is open, displaying a search bar and a list of components. The 'Enhanced Lightning Grid' component is selected. The main workspace shows a preview of the account record page with the 'Enhanced Lightning Grid' component placed in the 'RELATED' section. The right-hand configuration panel is open, showing the following fields:

- Title: Accounts
- SVG Name: standard:account
- Data Provider: Data Provider
- Relationship: Relationship
- Hide component on error:
- Debug mode:
- Cache Data:
- RelationshipName: Contacts
- FieldSetName: default

Buttons for 'Save' and 'Activation...' are visible at the top right of the configuration panel.

# Simple mode

## Final configuration

The screenshot shows the Salesforce interface for an account named "Test Account". The page is in "Simple mode" and displays a list of related accounts and contacts. Two blue callout boxes highlight specific components: "New Component on page" points to the "Accounts (2)" list, and "Existing Contact component" points to the "Contacts (2)" list.

**Account Information:**

- Account: Test Account
- Status: Following
- Buttons: Edit, New Contact, New Case
- Fields: Type, Phone, Website, Account Owner (User User), Account Site, Industry

**RELATED - Accounts (2)**

FULL NAME	EMAIL
John Smith	jsmith@hotmail.com
Alice Jones	ajones@gmail.com

**Contacts (2)**

Contact	Title	Email	Phone
Alice Jones		ajones@gmail.com	
John Smith		jsmith@hotmail.com	

**ACTIVITY - New Task**

Buttons: New Task, New Event, Log a Call, Email

Input: Create a task... Add

**Activity Timeline**

Buttons: Expand All, More Steps

No next steps. To get things moving, add a task or set up a meeting.

**Past Activity**

No past activity. Past meetings and tasks marked as done show up here.

