

SAP Analytics Cloud, analytics designer

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PUBLIC



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SAP Analytics Cloud: **One analytics platform** for all users

All analytic capabilities into one analytics platform, used by a range of users



Analytics Designer completes SAP Analytics Cloud

One Analytics Platform

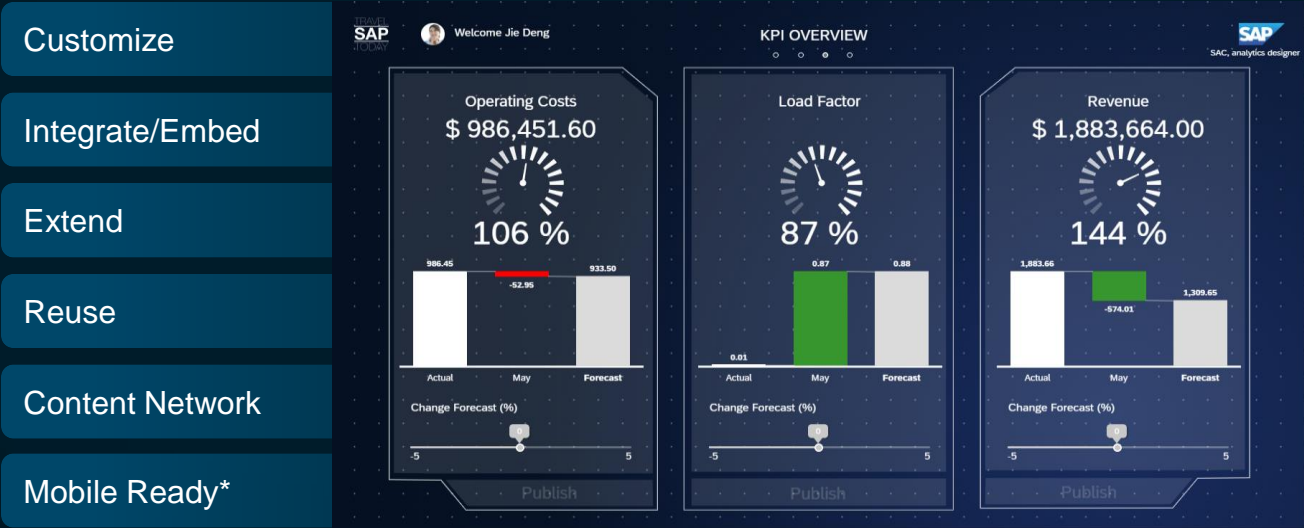
Develop analytic applications that bring together BI, Planning, and Predictive capabilities

Agile Development

Start from existing content, templates* or user stories, and customize, integrate and extend

Delight your users

Guide the users and adjust the widgets behavior based on their expectations



* Planned for the future releases

Analytics Designer

Cloud first strategy

SAP is committed to delivering innovative analytics designer (for analytics, planning & predictive) in the Cloud. Consistent with this, our strategic direction for application design follows on and aligns with our broader Analytics strategy. Specifically:

State-of-the art Analytics Designer for professional users spanning across BI, Planning & Predictive

 **SAP Analytics Cloud**

Customers requiring an on premise solution

 **Lumira Designer**

- *SAP Analytics Cloud is SAP’s primary strategic app design solution moving forward.*
- *The majority of new enhancements for application design will be delivered via SAP Analytics Cloud, with only selected continuous improvements in Lumira Designer*

Analytics Designer| What it is

Professional design of centrally governable analytic content, ranging from dashboards via guided analytics to sophisticated planning and smart applications

What is an application?

- Applications range from simple dashboards to complex applications
- Applications expose custom logic based on scripting
- Applications are created by a few experts to be consumed by many

What is Analytics Designer?

- Rich set of capabilities for professional designers of analysis applications to meet sophisticated business requirements
- Dedicated development environment with advanced scripting capabilities
- Drive standardization of analytics content, create reusable UI elements and application logic (such as headers, footers, toolbars)
- Extending Applications via Custom Widgets and APIs



This is the current state of planning and may be changed by SAP at any time.

SAP Analytics Cloud lets you manage Analytic Applications at Scale

Complete

- Lets you reuse, customize and extend Analytics Cloud capabilities
- All story widgets and functionality available



Fast

- Connect to existing data
- Graphical design and assisted scripting
- Package and reuse standard components

Integrated

- Planning and predictive capabilities available to be scripted
- OData calls provide easy integration with external systems

