

salesforce

Analytics Dashboard JSON Developer Guide

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 @salesforcedocs

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CRM ANALYTICS DASHBOARD JSON OVERVIEW

The easiest way to build a dashboard in CRM Analytics is to use the dashboard designer. However, if needed, you can further customize dashboards by editing their JSON files. The JSON defines the components of the dashboard and how they interact.

Modify a dashboard's JSON file to perform advanced customization tasks that can't be accomplished in the designer's user interface, like:

- Manually set up bindings to override the default faceting behavior and specify the relationships between the steps that aren't bound by default.
- Set query limits.
- Specify columns for a values table.

VIEW OR MODIFY A DASHBOARD JSON FILE

Use the JSON Editor to modify the JSON for a dashboard or lens.

JSON Editor displays the JSON of a lens or dashboard and lets you quickly see the effect of your edits in the running asset.

1. To access JSON Editor, open the lens or dashboard you want to edit, and press CTRL+E for PCs or CMD+E for Macs.
2. Modify the JSON in the editor. You can use standard keyboard shortcuts for editing functions and search.
3. To go back to the user interface and see how edits to the JSON appear in the lens or dashboard, click **Done**.
4. To retain your edits, save the lens or dashboard. Changes made in the JSON editor are not saved until you explicitly save the lens or dashboard.

In JSON Editor, the following shortcuts let you perform basic actions from your keyboard.

JSON Editor Keyboard Shortcut	Description
CRTL+3 (Windows); CMD+3 (Mac)	Disregard changes and load the original JSON
CRTL+X (Windows); CMD+X (Mac)	Cut
CRTL+C (Windows); CMD+C (Mac)	Copy
CRTL+V (Windows); CMD+V (Mac)	Paste
CRTL+Z (Windows); CMD+Z (Mac)	Undo
SHIFT+CRTL+Z (Windows); SHIFT+CMD+Z (Mac)	Redo
CRTL+F (Windows); CMD+F (Mac)	Search (RegExp, case-sensitive, or whole word searches available)
CRTL+E (Windows); CMD+E (Mac)	View dashboard with changes to JSON

EDITIONS

Available in Salesforce Classic and Lightning Experience.

Available with CRM Analytics, which is available for an extra cost in **Enterprise, Performance,** and **Unlimited** Editions. Also available in **Developer** Edition.

USER PERMISSIONS

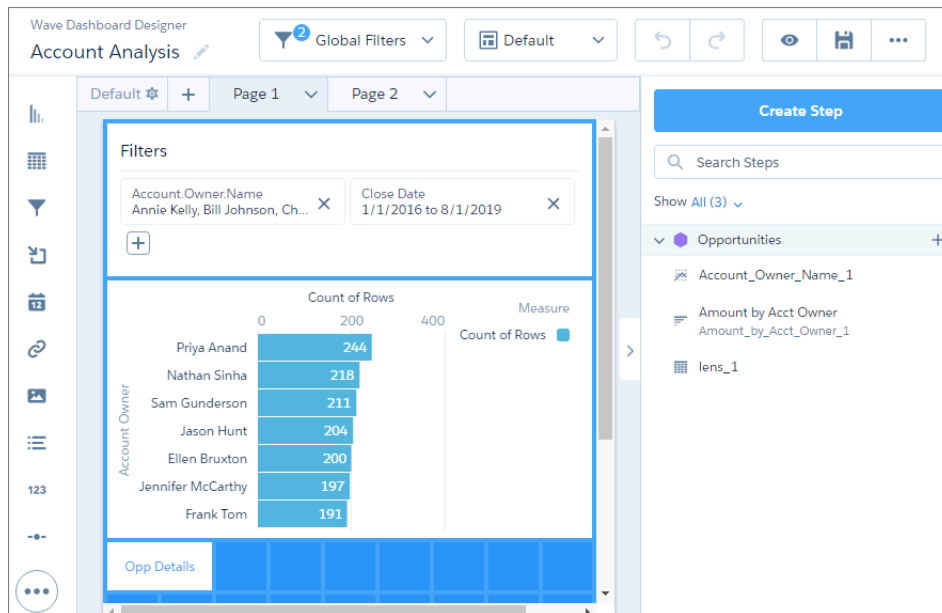
To modify the JSON file that defines a dashboard:

- Create and Edit CRM Analytics Dashboards

CRM ANALYTICS DASHBOARD JSON EXAMPLE

The JSON for each CRM Analytics dashboard contains multiple levels of properties. Review the sample JSON provided in this section to learn about the basic JSON structure of a dashboard.

 **Example:** The sample JSON defines this dashboard.



The Account Analysis dashboard consists of the following objects.

- Layouts:
 - Default, which has pages:
 - Page 1
 - Page 2
 - Mobile
- Widgets:
 - Values table `table_1` based on step `lens_1` (Not shown in the screenshot because it exists only on Page 2.)
 - Global filter panel `filterpanel_1`
 - Link `link_1`
 - Horizontal Bar Chart `chart_1` based on step `Amount_by_Acct_Owner_1`
- Steps:
 - `Amount_by_Acct_Owner_1`
 - `Account_Owner_Name_1`
 - `lens_1`

CRM Analytics Dashboard JSON Example

- Dataset 0FbB000000017QxKAI

```
{
  "label": "Account Analysis",
  "mobileDisabled": false,
  "state": {
    "dataSourceLinks": [],
    "filters": [
      {
        "dataset": {
          "id": "0FbB000000017QxKAI",
          "name": "opportunity",
          "url": "/services/data/v41.0/wave/datasets/0FbB000000017QxKAI"
        },
        "fields": [
          "Account.Owner.Name"
        ],
        "label": "Account.Owner.Name",
        "locked": false,
        "operator": "in",
        "value": [
          "Annie Kelly",
          "Bill Johnson",
          "Chan Lao",
          "Ellen Bruxton",
          "Erin Baker",
          "Frank Tom",
          "Jason Hunt",
          "Jennifer McCarthy",
          "Leslie Pham",
          "Michelle Nguyen",
          "Nathan Sinha",
          "Norman Truman",
          "Priya Anand",
          "Rob Wilkens",
          "Sam Gunderson",
          "Valerie Thom",
          "Walker Chan",
          "Wang Lee"
        ]
      }
    ],
    {
      "dataset": {
        "id": "0FbB000000017QxKAI",
        "name": "opportunity",
        "url": "/services/data/v41.0/wave/datasets/0FbB000000017QxKAI"
      },
      "fields": [
        "Close Date"
      ],
      "label": "Close Date",
      "locked": false,
      "operator": ">=<=",
      "value": [

```


CRM Analytics Dashboard JSON Example

```
        1451635200000,
        1564642800000
    ]
}
],
"gridLayouts": [
    {
        "name": "Default",
        "numColumns": 9,
        "pages": [
            {
                "label": "Page 1",
                "name": "41f040d6-48a6-4dc7-9166-eb985df7e9d8",
                "widgets": [
                    {
                        "colspan": 9,
                        "column": 0,
                        "name": "filterpanel_1",
                        "row": 0,
                        "rowspan": 3,
                        "widgetStyle": {
                            "borderEdges": []
                        }
                    },
                    {
                        "colspan": 9,
                        "column": 0,
                        "name": "chart_1",
                        "row": 3,
                        "rowspan": 5,
                        "widgetStyle": {
                            "borderEdges": []
                        }
                    },
                    {
                        "colspan": 2,
                        "column": 0,
                        "name": "link_1",
                        "row": 8,
                        "rowspan": 1,
                        "widgetStyle": {
                            "borderEdges": []
                        }
                    }
                ]
            },
            {
                "label": "Page 2",
                "name": "ac750443-1729-47fb-8d60-a35703076bf7",
                "widgets": [
                    {
                        "colspan": 9,
                        "column": 0,
```

```

        "name": "filterpanel_1",
        "row": 0,
        "rowspan": 3,
        "widgetStyle": {
            "borderEdges": []
        }
    },
    {
        "colspan": 9,
        "column": 0,
        "name": "table_1",
        "row": 3,
        "rowspan": 7,
        "widgetStyle": {
            "borderEdges": []
        }
    }
]
}
],
"rowHeight": "normal",
"selectors": [],
"style": {
    "alignmentX": "left",
    "alignmentY": "top",
    "backgroundColor": "#44A2F5",
    "cellSpacingX": 4,
    "cellSpacingY": 4,
    "fit": "original",
    "gutterColor": "#A3B8CC"
},
"version": 1
},
{
    "name": "Mobile",
    "numColumns": 2,
    "pages": [
        {
            "label": "Page 1",
            "name": "41f040d6-48a6-4dc7-9166-eb985df7e9d8",
            "widgets": [
                {
                    "colspan": 2,
                    "column": 0,
                    "name": "filterpanel_1",
                    "row": 0,
                    "rowspan": 2,
                    "widgetStyle": {
                        "borderEdges": []
                    }
                }
            ],
            {
                "colspan": 2,
                "column": 0,

```

CRM Analytics Dashboard JSON Example

```
        "name": "chart_1",
        "row": 2,
        "rowspan": 10,
        "widgetStyle": {
            "borderEdges": []
        }
    ]
}
],
"rowHeight": "normal",
"selectors": [
    "maxWidth(599)"
],
"style": {
    "alignmentX": "left",
    "alignmentY": "top",
    "backgroundColor": "#2EC2BA",
    "cellSpacingX": 4,
    "cellSpacingY": 4,
    "fit": "original",
    "gutterColor": "#091A3E"
},
"version": 1
}
],
"layouts": [],
"steps": {
    "Amount_by_Acct_Owner_1": {
        "broadcastFacet": true,
        "datasets": [
            {
                "id": "0FbB000000017QxKAI",
                "label": "Opportunities",
                "name": "opportunity",
                "url": "/services/data/v41.0/wave/datasets/0FbB000000017QxKAI"
            }
        ],
        "isGlobal": false,
        "label": "Amount by Acct Owner",
        "query": {
            "measures": [
                [
                    "count",
                    "*"
                ]
            ],
            "groups": [
                "Account.Owner.Name"
            ],
            "order": [
                [
                    "count",
```

```

        {
            "ascending": false
        }
    ]
]
},
"receiveFacet": true,
"selectMode": "multi",
"type": "aggregateflex",
"useGlobal": true,
"visualizationParameters": {
    "options": {},
    "parameters": {
        "autoFitMode": "none",
        "showValues": true,
        "bins": {
            "breakpoints": {
                "high": 100,
                "low": 0
            },
            "bands": {
                "high": {
                    "color": "#008000",
                    "label": ""
                },
                "low": {
                    "color": "#B22222",
                    "label": ""
                },
                "medium": {
                    "color": "#ffa500",
                    "label": ""
                }
            }
        }
    },
    "legend": {
        "showHeader": true,
        "show": true,
        "customSize": "auto",
        "position": "right-top",
        "inside": false
    },
    "axisMode": "multi",
    "tooltip": {
        "showBinLabel": true,
        "measures": "",
        "showPercentage": false,
        "showDimensions": true,
        "showMeasures": true,
        "customizeTooltip": false,
        "dimensions": ""
    },
    "visualizationType": "hbar",
    "title": {

```

```

        "fontSize": 14,
        "subtitleFontSize": 11,
        "label": "",
        "align": "center",
        "subtitleLabel": ""
    },
    "binValues": false,
    "trellis": {
        "flipLabels": false,
        "showGridLines": true,
        "size": [
            100,
            100
        ],
        "enable": false,
        "type": "x",
        "chartsPerLine": 4
    },
    "measureAxis2": {
        "sqrtScale": false,
        "showTitle": true,
        "showAxis": true,
        "title": "",
        "customDomain": {
            "showDomain": false
        }
    },
    "measureAxis1": {
        "sqrtScale": false,
        "showTitle": true,
        "showAxis": true,
        "title": "",
        "customDomain": {
            "showDomain": false
        }
    },
    "theme": "wave",
    "dimensionAxis": {
        "showTitle": true,
        "customSize": "auto",
        "showAxis": true,
        "title": "",
        "icons": {
            "useIcons": false,
            "iconProps": {
                "fit": "cover",
                "column": "",
                "type": "round"
            }
        }
    }
},
"type": "chart",
"visualizationType": "hbar"

```

```

    }
  },
  "Account_Owner_Name_1": {
    "broadcastFacet": true,
    "datasets": [
      {
        "id": "0FbB000000017QxKAI",
        "label": "Opportunities",
        "name": "opportunity",
        "url": "/services/data/v41.0/wave/datasets/0FbB000000017QxKAI"
      }
    ],
    "isGlobal": false,
    "query": {
      "measures": [
        [
          "count",
          "*"
        ],
        [
          "avg",
          "Amount"
        ]
      ],
      "groups": [
        "Account.Owner.Name"
      ],
      "order": [
        [
          "count",
          {
            "ascending": false
          }
        ]
      ]
    },
    "receiveFacet": true,
    "selectMode": "single",
    "type": "aggregateflex",
    "useGlobal": true,
    "visualizationParameters": {
      "parameters": {
        "autoFitMode": "none",
        "showPoints": false,
        "legend": {
          "showHeader": true,
          "show": true,
          "customSize": "auto",
          "position": "right-top",
          "inside": false
        }
      },
      "axisMode": "multi",
      "tooltip": {

```

```

        "showBinLabel": true,
        "measures": "",
        "showPercentage": false,
        "showDimensions": true,
        "showMeasures": true,
        "customizeTooltip": false,
        "dimensions": ""
    },
    "visualizationType": "line",
    "dashLine": {
        "measures": "",
        "showDashLine": false
    },
    "title": {
        "fontSize": 14,
        "subtitleFontSize": 11,
        "label": "",
        "align": "center",
        "subtitleLabel": ""
    },
    "trellis": {
        "flipLabels": false,
        "showGridLines": true,
        "size": [
            100,
            100
        ],
        "enable": false,
        "type": "x",
        "chartsPerLine": 4
    },
    "fillArea": true,
    "showZero": true,
    "measureAxis2": {
        "sqrtScale": false,
        "showTitle": true,
        "showAxis": true,
        "title": "",
        "customDomain": {
            "showDomain": false
        }
    },
    "measureAxis1": {
        "sqrtScale": false,
        "showTitle": true,
        "showAxis": true,
        "title": "",
        "customDomain": {
            "showDomain": false
        }
    },
    "theme": "wave",
    "dimensionAxis": {
        "showTitle": true,

```

```

        "customSize": "auto",
        "showAxis": true,
        "title": "",
        "icons": {
            "useIcons": false,
            "iconProps": {
                "fit": "cover",
                "column": "",
                "type": "round"
            }
        }
    },
    "drawArea": {
        "measure": "",
        "showDrawArea": false,
        "bounding1": "",
        "bounding2": ""
    }
},
"type": "chart",
"options": {}
}
},
"lens_1": {
    "datasets": [
        {
            "id": "0FbB000000017QxKAI",
            "label": "Opportunities",
            "name": "opportunity",
            "url": "/services/data/v41.0/wave/datasets/0FbB000000017QxKAI"
        }
    ],
    "isFacet": true,
    "isGlobal": false,
    "label": "lens_1",
    "query": {
        "values": [
            "Name",
            "Owner.Name",
            "StageName",
            "Amount",
            "CloseDate",
            "ForecastCategoryName",
            "Account.Owner.Name"
        ]
    },
    "selectMode": "none",
    "type": "grain",
    "useGlobal": true,
    "visualizationParameters": {
        "options": {},
        "parameters": {
            "borderColor": "#e0e5ee",

```



```

        "borderWidth": 1,
        "cell": {
            "backgroundColor": "#ffffff",
            "fontColor": "#16325c",
            "fontSize": 12
        },
        "columns": [],
        "customBulkActions": [],
        "header": {
            "backgroundColor": "#f4f6f9",
            "fontColor": "#16325c",
            "fontSize": 12
        },
        "innerMajorBorderColor": "#a8b7c7",
        "innerMinorBorderColor": "#e0e5ee",
        "maxColumnWidth": 300,
        "minColumnWidth": 40,
        "mode": "variable",
        "numberOfLines": 1,
        "totals": true,
        "verticalPadding": 8
    },
    "type": "table",
    "visualizationType": "valuestable"
}
}
},
"widgetStyle": {
    "backgroundColor": "#FFFFFF",
    "borderColor": "#E6ECF2",
    "borderEdges": [],
    "borderRadius": 0,
    "borderWidth": 1
},
"widgets": {
    "table_1": {
        "parameters": {
            "columnProperties": {
                "Amount": {
                    "type": "bar",
                    "parameters": {}
                }
            }
        }
        "borderColor": "#e0e5ee",
        "borderWidth": 1,
        "cell": {
            "backgroundColor": "#ffffff",
            "fontColor": "#16325c",
            "fontSize": 12
        },
        "columns": [],
        "customBulkActions": [],
        "exploreLink": true,
        "header": {

```

```

        "backgroundColor": "#f4f6f9",
        "fontColor": "#16325c",
        "fontSize": 12
    },
    "innerMajorBorderColor": "#a8b7c7",
    "innerMinorBorderColor": "#e0e5ee",
    "maxColumnWidth": 300,
    "minColumnWidth": 40,
    "mode": "variable",
    "numberOfLines": 1,
    "showRowIndexColumn": true,
    "step": "lens_1",
    "totals": true,
    "verticalPadding": 8,
    "evenRowColor": null,
    "oddRowColor": null
    },
    "type": "table"
},
"filterpanel_1": {
    "parameters": {
        "filterItemOptions": {
            "backgroundColor": "#FFFFFF",
            "borderColor": "#E6ECF2",
            "borderRadius": 4,
            "propertyColor": "#54698D",
            "valueColor": "#16325C",
            "borderWidth": 1
        },
        "itemsPerRow": 2,
        "title": {
            "separatorColor": "#E6ECF2",
            "text": {
                "align": "left",
                "color": "#091A3E",
                "fontSize": 16,
                "label": "Filters"
            },
            "visible": true
        }
    },
    "type": "filterpanel"
},
"link_1": {
    "parameters": {
        "destinationLink": {
            "name": "ac750443-1729-47fb-8d60-a35703076bf7"
        },
        "destinationType": "page",
        "fontSize": 12,
        "includeState": false,
        "text": "Opp Details",
        "textAlignment": "center",
        "textColor": "#44A2F5"
    }
}