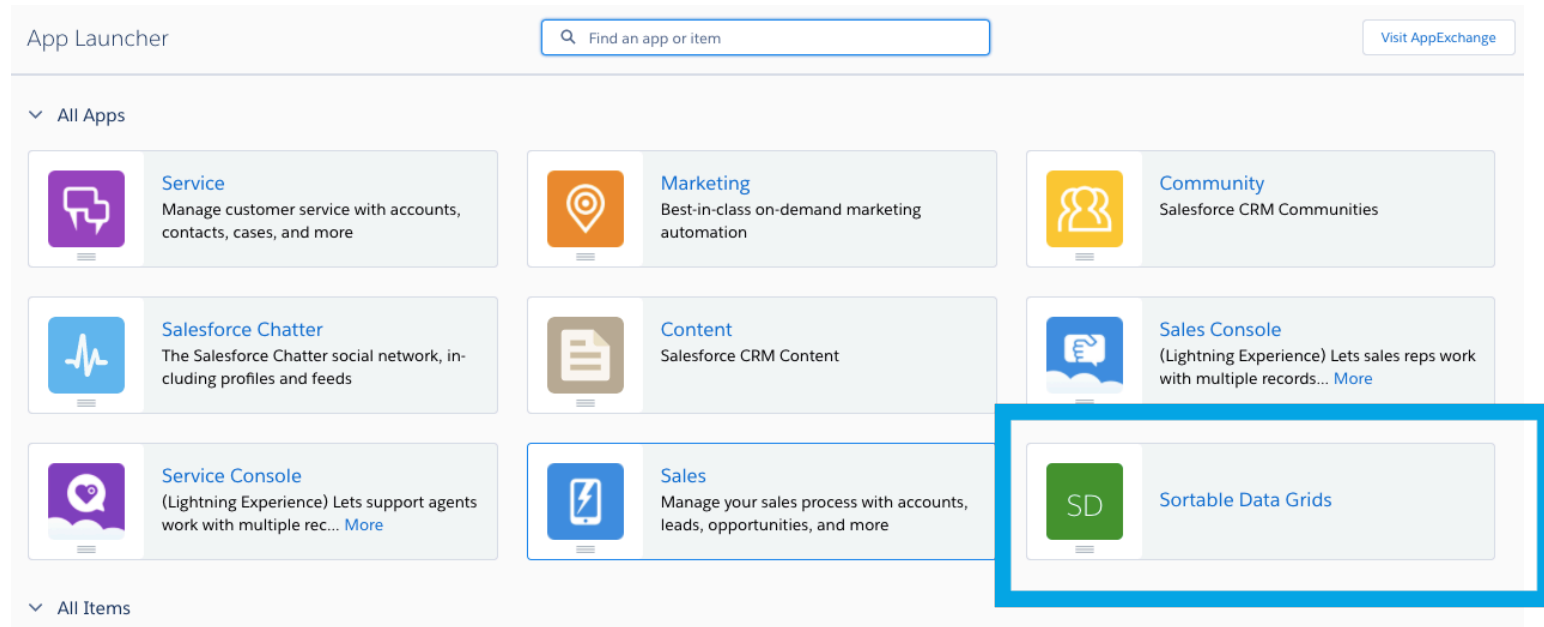
Buttons: More Past Activity

# Custom Object Mode Configuration

Advanced configurations

# Advanced Mode

- In this example, we want to render a list of Contacts on the Account page.
- Navigate to the Sortable Data Grid Application
- If you don't have access, then grant 'View Sortable Data Grids' and 'Edit Sortable Data Grids' permission sets to your user record.



# Advanced Mode

## Create core Sortable Data Grid

- SDG Name: Label for the configuration
- SDG Tag: Unique Identifier for the configuration
- sObjectName: Name of the main entity to be rendered. In this scenario Contact
- Parent Field Name: The name on the sObject that references the page ID. As we want to show contacts for the Account, this should be AccountID
- Filter: a server side filter to be applied. Eg DoNotCall=False
- Default Sort: eg: Name
- isValid – enables rendering – close to isActive in behaviour:

### New Sortable Data Grid

**Information**

\*SDG Name

\*SDG Tag

\*sObjectName

Parent Field Name

Filter

Default Sort

Is Valid

**System Information**

Owner  
User User

# Advanced Mode

## Add Fields

- Simplest method is to use the FieldFinder on the right hand side:

The screenshot displays the Salesforce Advanced Mode interface for a 'Contacts to Call' list. The top header includes a 'SORTABLE DATA GRID' icon and the title 'Contacts to Call', with 'Edit', 'Delete', and 'Export Wizard' buttons on the right. Below the header, there are tabs for 'DETAILS' and 'RELATED', with 'RELATED' being the active tab. The main content area is divided into two sections: 'Fields (0)' and 'Actions (0)'. Both sections show a table with columns and a 'No data returned' message. The 'Fields (0)' table has columns for ID, APINAME, OVERRIDE LABEL, and IS VALID. The 'Actions (0)' table has columns for NAME, EVENT, and ACTION ORDER. On the right side, there is a 'FIELD FINDER' panel with a search input field and an 'Add Field' button.