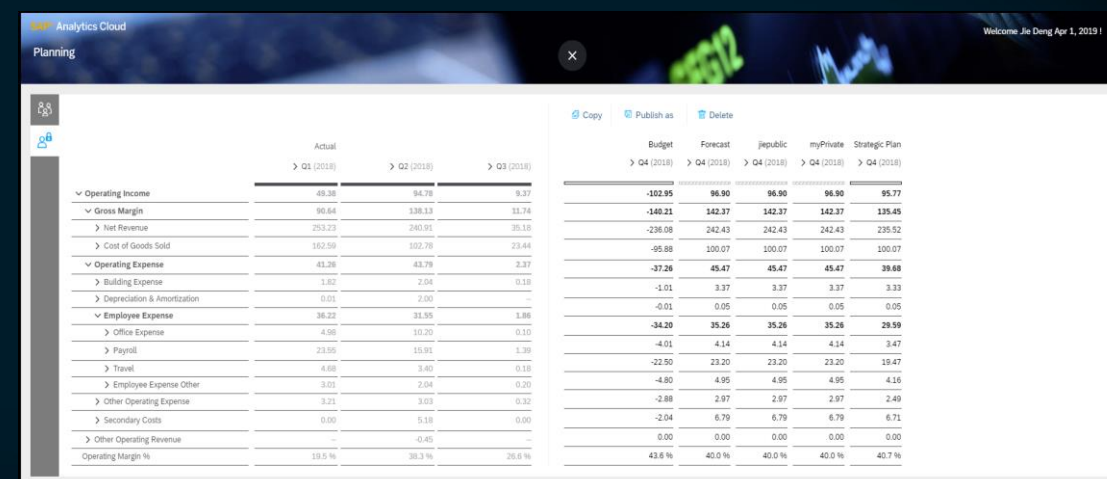
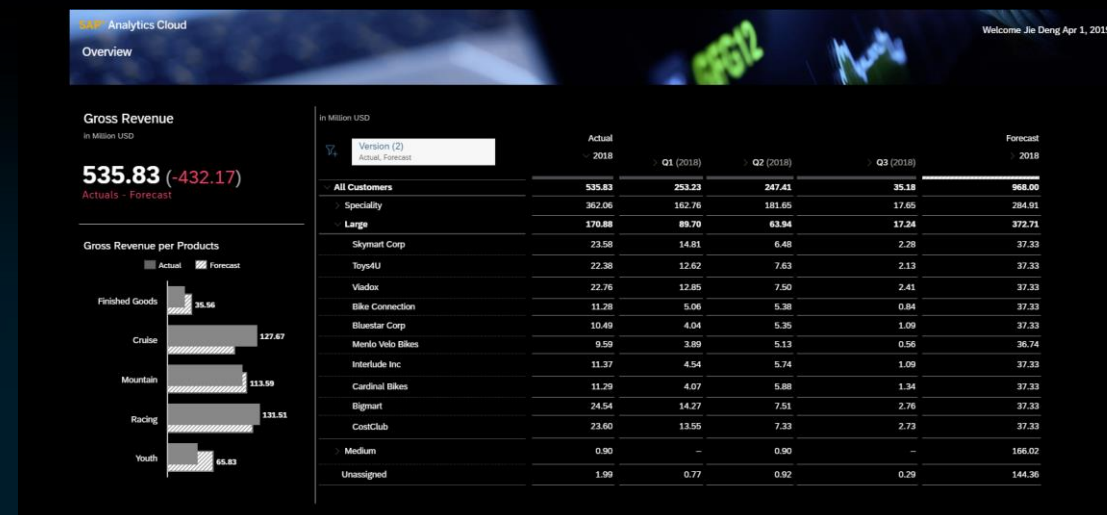
Analytics Designer is general available with QRC release in Q2/2019

Analytics Designer Fundamentals

- Simple widgets: images, buttons, dropdown menus, check box groups, radio button groups, shapes, text, web pages, RSS reader, clocks, Text Input Widget, Slider and Range Slider Widget
- Data-driven widgets: tables, charts, filter lines
- R widgets with scripting access
- Container widgets: pop-up / dialog
- Interactions (e.g. filter, cascading behavior) between different widgets via scripting including global variables
- Dynamic switch between widgets (e.g. charts and tables) at application run time
- Dynamic and flexible selections on crosstab and chart
- Powerful scripting capabilities (e.g. getUserID, DataSource APIs, Prompt APIs, Navigate to APIs, Result Set APIs)
- Script Variables
- Script Objects for modularizing and reusing code for enterprise applications

Support planning capabilities with scripting access

- Expose Planning Features via toolbar and quick action menus
- Customize the planning workflow programmatically by scripting: Provides scripting capability to trigger Version Management, Publish, Revert

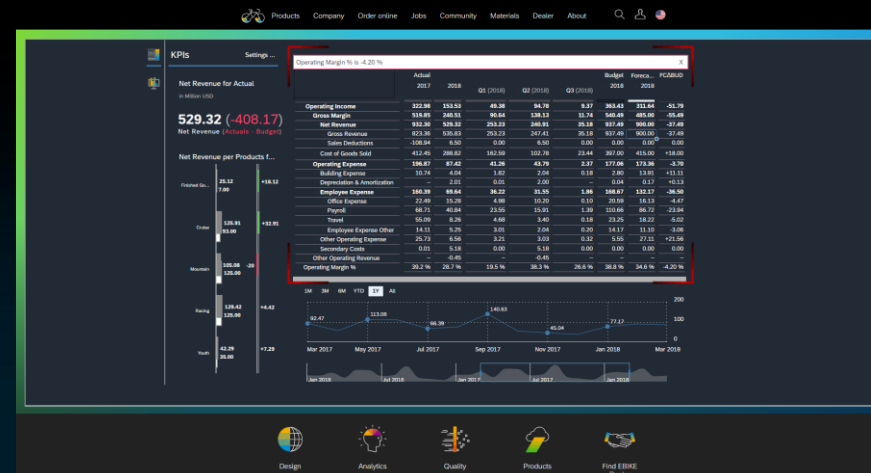


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Analytics Designer is general available with QRC release in Q2/2019

