



# Enhanced Lightning Grid User Guide

Salesforce Labs



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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





# 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’

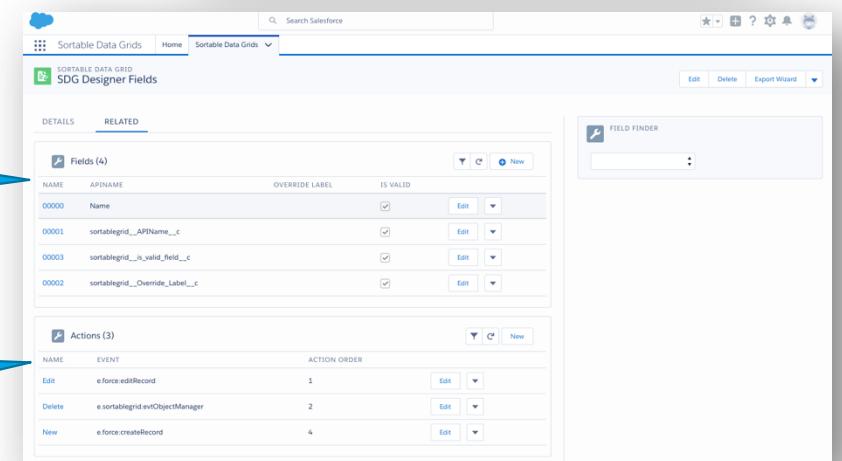
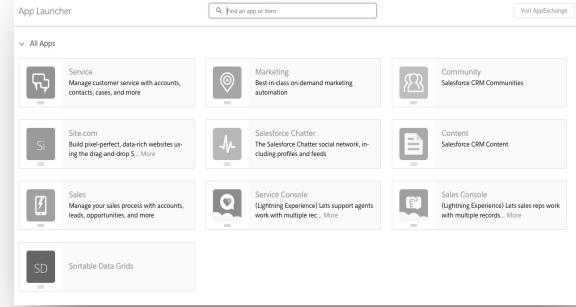
The installer creates two Sortable Data Grid Configurations as Metadata types:

- SDG Designer Fields
- SDG Designer Actions

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

Now you can create your own configuration using either:

- Relationship mode
- Custom Object mode



The screenshot shows the Salesforce App Launcher interface with the 'Sortable Data Grids' app listed. Below, the 'Sortable Data Grids' configuration page is displayed. A blue callout points to the 'Fields (4)' section under 'SDG Designer Fields' with the heading 'SDG Designer Fields'. Another blue callout points to the 'Actions (3)' section under 'SDG Designer Actions' with the heading 'SDG Designer Actions'.

Name	API Name	Override Label	Is Valid
00000	Name		✓
00001	sortablegrid__APIName__c		✓
00003	sortablegrid__is_valid_field__c		✓
00002	sortablegrid__Override_Label__c		✓

Name	Event	Action Order
Edit	e.force.editRecord	1
Delete	e.sortablegrid.evObjectManager	2
New	e.force.createRecord	4





# 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 who have deployed a field set to a managed package 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?
Edit   Del	default	default	Used in Enhanced Data Grid

The screenshot shows the 'Field Set Properties' window for the 'Contact' field set. At the top, there are buttons for Save, Cancel, Undo, Redo, and Field Set Properties. Below that is a 'Quick Find' search bar. The left sidebar lists fields: Account ID, Created By ID, Last Modified By ID, Master Record ID, Owner ID, and Reports To ID. The main area has two sections: 'Available for the Field Set' (containing a note to drag fields here) and 'In the Field Set' (containing Name, Home Phone, Email, and three account ID relationships). A note at the bottom says: 'Drag and drop the fields you want administrators to have available to add to the Field Set.'



# Relationship Mode

## Configure in Lightning App Builder

The screenshot shows the Lightning App Builder interface with the following components:

- Left Sidebar:** Shows the "Lightning Components" section with a search bar and a list of components including Recent Items, Recommendations, Record Detail, Related List - Single, Related List Quick Links, Related Lists, Related Record, Report Chart, and Enhanced Lightning Grid.
- Middle Area:** Displays an Account record page with tabs for RELATED, DETAILS, and NEWS. Under RELATED, there are sections for Accounts (0), Contacts (0), Opportunities (0), Cases (0), and Notes & Attachments (0). A note says "We found no potential duplicates of this account."
- Right Area:** Shows the "Enhanced Lightning Grid" configuration panel with the following fields:
  - Page: Enhanced Lightning Grid
  - Accounts
  - SVG Name: standard:account
  - Data Provider: Relationship
  - Hide component on error: checked
  - Debug mode: unchecked
  - Cache Data: checked
  - RelationshipName: Contacts
  - FieldSetName: default
- Annotations:**
  - 1. Use component called 'Enhanced Lightning Grid'**: Points to the "Enhanced Lightning Grid" component in the sidebar.
  - 2. Place component where desired in UI panel**: Points to the main account page area.
  - 3. Complete the designer fields:**
    - Title
    - RelationshipName
    - FieldSetNameLeave SDG Configuration blank  
Use SVG names from:  
<https://www.lightningdesignsystem.com/icons/>
  - 4. Save and Activate the page**: Points to the "Save" and "Activation..." buttons at the top right.