**Contacts to Call**

DETAILS **RELATED**

**Fields (0)**

ID	APINAME	OVERRIDE LABEL	IS VALID
No data returned			

**Actions (0)**

NAME	EVENT	ACTION ORDER
No data returned		

**FIELD FINDER**

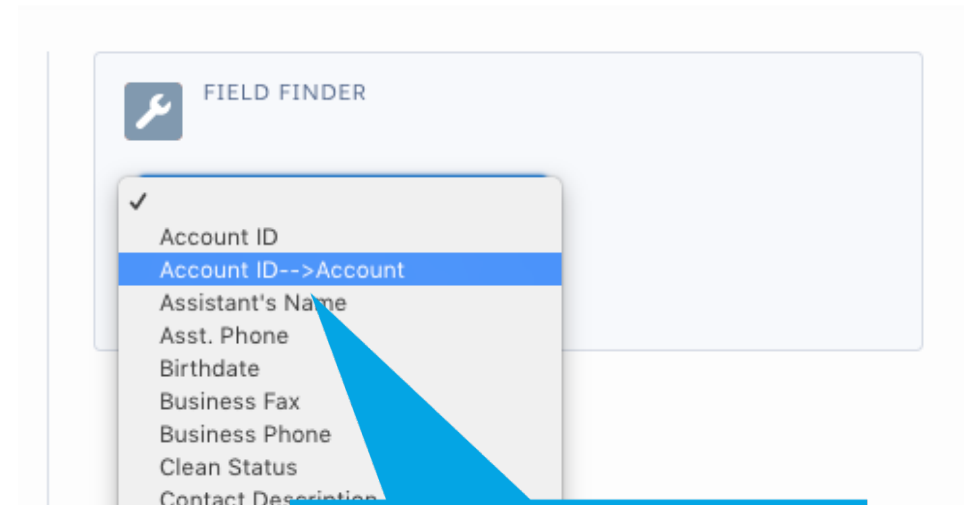
Add Field

# Advanced Mode

## Add Fields

- Use the Field Finder component to identify the fields you want to display and then click Add Field.

Choose Field to add.



Field Finder will allow you to traverse relationships



# Advanced Mode

## Add Fields

- Configure other fields:
- Override Label: by default, component will use the field label. If you want a different label, yuse this field.
- FieldOrder: Integer indicating order of field
- HideFilter: if you don't want the field to be filterable, then select
- isValid: Set to true to display
- Custom Renderer:
  - If the field is a date, and you want to convert it to a relative date – ie “3 days ago”, then select Age
  - If you want a total column for number fields, then choose relevant ‘Summarize:xxx’ entry

### New Sortable Data Grid Field

**Information**

\* sdg  
Contacts

\* APIName  
Name

Override Label ⓘ

FieldOrder  
1

Hide Filter

Is Valid

Custom Renderer  
--None--

Cancel Save & New Save

# Advanced Mode

## Add Actions

- Configure any actions (buttons) required:
  - Name: label for action
  - Event: Lightning event to raise
  - Action Order: order in UI
  - Requires Createable: user needs the permission to create the object type referenced in sObjectName field in order to invoke action
  - Requires Editable: user needs the permission to edit the object type referenced in sObjectName field in order to invoke action
  - Action Type: Where to render – as a button on a row (suitable for Edit), or a button on the top of the list (suitable for New). List Multi Select enables checkboxes for selecting rows.
  - Payload – payload for the event. Supports replacement of:
    - #parentrecordId# - replaced with ID of the page
    - #Id# - replaced with ID of the row
    - #AnyAPIName# - replaced with corresponding value from row (as long as it's in the fields displayed). Eg #Account.LastModifiedBy.Name#
    - #Ids# - replaced with comma separated list of IDs of all the checked rows
  - Icon – use icons from Utility section of:  
<https://www.lightningdesignsystem.com/icons/>

### Edit New Contact

\* Name  
New Contact

SDG  
Contacts to Call

\* Event ⓘ  
e.force:createRecord

\* Action Order  
1

Requires Createable

Requires Editable

Action Type  
List Button

Event Payload ⓘ  
{ "entityApiName": "Contact", "defaultFieldValues": { "Account": "#parentrecordId#" } }

Icon  
utility:new

Created By  
User User, 9/20/2017 9:38 AM

Last Modified By  
User User, 9/20/2017 9:38 AM

Cancel Save & New Save

# Advanced Mode

## Configure in Lightning App Builder

Lightning App Builder - Sortable Data Grid Record Page

Desktop Shrink To View Refresh Save Activation...

Lightning Components

Search components...