Fully flexible navigation to Stories, Explorer and smart functions

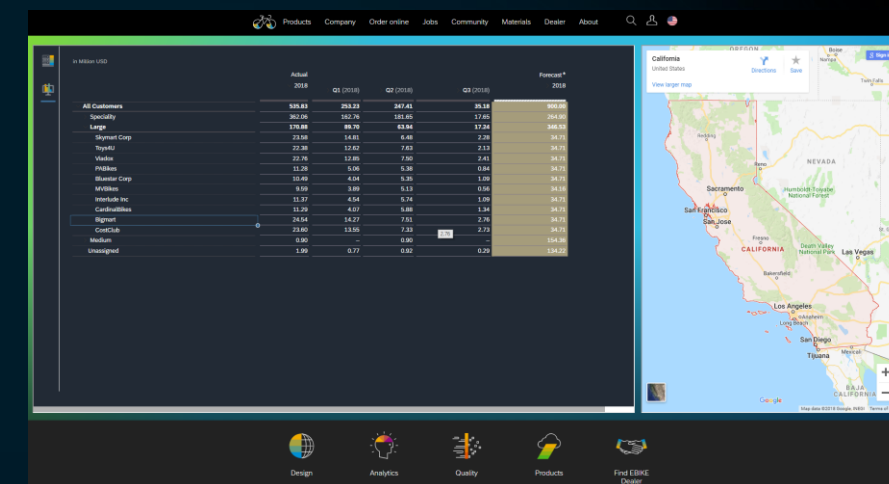
- Support Explorer via context menu and with additional scripting capabilities (e.g. set default dimensions)
- Hyperlink support for image and shape widgets
- Create story from Application
- Leverage Smart Assist functionalities:
 - Time Series Forecasting
 - Smart Grouping
 - Smart Insights
 - Smart Discovery



Embedding applications into other web pages

Seamless Integration with Business Applications

- Support bi-directional communications via scripting APIs:
 - Analytical Applications embedded into other Business Applications
 - Analytical Applications host and communicate with other web pages



Communicating with other web pages

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Capabilities for closed-loop scenarios

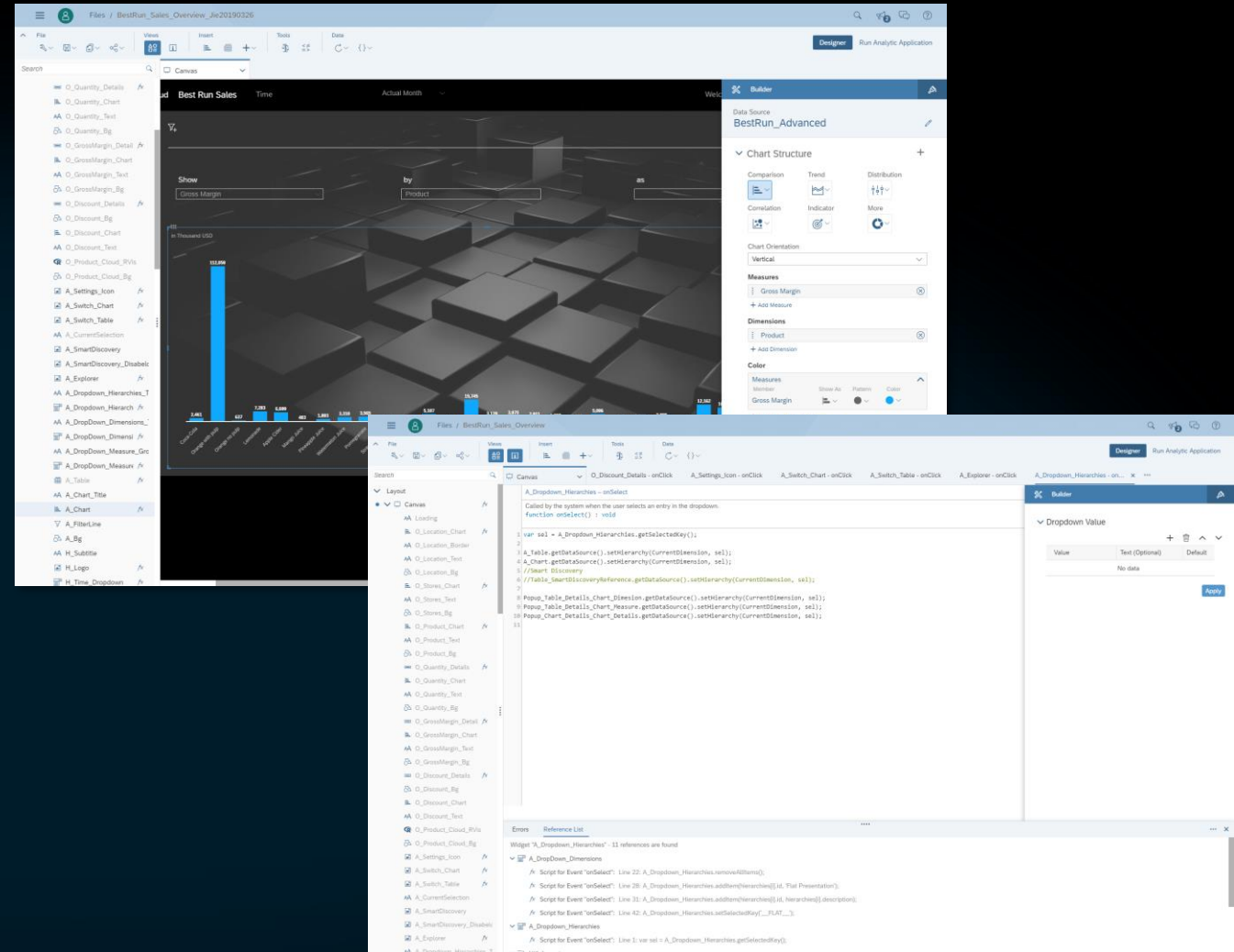
- OData calls to call into transactional system
- Programmatic access to OData