# Simple mode

## Final configuration

The screenshot shows a Salesforce Account page for "Test Account". The top navigation bar includes Sales, Home, Chatter, Opportunities, Leads, Tasks, Files, Accounts (selected), Contacts, Campaigns, Dashboards, Reports, Groups, Calendar, People, and More.

The main content area displays the account details: Type, Phone, Website, Account Owner (User User), Account Site, and Industry. A blue callout bubble points to the "New Component on page" area.

Below the details, there are three tabs: RELATED, DETAILS, and NEWS. The RELATED tab is selected, showing "Accounts (2)" with entries for John Smith and Alice Jones, and a message stating "We found no potential duplicates of this account." A blue callout bubble points to the "Existing Contact component" area.

The DETAILS tab shows contact information for Alice Jones and John Smith, including their titles, emails, and phones. A "View All" button is located at the bottom of this section.

The NEWS tab is currently empty.

To the right, there are sections for ACTIVITY and CHATTER. The ACTIVITY section includes buttons for New Task, New Event, Log a Call, and Email, with a "Create a task..." input field and an "Add" button. A blue callout bubble points to the "Existing Contact component" area.

The CHATTER section shows activity timelines and past activity, both of which are currently empty.

A green decorative footer features a mountain landscape and the Salesforce logo.