Standard (15)

- Filter List
- Flow
- Highlights Panel
- Path
- Recent Items
- Recommendations
- Record Detail
- Related List
- Related Lists
- Related Record
- Report Chart
- Rich Text
- Tabs
- Trending Topics
- Visualforce

Custom (2)

- Field Finder
- Sortable Data Grid

Sortable Data Grid Record Page

SDG Designer Actions

DETAILS RELATED

Designer Placeholder

Fields (3)

NAME	API NAME	OVERRIDE LABEL	IS VALID
00004	Name		<input checked="" type="checkbox"/>
00005	sortablegrid__Event__c		<input checked="" type="checkbox"/>
00006	sortablegrid__Action_Order...		

Designer Placeholder

Actions (3)

NAME	EVENT	ACT...
Edit	e.force.editRecord	1
Delete	e.sortablegrid.evtsdgInternal	2
New	e.force.createRecord	4

FIELD FINDER

Page > Sortable Data Grid

Title

Fields

SVG Name

standard:account

SDG Configuration

SDG Designer Fields

Hide component on error

Debug mode

Cache Data

RelationshipName

1. Use component called Enhanced Lightning Grid

2. Place component where desired in UI panel

3. Complete the designer fields:  
• Title  
• SDG Configuration  
Leave the following fields blank  
• RelationshipName  
• FieldSetName  
• Legacy Tag(Deprecated)

Use SVG names from:  
<https://www.lightningdesignsystem.com/icons/>

4. Optional:  
Debug - show debug on page  
Cache - caches some data on the browser

5. Save and Activate the page

# Advanced mode

## Final configuration

Search Salesforce

Sortable Data Grids Home Sortable Data Grids

ACCOUNT  
Burlington Textiles Corp of America

+ Follow Edit New Contact New Case

Type: Customer - Direct Phone: (336) 222-7000 Website: www.burlington.com Account Owner: User User Industry: Apparel

RELATED DETAILS NEWS

Contacts to Call (1) [New Contact](#)

FULL NAME	CREATED BY	EMAIL	HOME PHONE
Jack Rogers	User User	jrogers@burlington.com	

Contacts (1) [New](#)

Jack Rogers [View All](#)

Title: VP, Facilities  
Email: jrogers@burlington.com  
Phone: (336) 222-7000

Opportunities (1) [New](#)

Burlington Textiles Weaving Plant Generator [View All](#)

Stage: Closed Won  
Amount: £235,000.00

ACTIVITY CHATTER

[Add](#)

Filter Timeline [Expand All](#)

Next Steps [More Steps](#)

No next steps. To get things moving, add a task or set up a meeting.

No past activity. Past meetings and tasks marked as done show up here. [More Past Activity](#)