Designer friendly creation environment

- Powerful scripting capabilities with content assistance
- Script variables
- Script Objects for modularizing and reusing code for enterprise applications
- Design-time UI:
 - Layout outline with context menu to add and edit scripts
 - Design area
 - Properties and script editor
 - Where-used-list, Error panel

Others

- Adding analytical applications to recently used list on HOME page

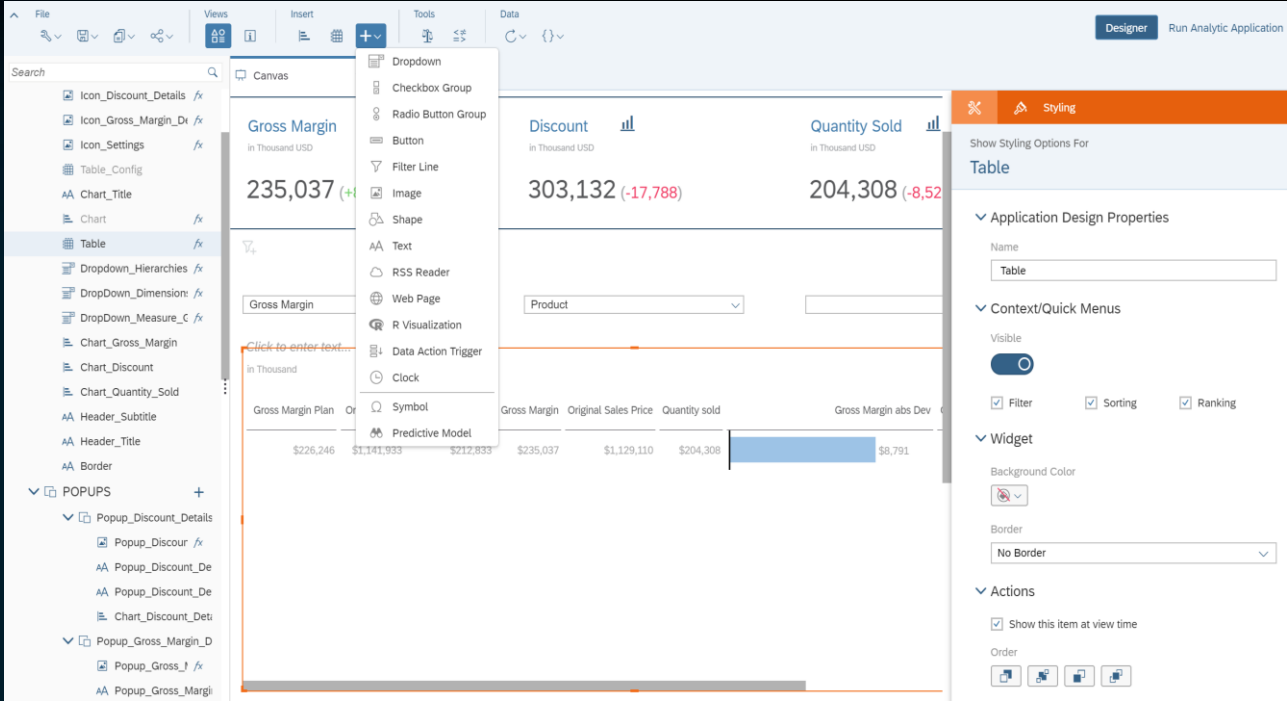


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Analytics Designer

Outline View and Widgets

- Outline view
 - Can be turned on/off
 - Including UI widgets, global scripts and popups
 - Provides the following options via context menu
 - Hide/Delete/Rename widget
 - Add/Delete scripts or events
 - Where-used-list
- Application Design specific widgets
 - Filterline, Dropdown box, Radio Button Group, Checkbox Group, Button
- Reuse and extend story widgets
 - Image, Text, Crosstab and Chart
 - Extended with additional app design properties
 - Naming, Visibility at view time and scripting capabilities