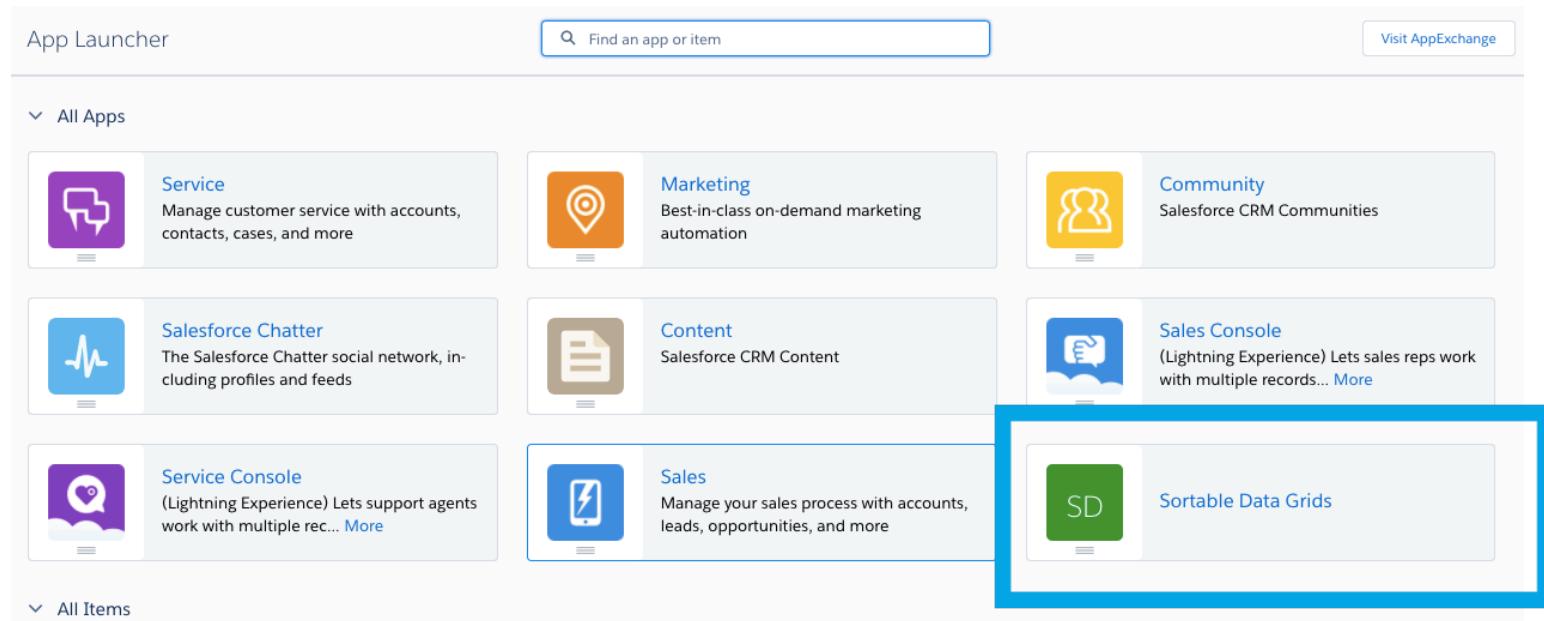


# Custom Object Mode Configuration

## 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 – closer to isActive in behaviour:

New Sortable Data Grid

Information

\* SDG Name  
Contacts

\* SDG Tag  
Contacts

\* sObjectName  
Contact

Parent Field Name

Filter

Default Sort

Is Valid

System Information

Owner  
User User

Cancel Save & New Save



# Advanced Mode

## Add Fields

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

The screenshot shows the Salesforce Advanced Mode interface. On the left, there is a 'Sortable Data Grid' titled 'Contacts to Call'. It has two tabs: 'DETAILS' and 'RELATED', with 'RELATED' being active. Under 'Fields (0)', there are columns for ID, APINAME, OVERRIDE LABEL, and IS VALID, with a note 'No data returned'. Below it, under 'Actions (0)', there are columns for NAME, EVENT, and ACTION ORDER, also with a note 'No data returned'. On the right, a sidebar titled 'FIELD FINDER' is open, featuring a search bar and an 'Add Field' button. At the top of the sidebar, there are buttons for 'Edit', 'Delete', 'Export Wizard', and a dropdown menu.

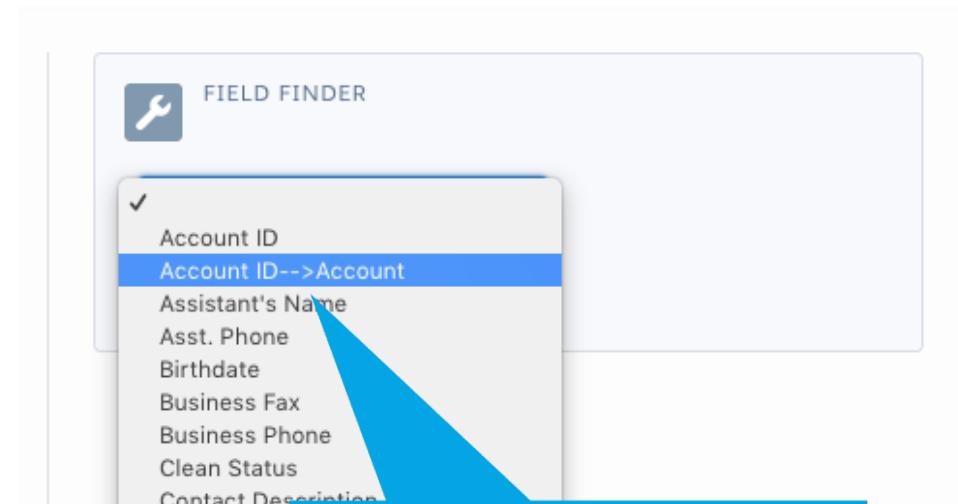


# Advanced Mode

## Add Fields

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

Choose Field to add.



# Advanced Mode

## Add Fields

- Configure other fields:
- Override Label: by default, component will use the field label. If you want a different label, use 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 x

\* APIName

Name

Override Label i

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

The screenshot shows the Lightning App Builder interface with the following components and steps:

- 1. Use component called Enhanced Lightning Grid**: Points to the "Sortable Data Grid" component in the "Lightning Components" sidebar.
- 2. Place component where desired in UI panel**: Points to the "SDG Designer Actions" component in the main 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**: Points to the "Save" and "Activation..." buttons in the top right corner.

# Advanced mode

## Final configuration

The screenshot shows a Salesforce Account page for "Burlington Textiles Corp of America". The page includes sections for RELATED, DETAILS, and NEWS. A blue callout points to the "New Component on page" (a contact list component) and the "Custom Action button" (a new contact button). Another blue callout points to the "Existing Contact component" (a contact detail component).