```

```

    },
    "type": "link"
  },
  "chart_1": {
    "parameters": {
      "autoFitMode": "none",
      "showValues": true,
      "bins": {
        "breakpoints": {
          "high": 100,
          "low": 0
        },
        "bands": {
          "high": {
            "color": "#008000",
            "label": ""
          },
          "low": {
            "color": "#B22222",
            "label": ""
          },
          "medium": {
            "color": "#ffa500",
            "label": ""
          }
        }
      }
    },
    "legend": {
      "showHeader": true,
      "show": true,
      "customSize": "auto",
      "position": "right-top",
      "inside": false
    },
    "axisMode": "multi",
    "tooltip": {
      "showBinLabel": true,
      "measures": "",
      "showPercentage": false,
      "showDimensions": true,
      "showMeasures": true,
      "customizeTooltip": false,
      "dimensions": ""
    },
    "visualizationType": "hbar",
    "exploreLink": true,
    "title": {
      "fontSize": 14,
      "subtitleFontSize": 11,
      "label": "",
      "align": "center",
      "subtitleLabel": ""
    },
    "binValues": false,

```

```

    "trellis": {
      "flipLabels": false,
      "showGridLines": true,
      "size": [
        100,
        100
      ],
      "enable": false,
      "type": "x",
      "chartsPerLine": 4
    },
    "measureAxis2": {
      "sqrtScale": false,
      "showTitle": true,
      "showAxis": true,
      "title": "",
      "customDomain": {
        "showDomain": false
      }
    },
    "measureAxis1": {
      "sqrtScale": false,
      "showTitle": true,
      "showAxis": true,
      "title": "",
      "customDomain": {
        "showDomain": false
      }
    },
    "theme": "wave",
    "step": "Amount_by_Acct_Owner_1",
    "dimensionAxis": {
      "showTitle": true,
      "customSize": "auto",
      "showAxis": true,
      "title": "",
      "icons": {
        "useIcons": false,
        "iconProps": {
          "fit": "cover",
          "column": "",
          "type": "round"
        }
      }
    },
    "type": "chart"
  }
},
"datasets": [
  {
    "id": "0FbB000000017QxKAI",
    "label": "Opportunities",

```

CRM Analytics Dashboard JSON Example

```
    "name": "opportunity",  
    "url": "/services/data/v41.0/wave/datasets/0FbB000000017QxKAI"  
  }  
]  
}
```

DASHBOARD JSON PROPERTIES

The dashboard JSON consists of properties that define layouts, pages, widgets, and steps. Some properties are exposed and editable in the dashboard designer user interface. Others are only editable via JSON.

Each dashboard JSON contains the following high-level properties.

Property Name	Details
label	Type String Exposed in the Dashboard Designer's User Interface Yes Description Name of the dashboard.
mobileDisabled	Type Boolean Exposed in the Dashboard Designer's User Interface Yes Description Specifies whether the dashboard can be accessed in the mobile app. Use this parameter to hide dashboards that don't perform well on mobile devices. Default is <code>false</code> .
description	Type String Exposed in the Dashboard Designer's User Interface Yes Description Description of the dashboard.
state	Type Array Exposed in the Dashboard Designer's User Interface No Description Specifies properties for all layouts, widgets, and steps defined in the dashboard. When you save a dashboard using the dashboard designer, the state of the dashboard is persisted in the JSON.
datasets	Type Array

Property Name	Details
	<p>Exposed in the Dashboard Designer's User Interface</p> <p>No</p> <p>Description</p> <p>Specifies all datasets used by steps in the dashboard.</p>

The following sections describe the different properties nested under `state`.

[dataSourceLinks JSON](#)

The `dataSourceLinks` section defines all data sources configured for the dashboard.

[gridLayouts JSON](#)

The `gridLayouts` section defines all layouts built for the dashboard.

[widgetStyle JSON and Properties](#)

The `widgetStyle` key contains the default widget properties that can be applied to each widget.

[steps JSON](#)

The `steps` key defines all steps available in a CRM Analytics dashboard. It contains a separate node for each step. Each step node has properties that define the query or list of static values. It also contains properties that control the behavior of the step, like whether to facet the step. The properties and JSON syntax vary based on the step type and whether the step is in compact form or SAQL form.

[widgets JSON](#)

The `widgets` section defines the widgets that appear in the dashboard. Each widget has a name.

[filters JSON](#)

The `filters` section defines the global filters added to a global filter panel widget, which is available in the dashboard designer.

dataSourceLinks JSON

The `dataSourceLinks` section defines all data sources configured for the dashboard.

For more information about connected data sources, see [Configure Cross-Dataset Faceting with Connected Data Sources](#).

Example:

```
"dataSourceLinks": [
  {
    "fields": [
      {
        "dataSourceName": "ServiceOpportunity3",
        "dataSourceType": "saql",
        "fieldName": "AccountId"
      },
      {
        "dataSourceName": "account",
        "dataSourceType": "saql",
        "fieldName": "Id"
      }
    ]
  }
]
```

```

    ],
    "label": "ServiceOpportunities Dataset to Account Dataset: Account ID",
    "name": "Link_970"
  },
  {
    "fields": [
      {
        "dataSourceName": "ServiceOpportunity3",
        "dataSourceType": "saql",
        "fieldName": "StageName"
      },
      {
        "dataSourceName": "Static_Opp_Stage_1",
        "dataSourceType": "static",
        "fieldName": "value"
      }
    ],
    "label": "Static Opp Stage to ServiceOpportunities Dataset",
    "name": "Link_953"
  }
]

```

[dataSourceLinks Properties](#)

The `dataSourceLinks` key defines all data source connections for the dashboard. It contains a separate node for each connection. Each connection has properties about each data source.

dataSourceLinks Properties

The `dataSourceLinks` key defines all data source connections for the dashboard. It contains a separate node for each connection. Each connection has properties about each data source.

Property Name	Details
<code>fields</code>	<p>Type Array</p> <p>Exposed in the Dashboard Designer's User Interface Yes.</p> <p>Description List of data sources included in the connection. Each data source contains the following properties.</p> <p>dataSourceName API name of the dataset or ID of the static step.</p> <p>dataSourceType The type of data source: "dataset" for a dataset or "static" for a static step.</p> <p>fieldName Name of the field used to match records between the data sources.</p>

Property Name	Details
label	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes.</p> <p>Description Display label for the data source connection.</p>
name	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface No.</p> <p>Description API name of the data source connection.</p>

gridLayouts JSON

The `gridLayouts` section defines all layouts built for the dashboard.

For more information about layouts for CRM Analytics dashboards, see [Generate Unique Dashboard Layouts for Different Devices](#).

Example:

```
"gridLayouts": [
  {
    "name": "Default",
    "numColumns": 9,
    "pages": [
      {
        "label": "Page 1",
        "name": "41f040d6-48a6-4dc7-9166-eb985df7e9d8",
        "widgets": [
          {
            "colspan": 9,
            "column": 0,
            "name": "filterpanel_1",
            "row": 0,
            "rowspan": 3,
            "widgetStyle": {
              "borderEdges": []
            }
          },
          {
            "colspan": 9,
            "column": 0,
            "name": "chart_1",
            "row": 3,
            "rowspan": 5,

```

```

        "widgetStyle": {
            "borderEdges": []
        }
    },
    {
        "colspan": 2,
        "column": 0,
        "name": "link_1",
        "row": 8,
        "rowspan": 1,
        "widgetStyle": {
            "borderEdges": []
        }
    }
]
},
{
    "label": "Page 2",
    "name": "ac750443-1729-47fb-8d60-a35703076bf7",
    "widgets": [
        {
            "colspan": 9,
            "column": 0,
            "name": "filterpanel_1",
            "row": 0,
            "rowspan": 3,
            "widgetStyle": {
                "borderEdges": []
            }
        },
        {
            "colspan": 9,
            "column": 0,
            "name": "table_1",
            "row": 3,
            "rowspan": 7,
            "widgetStyle": {
                "borderEdges": []
            }
        }
    ]
}
],
"rowHeight": "normal",
"selectors": [],
"style": {
    "alignmentX": "left",
    "alignmentY": "top",
    "backgroundColor": "#44A2F5",
    "cellSpacingX": 4,
    "cellSpacingY": 4,
    "fit": "original",
    "gutterColor": "#A3B8CC"
},

```

```

    "version": 1
  },
  {
    "name": "Mobile",
    "numColumns": 2,
    "pages": [
      {
        "label": "Page 1",
        "name": "41f040d6-48a6-4dc7-9166-eb985df7e9d8",
        "widgets": [
          {
            "colspan": 2,
            "column": 0,
            "name": "filterpanel_1",
            "row": 0,
            "rowspan": 2,
            "widgetStyle": {
              "borderEdges": []
            }
          },
          {
            "colspan": 2,
            "column": 0,
            "name": "chart_1",
            "row": 2,
            "rowspan": 10,
            "widgetStyle": {
              "borderEdges": []
            }
          }
        ]
      }
    ]
  },
  "rowHeight": "normal",
  "selectors": [
    "maxWidth(599)"
  ],
  "style": {
    "alignmentX": "left",
    "alignmentY": "top",
    "backgroundColor": "#2EC2BA",
    "cellSpacingX": 4,
    "cellSpacingY": 4,
    "fit": "original",
    "gutterColor": "#091A3E"
  },
  "version": 1
}
]

```

[gridLayouts Properties](#)

The `gridLayouts` key defines all layouts for the dashboard. It contains a separate node for each layout. Each layout has properties that provide information about the devices that can use the layout and the placement of each widget in the layout. It also contains dashboard properties, like cell spacing in the grid and the dashboard's background color or image.

gridLayouts Properties

The `gridLayouts` key defines all layouts for the dashboard. It contains a separate node for each layout. Each layout has properties that provide information about the devices that can use the layout and the placement of each widget in the layout. It also contains dashboard properties, like cell spacing in the grid and the dashboard's background color or image.

Property Name	Details
<code>name</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes.</p> <p>Description Name of the layout.</p>
<code>maxWidth</code>	Maximum width (in pixels) that the dashboard can use. If needed, CRM Analytics rearranges the existing dashboard widgets based on this setting in the layout.
<code>numColumns</code>	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes.</p> <p>Description The number of columns in the designer grid for this layout.</p>
<code>pages</code>	<p>Type Array</p> <p>Exposed in the Dashboard Designer's User Interface No</p> <p>Description Contains properties that specify the name and ID of the page, and determine the placement of each widget in the dashboard layout.</p>
<code>rowHeight</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes.</p> <p>Description The height of each row in the designer grid for this layout. Valid values are <code>fine</code> and <code>normal</code> (default).</p>

Property Name	Details
<code>selectors</code>	<p>Type Array</p> <p>Exposed in the Dashboard Designer's User Interface Yes.</p> <p>Description Device requirements that help CRM Analytics choose the optimal layout for the device accessing the dashboard.</p>
<code>style</code>	<p>Type Array</p> <p>Exposed in the Dashboard Designer's User Interface Yes.</p> <p>Description Properties about the designer grid, including columns, rows, cell spacing, and background.</p>

[pages Properties](#)

The `pages` key contains properties that determine the placement of each widget in the dashboard layout. Currently, dashboard designer supports only one page for each layout.

[selectors Properties](#)

The `selectors` key contains layout properties that specify the layout name, designer grid settings, background settings, and requirements for devices that can use this layout.

[style Properties](#)

The `style` key contains the dashboard properties, like cell spacing in the grid, as well as the dashboard's background color or image.

pages Properties

The `pages` key contains properties that determine the placement of each widget in the dashboard layout. Currently, dashboard designer supports only one page for each layout.

Property Name	Details
<code>label</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Label of the page in the dashboard layout.</p>
<code>name</code>	<p>Type String</p>

Property Name	Details
	<p>Exposed in the Dashboard Designer's User Interface No</p> <p>Description ID of the page in the dashboard layout.</p>
<code>widgets</code>	<p>Type Array</p> <p>Exposed in the Dashboard Designer's User Interface No</p> <p>Description Contains properties that determine the height and width of each widget, and where it's placed on the dashboard layout.</p>

[widgets Properties](#)

The `widgets` key contains properties that determine the height and width of each widget, and where it's placed on the dashboard layout. Because the dashboard designer uses a grid, you specify the properties in terms of rows and columns. For example, you specify the number of columns to determine the width of a widget.

widgets Properties

The `widgets` key contains properties that determine the height and width of each widget, and where it's placed on the dashboard layout. Because the dashboard designer uses a grid, you specify the properties in terms of rows and columns. For example, you specify the number of columns to determine the width of a widget.

Property Name	Details
<code>name</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface No</p> <p>Description Internal name of the widget. This name is used to reference the widget in the dashboard JSON.</p>
<code>column</code>	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes. Value is determined based on the widget's placement.</p> <p>Description The column number where the widget starts. <code>Column</code> and <code>row</code> specify the top left corner of the widget. If this widget is included in a container, these properties are relative to the container widget.</p>

Property Name	Details
<code>row</code>	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes. Value is determined based on the widget's placement.</p> <p>Description The row number where the widget starts. <code>column</code> and <code>row</code> specify the top left corner of the widget.</p>
<code>colspan</code>	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes. Value is determined based on the widget's placement.</p> <p>Description The number of columns that a widget spans—the width of the widget. If the dashboard doesn't have enough columns to accommodate the specified width, then columns are added to the dashboard.</p>
<code>rowspan</code>	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes. Value is determined based on the widget's placement.</p> <p>Description The number of rows that a widget spans—the height of the widget. If the dashboard doesn't have enough rows to accommodate the specified height, then rows are added.</p>
<code>widgetStyle</code>	<p>Type Array</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> All widgets <p>Exposed in the Dashboard Designer's User Interface No</p> <p>Description Contains properties that set the border type, border color, and background color.</p>

[widgetStyle Properties](#)

The `widgetStyle` key contains properties that set the border type, border color, and background color of the widget. You can specify these attributes at two levels. To set the default for all dashboard widgets, use the `widgetStyle` field under `gridLayouts`. To set a specific widget, use the `widgetStyle` field under `widgets`. This setting overrides the default settings for all widgets.

widgetStyle Properties

The `widgetStyle` key contains properties that set the border type, border color, and background color of the widget. You can specify these attributes at two levels. To set the default for all dashboard widgets, use the `widgetStyle` field under `gridLayouts`. To set a specific widget, use the `widgetStyle` field under `widgets`. This setting overrides the default settings for all widgets.

Property Name	Details
<code>backgroundColor</code>	<p>Type String</p> <p>Available for These Widgets All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Background color of the widget. The default is #FFFFFF.</p>
<code>borderColor</code>	<p>Type String</p> <p>Available for These Widgets All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Color of the widget's border. The default is #FFFFFF.</p>
<code>borderEdges</code>	<p>Type List</p> <p>Available for These Widgets All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description A list of values that specify which edges of the widget have a border. Valid values are <code>left</code>, <code>right</code>, <code>top</code>, <code>bottom</code>, and <code>all</code>. Default is no border.</p>
<code>borderRadius</code>	<p>Type Integer</p> <p>Available for This Widget All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The roundness of the border corners.</p>

Property Name	Details
	Valid values are: 0 (not rounded, default), 4, 8, and 16. The higher the value, the more rounded the corner.
<code>borderWidth</code>	<p>Type Integer</p> <p>Available for These Widgets All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Width of the widget's border. Valid values are 1, 2 (default), 4, and 8.</p>

selectors Properties

The `selectors` key contains layout properties that specify the layout name, designer grid settings, background settings, and requirements for devices that can use this layout.

Property Name	Details
<code>minWidth(<width>)</code>	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Minimum width (in pixels) of the devices supported by this layout.</p>
<code>maxWidth(<width>)</code>	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Maximum width (in pixels) of the devices supported by this layout.</p>
<code>orientation(<orientation>)</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Orientation of the devices supported by this layout. Valid values are: <code>portrait</code> or <code>landscape</code>. If this property is not specified, then the layout supports both orientations.</p>

Property Name	Details
<code>platform(<platform>)</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Platform of the devices supported by this layout. Valid values are: <code>iOS</code> or <code>Android</code>. If this property is not specified, the layout supports both platforms.</p>

style Properties

The `style` key contains the dashboard properties, like cell spacing in the grid, as well as the dashboard's background color or image.