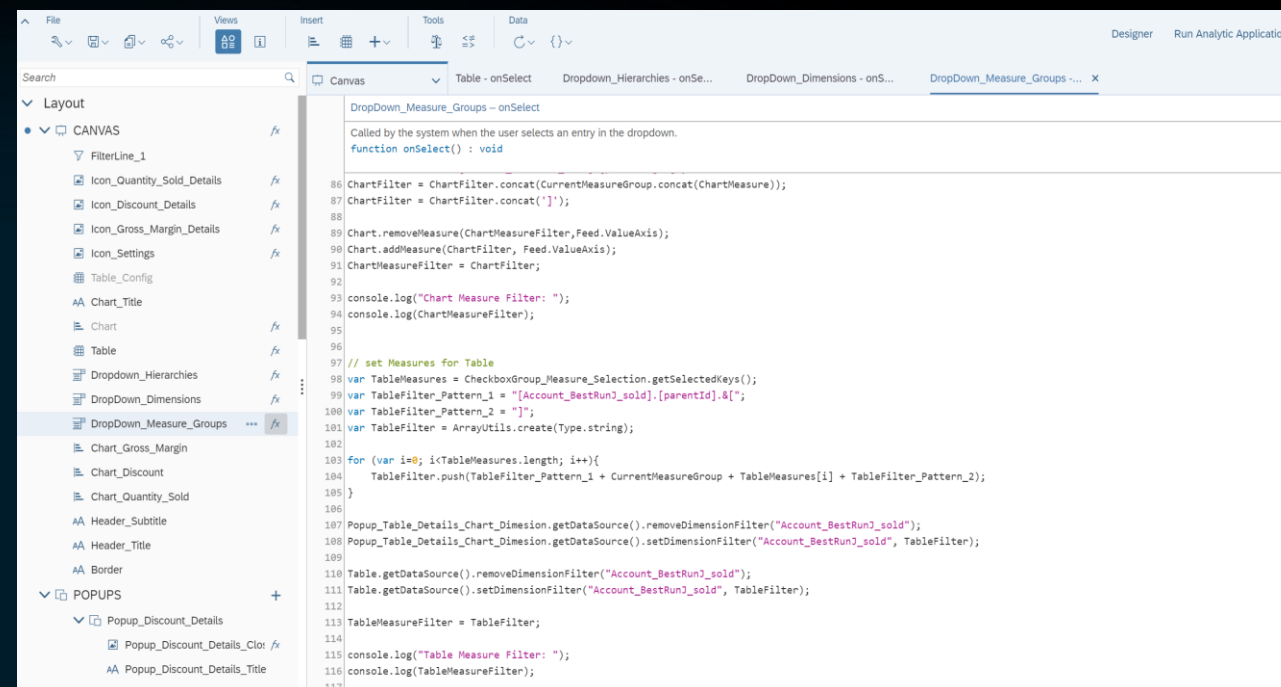
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Analytics Designer

Recent Innovations

Rich Scripting Capabilities

- Subset of JavaScript
- Content assistance available – `getDimension()`, `setFilter()`, etc
- Completeness and syntax check
- Glance over several scripts at once
- Commenting and uncommenting



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Analytics Designer

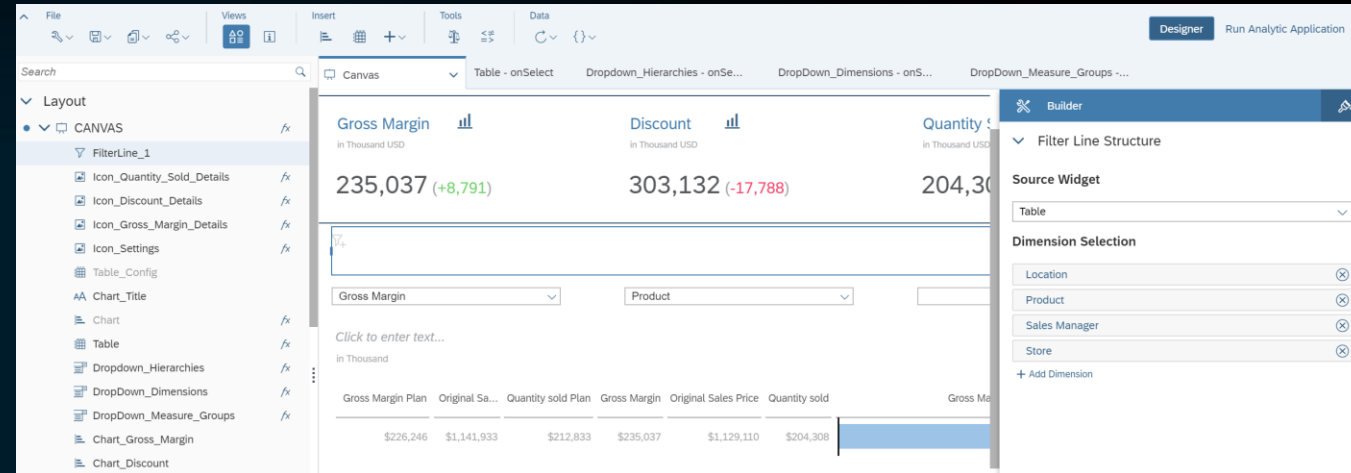
Recent Innovations

Filtering data sources via Dropdown, Checkbox Group, Radio Button Group and Button

- Via scripting capability
- E.g. "Table.getDataSource().setDimensionFilter"

Filtering data source via Filter Line

- Via build panel
- Source widget to identify the data source of filter line
- Default dimensions can be set in build panel
- Via copy filter script command to transfer the filter value to other widgets



```
Chart_Quantity_Sold_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Location_4nm2e04531");
Chart_Quantity_Sold_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Product_3e315003an");
Chart_Quantity_Sold_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Sales_Manager_5w3m5d06b5");
Chart_Quantity_Sold_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Store_3z2g5g06m4.Store_GE0ID");

Popup_Table_Details_Chart_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Location_4nm2e04531");
Popup_Table_Details_Chart_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Product_3e315003an");
Popup_Table_Details_Chart_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Sales_Manager_5w3m5d06b5");
Popup_Table_Details_Chart_Details.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Store_3z2g5g06m4.Store_GE0ID");

Popup_Table_Details_Chart_Dimesion.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Location_4nm2e04531");
Popup_Table_Details_Chart_Dimesion.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Product_3e315003an");
Popup_Table_Details_Chart_Dimesion.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Sales_Manager_5w3m5d06b5");
Popup_Table_Details_Chart_Dimesion.getDataSource().copyDimensionFilterFrom(Table.getDataSource(), "Store_3z2g5g06m4.Store_GE0ID");
```

```
Popup_Table_Details_Chart_Dimesion.getDataSource().removeDimensionFilter("Account_BestRunJ_sold");
Popup_Table_Details_Chart_Dimesion.getDataSource().setDimensionFilter("Account_BestRunJ_sold", TableFilter);

Table.getDataSource().removeDimensionFilter("Account_BestRunJ_sold");
Table.getDataSource().setDimensionFilter("Account_BestRunJ_sold", TableFilter);
```