**New Component on page**

**Custom Action button**

**Existing Contact component**

**Account Details**

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

**RELATED**

**DETAILS**

**NEWS**

**ACTIVITY**

**CHATTER**

**Contact List Component**

**New Contact Button**

**Contact Detail Component**

**No Next Steps**

**No Past Activity**

# 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:

Edit Delete

\* Name  
Delete

SDG  
SDG Designer Actions

\* Event ⓘ  
Internal

\* Action Order  
2

Requires Createable

Requires Editable

Action Type  
Row Button

Event Payload ⓘ  
{ "Action": "Delete", "\$objectID": "#Id#"}

Icon  
utility.delete

Created By  
User User, 12/10/2017 17:26

Cancel Save & New Save





# 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





# 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.



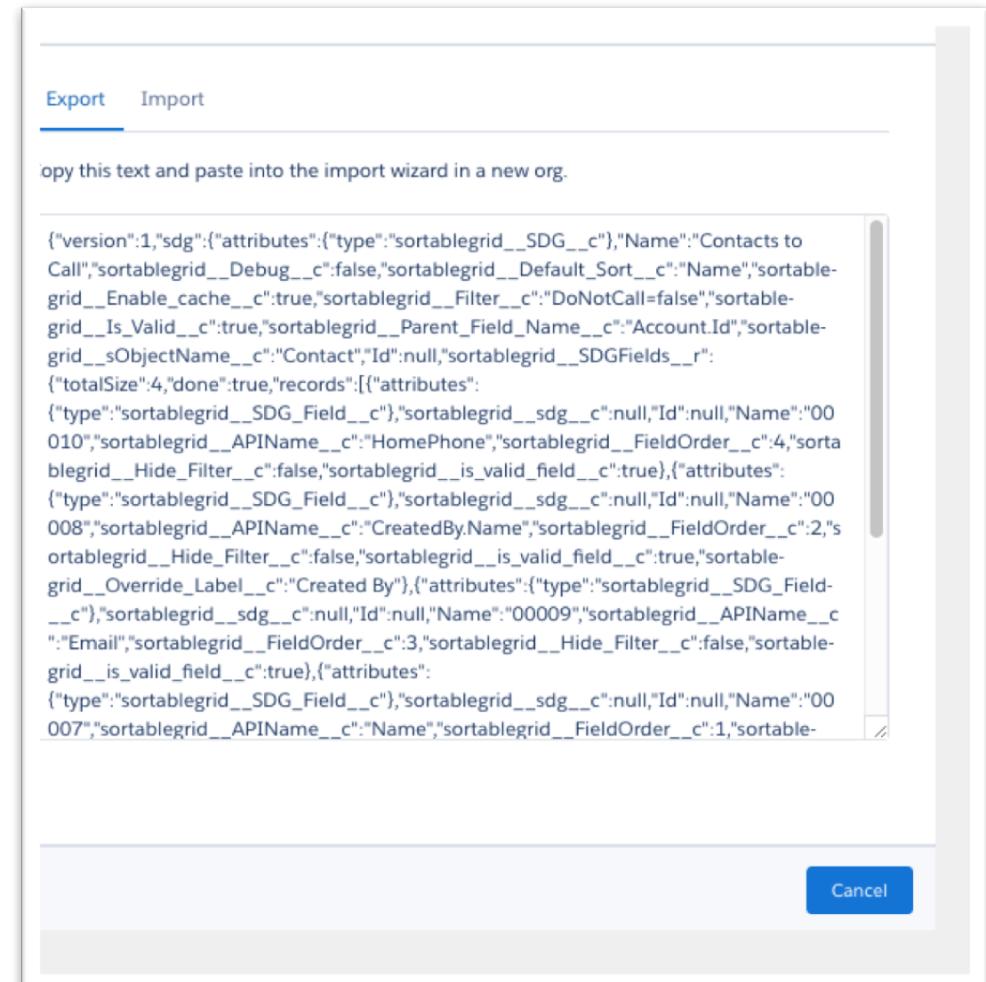


# Exporting and Importing

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.





# 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 its 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

Change this:

Values		
Action	Values	API Name
Edit   Del   Deactivate	Row	Row
Edit   Del   Deactivate	List	List



To this:

Values		
Action	Values	API Name
Edit   Del   Deactivate	Row	Row
Edit   Del   Deactivate	List	List
Edit   Del   Deactivate	Row Button	Row Button
Edit   Del   Deactivate	List Button	List Button
Edit   Del   Deactivate	List Multi-Select	List Multi

Inline Button

Fields (3)			
ID	API NAME	OVERRIDE LABEL	IS VALID
00009	Name		<input checked="" type="checkbox"/> Edit <input type="button" value="▼"/>
00010	sortablegrid__Event__c		<input checked="" type="checkbox"/> Edit <input type="button" value="▼"/>
00011	sortablegrid__Action_Order__c		<input checked="" type="checkbox"/> Edit <input type="button" value="▼"/>



# 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:

Values		
Action	Values	API Name
Edit   Del   Deactivate	Hyperlink	Hyperlink
Edit   Del   Deactivate	Age	Age
Edit   Del   Deactivate	RawHTML	RawHTML



To this:

Values		
Action	Values	API Name
Edit   Del   Deactivate	Age	Age
Edit   Del   Deactivate	Summarize:Total	Summarize:Total
Edit   Del   Deactivate	Summarize:Min	Summarize:Min
Edit   Del   Deactivate	Summarize:Max	Summarize:Max
Edit   Del   Deactivate	Summarize:Average	Summarize:Average
Edit   Del   Deactivate	CTI	CTI



Thank You