Property Name	Details
<code>alignmentX</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The horizontal alignment of the background image applied to the dashboard. Valid values are: <code>left</code> (default), <code>center</code>, and <code>right</code>.</p>
<code>alignmentY</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The vertical alignment of the background image applied to the dashboard. Valid values are: <code>top</code> (default), <code>center</code>, and <code>bottom</code>.</p>
<code>backgroundColor</code>	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Background color of the dashboard, specified in hex color code. The default is <code>#FFFFFF</code>.</p>
<code>cellSpacingX</code>	<p>Type Integer</p>

Property Name	Details
	<p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Horizontal spacing (in pixels) between cells in the dashboard grid. Valid values are 0, 4, 8 (default), and 16.</p>
cellSpacingY	<p>Type Integer</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Vertical spacing (in pixels) between cells in the dashboard grid. Valid values are 0, 4, 8 (default), and 16.</p>
documentId	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The 15-character document ID of the image to apply as the dashboard's background. To ensure security, upload the image file to Salesforce as a document, and select the Externally Available Image option. If this option is not selected or the referenced document is not an image, the image doesn't show up.</p>
fit	<p>Type String</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates how to scale the image. Valid values are: <code>original</code> (default), <code>stretch</code>, <code>tile</code>, <code>fitwidth</code>, and <code>fitheight</code>.</p>
image	<p>Type Array</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Identifies the image using the following properties.</p> <p>name Name of the image.</p>

Property Name	Details
	<p>namespace Optional. Namespace of the image. Default is null.</p> <p>Example</p> <pre>"image": { "name": "My_Corporate_Logo", "namespace": "" }</pre>

widgetStyle JSON and Properties

The `widgetStyle` key contains the default widget properties that can be applied to each widget.

-  **Note:** You can specify these attributes at two levels. To set the default for all dashboard widgets, use the `widgetStyle` field under `gridLayouts`. To set a specific widget, use the `widgetStyle` field under `widgets`. Settings at the widget level override the default settings for all widgets.

Property Name	Details
<code>backgroundColor</code>	<p>Type String</p> <p>Available for This Widget All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Color of the widget's background, specified in hex color code. The default is #FFFFFF.</p>
<code>borderColor</code>	<p>Type String</p> <p>Available for This Widget All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Color of the widget's border, specified in hex color code. The default is #FFFFFF. If no border is specified, the widget has no border.</p>
<code>borderEdges</code>	<p>Type List</p> <p>Available for These Widgets All widgets</p>

Property Name	Details
	<p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description A list of values that specify which edges of the widget have a border. Valid values are <code>left</code>, <code>right</code>, <code>top</code>, <code>bottom</code>, and <code>all</code>. Default is no border.</p>
<code>borderRadius</code>	<p>Type Integer</p> <p>Available for These Widgets All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Roundness of the border corners. Valid values are: 0(not rounded, default), 4, 8, and 16. The higher the value, the more rounded the corner.</p>
<code>borderWidth</code>	<p>Type Integer</p> <p>Available for These Widgets All widgets</p> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Thickness of the border. Valid values are: 1, 2 (default), 4, and 8. The higher the value, the thicker the border.</p>

steps JSON

The `steps` key defines all steps available in a CRM Analytics dashboard. It contains a separate node for each step. Each step node has properties that define the query or list of static values. It also contains properties that control the behavior of the step, like whether to facet the step. The properties and JSON syntax vary based on the step type and whether the step is in compact form or SAQL form.

[aggregateflex Step Type Properties](#)

Use the `aggregateflex` step type to perform aggregate queries on a Analytics dataset. An aggregate query summarizes rows, like returning one row per grouping. For example, this step type can return the total amount per sales rep.

[apex Step Type Properties](#)

Use to include custom Apex functionality in a dashboard to access Salesforce platform features that aren't inherently supported in Analytics. For example, pull in data using any API, manipulate data using your Apex classes, or apply simple case statements or complex machine learning. You can even harness AppExchange for things like integrating Twitter with Analytics—all in a way that is familiar.

[columns Properties](#)

Use the `columns` property to add a column to a step query source in Compact form 2.0.

[grain Step Type Properties](#)

Use the `grain` step type for a values table. Values tables have no groupings, just a list of dataset fields to display as columns in the table.

[saql Step Type Properties](#)

Use the `saql` step type for special cases when querying a Analytics dataset. With this step type, you can write a custom SAQL query to create derived fields in a values table. You can specify dimensions without groupings. Also, you can bind the dataset name or entire query. For example, you can bind this step type to a static step that provides different SAQL queries or datasets based on a selection.

[soql Step Type Properties](#)

Use to directly query Salesforce objects—both standard and custom—to get Salesforce data that's not available in datasets. You can also query external objects created with an OData adapter for Salesforce Connect. To view the results in the dashboard, the user viewing the dashboard must have access to the object and fields queried by the `soql` step. The SOQL query returns only records to which the user has access.

[source Step Type Properties](#)

Use the `sources` property to add `columns`, `groups`, `filters`, and formulas to a step query.

[staticflex Step Type Properties](#)

Use the `staticflex` step type to manually define your own set of data. For example, you can use this step to populate a list of static values in a toggle or list widget. It can also be used to provide values to a binding. For example, it can provide possible filters, groups, measures, sort order, and limits.

[visualizationParameters Properties](#)

The `visualizationParameters` key contains chart properties defined for the step. When you associate the step with a widget, the widget properties override these settings.

[filters Properties](#)

Use the `filters` property to add a filter to a step query. Although you can create filters for query steps in the user interface, you have to manually define filters for static steps in the dashboard JSON.

aggregateflex Step Type Properties

Use the `aggregateflex` step type to perform aggregate queries on a Analytics dataset. An aggregate query summarizes rows, like returning one row per grouping. For example, this step type can return the total amount per sales rep.

Field Name	Description
<code>datasets</code>	An array of datasets used by this step. Specify the alias of each dataset. If the <code>piqq1</code> attribute references a dataset that's not specified here, the dashboard doesn't render.
<code>broadcastFacet</code>	Controls whether the step's selections are broadcasted as facets. Faceting is when a selection in a widget filters other steps in the dashboard. Default is <code>true</code> .

Field Name	Description
<code>receiveFacetSource</code>	Controls whether the step in the receiving query listens for broadcasted facets and applies them as filters. The mode can be "all", "none", "include", or "exclude". Use <code>steps</code> to list which steps to include or exclude. Default is <code>all</code> .
<code>isGlobal</code>	This applies to global filters created before Winter '18 only. Newer global filters, those created in the global filter panel widget, don't require a step. Default is <code>false</code> . You can apply this property only on steps that are connected to a global filter widget—all other steps ignore this property. A global filter filters other steps in the dashboard that have <code>useGlobal</code> set to <code>true</code> and reference the same dataset.
<code>label</code>	Step label, which is primarily used for display in the dashboard designer user interface.
<code>query</code>	<p>The query used to retrieve results from a dataset. It must contain at least one grouping and can be in SAQL or compact form. Use a query in SAQL form to customize the query in a way that can't be done using compact form.</p> <p>For compact form (2.0), the query can contain the following properties.</p> <p>sources The array of sources where data comes from. For more information, see sources Properties on page 67.</p> <p>sourceFilters The filters applied to <code>sources</code>. When you use this object, the <code>sources</code> name is the <code>steps</code> key. the For more information, see filters Properties.</p> <p>aggregateFilters The array of filters applied on aggregate columns, which are fields where an aggregate function, such as average or sum, is applied to a measure column. Aggregate columns are defined in <code>columns</code> under <code>sources</code>. For more information, see filters Properties.</p> <p>orders The array of sort orders applied to data in a pivot table. An order can contain the following properties:</p> <p>name The column or group name used to apply the sort order.</p> <p>ascending The sort order applied to the data. Indicates whether to order the data in ascending order (<code>true</code>) or not (<code>false</code>).</p> <p>filters The filters used to sort a measure column in a pivot table and is applied on a dimension value in the pivoted group. For more information about sorting data in a pivot table, see Organize and Summarize Data in a Pivot Table.</p> <p>nulls The sort order applied to null values in the data. To sort null values last, set <code>nullsto lastTo</code> sort null values first, set <code>nullsto first</code>.</p> <p>rowTotals The array of dimension groups to which the values of each row are rolled up. To calculate <code>rowTotals</code>, you must also include <code>columnGroups</code> for the data.</p>

Field Name**Description****columnTotals**

The array of dimension groups to which the values of each column are rolled up. If the query is a grain query, that is, all the columns are non-aggregate columns, or if the query is not grouped by any dimension columns, to calculate totals, set `columnTotals` to `all`.

columnGroups

The pivoted dimension group, which is the last-defined group. If the defined group is a compound date, such as Year-Month for order date, then include each date grain in `columnGroups`. For example, `["OrderDate_Year", "OrderDate_Month"]`.

limit

The maximum number of results that the step can return. When you create an `aggregateflex` step, by default, CRM Analytics sets `limit` to 2,000. To return more results, set the `limit` attribute accordingly. The higher you increase the limit, the longer the query takes. When a limit isn't set, Analytics returns up to 10,000 results. For more information, see [filters Properties](#).

Compact Form 2.0 Query Example

```
"query": {
  "sources": [
    {
      "columns": [
        {
          "field": ["sum", "Amount"],
          "name": "A"
        }
      ],
      "groups": [
        "Product_Container",
        "Order_priority"
      ],
      "filters": [
        [
          "Profit",
          [16000],
          "<"
        ]
      ],
      "name": "SuperStoreSales"
    },
    {
      "columns": [
        {
          "formula": "A*2",
          "name": "B"
        }
      ],
      "groups": [],
      "filters": []
    }
  ],
  "limit": 10000
}
```


Field Name	Description
------------	-------------

```

"sourceFilters": {
  "SuperStoreSales" {
    "filters": [
      [
        "Sales",
        [
          1,
          100000
        ],
        ">=<="
      ],
      [
        "Customer_Segment",
        [
          "Consumer",
          "Corporate",
        ],
        "in"
      ]
    ]
  }
},
"aggregateFilters": [
  [
    "A",
    [10],
    ">"
  ]
],
"orders": [
  {
    "name": "Product_Container",
    "ascending": true,
    "filters": [],
    "nulls": "last"
  },
  {
    "name": "Order_Priority",
    "ascending": true,
    "filters": [],
    "nulls": "last"
  }
],
"rowTotals": ["Product_Container"],
"columnTotals": [
  "Product_Container",
  "Order_Priority"
],
"columnGroups": ["Order_Priority"],
"limit": 2000
}

```

For compact form (1.0), the query can contain the following properties.

Field Name**Description****filters**


The filters to apply to the data. For more information, see [filters Properties](#) on page 73.

groups

The dimension to group by.

limit

The maximum number of results that the step can return. When you create an `aggregateflex` step, by default, CRM Analytics sets `limit` to 2,000. To return more results, set the `limit` attribute accordingly. The higher you increase the limit, the longer the query takes. When a limit isn't set, Analytics returns up to 10,000 results.

 **Note:** Limit only impacts the number of records returned for display. The limit doesn't impact calculations across all records in the dataset. For instance, a query groups by Account Name and there are one million Account Names in a dataset. When the limit is 20, Analytics returns 20 records for display. But the summary row provides a total for the one million records.

measures

The measures returned by the query.

 **Note:** If you provide an aggregate function for a measure, then the measure value must be a string, not an array.

order

Sort order (ascending or descending) of the first specified measure. To order the results in ascending order, set `ascending` to `true`. To order the results in descending order, set `ascending` to `false`. If you don't want to impose a specific order, remove the entire `"order"` parameter.

Compact-form (1.0) Query Example

```
"query": {
  "filters": [
    [
      "Account.Industry",
      [
        "Agriculture",
        "Apparel",
        "Banking",
        "Biotechnology",
        "Consulting",
        "Education",
        "Electronics",
        "Energy",
        "Engineering",
        "Finance",
        "Healthcare",
        "Insurance",
        "Manufacturing",
        "Media",
        "Retail",
        "Technology",
        "Telecommunications",
```

Field Name	Description
------------	-------------

```

        "Transportation",
        "Utilities"
    ],
    "in"
  ]
},
"groups": [ "Account.Industry" ],
"measures": [
  [
    "avg",
    "Amount"
  ]
],
"order": [
  [
    -1,
    { "ascending": false }
  ]
]
}

```

For SAQL form, the query can contain the following properties

pigql

Specify the SAQL query to retrieve data from a dataset. When you specify a SAQL query, you must specify the filters, limits, and ordering inside the `pigql` attribute. CRM Analytics ignores the following attributes if they are set under the `query` attribute: `filters`, `limit`, and `order`.

measures

Defines the fields included as measures. When using a SAQL-form query, you must include each measure in this parameter and in the `pigql` parameter. You can change the UI label of a measure by setting the `display` option.

```

"count", "*", null, {
  "display": "% of total flights"
}

```

groups



Defines the dimension fields to group by. When using a SAQL-form query, you must specify the group-by dimension in this parameter and in the `group` property in the `pigql` parameter.

SAQL-form Query Example

```

"query": {
  "pigql": "q = load \"ServiceOpportunity3\";\n
          q = filter q by 'Account.Industry' in
              [\"Agriculture\", \"Apparel\", \"Banking\",
\"Biotechnology\",
              \"Consulting\", \"Education\", \"Electronics\",
              \"Energy\",
              \"Engineering\", \"Finance\", \"Healthcare\",
              \"Insurance\",
              \"Manufacturing\", \"Media\", \"Retail\",
              \"Technology\",

```

Field Name	Description
	<pre> \\"Telecommunications\\", \\"Transportation\\", \\"Utilities\\"};\n q = group q by 'Account.Industry';\n q = foreach q generate 'Account.Industry' as 'Account.Industry', count() as 'count';\n q = order q by 'count' desc;\n q = limit q 1000;"; "measures": [["count", "*", "count"]], "groups": ["Account.Industry"], "measuresMap": {} } </pre> <p>For more information about SAQL queries, see the Analytics SAQL Developer Guide</p>
selectMode	<p>Determines the selection interaction. The options for charts, tables, lists, and toggle selectors are: none, single, singlerequired, multi and multirequired.</p> <p> Note: selectMode doesn't apply to number, values table, date, range, and global filter widgets.</p>
start	The initial selections that are applied to the step when the dashboard first opens.
type	<p>Step type. Set to aggregateflex.</p> <p> Note: If you bind a step property for an aggregateflex step, you must use the correct bindings syntax. For more information about bindings, see the Analytics Bindings Developer Guide.</p>
useGlobal	Indicates whether to apply global filters to this step (true) or not (false). If the step is in SAQL form, you must also set autoFilter to true to apply the global filters. By default, the global filter widget filters compact-form steps only.
visualizationParameters	Visualization details about the step. For more information, see visualizationParameters Properties .

Example: aggregateflex Step

```

"steps": {
  "Account_Owner_1": {
    "type": "aggregateflex",
    "query": {
      "measures": [
        [
          "avg",

```

```

        "Amount"
      ]
    ],
    "groups": [
      "Account_Owner"
    ],
    "order": [
      [
        "avg_Amount",
        {
          "ascending": false
        }
      ]
    ]
  },
  "visualizationParameters": {
    "options": {},
    "type": "chart",
    "parameters": {
      "visualizationType": "hbar",
      "autoFitMode": "keepLabels",
      "theme": "wave",
      "title": {
        "label": "",
        "fontSize": 14,
        "subtitleLabel": "",
        "subtitleFontSize": 11,
        "align": "center"
      },
      "showValues": true,
      "axisMode": "multi",
      "binValues": false,
      "bins": {
        "breakpoints": {
          "low": 0,
          "high": 100
        },
        "bands": {
          "low": {
            "label": "",
            "color": "#B22222"
          },
          "medium": {
            "label": "",
            "color": "#ffa500"
          },
          "high": {
            "label": "",
            "color": "#008000"
          }
        }
      }
    }
  },
  "dimensionAxis": {
    "showAxis": true,

```

```
    "showTitle": true,
    "title": "",
    "customSize": "auto",
    "icons": {
      "useIcons": false,
      "iconProps": {
        "column": "",
        "fit": "cover",
        "type": "round"
      }
    }
  },
  "measureAxis1": {
    "sqrtScale": false,
    "showAxis": true,
    "customDomain": {
      "showDomain": false
    },
    "showTitle": true,
    "title": ""
  },
  "measureAxis2": {
    "sqrtScale": false,
    "showAxis": true,
    "customDomain": {
      "showDomain": false
    },
    "showTitle": true,
    "title": ""
  },
  "legend": {
    "show": true,
    "showHeader": true,
    "inside": false,
    "descOrder": false,
    "position": "right-top",
    "customSize": "auto"
  },
  "tooltip": {
    "customizeTooltip": false,
    "showDimensions": true,
    "dimensions": "",
    "showMeasures": true,
    "measures": "",
    "showPercentage": true,
    "showNullValues": true,
    "showBinLabel": true
  },
  "trellis": {
    "enable": false,
    "showGridLines": true,
    "flipLabels": false,
    "type": "x",
    "chartsPerLine": 4,
```

```

        "size": [
            100,
            100
        ]
    },
    "applyConditionalFormatting": true,
    "showActionMenu": true,
    "columnMap": {
        "trellis": [],
        "plots": [
            "avg_Amount"
        ],
        "dimensionAxis": [
            "Account_Owner"
        ]
    }
}
},
"datasets": [
    {
        "id": "0FbB00000000xHDKAY",
        "name": "DTC_Opportunity_SAMPLE",
        "label": "DTC Opportunity",
        "url": "/services/data/v48.0/wave/datasets/0FbB00000000xHDKAY"
    }
],
"useGlobal": true,
"isGlobal": false,
"label": "Account_Owner_1",
"broadcastFacet": true,
"receiveFacetSource": {
    "mode": "all",
    "steps": []
},
"selectMode": "single"
}
}

```

[steps Properties for Compact Form and SAQL Form](#)

The properties and JSON syntax in the `query` node of an `aggregateflex` step type vary based on whether the step is in compact form or SAQL form.

steps Properties for Compact Form and SAQL Form

The properties and JSON syntax in the `query` node of an `aggregateflex` step type vary based on whether the step is in compact form or SAQL form.