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Analytics Designer

Recent Innovations

Dropdown box cascading behavior

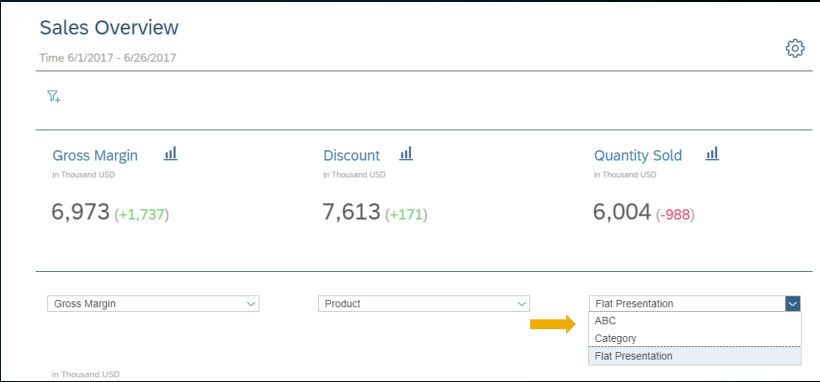
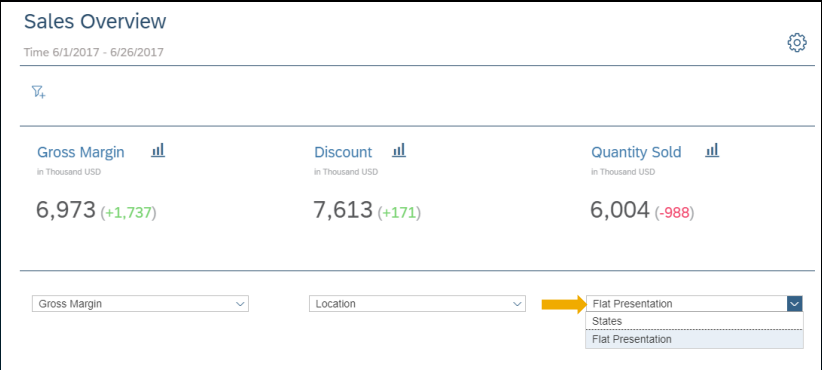
- Result of the selection in one dropdown can influence the selection options of the other dropdown box
- Can be done via scripting capability

```
// fill DropDown Hierarchies
Dropdown_Hierarchies.removeAllItems();
var hierarchies = Table.getDataSource().getHierarchies(CurrentDimension);
var flag = true;

for (var i=0; i<hierarchies.length; i++){
  if (hierarchies[i].id == '___FLAT___') {
    Dropdown_Hierarchies.addItem(hierarchies[i].id, 'Flat Presentation');
  }
  else {
    Dropdown_Hierarchies.addItem(hierarchies[i].id, hierarchies[i].description);
    if (flag == true) {
      var hierarchy = hierarchies[i].id;
      flag = false;
    }
  }
}

console.log('Hierarchy: ');
console.log(hierarchy);
console.log('Current Dimension: ');
console.log(CurrentDimension);
Dropdown_Hierarchies.setSelectedKey('___FLAT___');
Table.getDataSource().setHierarchy(CurrentDimension, '___FLAT___');
Chart.getDataSource().setHierarchy(CurrentDimension, '___FLAT___');

Popup_Table_Details_Chart_Dimesion.getDataSource().setHierarchy(CurrentDimension, '___FLAT___');
Popup_Table_Details_Chart_Measure.getDataSource().setHierarchy(CurrentDimension, '___FLAT___');
```