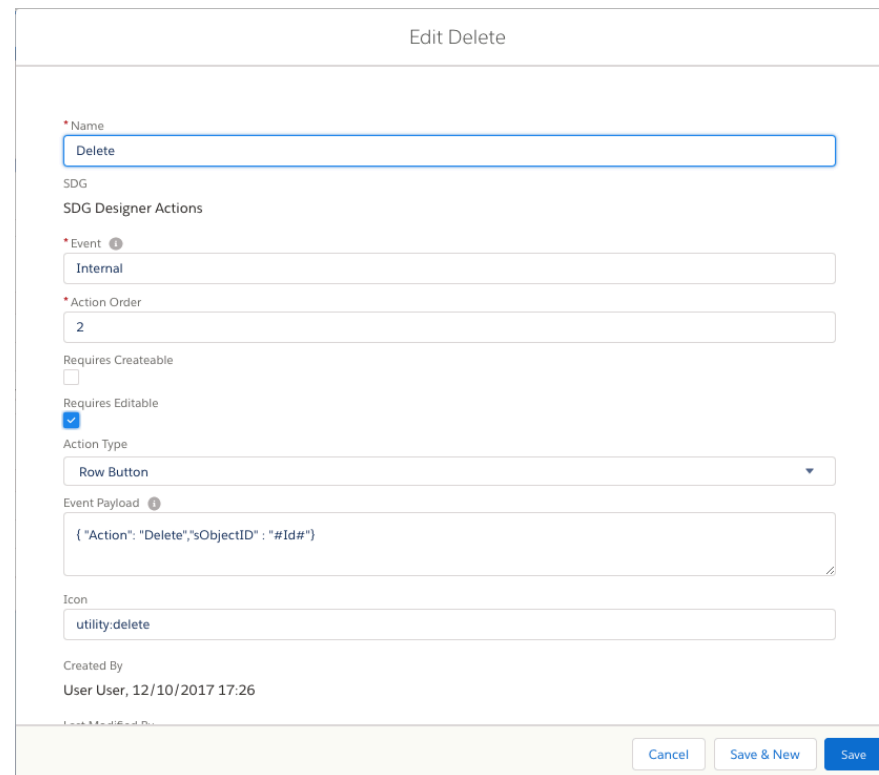
**New Component on page**

**Custom Action button**

**Existing Contact component**

# Special Events


The Grid is also capable of handling one extra event class called Internal that enables deletion of records. This can be used as an event within the Action configuration. In the following example, it is replacing #Id# with the Id of the row, and thereby allowing user to delete the row in the grid:



The screenshot shows the 'Edit Delete' configuration window in Salesforce. The window contains the following fields and options:

- Name:** Delete
- SDG Designer Actions:**
  - Event:** Internal
  - Action Order:** 2
  - Requires Createable:**
  - Requires Editable:**
  - Action Type:** Row Button
  - Event Payload:** {"Action": "Delete", "sObjectID": "#Id#"}
  - Icon:** utility.delete
- Created By:** User User, 12/10/2017 17:26

At the bottom right of the window, there are three buttons: Cancel, Save & New, and Save.

A stylized graphic of a mountain range is positioned on the left side of the slide. The mountains are rendered in various shades of teal and green, with sharp, angular peaks. The background of the slide is a solid blue color that transitions into a lighter teal gradient at the bottom.

# Metadata Mode Configuration

Advanced configurations

# Metadata

Metadata mode is designed to help the tooling when deploying via automated deployment tools such as Force.com Migration toolkit (ANT).

In a sandbox, create the configuration you desire, then export the configuration using the export wizard. Paste that configuration into a new SDGDefault\_\_mdt record



# Custom Apex Mode Configuration

Advanced configurations



# Metadata

Custom Apex mode requires a user to implement the interface `sdgIDataProvider` which has three methods:

- `LoadSDG` – returns the configuration
  - `getData` – returns the data – must implement all querying, sorting, filtering, paging etc logic.
  - `isUserSelectable` – return true to make visible in the UI
- 
- Further details of this mechanism will be documented and uploaded to the Appexchange listing

A stylized, low-poly mountain range in various shades of green and teal is located on the left side of the slide. The mountains are composed of several sharp, angular peaks and valleys, creating a modern, geometric landscape.