These examples display the `aggregateflexstep` type in compact form and in SAQL form. For an explanation of the `aggregateflex` step type and its properties, see [aggregateflex Step Type Properties](#)

 **Example: Compact-Form aggregateflex Step**

```

"steps": {
  "all_Amount_1": {
    "type": "aggregateflex",
    "query": {
      "measures": [
        [
          "avg",
          "Amount"
        ]
      ],
      "groups": [
        "Account_Name"
      ],
      "order": [
        [
          "avg_Amount",
          {
            "ascending": false
          }
        ]
      ]
    }
  },
  "visualizationParameters": {
    "options": {},
    "type": "chart",
    "parameters": {
      "visualizationType": "hbar",
      "autoFitMode": "keepLabels",
      "theme": "wave",
      "title": {
        "label": "",
        "fontSize": 14,
        "subtitleLabel": "",
        "subtitleFontSize": 11,
        "align": "center"
      },
      "showValues": true,
      "axisMode": "multi",
      "binValues": false,
      "bins": {
        "breakpoints": {
          "low": 0,
          "high": 100
        },
        "bands": {
          "low": {
            "label": "",
            "color": "#B22222"
          },
          "medium": {
            "label": "",
            "color": "#ffa500"
          }
        }
      }
    }
  }
}

```



```

        "high": {
            "label": "",
            "color": "#008000"
        }
    },
    "dimensionAxis": {
        "showAxis": true,
        "showTitle": true,
        "title": "",
        "customSize": "auto",
        "icons": {
            "useIcons": false,
            "iconProps": {
                "column": "",
                "fit": "cover",
                "type": "round"
            }
        }
    },
    "measureAxis1": {
        "sqrtScale": false,
        "showAxis": true,
        "customDomain": {
            "showDomain": false
        },
        "showTitle": true,
        "title": ""
    },
    "measureAxis2": {
        "sqrtScale": false,
        "showAxis": true,
        "customDomain": {
            "showDomain": false
        },
        "showTitle": true,
        "title": ""
    },
    "legend": {
        "show": true,
        "showHeader": true,
        "inside": false,
        "descOrder": false,
        "position": "right-top",
        "customSize": "auto"
    },
    "tooltip": {
        "customizeTooltip": false,
        "showDimensions": true,
        "dimensions": "",
        "showMeasures": true,
        "measures": "",
        "showPercentage": true,
        "showNullValues": true,
    }
}

```

```

        "showBinLabel": true
    },
    "trellis": {
        "enable": false,
        "showGridLines": true,
        "flipLabels": false,
        "type": "x",
        "chartsPerLine": 4,
        "size": [
            100,
            100
        ]
    },
    "applyConditionalFormatting": true,
    "showActionMenu": true,
    "columnMap": {
        "trellis": [],
        "plots": [
            "avg_Amount"
        ],
        "dimensionAxis": [
            "Account_Name"
        ]
    }
}
},
"datasets": [
    {
        "id": "0Fb6g000000HTE1CAO",
        "name": "DTC_Opportunity_SAMPLE",
        "label": "DTC Opportunity",
        "url": "/services/data/v48.0/wave/datasets/0Fb6g000000HTE1CAO"
    }
],
"useGlobal": true,
"isGlobal": false,
"label": "all_Amount_1",
"broadcastFacet": true,
"receiveFacetSource": {
    "mode": "all",
    "steps": []
},
"selectMode": "single"
},

```

Example: SAQL-Form aggregateflex Step

When the step is in SAQL form, notice how each group and measure are defined in the `groups` and `measures` properties, respectively, and also in the `piqql` property. Other parts of the query—like filters, limits, and order—only need to be defined one time in the `piqql` property. You specify the compact form elements of `"groups"` and `"measures"` so that the associated chart widget can render the correct projections.

In the following sample step, notice that the 'sum_Amount' and 'sum_quantity' projections in the pigql property are referenced in "measures" as [["count", "*", "sum_Amount"], ["count", "*", "sum_quantity"]]. Measure projections in the pigql property always include the aggregation, underscore (_), and the name of the measure ('sum_Amount') so that they can be referenced in the compact form.

```

"steps": {
  "Product_StageName_2": {
    "type": "aggregateflex",
    "visualizationParameters": {
      "options": {}
    },
    "query": {
      "pigql": "q = load \"Flexy_Sales\";\n
              q = group q by ('Product', 'StageName');\n
              q = foreach q generate 'Product' as 'Product',\n
                                   'StageName' as 'StageName',\n
                                   sum('Amount') as 'sum_Amount',\n
                                   sum('quantity') as 'sum_quantity';\n
              q = filter q by 'sum_Amount' >= 14550720 && 'sum_Amount' <=
58807698;\n
              q = order q by 'sum_Amount' desc;\nq = limit q 10000;";
      "measures": [
        [
          "count",
          "*",
          "sum_Amount"
        ],
        [
          "count",
          "*",
          "sum_quantity"
        ]
      ],
      "groups": [
        "Product",
        "StageName"
      ]
    },
    "broadcastFacet": true,
    "receiveFacetSource": {
      "mode": "all",
      "steps": []
    },
    "useGlobal": true,
    "isGlobal": false,
    "datasets": [{
      "name": "Flexy_Sales",
      "url": "/services/data/v38.0/wave/datasets/0FbB00000000q5gKAA",
      "id": "0FbB00000000q5gKAA"
    }]
  }
}

```

apex Step Type Properties

Use to include custom Apex functionality in a dashboard to access Salesforce platform features that aren't inherently supported in Analytics. For example, pull in data using any API, manipulate data using your Apex classes, or apply simple case statements or complex machine learning. You can even harness AppExchange for things like integrating Twitter with Analytics—all in a way that is familiar.

To set up an `apex` step, create an Apex class that returns data in a shape that Analytics can consume. And then define the step with the `apex` step type in the dashboard JSON. The step calls the Apex REST endpoint to return the data from the Apex controller class.

Like a `soql` step, the Apex controller can return tabular data. Unlike `sql` and `soql` step types, the `apex` step type doesn't define the `"strings"`, `"numbers"`, and `"groups"` arrays. The Apex class response must declare these column types.

When you define an `apex` step, you can use a selection or results binding on the `body` parameter in the step JSON. You can also reference this step type in a results binding. This step type doesn't support faceting. If you run a Analytics REST API query using an `apex` step, the query runs as the logged-in user. Each REST API query counts against the org's API limits.

Note the following limitations with `apex` steps:


- If you include dashboards in a package, `apex` steps aren't included. You must migrate the Apex classes separately.
- The Android mobile app doesn't support this type of step.

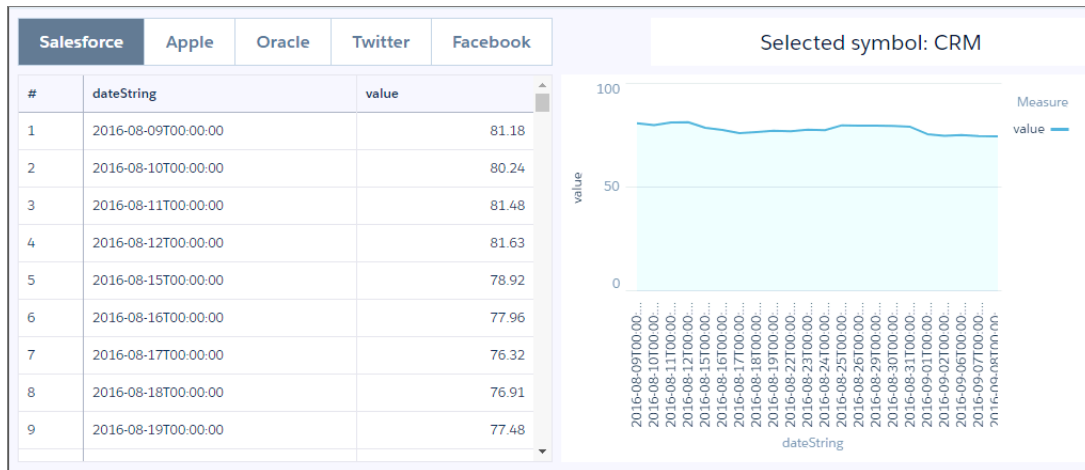
Field Name	Description
<code>type</code>	Step type. Set to <code>apex</code> .
<code>label</code>	Step label, which is primarily used for display in the dashboard designer user interface.
<code>query</code>	Query that returns the results. Can consist of the following parameters: <ul style="list-style-type: none"> body Optional. Blob containing the input parameters needed by the Apex controller class. path Required. Specifies the class path and name of the Apex controller class.



Example: `apex` Step

```
"GetStockData": {
  "query": {
    "body": {
      "symbol": "CRM"
    },
    "path": "stocks"
  },
  "type": "apex"
}
```

 **Example:** You want to display real-time stock data from a website in your dashboard. You want to fetch the data from an external API and add logic to determine the time of day for each stock price. Here's the goal for this dashboard.



To create this dashboard, complete the following steps:

1. Create the Apex controller class that gets the data from the stock website.
2. Add the stock website to the allowed sites in Salesforce.
3. Create the `apex` step in addition to the other dashboard widgets.

Create the Apex Class

Define the Apex controller class and methods that return the stock price for different companies over time.

1. From setup, enter `Apex Classes` in the Quick Find box, and select **Apex Classes**.
2. Click **New**.

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Apex Classes

Force.com Apex Code is an object oriented programming language that allows developers to develop o

Percent of Apex Used: 0.28%
You are currently using 8,547 characters of Apex Code (excluding comments and @isTest annotated the amount in use includes both Apex Classes and Triggers defined in your organization.)

Estimate your organization's code coverage [i](#)

Compile all classes [i](#)

View: **All** [New](#) [Create New View](#)

Action	Name ↑	Namespace Prefix	Api Version	Status
Edit Del Security	CreateOpportunitiesController		39.0	Active
Edit Del Security	CustomBulkActionController		39.0	Active
Edit Del Security	DiffModifier		33.0	Active
Edit Del Security	SalesWaveQuotas		39.0	Active
Edit Del Security	WaveQuery		39.0	Active

3. Add the following code.

```
@RestResource(urlMapping='/stocks')
global with sharing class StocksRestController {

    @HttpPost
    global static String stocks() {
        ApexStepRequest stepRequest = new ApexStepRequest(new ApexStepRequest.Parameter[]{
            new ApexStepRequest.Parameter('symbol',
ApexStepRequest.ParameterType.STRING_PARAM)
        });

        // fetch some stock data
        HttpRequest request = new HttpRequest();
        Http http = new Http();
        // make sure this domain is whitelisted in the proxy

request.setEndpoint('https://www.alphavantage.co/query?function=TIME_SERIES_DAILY&interval=5min&apikey=1QRP8AID71340MA&symbol='

        // default to CRM
        + stepRequest.getStringParam('symbol', 'CRM')
    );
    request.setMethod('GET');

    try {
        HTTPResponse response = http.send(request);
        JSONParser parser = JSON.createParser(response.getBody());
```

```

        List<Map<String, Object>> returnItems = new List<Map<String, Object>>();
        while (parser.nextToken() != null) {
            if (parser.getCurrentToken() == JSONToken.START_OBJECT &&
parser.getCurrentName() != null && parser.getCurrentName().startsWith('20')) {
                String dateLabel = parser.getCurrentName();
                parser.nextToken();
                parser.nextToken();
                System.debug(parser.getText());

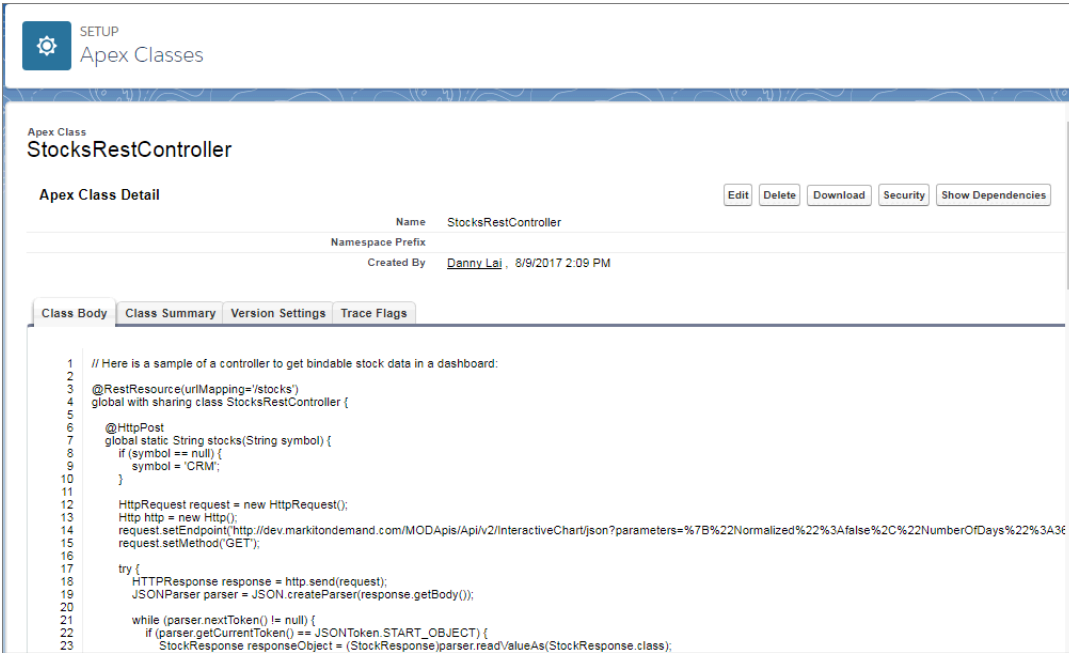
                Map<String, Object> curRow = new Map<String, Object>();
                curRow.put('date', dateLabel);
                curRow.put('value', Double.valueOf(parser.getText()));
                returnItems.add(curRow);
            }
        }

        return JSON.serialize(new ApexStepResponse(returnItems));
    } catch(Exception exp) {
        System.debug('exception '+exp);
    }

    return '';
}
}

```

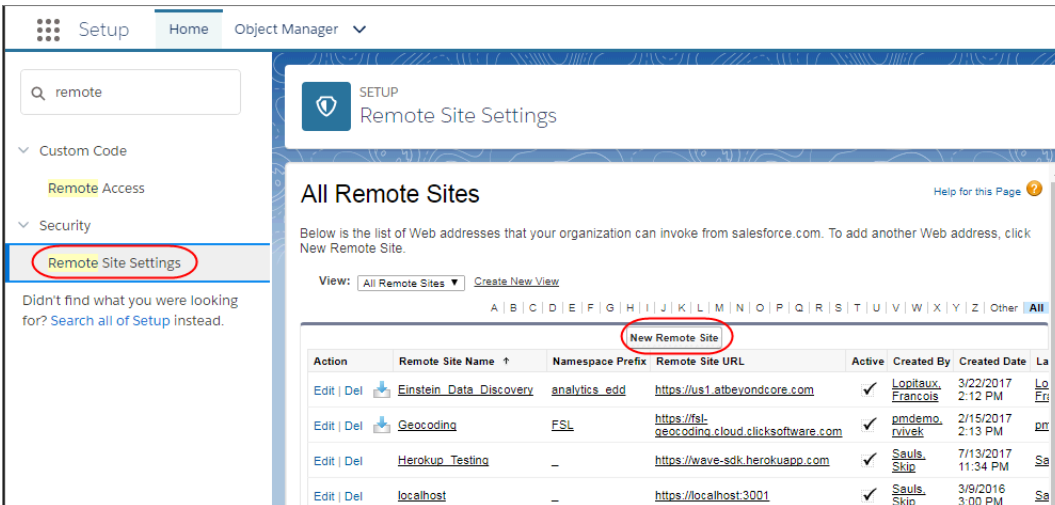
4. Add two more Apex classes for `ApexStepRequest` and `ApexStepResponse` to support the Apex stocks class. The code for these classes, along with the stock step code, can be found in this public [AnalyticsApexSteps](#) GitHub repo, in the `/force-app/main/apex/common` directory. This GitHub repo also contains other Apex step examples.
5. Click **Save**.



Allow the External Website

To enable Apex to query external REST endpoints, allow the website in Salesforce.

1. From setup, enter *Remote* in the Quick Find box, and select **Remote Site Settings**.
2. Click **New Remote Site**.



3. Enter the remote site name and URL.

4. Click **Save**.

Create the Apex Step

Manually define the `apex` step in the dashboard JSON to get the stock results from the Apex class that you previously created. In the dashboard JSON, add the following `apex` step.

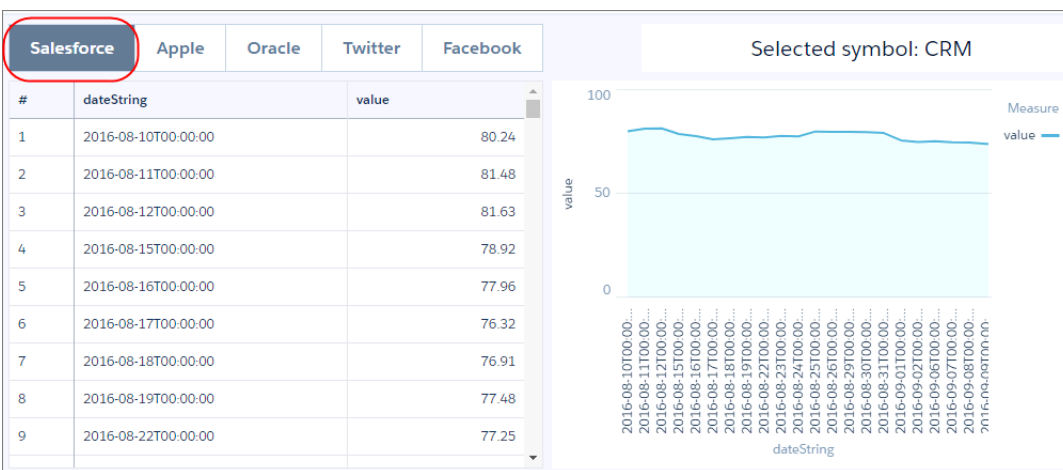
```

"StockData": {
  "query": {
    "body": {
      "symbol": "{{cell(CompaniesList_1.selection, 0, \"value\")}.asString()}"
    },
    "path": "stocks"
  },
  "type": "apex"
}
    
```

The `apex` step query contains the following parameters.

body

The binding retrieves the stock symbol when a company is selected in the toggle widget.



path

Specifies the REST API resource path to the Apex controller, as specified in the `urlMapping` of the `RestResource` annotation on the Apex controller.