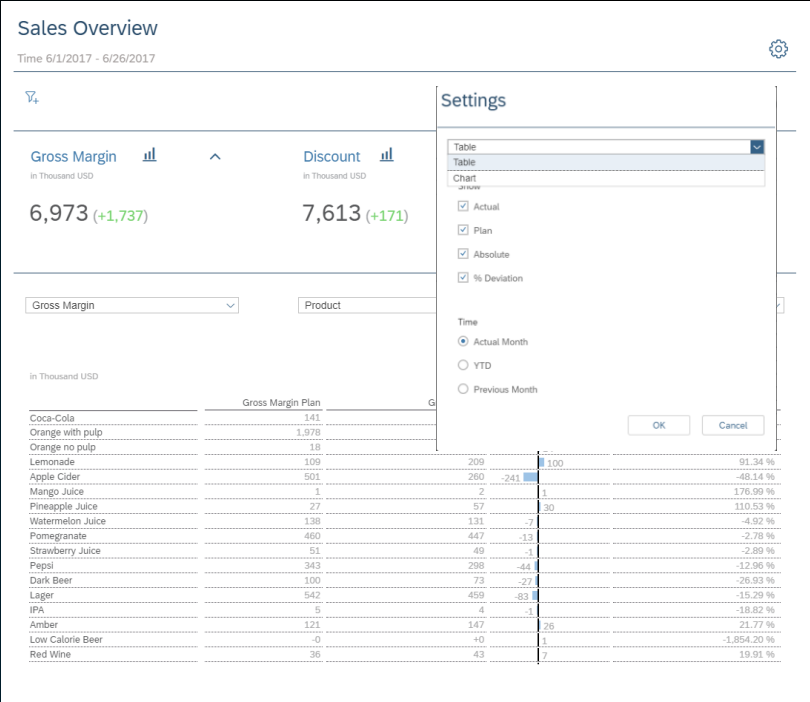
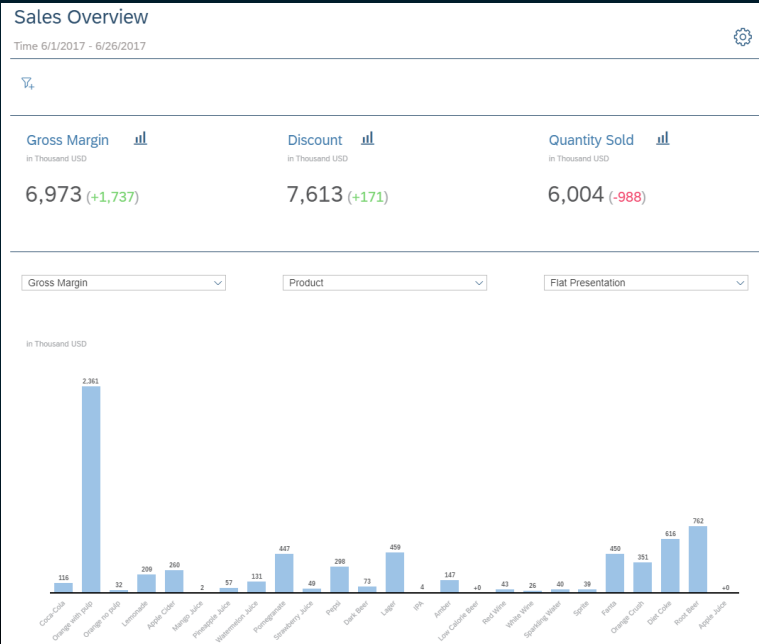
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Analytics Designer

Recent Innovations

Dynamic switch widgets (e.g. table and chart) at application runtime

- Define widgets at design time
- Set visibility properties in styling panel at design time
- Using scripting capability to show or hide the widgets at application runtime



```
if (sel == "CHART") {
    CheckboxGroup_Measure_Selection.setVisible(false);
    RadioButtonGroup_Measure_Selection.setVisible(true);
} else if (sel == "TABLE") {
    CheckboxGroup_Measure_Selection.setVisible(true);
    RadioButtonGroup_Measure_Selection.setVisible(false);
}
```

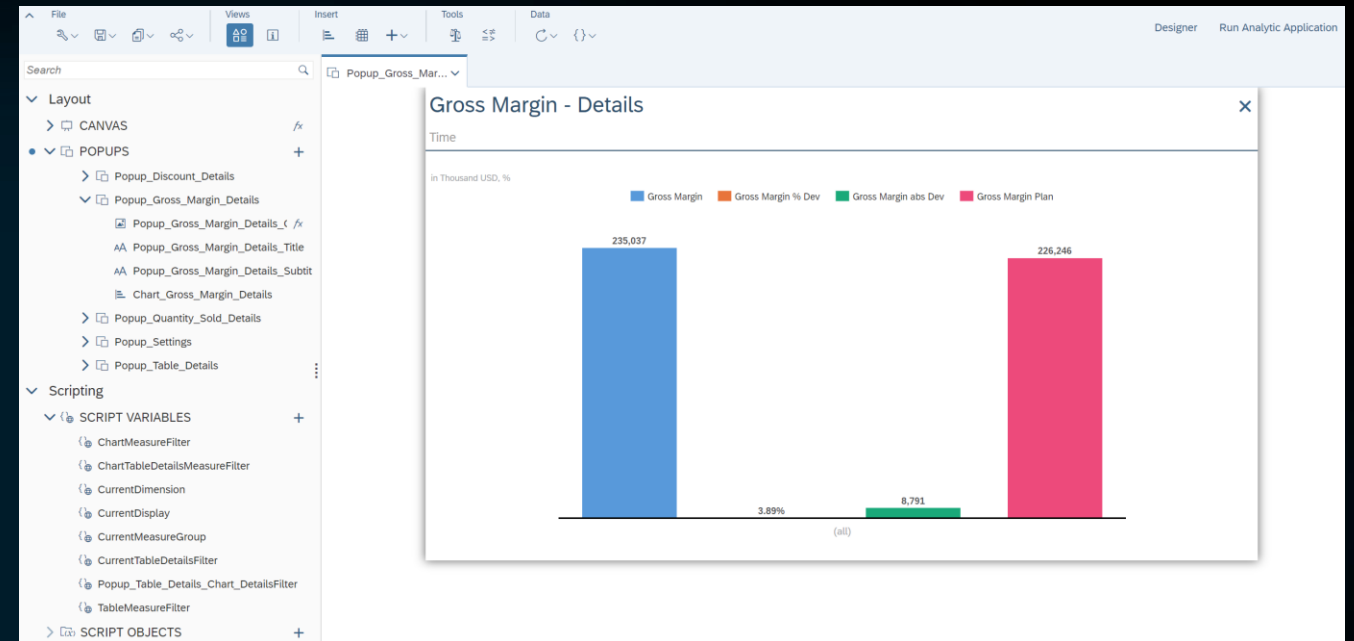
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Analytics Designer