# Security

How is security handled

# Security Behaviours

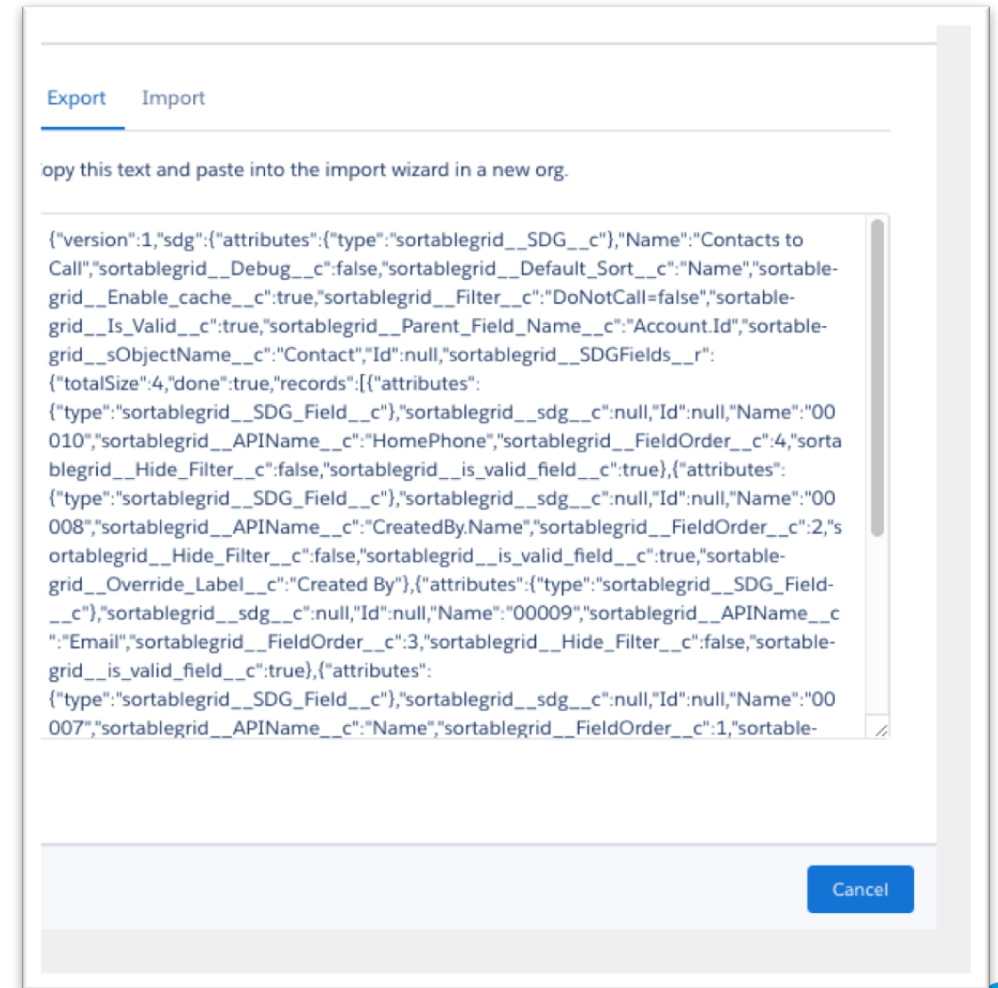
- All retrieval of data is performed 'with sharing' so Salesforce will enforce sharing rules and Field Level Security for the current user.
- There are two Permission Sets installed as part of the package:
  - View Sortable Data Grids
  - Edit Sortable Data Grids
- A user needs to have visibility of the Sortable Data Grid record in order to render a given Sortable Data Grid.

# Exporting and Importing

Moving configuration from one org to another

# Moving configurations

- To move the data between Orgs, you can use DataLoader to move the relevant data:
  - Sortablegrid\_\_SDG\_\_c
  - Sortablegrid\_\_SDG\_Field\_\_c
  - Sortablegrid\_\_SDG\_Action\_\_c
- Alternatively you can use the export/import wizard built into the application.
- Select a Sortable Data Grid and select the Export Wizard button
  - This exports all configuration for the Sortable Data Grid into a single piece of JSON.
  - This can be copied to another org, and can be imported using the Import tab of the Export Wizard. Note the Export Wizard button is only available on an existing record (although Import creates a new record) – so at least one SDG needs to exist before you can perform an import.



The screenshot shows the Salesforce Export Wizard interface. At the top, there are two tabs: "Export" (which is selected and underlined) and "Import". Below the tabs, there is a text prompt: "Copy this text and paste into the import wizard in a new org." Below this prompt is a large text area containing a JSON string. The JSON represents the configuration for a Sortable Data Grid (SDG) named "Contacts to Call". It includes various settings such as "sortablegrid\_\_Debug\_\_c", "sortablegrid\_\_Default\_Sort\_\_c", "sortablegrid\_\_Enable\_cache\_\_c", "sortablegrid\_\_Filter\_\_c", "sortablegrid\_\_Is\_Valid\_\_c", "sortablegrid\_\_Parent\_Field\_Name\_\_c", "sortablegrid\_\_sObjectName\_\_c", "sortablegrid\_\_SDGFields\_\_r", and "sortablegrid\_\_APIName\_\_c". The JSON is formatted with line breaks and indentation for readability. At the bottom right of the text area, there is a "Cancel" button.