The dashboard shows four widgets. The toggle widget is based on a static step that maps predefined company names to stock symbols. The table widget and line chart use the `apex` step to retrieve the results. The text widget uses a binding to concatenate "Selected symbol:" and the stock symbol of the selected company in the toggle widget.

Here's the final dashboard JSON.

```
{
  "label": "Stock Quotes",
  "mobileDisabled": false,
  "state": {
    "dataSourceLinks": [],
    "filters": [],
    "gridLayouts": [
      {
        "name": "Default",
        "numColumns": 12,
        "pages": [
          {
            "label": "Untitled",
            "name": "b177a6e6-8ab6-4914-af36-09c7fa23e0c8",
            "widgets": [
              {
                "colspan": 6,
                "column": 0,
                "name": "pillbox_1",
                "row": 0,
                "rowspan": 1,
                "widgetStyle": {
                  "borderEdges": []
                }
              },
              {
                "colspan": 5,
                "column": 7,
                "name": "text_1",
                "row": 0,
                "rowspan": 1,
                "widgetStyle": {
                  "borderEdges": []
                }
              },
              {
                "colspan": 6,
                "column": 0,
                "name": "table_1",
                "row": 1,
                "rowspan": 7,
                "widgetStyle": {
                  "borderEdges": []
                }
              }
            ]
          }
        ]
      }
    ]
  }
}
```

```

        {
            "colspan": 6,
            "column": 6,
            "name": "chart_1",
            "row": 1,
            "rowspan": 7,
            "widgetStyle": {
                "borderEdges": []
            }
        }
    ]
}
],
"rowHeight": "normal",
"selectors": [],
"style": {
    "alignmentX": "left",
    "alignmentY": "top",
    "backgroundColor": "#F2F6FA",
    "cellSpacingX": 8,
    "cellSpacingY": 8,
    "fit": "original",
    "gutterColor": "#C5D3E0"
},
"version": 1
}
],
"layouts": [],
"steps": {
    "CompaniesList_1": {
        "datasets": [],
        "dimensions": [],
        "groups": [],
        "label": "CompaniesList",
        "numbers": [],
        "selectMode": "singlerequired",
        "strings": [],
        "type": "staticflex",
        "values": [
            {
                "display": "Salesforce",
                "value": "CRM"
            },
            {
                "display": "Apple",
                "value": "AAPL"
            },
            {
                "display": "Oracle",
                "value": "ORCL"
            },
            {
                "display": "Twitter",
                "value": "TWTR"
            }
        ]
    }
}

```

```

        },
        {
            "display": "Facebook",
            "value": "FB"
        }
    ],
    "broadcastFacet": true
},
"StockData": {
    "query": {
        "body": {
            "symbol": "{{cell(CompaniesList_1.selection, 0,
\"value\")}.asString()}}"
        },
        "path": "stocks"
    },
    "type": "apex"
}
},
"widgetStyle": {
    "backgroundColor": "#FFFFFF",
    "borderColor": "#E6ECF2",
    "borderEdges": [],
    "borderRadius": 0,
    "borderWidth": 1
},
"widgets": {
    "table_1": {
        "parameters": {
            "borderColor": "#e0e5ee",
            "borderWidth": 1,
            "cell": {
                "backgroundColor": "#ffffff",
                "fontColor": "#16325c",
                "fontSize": 12
            },
            "columns": [],
            "customBulkActions": [],
            "exploreLink": false,
            "header": {
                "backgroundColor": "#f4f6f9",
                "fontColor": "#16325c",
                "fontSize": 12
            },
            "innerMajorBorderColor": "#a8b7c7",
            "innerMinorBorderColor": "#e0e5ee",
            "mode": "fittocontainer",
            "numberOfLines": 1,
            "step": "StockData",
            "verticalPadding": 8,
            "evenRowColor": null,
            "oddRowColor": null
        },
        "type": "table"
    }
}

```

```

    },
    "pillbox_1": {
      "parameters": {
        "compact": false,
        "exploreLink": false,
        "step": "CompaniesList_1"
      },
      "type": "pillbox"
    },
    "text_1": {
      "parameters": {
        "fontSize": 20,
        "text": "Selected symbol: {{ cell(CompaniesList_1.selection, 0,
\"value\")asString() }}",
        "textAlignment": "center",
        "textColor": "#091A3E"
      },
      "type": "text"
    },
    "chart_1": {
      "parameters": {
        "autoFitMode": "keepLabels",
        "showPoints": false,
        "legend": {
          "showHeader": true,
          "show": true,
          "customSize": "auto",
          "position": "right-top",
          "inside": false
        },
        "axisMode": "multi",
        "tooltip": {
          "showBinLabel": true,
          "measures": "",
          "showPercentage": false,
          "showDimensions": true,
          "showMeasures": true,
          "customizeTooltip": false,
          "dimensions": ""
        },
        "visualizationType": "line",
        "dashLine": {
          "measures": "",
          "showDashLine": false
        },
        "exploreLink": false,
        "title": {
          "fontSize": 14,
          "subtitleFontSize": 11,
          "label": "",
          "align": "center",
          "subtitleLabel": ""
        },
        "trellis": {

```

```

        "flipLabels": false,
        "showGridLines": true,
        "size": [
            100,
            100
        ],
        "enable": false,
        "type": "x",
        "chartsPerLine": 4
    },
    "fillArea": true,
    "showZero": true,
    "measureAxis2": {
        "sqrtScale": false,
        "showTitle": true,
        "showAxis": true,
        "title": "",
        "customDomain": {
            "showDomain": false
        }
    },
    "measureAxis1": {
        "sqrtScale": false,
        "showTitle": true,
        "showAxis": true,
        "title": "",
        "customDomain": {
            "showDomain": false
        }
    },
    "theme": "wave",
    "step": "StockData",
    "dimensionAxis": {
        "showTitle": true,
        "customSize": "auto",
        "showAxis": true,
        "title": "",
        "icons": {
            "useIcons": false,
            "iconProps": {
                "fit": "cover",
                "column": "",
                "type": "round"
            }
        }
    },
    "drawArea": {
        "measure": "",
        "showDrawArea": false,
        "bounding1": "",
        "bounding2": ""
    }
},
"type": "chart"

```

```

    }
  },
  "datasets": []
}

```

columns Properties

Use the `columns` property to add a column to a step query source in Compact form 2.0.

Example: Aggregate measure column defined in Compact form 2.0

```

"columns": [
  {
    "field": [
      "sum",
      "Amount"
    ]
  }
]

```

Example: Non-aggregate columns defined in Compact form 2.0

```

"columns": [
  {
    "field": "Customer_Name",
    "name": "Customer_Name"
  },
  {
    "field": "Product_Name",
    "name": "Product_Name"
  },
  {
    "field": "Profit",
    "name": "Profit"
  }
]

```

Example: Formula column defined in Compact form 2.0



```

"columns": [
  {
    "formula": "A*2",
    "name": "B"
  }
]

```

grain Step Type Properties

Use the `grain` step type for a values table. Values tables have no groupings, just a list of dataset fields to display as columns in the table.

Field Name	Description
<code>datasets</code>	<p>An array of datasets used by this step. Specify the alias of each dataset. If the <code>piqq1</code> attribute references a dataset that's not specified here, the dashboard doesn't render.</p> <p> Note: A <code>grain</code> step can only have one dataset.</p>
<code>isFacet</code>	<p>Enables this step to facet and be faceted by other steps. Faceting is when a selection in a widget filters other steps in the dashboard.</p>
<code>isGlobal</code>	<p>This applies to global filters created before Winter '18 only. Newer global filters, those created in the global filter panel widget, don't require a step. Default is <code>false</code>. You can apply this property only on steps that are connected to a global filter widget—all other steps ignore this property. A global filter filters other steps in the dashboard that have <code>useGlobal</code> set to <code>true</code> and reference the same dataset.</p>
<code>label</code>	<p>Step label, which is primarily used for display in the dashboard designer user interface.</p>
<code>query</code>	<p>The query used to retrieve results from a dataset. The query can be in compact form only and can contain the following properties:</p> <p>filters The filter conditions to apply to the data.</p> <p>values List of dataset fields to show as table columns.</p> <p>limit The maximum number of results that the step can return. When you create a <code>grain</code> step, by default, Analytics sets <code>limit</code> to 100. To return more results, set the <code>limit</code> attribute accordingly. The higher you increase the limit, the longer the query takes. When a limit isn't set, CRM Analytics returns up to 10,000 results.</p> <p> Note: Limit only impacts the number of records returned for display. The limit doesn't impact calculations across all records in the dataset. For instance, a query groups by Account Name and there are one million Account Names in a dataset. When the limit is 20, CRM Analytics returns 20 records for display. But the summary row provides a total for the one million records.</p> <pre> "steps": { "lens_1": { "type": "grain", "visualizationParameters": { "visualizationType": "valuestable", "options": {} }, }, "query": { "values": ["Case.IsEscalated", "AccountId", "StageName", "ForecastCategory", "IsClosed", "Amount"] } } </pre>

Field Name	Description
------------	-------------

```

    ],
    "limit": 500
  },
  "isFacet": true,
  "useGlobal": true,
  "isGlobal": false,
  "label": "",
  "datasets": [
    {
      "name": "ServiceOpportunity16",
      "url":
"/services/data/v39.0/wave/datasets/0FbB00000000kOSKAY",
      "id": "0FbB00000000kOSKAY"
    }
  ]
}
},

```

For more information SAQL queries, see the [Analytics SAQL Developer Guide](#).

type	Step type. Set to <code>grain</code> .
useGlobal	Indicates whether to apply global filters to this step (<code>true</code>) or not (<code>false</code>).
visualizationParameters	Visualization details about the step. For more information, see visualizationParameters Properties .

Example: grain Step

```

"lens_1": {
  "type": "grain",
  "visualizationParameters": {
    "visualizationType": "valuestable",
    "options": {
      "totals": true
    }
  },
  "query": {
    "filters": [
      [
        "Amount",
        [
          1000000,
          7780844
        ],
        ">=<="
      ]
    ],
    "values": [
      "AccountId",
      "ForecastCategory",
      "CloseDate",

```


```



    "Amount",
    "Account.Name",
    "StageName"
  ]
},
"isFacet": true,
"useGlobal": true,
"isGlobal": false,
"label": "",
"datasets": [
  {
    "name": "ServiceOpportunity3",
    "url": "/services/data/v39.0/wave/datasets/0FbR0000000012uKAA",
    "id": "0FbR0000000012uKAA"
  }
]
}

```

saql Step Type Properties

Use the `saql` step type for special cases when querying a Analytics dataset. With this step type, you can write a custom SAQL query to create derived fields in a values table. You can specify dimensions without groupings. Also, you can bind the dataset name or entire query. For example, you can bind this step type to a static step that provides different SAQL queries or datasets based on a selection.

Field Name	Description
<code>type</code>	Step type. Set to <code>saql</code> .
<code>label</code>	Step label, which is primarily used for display in the dashboard designer user interface.
<code>query</code>	<p>The SAQL query used to retrieve results. For more information about SAQL queries, see Analytics SAQL Developer Guide.</p> <p>When you create a <code>saql</code>-type step, by default, no <code>limit</code> is set in the query. When a limit isn't set, a step can return up to 10,000 results. To return more results, set the <code>limit</code> attribute accordingly. The higher you increase the limit, the longer the query takes.</p> <p> Note: Limit only impacts the number of records returned for display. The limit doesn't impact calculations across all records in the dataset. For instance, a query groups by Account Name and there are one million Account Names in a dataset. When the limit is 20, Analytics returns 20 records for display. But the summary row provides a total for the one million records.</p> <p>You can bind a <code>saql</code> step type to dynamically set the dataset used in the query or change the entire query based on a selection in another step. For example, you can create a toggle based on a static step that allows the dashboard viewer to select a query. Each toggle option contains a valid SAQL query. Each query can be based on different datasets. (See the JSON example at the end of this section.)</p>
<code>broadcastFacet</code>	Controls whether the step's selections are broadcasted as facets. Faceting is when a selection in a widget filters other steps in the dashboard. Default is <code>true</code> .

Field Name	Description
receiveFacetSource	Controls whether the step in the receiving query listens for broadcasted facets and applies them as filters. The mode can be "all", "none", "include", or "exclude". Use steps to list which steps to include or exclude. Default is all.
useGlobal	Indicates whether to apply global filters to this step (true) or not (false). If the step is in SAQL form, you must also set autoFilter to true to apply the global filters. By default, the global filter widget filters compact-form steps only.
selectMode	Determines the selection interaction. The options for charts are: none, single, and singlerequired. The options for list, range, and toggle selectors are: single, singlerequired, multi, and multirequired.  Note: selectMode doesn't apply to number, values table, compare table, date, and global filter widgets.
start	The initial selections that are applied to the step when the dashboard first opens.  Note: A widget with a saql-type step can return up to 10,000 results, by default. If Analytics doesn't find the initial value in those results, it ignores this setting. Single-selection example: <pre>"start": ["06 - Proposal/Price Quote"]</pre> Multi-selection example: <pre>"start": ["06 - Proposal/Price Quote", "01 - Prospecting"]</pre>
strings	Flags the specified fields as non-grouping dimensions. For example, you can flag a field as a dimension for a values table in which no groupings are allowed. If you use a binding to determine the field, specify the binding here as well.
numbers	Flags the specified fields as measures. If you use a binding to determine the field, specify the binding here as well.
groups	Flags the specified fields as groupings. For example, you can flag a field as a grouping for a pivot table or chart. If you use a binding to determine the field, specify the binding here as well.

Example: saql Step

```

"steps": {
  "Amount_1": {
    "type": "saql",
    "query": "q = load \"DTC_Opportunity_SAMPLE\";\nq = group q by
'Account_Name';\nq = foreach q generate 'Account_Name' as 'Account_Name', count() as
'count';\nq = order q by 'Account_Name' desc;\nq = limit q 1000;",
    "useGlobal": true,
    "numbers": [],
    "groups": [],
  }
}

```

```

"strings": [],
"visualizationParameters": {
  "type": "chart",
  "parameters": {
    "visualizationType": "hbar",
    "autoFitMode": "keepLabels",
    "theme": "wave",
    "title": {
      "label": "",
      "fontSize": 14,
      "subtitleLabel": "",
      "subtitleFontSize": 11,
      "align": "center"
    },
    "showValues": true,
    "axisMode": "multi",
    "binValues": false,
    "bins": {
      "breakpoints": {
        "low": 0,
        "high": 100
      },
      "bands": {
        "low": {
          "label": "",
          "color": "#B22222"
        },
        "medium": {
          "label": "",
          "color": "#ffa500"
        },
        "high": {
          "label": "",
          "color": "#008000"
        }
      }
    }
  },
  "dimensionAxis": {
    "showAxis": true,
    "showTitle": true,
    "title": "",
    "customSize": "auto",
    "icons": {
      "useIcons": false,
      "iconProps": {
        "column": "",
        "fit": "cover",
        "type": "round"
      }
    }
  },
  "measureAxis1": {
    "sqrtScale": false,
    "showAxis": true,

```

```

        "customDomain": {
            "showDomain": false
        },
        "showTitle": true,
        "title": ""
    },
    "measureAxis2": {
        "sqrtScale": false,
        "showAxis": true,
        "customDomain": {
            "showDomain": false
        },
        "showTitle": true,
        "title": ""
    },
    "legend": {
        "show": true,
        "showHeader": true,
        "inside": false,
        "descOrder": false,
        "position": "right-top",
        "customSize": "auto"
    },
    "tooltip": {
        "customizeTooltip": false,
        "showDimensions": true,
        "dimensions": "",
        "showMeasures": true,
        "measures": "",
        "showPercentage": true,
        "showNullValues": true,
        "showBinLabel": true
    },
    "trellis": {
        "enable": false,
        "showGridLines": true,
        "flipLabels": false,
        "type": "x",
        "chartsPerLine": 4,
        "size": [
            100,
            100
        ]
    },
    "applyConditionalFormatting": true,
    "showActionMenu": true
}
},
"label": "Amount_1",
"selectMode": "single",
"broadcastFacet": true,
"receiveFacetSource": {
    "mode": "all",
    "steps": []
}

```

```

    },
    }
  }
}

```

Example: `soql` Step with a Bound Query


```
"query": "{cell(static_1.selection, 0, \"query\").asString()}"
```

The `static_1` step looks like this:

```

values: [
  {query: "q = load \"opp\"; ..."}
  {query: "q = load \"account\"; ..."}
]


```


 **Tip:** Every dataset referenced in a binding of a `soql` step must be referenced by another step in the dashboard. If not, Analytics removes the dataset from the `datasets` attribute in the dashboard JSON. As a result, widgets based on the `soql` step display an error because it can't find the dataset.

soql Step Type Properties

Use to directly query Salesforce objects—both standard and custom—to get Salesforce data that's not available in datasets. You can also query external objects created with an OData adapter for Salesforce Connect. To view the results in the dashboard, the user viewing the dashboard must have access to the object and fields queried by the `soql` step. The SOQL query returns only records to which the user has access.

For more information about using Salesforce Connect to access external data, see the [Salesforce Connect](#) Salesforce Help.

Field Name	Description
<code>type</code>	Step type. Set to <code>soql</code> .
<code>label</code>	Step label, which is primarily used for display in the dashboard designer user interface.
<code>query</code>	<p>The SOQL query used to retrieve results from a Salesforce object. Because Salesforce—not Analytics—executes the query, the maximum number of returned results depends on the SOQL query limit. For more information about SOQL queries, see SOQL and SOSL Reference.</p> <p> Note: Every field listed in your SOQL query must be listed in one of the metadata properties: <code>strings</code>, <code>numbers</code>, or <code>groups</code>.</p>
<code>strings</code>	Flags the specified fields as non-grouping dimensions. For example, you can flag a field as a dimension for a values table in which no groupings are allowed. If you use a binding to determine the field, specify the binding here as well.
<code>numbers</code>	Flags the specified fields as measures. If you use a binding to determine the field, specify the binding here as well.
<code>groups</code>	Flags the specified fields as groupings. For example, you can flag a field as a grouping for a pivot table or chart. If you use a binding to determine the field, specify the binding here as well.

 **Note:** This step type doesn't support faceting. If needed, you can use a binding to filter other steps based on a selection in a `soql` step.

 **Example: `soql` Step**

```
"soql": {
  "type": "soql",
  "query": "SELECT Name from ACCOUNT",
  "strings": ["Name"],
  "numbers": [],
  "groups": [],
  "selectMode": "single"
}
```

 **Example: Total Number of Active Salesforce Users**

The following query gets the total number of active users from the Salesforce User object. In this example, we name the count expression as `foo` and then reference it by name in the `numbers` parameter.

```
"soql": {
  "type": "soql",
  "query": "SELECT count(id) foo FROM User u WHERE u.IsActive = true",
  "strings": [],
  "numbers": ["foo"],
  "groups": [],
  "selectMode": "single"
}
```

If you don't name the count expression, the query produces an `expr0` field that you can use in the `numbers` parameter.

```
"soql": {
  "type": "soql",
  "query": "SELECT count(id) FROM User u WHERE u.IsActive = true",
  "strings": [],
  "numbers": [ "expr0" ],
  "groups": [],
  "selectMode": "single"
}
```

source Step Type Properties

Use the `sources` property to add `columns`, `groups`, `filters`, and formulas to a step query.

Field Name	Description
<code>columns</code>	The columns for the source. For more information, see columns Properties .
<code>groups</code>	The dimensions to group the data in the source.
<code>filters</code>	The filters applied to the columns in the source. For more information, see filters Properties .
<code>name</code>	The name of the data source. If the query has formula columns, they're added as the last source without the <code>name</code> property.

Field Name	Description
cogroupType	When there are multiple data sources with different <code>name</code> properties, this parameter is used to define which records are included in the blended data for this query. Valid values for <code>cogroupType</code> are <code>left</code> , <code>right</code> , <code>inner</code> , <code>full</code> . For <code>left</code> and <code>right</code> blends, the initial dataset or blend is considered the left one. For more information on data blending, see Explore Multiple Datasets with a Single Query .

Example: Grain Query

```
"sources": [
  {
    "columns": [
      {
        "field": "Customer_Name",
        "name": "Customer_Name"
      },
      {
        "field": "Customer_Segment",
        "name": "Customer_Segment"
      },
      {
        "field": "Product_Name",
        "name": "Product_Name"
      },
      {
        "field": "City",
        "name": "City"
      },
      {
        "field": "Order_ID",
        "name": "Order_ID"
      }
    ],
    "groups": [],
    "filters": [],
    "name": "SuperStoreSales"
  }
]
```

Example: Query without groupings

When a query isn't grouped by a dimension, set `groups` to `["all"]`

```
"sources": [
  {
    "columns": [
      {
        "field": ["sum", "Amount"]
        "name": "A"
      }
    ],
    "groups": ["all"],
    "filters": [],
  }
]
```



```

    "name": "SuperStoreSales"
  }
]

```

Example: Query with groupings

```

"sources": [
  {
    "columns": [
      {
        "field": ["sum", "Amount"]
        "name": "A"
      },
    ],
    "groups": ["Customer_Segment", "Order_priority"],
    "filters": [],
    "name": "SuperStoreSales"
  }
]

```

Example: Query with formula column

```

"sources": [
  {
    "columns": [
      {
        "field": ["sum", "Amount"]
        "name": "A"
      },
      {
        "formula": "case \nwhen starts_with('Product_Container', \"Small|\") then
null\nelse count()\nend\n",
        "name": "B"
      }
    ],
    "filters": [],
    "groups": [
      "Order_Priority",
      "Product_Container"
    ],
    "name": "SuperStoreSales"
  }
]

```

Example: Query with columns referencing formulas

Formula columns are defined in a separate source without a name property.

```

"sources": [
  {
    "columns": [
      {
        "field": ["sum", "Amount"]
        "name": "A"
      }
    ]
  }
]

```

```

    }
  ],
  "groups": ["Customer_Segment", "Order_Priority"],
  "filters": [],
  "name": "SuperStoreSales"
},
{
  "columns": [
    {
      "formula": "A*2",
      "name": "B"
    },
    {
      "formula": "B/100",
      "name": "C"
    }
  ]
}
]

```

 **Example: Query with multiple data sources**


```

"sources": [
  {
    "columns": [
      {
        "field": ["avg", "Profit"]
        "name": "A"
      }
    ],
    "groups": ["City"],
    "filters": [],
    "name": "SuperStoreSales",
    "cogroupType": "left"
  },
  {
    "columns": [
      {
        "field": ["sum", "Amount"],
        "name": "B"
      }
    ],
    "groups": ["City"],
    "filters": [],
    "name": "Opportunity"
  }
]

```

staticflex Step Type Properties

Use the `staticflex` step type to manually define your own set of data. For example, you can use this step to populate a list of static values in a toggle or list widget. It can also be used to provide values to a binding. For example, it can provide possible filters, groups, measures, sort order, and limits.

Field Name	Description
<code>type</code>	Step type. Set to <code>staticflex</code> .
<code>label</code>	Step label, which is primarily used for display in the dashboard designer user interface.
<code>values</code>	<p>Values for the static step. You can have multiple fields for each static value, where each field provides different information about the value, like a label, measurement, or range. When the static step is associated with a widget, the widget uses the first specified field as the display label. You can use other fields to specify values or ranges that you can use to facet or bind steps. For more information about binding a static step to another step, see the Analytics Bindings Developer Guide. For more information about faceting a static step with another data source, see Configure Cross-Dataset Faceting with Connected Data Sources.</p> <p>If you use the static step wizard to create the step, the step contains the following default fields: <code>display</code> and <code>value</code>, as shown in the JSON example. You can change these arbitrary field names and add more fields.</p> <p>The values in each field must have the same datatype, like numbers, strings, or arrays. For instance, if a row has <code>"value": "123"</code>, another row can't have <code>"value": [123]</code>.</p>
<code>broadcastFacet</code>	<p>Controls whether the step's selections are broadcasted as facets. Faceting is when a selection in a widget filters other steps in the dashboard. Default is <code>true</code>.</p> <p>To enable this step to broadcast facets, set this property to <code>true</code> and connect this step with another data source. This step type can't receive facets.</p>
<code>isGlobal</code>	Not applicable. You can only apply this property on steps that are connected to a global filter widget—all other steps ignore this property.
<code>useGlobal</code>	Indicates whether to apply global filters to this step (<code>true</code>) or not (<code>false</code>).
<code>selectMode</code>	<p>Determines the selection interaction. The options for charts are: <code>none</code>, <code>single</code>, and <code>singlerequired</code>. The options for list, range, and toggle selectors are: <code>single</code>, <code>singlerequired</code>, <code>multi</code>, and <code>multirequired</code>.</p> <p> Note: <code>selectMode</code> doesn't apply to number, values table, compare table, date, and global filter widgets.</p>
<code>start</code>	<p>The initial selections that are applied to the step when the dashboard first opens.</p> <p>Static example that sets an initial selection in a dashboard:</p> <pre> "start": { "display": ["Atlanta"] } </pre>

Field Name	Description
	<p>Binding example that selects the logged in user manager ID in a dashboard :</p> <pre>"start": { "display" : "{{column (LoggedinUserInfo_1.result, [\"ManagerId\"]).asObject() }}" }</pre>

Example: **staticflex Step**

```
"my_opps_1": {
  "numbers": [],
  "strings": [],
  "groups": [],
  "broadcastFacet": true,
  "selectMode": "single",
  "datasets": [],
  "dimensions": [],
  "type": "staticflex",
  "label": "my opps",
  "values": [
    {
      "display": "All opps",
      "value": "false"
    },
    {
      "display": "My opps",
      "value": "true"
    }
  ]
}
```

visualizationParameters Properties

The `visualizationParameters` key contains chart properties defined for the step. When you associate the step with a widget, the widget properties override these settings.

Field Name	Description
<code>options</code>	Specifies chart properties for steps added or clipped to the designer. CRM Analytics overrides these options when they are defined in the widget parameters. For more information about chart properties, see Visualizing Data With Charts .
<code>visualizationType</code>	<p>Specifies the chart type. You can override the chart type at the widget level.</p> <p>Valid values for <code>visualizationType</code> are:</p> <ul style="list-style-type: none"> • <code>calheatmap</code>— calendar heat map • <code>choropleth</code> — choropleth (map) • <code>combo</code> — lines and bars to show multiple metrics

Field Name	Description
	<ul style="list-style-type: none"> • <code>flatgauge</code> — flat gauge • <code>funnel</code> — funnel • <code>hbar</code> — horizontal bar • <code>hdot</code> — horizontal dot plot • <code>heatmap</code> — heat map • <code>matrix</code> — matrix • <code>parallelcoords</code> — parallel coordinates • <code>pie</code> — donut • <code>pivottable</code> — pivot table • <code>polargauge</code> — polar gauge • <code>pyramid</code> — pyramid • <code>rating</code> — rating • <code>scatter</code> — scatter plot • <code>stackhbar</code> — stacked horizontal bar • <code>stackpyramid</code> — stacked pyramid • <code>stackvbar</code> — stacked vertical bar • <code>stackwaterfall</code> — stacked waterfall • <code>time</code> — timeline • <code>time-bar</code> — time bar • <code>time-combo</code> — time bar • <code>vbar</code> — vertical bar • <code>vdot</code> — vertical dot plot • <code>waterfall</code> — waterfall

filters Properties


Use the `filters` property to add a filter to a step query. Although you can create filters for query steps in the user interface, you have to manually define filters for static steps in the dashboard JSON.

The syntax for a filter in the step definition varies based on whether the step is in compact or SAQL form. This section describes the filter syntax for compact-form steps, including a description and example of every operator. For information about the filters for SAQL-form steps, see the [Analytics SAQL Developer Guide](#).

Filter Syntax for Compact Form 2.0

Filters defined in compact-form steps have the following syntax.

```
"filters": [[
  "field",
  [value],
  "operator"
]]
```

-  **Example:** For example, the following filter shows only records where Sales is between 1 and 100,000 and Customer_Segment is either Consumer or Corporate.

```
"filters": [
  [
    "Sales",
    [
      1,
      100000
    ],
    ">=<="
  ],
  [
    "Customer_Segment",
    [
      "Consumer"
      "Corporate"
    ],
    "in"
  ]
]
```

-  **Example:** Examples of dimension filters

```
"filters": [Region, ["East", "West"], "in"]
"filters": [Region, ["st"], "matches"]
"filters": [Region, [], "isnull"]
"filters": [{"year", "OrderDate"}, [2020, 2022], "in"]
```

-  **Example:** Examples of measure filters


```
"filters": ["Profit", [], "isnull"]
"filters": ["Profit", [1], ">="]
"filters": ["Profit", [1, 100], ">=<="]
```

-  **Example:** Examples of absolute date filters

```
"filters": ["OrderDate", ["2019-10-12", "2019-10-22"], "between"]
"filters": ["OrderDate", ["2019-10-12", null], "between"]
"filters": ["OrderDate", [null, "2019-10-22"], "between"]
```

-  **Example:** Example of a relative date filter

```
"filters": ["OrderDate", [{"fiscal_year", -1}, {"day", 0}], "between"]
```

-  **Example:** Example of a compound filter and a compound date filter in a time-zone enabled org

```
"filters": [
  [
    [
```

```

        "Type",
        "LeadSource"
    ],
    [
        "Existing Business",
        "Advertisement"
    ],
    "in"
]
[
  [
    ["year", "CloseDate"],
    ["quarter", "CloseDate"]
  ],
  [
    [2020, 2],
    [2021, 3]
  ],
  "in"
]
]

```

Filter Syntax for Compact Form 1.0

Filters defined in compact-form steps have the following syntax.

```

"filters": [[
  "field",
  [value],
  "operator"
]]

```

For example, the following filter shows only records with a “Customer” account type.

```

"filters": [[
  "Account_Type",
  ["Customer"],
  "in"
]]

```

To compare against multiple values, include the values in an array, like this.

```

"filters": [[
  "field",
  [[value1, value2, value3]],
  "operator"
]]

```

To specify an absolute date value for a date filter, specify the value in epoch format, where the value is the number of milliseconds since January 1, 1970 midnight UTC (1970-01-01 00:00:00). The following example shows dataset rows with a close date on or before January 1, 2016.

```

"filters": [[
  "Close Date",


```

```
[[
  [
    1451606400000,
    null
  ],
  ">="
]]
```

Operators

You can use different operators in a filter. The supported operators depend on the field type. If you don't specify the operator, Analytics applies the == operator.

Operator	Description	Compact-Form 2.0 Example	Compact-Form 1.0 Example
in	Value of dataset field equals one of the specified values. Applies to dimensions only.	["Dimension", ["Value", "Value2"], "in"]	["Dimension", ["Value", "Value2"], "in"]
not in	Value of dataset field is not in the specified list of values. Applies to dimensions only.	["Dimension", ["Value", "Value2"], "notin"]	["Dimension", ["Value", "Value2"], "notin"]
matches	Value of dataset field contains the specified value. This operator is not case-sensitive. Applies to dimensions only.	["Dimension", ["Val"], "matches"]	["Dimension", ["Val"], "matches"]
is null	Value of dataset field is null. Applies to measures, dimensions and absolute dates in Compact form 2.0 and to measures only in Compact form 1.0.	["Measure", [], "isnull"]	["Measure", [], "isnull"]
is not null	Value of dataset field is not null. Applies to measures, dimensions and absolute dates in Compact form 2.0 and to measures only in Compact form 1.0.	["Measure", [], "isnotnull"]	["Measure", [], "isnotnull"]
==	Value of dataset field equals the specified value. Applies to measures only.	["Measure", [1], "=="]	["Measure", [1], "=="]

Operator	Description	Compact-Form 2.0 Example	Compact-Form 1.0 Example
!=	Value of dataset field does not equal the specified value. Applies to measures only.	<code>["Measure", [1], "!="]</code>	<code>["Measure", [[1]], "!="]</code>
<	Value of dataset field is less than the specified value. Applies to measures only.	<code>["Measure", [10], "<"]</code>	<code>["Measure", [[10]], "<"]</code>
>	Value of dataset field is greater than the specified value. Applies to measures only.	<code>["Measure", [1], ">"]</code>	<code>["Measure", [[1]], ">"]</code>
<=	Value of dataset field is less than or equal to the specified value. Applies to measures only in Compact form 2.0 and to measures and absolute dates only in Compact form 1.0.	<code>["Measure", [10], "<="]</code>	<ul style="list-style-type: none"> <code>["Measure", [[10]], "<="]</code> <code>["Date", [[2304000000]], "<="]</code>
>=	Value of dataset field is greater than or equal to the specified value. Applies to measures only in Compact form 2.0 and to measures and absolute dates only in Compact form 1.0.	<code>["Measure", [1], ">="]</code>	<ul style="list-style-type: none"> <code>["Measure", [[1]], ">="]</code> <code>["Date", [[-3745600000]], ">="]</code>
>=<= or between with measures and dates in Compact form 1.0	Value of dataset field is between the specified values, inclusive. For relative dates, you can specify the following time periods: "year", "quarter", "month", "week", and "day". Applies to measures only in Compact form 2.0 and measures and dates only in Compact form 1.0.  Note: You can also use these operators with	<code>["Measure", [1,10], ">=<="]</code>	<ul style="list-style-type: none"> <code>["Measure", [[1,10]], ">=<="]</code> <code>["Date", [[-3745600, 2304000000]], ">=<="]</code> <code>["Date", [{"Hot": 1}, {"Hot": 10}], ">=<="]</code> <code>["Close Date", [nil, 14516600000], "<="]</code>

Operator	Description	Compact-Form 2.0 Example	Compact-Form 1.0 Example
	<p>measures in Compact form 2.0 and measures and dates in Compact form 1.0:</p> <p>>=< Greater than or equal to one value, but less than another.</p> <p>><= Greater than one value, but less than or equal to another.</p> <p>>< Between two values, exclusive.</p>		
between with dates in Compact form 2.0	Value of dataset field is between the specified values, inclusive. For relative dates, you can specify the following time periods: "year", "quarter", "month", "week", and "day".	<ul style="list-style-type: none"> ["Date", [null, 1388448000000], "between"] ["Date", [1388448000000, null], "between"] ["Date", [{"year", -1}, {"year", 1}], "between"] 	

To view a complete example with a binding syntax, see the [Bind the Initial Filter Selection](#) documentation.

widgets JSON

The `widgets` section defines the widgets that appear in the dashboard. Each widget has a name.