# Upgrading

# Installing or Upgrading the Package

- There are a lot of limitations about what an upgrade to a managed package can do – in particular around customising page layouts and picklist values
- **It is strongly recommended that you perform a new install of the component into the org rather than upgrading.** Remember that uninstalling a package deletes the data associated with the package – so know what your configuration is before you uninstall.
- If it is not possible to do a fresh install, then there are a number of steps you need to perform as detailed in the following slides.

# 1. Upgrading the Package

## Page Layouts

- Navigate to Setup>Object Manager>[Object Name]>Page Layouts and change the assigned page layout from the original to the v2 layout.
- Do this for the following Objects
  - Sortable Data Grid
  - Sortable Data Grid Field
  - Sortable Data Grid Action
- And change the
- And modify the page layout to add all fields on the object to the page.



# 2. Upgrading the Package

## ObjectManager Actions

- There used to be a component called Object Manager which handled some specific events
- This has been deprecated and it's functionality moved into the grid component itself.
- Please **remove** this component from your Lightning Pages.

# 3. Upgrading the Package

## Updating Data

- Sortable Data Grids now have an isValid attribute. Existing configurations will have this value set to false.
- In order to make the grid work, it needs to have isValid set to true. You can do this by editing the Sortable Data Grid record.
- The existing configuration entitled 'Example Sortable Grid' is based on old data, and uses invalid event names. It is recommended that you delete this record as it's no longer relevant.

# 4. Upgrading the Package

## Enabling new Action types

- It is now possible to add 'inline' action buttons rather than within a menu on the grid. To do so, you need to add the actiontypes by navigating in setup to Setup>Object Manager>Sortable Data Grid Action>Fields & Relationships>ActionType and then creating the values.
- It is important to get the spelling of these entries exactly the same

Inline Button

ID	API NAME	OVERRIDE LABEL	IS VALID	
00009	Name		<input checked="" type="checkbox"/>	<a href="#">Edit</a> ▼
00010	sortablegrid__Event__c		<input checked="" type="checkbox"/>	<a href="#">Edit</a> ▼
00011	sortablegrid__Action_Order__c		<input checked="" type="checkbox"/>	<a href="#">Edit</a> ▼

Change this:

Action	Values	API Name
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Row	Row
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	List	List

To this:

Action	Values	API Name
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Row	Row
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	List	List
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Row Button	Row Button
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	List Button	List Button
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	List Multi-Select	List Multi

# 5. Upgrading the Package

## Enabling new Custom Renderers

- A number of changes to custom renderers have been introduced: Hyperlink and Raw have been deprecated. If a field emits HTML (eg via a formula), it will be automatically rendered as HTML.
- There are several new custom renders: subtotal fields and CTI support for phone numbers.
- To do so, you need to add the actiontypes by navigating in setup to Setup>Object Manager>Sortable Data Grid Field>Fields & Relationships>Custom Renderer and then creating the values.
- It is important to get the spelling of these entries exactly the same

Change this:

Action	Values	API Name
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Hyperlink	Hyperlink
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Age	Age
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	RawHTML	RawHTML

To this:

Action	Values	API Name
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Age	Age
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Summarize:Total	Summarize:Total
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Summarize:Min	Summarize:Min
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Summarize:Max	Summarize:Max
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Summarize:Average	Summarize:Average
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	CTI	CTI
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	ShowCurrencyCode	ShowCurrencyCode

Thank You