 Example:

```

"widgets": {
  "text_1": {
    "parameters": {
      "fontSize": 20,
      "text": "Grouping",
      "textAlignment": "center",
      "textColor": "#091A3E"
    },
    "type": "text"
  },
  "pillbox_1": {
    "parameters": {
      "compact": false,
      "exploreLink": false,
      "step": "StaticSQLMinRanges"
    },
    "type": "pillbox"
  },
  "chart_1": {
    "parameters": {
      "autoFitMode": "fit",
      "showValues": true,
      "legend": {
        "showHeader": true,
        "show": true,
        "position": "right-top",
        "inside": false
      },
      "axisMode": "multi",
      "visualizationType": "hbar",
      "exploreLink": true,
      "title": {
        "label": "",
        "align": "center",
        "subtitleLabel": ""
      },
      "trellis": {
        "enable": false,
        "type": "x",
        "chartsPerLine": 4
      },
      "measureAxis2": {
        "showTitle": true,
        "showAxis": true,
        "title": ""
      },
      "measureAxis1": {
        "showTitle": true,
        "showAxis": true,
        "title": ""
      },
      "theme": "wave",
      "step": "Account_BillingCount_1",

```

```

    "dimensionAxis": {
      "showTitle": true,
      "showAxis": true,
      "title": ""
    }
  },
  "type": "chart"
}

```

widget Properties

The `widgets` key defines all widgets that are available in the dashboard. It contains a separate node for each widget. Each widget appears in all layouts to which it's added. The properties available for each widget depend on the widget type. For example, a chart widget has the `legend` property, but a text widget doesn't.

widget Properties

The `widgets` key defines all widgets that are available in the dashboard. It contains a separate node for each widget. Each widget appears in all layouts to which it's added. The properties available for each widget depend on the widget type. For example, a chart widget has the `legend` property, but a text widget doesn't.

Property Name	Description
<code>parameters</code>	Widget parameters vary depending on the type of widget and, if applicable, type of chart. The <code>step</code> element defines the step attached to a widget. For detailed information about different widget parameters, see parameters Properties .
<code>type</code>	The widget type specifies one of the other supported widget types. The value of this field must be a string. <ul style="list-style-type: none"> • <code>chart</code> • <code>comparable</code> • <code>container</code> • <code>dateselector</code> • <code>globalfilters</code> • <code>filterpanel</code> • <code>image</code> • <code>link</code> • <code>listselector</code> • <code>number</code> • <code>pillbox</code> • <code>rangeselector</code> • <code>table</code> • <code>text</code> • <code>valuestable</code>

[parameters Properties](#)

The `parameters` key contains a list of properties that control the appearance of the widget. Each widget type, including each chart type, contains a unique set of properties.

parameters Properties

The `parameters` key contains a list of properties that control the appearance of the widget. Each widget type, including each chart type, contains a unique set of properties.


-  **Note:** You can dynamically set properties for number and chart widgets in CRM Analytics dashboards based on the selection or results of another step. For example, you can change the map type in a chart based on a selection in a toggle widget. For more information, see the [Analytics Bindings Developer Guide](#).

Chart widgets have many properties that vary based on the chart type. For chart-specific properties for CRM Analytics dashboards, see [Visualizing Data with Charts](#).

The widget properties set in the `parameters` property are:

Property Name	Details
<code>absoluteModeEnabled</code>	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>dateselector</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Show absolute dates in the date widget when users view the dashboard. <code>true</code>, by default. Default is <code>true</code>.</p>
<code>alignmentX</code>	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>image</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates the horizontal alignment of the image in the widget. Valid values are: <code>left</code> (default), <code>center</code>, and <code>right</code>.</p>
<code>alignmentX</code>	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>image</code>

Property Name	Details
	<p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates the horizontal alignment of the image in the widget. Valid values are: <code>left</code> (default), <code>center</code>, and <code>right</code>.</p>
<code>alignmentY</code>	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>image</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates the vertical alignment of the image in the widget. Valid values are: <code>top</code> (default), <code>center</code>, and <code>bottom</code>.</p>
<code>calendarTypeSwitchingAllowed</code>	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>dateselector</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether the dashboard viewer can switch between the fiscal and calendar year in the date widget. Default is <code>false</code>.</p>
<code>columns</code>	<p>Type Array</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>chart</code> <code>table</code> <p>Exposed in the Dashboard Designer's User Interface Yes (for <code>aggregateflex</code> and <code>sql</code> step types only)</p> <p>Description List of API names of step fields to include in the widget. Use this property to include specific fields in the widget or to change the field order for the widget. This property appears when you reorder or hide a field while editing a widget that's based an <code>aggregateflex</code> (for a compare table) or a <code>sql</code> step type. To specify the fields</p>

Property Name	Details
	<p>or change their order for widgets based on other step types, you have to manually add and set this property in the JSON.</p> <p>Example: A step returns data in the following fields: Id, Name, Amount, and Profit. To hide the Id and Profit fields from the chart widget (chart_2), set the "columns" property.</p> <pre data-bbox="646 424 1445 743"> "chart_2": { "parameters": { "columns": ["Name", "Amount"], "visualizationType": "hbar", "step": "Amount_Prob_1", ... }, "type": "chart", } </pre>
compact	<p>Type Boolean</p> <p>Available for These Widgets</p> <ul data-bbox="646 919 863 1033" style="list-style-type: none"> • listselector • number • pillbox <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether displayed numbers are abbreviated (<code>true</code>) or not (<code>false</code>). For example, if <code>true</code>, the number 48,081 appears as 48k. Although the number appears to be rounded, it is not. The value 48,081 is preserved in charts and when performing calculations. If <code>false</code>, then 48,081 appears as 48,081. For number widgets, shortened numbers are rounded to the nearest 10th. Default is <code>false</code>.</p>
computeTotal	<p>Type Boolean</p> <p>Available for These Widgets</p> <ul data-bbox="646 1570 1432 1633" style="list-style-type: none"> • chart (only when <code>visualizationType</code> is <code>stackwaterfall</code> and <code>waterfall</code>) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether to include the total measure column (<code>true</code>) or not (<code>false</code>). Default is <code>true</code>.</p>

Property Name	Details
containedWidgets	<p>Type List</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • container <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description A list of all widgets inside the container widget.</p> <p>Example This example shows 2 widgets (meafilter_1 and chart_1) included in the container widget (container_1).</p> <pre> "container_1": { "type": "container", "position": { "x": 0, "y": 0 }, "parameters": { "containedWidgets": ["meafilter_1", "chart_1"] } } </pre>
customBulkActions	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • table <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Specifies the following details about custom bulk action.</p> <p>label Display label for the button in the table widget's action menu. The dashboard viewer clicks the button to execute the action.</p> <p>visualforce The name and namespace prefix of the Visualforce page that defines the bulk action. Namespace prefix is optional.</p> <p>Example</p> <pre> "customBulkActions": [</pre>

Property Name	Details
	<pre data-bbox="646 260 1445 583"> { "label": "Generate Opportunities", "visualforce": { "name": "VF_Create_Opportunities", "namespace": "Prefix" } }]</pre>
defaultFiscalMode	<p data-bbox="604 625 659 659">Type</p> <p data-bbox="643 663 724 697">Boolean</p> <p data-bbox="604 709 873 743">Available for This Widget</p> <ul data-bbox="643 756 863 789" style="list-style-type: none"> <li data-bbox="643 756 863 789">• <code>dateselector</code> <p data-bbox="604 802 1153 835">Exposed in the Dashboard Designer's User Interface</p> <p data-bbox="643 840 678 873">Yes</p> <p data-bbox="604 886 730 919">Description</p> <p data-bbox="643 932 1442 995">Indicates whether the date widget displays dates using the fiscal year, by default. If not, then it uses the calendar year.</p> <p data-bbox="643 1008 824 1041">Default is <code>false</code>.</p>
destination	<p data-bbox="604 1087 659 1121">Type</p> <p data-bbox="643 1125 701 1159">String</p> <p data-bbox="604 1171 873 1205">Available for This Widget</p> <ul data-bbox="643 1218 743 1251" style="list-style-type: none"> <li data-bbox="643 1218 743 1251">• <code>link</code> <p data-bbox="604 1264 1153 1297">Exposed in the Dashboard Designer's User Interface</p> <p data-bbox="643 1302 678 1335">Yes</p> <p data-bbox="604 1348 730 1381">Description</p> <p data-bbox="643 1386 1065 1419">The ID of the dashboard, lens, step, or page.</p> <p data-bbox="643 1432 782 1465">Default is <code>null</code>.</p>
destinationLink	<p data-bbox="604 1507 659 1541">Type</p> <p data-bbox="643 1545 701 1579">String</p> <p data-bbox="604 1591 873 1625">Available for This Widget</p> <ul data-bbox="643 1638 743 1671" style="list-style-type: none"> <li data-bbox="643 1638 743 1671">• <code>link</code> <p data-bbox="604 1684 1153 1717">Exposed in the Dashboard Designer's User Interface</p> <p data-bbox="643 1722 678 1755">Yes</p> <p data-bbox="604 1768 730 1801">Description</p> <p data-bbox="643 1806 1429 1869">The object to which you are linking. One of the following properties identifies the linked object.</p>

Property Name	Details
	<p>name The ID of the dashboard, lens, step, or page. Default is null.</p> <p>url The URL that the link points to.</p> <p>tooltip The tooltip that displays when you hover over a link to a URL.</p>
destinationType	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • link <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The destination type of a link. Possible values are:</p> <ul style="list-style-type: none"> • dashboard — a dashboard • explore — a step • lens — a lens • page — a page • url — a website <p>Default is lens.</p>
displayTemplate	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • listselector • pillbox <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Specifies the string of grouping and measure fields to display in the widget. Fields must be enclosed in square brackets. By default, all groupings are included.</p> <p>Example This example displays the value for the Account.Type dimension, Account.BillingCountry dimension, and Amount measure.</p> <pre>"displayTemplate": "[Account.Type] - [Account.BillingCountry] ([avg_Amount])"</pre>

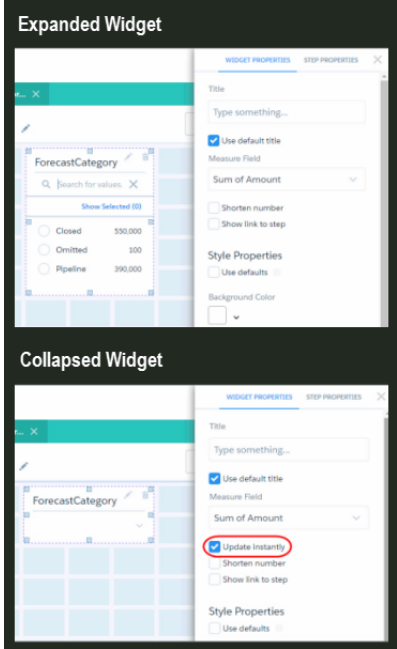
Property Name	Details
documentId	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • image <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description</p> <p>The 15-character document Id of the image file that you want to apply as the background. To ensure security, the image file must be uploaded to Salesforce as a document and the Externally Available Image option must be selected. If this option is not selected or the referenced document is not an image, the image doesn't show up in the widget. Default is null.</p> <p>Example</p> <p>This example image widget (image_1) displays an image with ID 015R0000000DC1P.</p> <pre> "image_1": { "type": "image", "parameters": { "documentId": "015R0000000DC1P", "fit": "stretch", "alignmentX": "center", "alignmentY": "center" } } </pre>
dualAxis	<p>Type Boolean</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • chart (only when visualizationType is combo) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description</p> <p>Indicates whether to include an axis for each of the two measures (true) or not (false).</p> <p>Default is true.</p>
exploreLink	<p>Type Boolean</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • chart • comparetable

Property Name	Details
	<ul style="list-style-type: none"> • <code>listselector</code> • <code>number</code> • <code>pillbox</code> • <code>valuablestable</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether the widget shows the explore icon that dashboard viewers can click to explore the widget as a lens (<code>true</code>) or not (<code>false</code>). This option only applies to widgets based on steps in compact form. You can't explore widgets that are built on SAQL form steps. Default is <code>true</code>. Mobile devices display the icon, regardless of this setting.</p>
<code>filterItemOptions</code>	<p>Type List</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>filterpanel</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Details about each global filter shown in the global filter panel widget. You can configure the following details, which are also available in the user interface.</p> <p>propertyColor Color of the field name</p> <p>valueColor Color of the field value</p> <p>backgroundColor Color of the filter background</p> <p>borderColor Color of the filter border</p> <p>borderWidth Width of the filter border</p> <p>borderRadius Radius of the filter border</p>
<code>fit</code> (for chart widgets)	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>chart</code> (only when <code>visualizationType</code> is <code>scatter</code>)

Property Name	Details
	<p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether the axis of a chart is in the center of the data (<code>true</code>) or at (0, 0) (<code>false</code>). Default is <code>false</code>.</p>
<code>fit</code> (for image widgets)	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>image</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates how to scale the image. Valid values are: <code>original</code> (default), <code>stretch</code>, <code>tile</code>, <code>fitwidth</code>, and <code>fitheight</code>.</p>
<code>fontSize</code>	<p>Type Integer</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • <code>link</code> • <code>number</code> • <code>text</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The font size of a number or of text. Defaults are:</p> <ul style="list-style-type: none"> • <code>number</code>: 36 • <code>text</code>: 26
<code>hideHeaderColumn</code>	<p>Type Boolean</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • <code>chart</code> • <code>valuestable</code> <p>Exposed in the Dashboard Designer's User Interface No. Only editable via JSON.</p>

Property Name	Details
	<p>Description</p> <p>Indicates whether the first column in a raw data table—which is simply a count of rows—is hidden (<code>true</code>) or not (<code>false</code>).</p> <p>Default is <code>false</code>.</p> <p>This setting doesn't apply when viewing the widget on mobile devices.</p>
image	<p>Type</p> <p>Array</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>container</code> • <code>image</code> <p>Exposed in the Dashboard Designer's User Interface</p> <p>Yes</p> <p>Description</p> <p>Identifies the image using the following properties.</p> <p>name</p> <p>Name of the image.</p> <p>namespace</p> <p>Optional. Namespace of the image. Default is null.</p> <p>Example</p> <pre data-bbox="646 1108 1446 1247">"image": { "name": "My_Corporate_Logo", "namespace": "" }</pre>
includeState	<p>Type</p> <p>Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>link</code> <p>Exposed in the Dashboard Designer's User Interface</p> <p>Yes</p> <p>Description</p> <p>If set to <code>true</code>:</p> <ul style="list-style-type: none"> • CRM Analytics passes selections in chart, list, toggle, range, and date widgets as selections in the linked asset if they apply. For example, you select North America in a list widget based on the Region dataset field. CRM Analytics applies that same selection to faceted queries in the linked dashboard that have a grouping based on the Region field in the same dataset. • CRM Analytics passes global filters as filters to a linked asset as long as the filters apply. CRM Analytics ignores a global filter if the linked asset doesn't use the

Property Name	Details
	<p>dataset that the global filter is defined on. If the global filter is locked and the incoming filter is defined on the same field, CRM Analytics ignores the incoming filter. If it's unlocked, the incoming filter overrides the global filter defined in the dashboard.</p> <p>Default is <code>false</code>.</p>
<p><code>instant</code></p>	<p>Type Boolean</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • <code>dateselector</code> • <code>listselector</code> • <code>rangeselector</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether other faceted widgets immediately update (<code>true</code>) or not (<code>false</code>) when a dashboard viewer makes a selection in this widget.</p> <p>When <code>false</code>, dashboard viewers must click Update for their changes to cascade to faceted widgets. When <code>true</code>, the Update button is hidden.</p> <p>Defaults are:</p> <ul style="list-style-type: none"> • <code>dateselector: false</code> • <code>listselector: true</code> • <code>rangeselector: false</code> <p>For list, range, or date widgets that are expanded in the dashboard designer, this widget property is always enabled. Selections in these widgets instantly update other widgets. While these widgets are expanded, you can't change this setting.</p>

Property Name	Details
	
<p>itemsPerRow</p>	<p>Type Integer</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • filterpanel <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Number of global filters to show per row in the global filter panel. Default is 6.</p>
<p>legend</p>	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • chart (only when visualizationType is hbar, vbar, stackhbar, stackvbar, pie, scatter, time, time-bar, time-combo, hdot, vdot, matrix, calheatmap, heatmap, parallelcoords, stackwaterfall, funnel, or choropleth) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether to display a legend (<code>true</code>), or not (<code>false</code>). Default is <code>false</code> for all chart types, except <code>pivottable</code>. Mobile devices can only display legends for <code>pie</code> widgets.</p>

Property Name	Details
legendHideHeader	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> chart (only when visualizationType is hbar, vbar, stackhbar, stackvbar, pie, scatter, time, time-bar, time-combo, hdot, vdot, matrix, calheatmap, heatmap, stackwaterfall, combo, combo, or parallelcoords) <p>Exposed in the Dashboard Designer's User Interface No. Only editable via JSON.</p> <p>Description Indicates whether the legend has a title (<code>true</code>) or not (<code>false</code>). The title is always the name of the dimension that the legend describes. Default is <code>false</code> for all chart types except <code>pivottable</code>. This setting doesn't apply when viewing the widget on mobile devices.</p>
legendWidth	<p>Type Integer</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> chart (only when visualizationType is hbar, vbar, stackhbar, stackvbar, pie, scatter, time, time-bar, time-combo, hdot, vdot, matrix, calheatmap, heatmap, stackwaterfall, combo, or parallelcoords) <p>Exposed in the Dashboard Designer's User Interface No. Only editable via JSON.</p> <p>Description The width of the legend area in pixels. Default is 145 for all chart types except <code>pivottable</code>. This setting doesn't apply when viewing the widget on mobile devices.</p>
measureField	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> listselector number pillbox <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The mathematical function performed on data. Specify the <code>measureField</code> in this format: <code><formula>_<field></code>.</p>

Property Name	Details
	<p><code><formula></code> must match one of the formulas specified in the <code>measures</code> step property. Possible values for <code><formula></code> are:</p> <ul style="list-style-type: none"> • <code>avg</code> — calculate the mathematical average (mean) • <code>max</code> — the maximum value • <code>min</code> — the minimum value • <code>sum</code> — add all the values • <code>unique</code> — count the number of unique values. For example, use to count the number of unique dimensions. <p>The <code><field></code> paired with the <code><formula></code> must match the field name that is specified in <code>measures</code>.</p> <p>For example, if the <code>measures</code> step property is:</p> <pre data-bbox="649 724 1437 1197"> "measures": [["sum", "Profit"], ["avg", "Discount"], ["count", "ModelNumber"]] </pre> <p>Then <code>measureField</code> must be <code>sum_Profit</code>, <code>avg_Discount</code>, or <code>unique_ModelNumber</code>. The <code>measureField</code> can't be <code>avg_Profit</code> because <code>avg</code> and <code>Profit</code> aren't paired together in the <code>measures</code> step property.</p> <p>Unlike for <code>measures</code>, a count on a dimension in the user interface calculates the number of unique dimension values. As a result, <code>measureField</code> in the underlying JSON shows the <code>unique</code> formula, like <code>unique_<dimension_field_name></code>.</p> <p>Default is null.</p>
multiMetrics	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>chart</code> (only when <code>visualizationType</code> is <code>hbar</code> or <code>vbar</code>) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether two or more measures are displayed as adjacent bars under each grouping (<code>true</code>) or as individual, adjacent graphs (<code>false</code>).</p>

Property Name	Details
	Default is <code>false</code> (available only for bar charts and column charts).
<code>negativeColor</code>	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> <code>chart</code> (only when <code>visualizationType</code> is <code>waterfall</code>) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The color of the measure columns that have decreased in value in the chart. Specify the color in this format: <code>rgb (a, b, c, d)</code>. Using a number between zero and 255, a indicates how much red is in the color, b how much green, and c how much blue. A value of 0 indicates the absence of a color, and a value of 255 indicates the full expression of a color. Using a number between zero and one, d indicates the level of transparency. A value of 0 is invisible and 1 is opaque. For example, <code>rgb (0, 0, 0, 0.93)</code> sets the color to a nearly opaque black. <code>rgb (255, 0, 0, 0.14)</code> sets the color to a nearly invisible red. Alternatively, the color can be set using hexadecimal notation. When using hexadecimal notation, transparency can't be set. All hexadecimal colors default to opaque. <code>#000000</code> indicates black in hexadecimal. <code>#ff0000</code> indicates red.</p>
<code>normalize</code>	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>chart</code> (only when <code>visualizationType</code> is <code>stackhbar</code> or <code>stackvbar</code>) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether charts are displayed using a logarithmic scale (<code>true</code>) or a linear scale (<code>false</code>). Default is <code>false</code> (available only for <code>stackhbar</code> and <code>stackvbar</code>).</p>
<code>numberColor</code>	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> <code>number</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p>

Property Name	Details
	<p>Description</p> <p>The font color of the number.</p> <p>Specify the color in this format: <code>rgb (a, b, c, d)</code>.</p> <p>Using a number between zero and 255, a indicates how much red is in the color, b how much green, and c how much blue. A value of 0 indicates the absence of a color, and a value of 255 indicates the full expression of a color.</p> <p>Using a number between zero and one, d indicates the level of transparency. A value of 0 is invisible and 1 is opaque.</p> <p>For example, <code>rgb (0, 0, 0, 0.93)</code> sets the color to a nearly opaque black. <code>rgb (255, 0, 0, 0.14)</code> sets the color to a nearly invisible red.</p> <p>Alternatively, the color can be set using hexadecimal notation. When using hexadecimal notation, transparency can't be set. All hexadecimal colors default to opaque. <code>#000000</code> indicates black in hexadecimal. <code>#ff0000</code> indicates red.</p> <p>Default is <code>#000</code>.</p>
<code>numberSize</code>	<p>Type</p> <p>Integer</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>number</code> <p>Exposed in the Dashboard Designer's User Interface</p> <p>Yes</p> <p>Description</p> <p>The font size of the number. Default is 26.</p>
<code>pivoted</code>	<p>Type</p> <p>Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>table</code> <p>Exposed in the Dashboard Designer's User Interface</p> <p>Yes</p> <p>Description</p> <p>Indicates whether the table is pivoted. A pivot table requires the underlying step to have at least one grouping. CRM Analytics pivots the table on the last defined grouping. Default is <code>false</code>.</p>
<code>positiveColor</code>	<p>Type</p> <p>String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • <code>chart</code> (only when <code>visualizationType</code> is <code>waterfall</code>)

Property Name	Details
	<p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The color of the measure columns that have increased in value or remained the same in the chart.</p> <p>Specify the color in this format: <code>rgb (a, b, c, d)</code>.</p> <p>Using a number between zero and 255, a indicates how much red is in the color, b how much green, and c how much blue. A value of 0 indicates the absence of a color, and a value of 255 indicates the full expression of a color.</p> <p>Using a number between zero and one, d indicates the level of transparency. A value of 0 is invisible and 1 is opaque.</p> <p>For example, <code>rgb (0, 0, 0, 0.93)</code> sets the color to a nearly opaque black. <code>rgb (255, 0, 0, 0.14)</code> sets the color to a nearly invisible red.</p> <p>Alternatively, the color can be set using hexadecimal notation. When using hexadecimal notation, transparency can't be set. All hexadecimal colors default to opaque. <code>#000000</code> indicates black in hexadecimal. <code>#ff0000</code> indicates red.</p>
<code>presetsEnabled</code>	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>dateselector</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Show preset dates in the date widget when users view the dashboard. <code>true</code>, by default. Default is <code>true</code>.</p>
<code>relativeModeEnabled</code>	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>dateselector</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Show relative dates in the date widget when users view the dashboard. <code>true</code>, by default. Default is <code>true</code>.</p>

Property Name	Details
showValues	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • chart (only when visualizationType is stackwaterfall or waterfall) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether to display the values of each measure column (true) or not (false). Default is true.</p>
splitAxis	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • chart <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether each dimension in a chart is measured on its own axis (true) or a shared axis (false). Only applicable when multiMetrics is true. Default is false (available only for bar charts and column charts). This setting doesn't apply when viewing the widget on mobile devices.</p>
sqrt	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • chart (only when visualizationType is parallelcoords, hdot, vdot, time, time-bar, time-combo, scatter, stackhbar, stackvbar, hbar, stackwaterfall, or vbar) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether charts are displayed using a logarithmic scale (true) or a linear scale (false). Default is false (available only for bar charts, column charts, line charts, and time series). This setting doesn't apply when viewing the widget on mobile devices.</p>

Property Name	Details
startColor	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • chart (only when visualizationType is waterfall) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The color of the first measure column in the chart. Specify the color in this format: <code>rgb (a , b , c , d)</code>. Using a number between zero and 255, a indicates how much red is in the color, b how much green, and c how much blue. A value of 0 indicates the absence of a color, and a value of 255 indicates the full expression of a color. Using a number between zero and one, d indicates the level of transparency. A value of 0 is invisible and 1 is opaque. For example, <code>rgb (0 , 0 , 0 , 0 . 93)</code> sets the color to a nearly opaque black. <code>rgb (255 , 0 , 0 , 0 . 14)</code> sets the color to a nearly invisible red. Alternatively, the color can be set using hexadecimal notation. When using hexadecimal notation, transparency can't be set. All hexadecimal colors default to opaque. <code>#000000</code> indicates black in hexadecimal. <code>#ff0000</code> indicates red.</p>
step	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • chart • comparetable • dateselector • globalfilters • listselector • number • pillbox • rangeselector • valuestable <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The name of the step that supplies data for the widget. Default is null.</p>

Property Name	Details
stretch	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>box</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether an image's width and height are set to the same values of the widget's width and height (<code>true</code>) or not (<code>false</code>). Default is <code>false</code>.</p>
stretchImage	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>container</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether an image's width and height are set to the same values of the widget's width and height (<code>true</code>) or not (<code>false</code>). Default is <code>false</code>.</p>
text	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>link</code> • <code>text</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The message rendered in a text widget. For example, if <code>text</code> is assigned the value <code>"Hello, world!"</code>, then "Hello, World!" appears in the text widget. Default is null.</p>
textAlignment	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>link</code> • <code>number</code>

Property Name	Details
	<ul style="list-style-type: none"> • text <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The alignment of text. Possible values include <code>left</code>, <code>center</code>, and <code>right</code>. If no value is specified, text alignment defaults to center.</p> <p>Defaults are:</p> <ul style="list-style-type: none"> • number: <code>right</code> • text: <code>center</code>
textColor	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • link • text <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The font color of text.</p> <p>Specify the color in this format: <code>rgb (a, b, c, d)</code>.</p> <p>Using a number between zero and 255, a indicates how much red is in the color, b how much green, and c how much blue. A value of 0 indicates the absence of a color, and a value of 255 indicates the full expression of a color.</p> <p>Using a number between zero and one, d indicates the level of transparency. A value of 0 is invisible and 1 is opaque.</p> <p>For example, <code>rgb (0, 0, 0, 0.93)</code> sets the color to a nearly opaque black. <code>rgb (255, 0, 0, 0.14)</code> sets the color to a nearly invisible red.</p> <p>Alternatively, the color can be set using hexadecimal notation. When using hexadecimal notation, transparency can't be set. All hexadecimal colors default to opaque. <code>#000000</code> indicates black in hexadecimal. <code>#ff0000</code> indicates red.</p> <p>Default is <code>#000</code>.</p>
title (For widgets except global filter panel)	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • dateselector • listselector • number • pillbox

Property Name	Details
	<ul style="list-style-type: none"> • rangeselector <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The title of a widget. Default is null.</p>
title (for global filter panel widgets only)	<p>Type List</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • filterpanel <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Details about the title of the global filter panel widget. You can configure the following details, which are also available in the user interface.</p> <p>visible Indicates whether the title is visible when viewing the dashboard</p> <p>text Details about the title: title (<code>label</code>), color of title (<code>color</code>), font size of title (<code>fontSize</code>), and horizontal alignment (<code>align</code>)</p> <p>separatorColor Color of the line that separates the widget title from the global filters</p>
titleColor	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • number <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The font color of the title. Specify the color in this format: <code>rgb (a, b, c, d)</code>. Using a number between zero and 255, a indicates how much red is in the color, b how much green, and c how much blue. A value of 0 indicates the absence of a color, and a value of 255 indicates the full expression of a color. Using a number between zero and one, d indicates the level of transparency. A value of 0 is invisible and 1 is opaque. For example, <code>rgb (0, 0, 0, 0.93)</code> sets the color to a nearly opaque black. <code>rgb (255, 0, 0, 0.14)</code> sets the color to a nearly invisible red.</p>

Property Name	Details
	<p>Alternatively, the color can be set using hexadecimal notation. When using hexadecimal notation, transparency can't be set. All hexadecimal colors default to opaque. #000000 indicates black in hexadecimal. #ff0000 indicates red.</p> <p>Default is #000.</p>
titleSize	<p>Type Integer</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • number <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The font size of the title. Default is 26.</p>
tooltip	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • image • text <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Text that appears when you hover over the widget while viewing the dashboard. Use a tooltip to add context to the text or image.</p>
totalColor	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • chart (only when visualizationType is waterfall) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The color of the total measure column in the chart.</p> <p>Specify the color in this format: rgb (a, b, c, d).</p> <p>Using a number between zero and 255, a indicates how much red is in the color, b how much green, and c how much blue. A value of 0 indicates the absence of a color, and a value of 255 indicates the full expression of a color.</p> <p>Using a number between zero and one, d indicates the level of transparency. A value of 0 is invisible and 1 is opaque.</p>

Property Name	Details
	<p>For example, <code>rgb(0, 0, 0, 0.93)</code> sets the color to a nearly opaque black. <code>rgb(255, 0, 0, 0.14)</code> sets the color to a nearly invisible red.</p> <p>Alternatively, the color can be set using hexadecimal notation. When using hexadecimal notation, transparency can't be set. All hexadecimal colors default to opaque. <code>#000000</code> indicates black in hexadecimal. <code>#ff0000</code> indicates red.</p>
totals	<p>Type Boolean</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • <code>chart</code> (only when <code>visualizationType</code> is <code>pivottable</code>) <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether to include a row that displays the sum of all the values in each measure column (<code>true</code>) or not (<code>false</code>). Default for <code>chart</code> is <code>false</code> (available only for <code>pivottable</code>). This setting doesn't apply when viewing the widget on mobile devices.</p>
trellis	<p>Type Boolean</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>chart</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description Indicates whether the last grouping displays on its own axis (<code>true</code>) if a step has multiple groupings and one measure. If <code>false</code>, it displays all groupings on the same axis. Default for <code>chart</code> is <code>false</code> (available only for bar charts and column charts). This setting doesn't apply when viewing the widget on mobile devices.</p>
videoSize	<p>Type String</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>url</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The dimensions of a YouTube video. Possible values are:</p> <ul style="list-style-type: none"> • <code>(4/3) 240 x 180</code>

Property Name	Details
	<ul style="list-style-type: none"> • (4/3) 420 x 315 • (4/3) 480 x 360 • (4/3) 640 x 480 • (4/3) 960 x 720 • (16/9) 320 x 180 • (16/9) 560 x 315 • (16/9) 640 x 360 • (16/9) 853 x 480 • (16/9) 1280 x 720 <p>Default is (4/3) 240 x 180.</p> <p>Mobile devices don't display url widgets.</p>
visualizationType	<p>Type String</p> <p>Available for These Widgets</p> <ul style="list-style-type: none"> • chart <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The type of chart used to show data. Possible values are:</p> <ul style="list-style-type: none"> • calheatmap— calendar heat map • choropleth — choropleth (map) • combo — lines and bars to show multiple metrics • flatgauge — flat gauge • funnel — funnel • hbar — horizontal bar • hdot — horizontal dot plot • heatmap— heat map • matrix— matrix • parallelcoords — parallel coordinates • pie — donut • pivottable — pivot table • polargauge — polar gauge • pyramid — pyramid • rating — rating • scatter — scatter plot • stackhbar — stacked horizontal bar • stackpyramid — stacked pyramid

Property Name	Details
	<ul style="list-style-type: none"> • <code>stackvbar</code> — stacked vertical bar • <code>stackwaterfall</code> — stacked waterfall • <code>time</code> — timeline • <code>time-bar</code> — time bar • <code>time-combo</code> — time bar • <code>vbar</code> — vertical bar • <code>vdot</code> — vertical dot plot • <code>waterfall</code> — waterfall
<code>url</code>	<p>Type ConnectUri</p> <p>Available for This Widget</p> <ul style="list-style-type: none"> • <code>url</code> <p>Exposed in the Dashboard Designer's User Interface Yes</p> <p>Description The URL of a YouTube video. Default is null. Mobile devices don't display <code>url</code> widgets.</p>

filters JSON

The `filters` section defines the global filters added to a global filter panel widget, which is available in the dashboard designer.

Example: Global Filters

```
"filters": [
  {
    "label": "Account.Type",
    "fields": [
      "Account.Type"
    ],
    "operator": "in",
    "locked": false,
    "dataset": {
      "name": "opportunity"
    },
    "value": [
      "Customer"
    ]
  },
  {
    "label": "ForecastCategory",
    "fields": [
```

```

        "ForecastCategory"
    ],
    "operator": "in",
    "locked": true,
    "dataset": {
        "name": "opportunity"
    },
    "value": [
        "BestCase"
    ]
}
],

```

filters Properties

The `filters` key defines all global filters included in the dashboard. It contains a separate node, with configurable properties, for each global filter. Global filters apply to all layouts, but you can specify whether each widget applies the global filters.

filters Properties

The `filters` key defines all global filters included in the dashboard. It contains a separate node, with configurable properties, for each global filter. Global filters apply to all layouts, but you can specify whether each widget applies the global filters.

Property Name	Description
<code>label</code>	Field label displayed in the global filter
<code>fields</code>	API name of the field by which to filter the records; a global filter can't be based on multiple fields
<code>operator</code>	Filter operator; supported operators are <code>in</code> (equals), <code>not in</code> (doesn't equal), and <code>matches</code> (contains)
<code>locked</code>	Prevents dashboard viewers from being able to change the global filter and for an incoming filter passed from a linked dashboard to overwrite the global filter
<code>dataset</code>	Contains the <code>name</code> field, which specifies the API name of the dataset that contains the filter field Example: <pre> "dataset": { "name": "opportunity" }, </pre>
<code>value</code>	Array of field values used to filter the records

To view an example of the `filters` key configured with the properties in the table, see [filters JSON](#). Each hash contains the configured properties for a single filter.