Recent Innovations

Popup widgets

- Popup widget is a container widget
- You can use Popup widget to show details
- Open or close Popup via scripting capability



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Analytics Designer

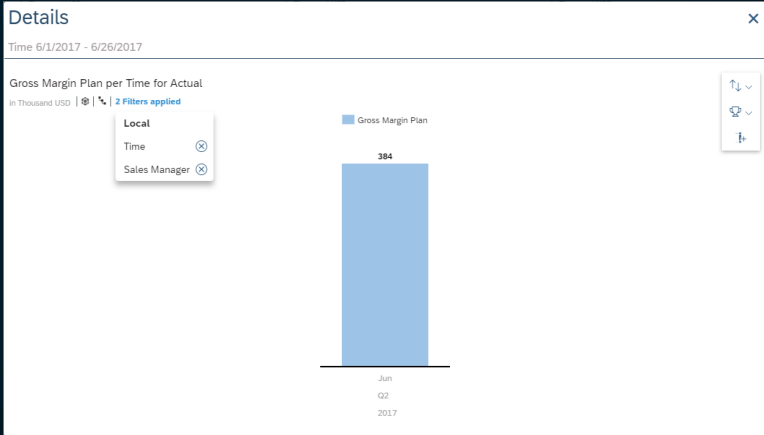
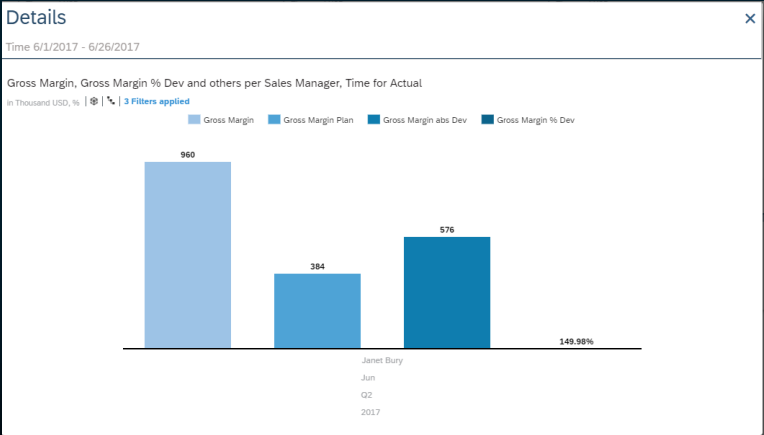
Recent Innovations

Selection on Crosstab

- On select event can be defined for Crosstab
- Different selected value based on data cell in crosstab can be transferred as filter value to other widget

In Thousand USD

	Gross Margin Plan	Gross Margin	Gross Margin abs Dev	Gross Margin % Dev
Janet Bury	384	960	576	149.98 %
Colby Dumin	197	222	25	12.45 %
James Frank	31	50	19	59.39 %
Lois Wood	45	405	-45	-9.94 %
John Minker	210	593	383	182.35 %
Nancy Miller	58	409	351	608.38 %
David Carl	930	979	49	5.32 %
Ed Young	-60	239	299	-495.96 %
Kiran Raj	1,921	2,039	119	6.17 %
Gabriel Walton	853	648	-205	-24.05 %
Lia Armand	263	430	167	63.56 %



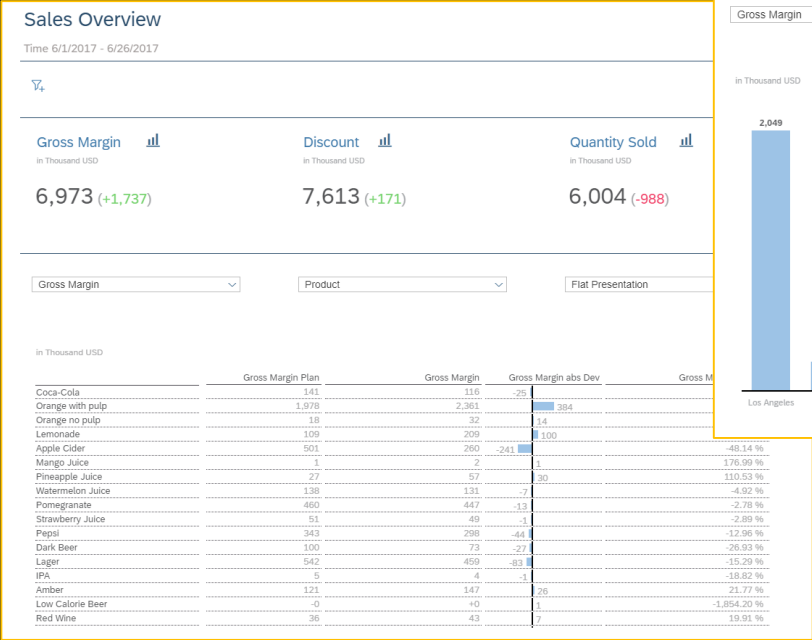
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Application Design

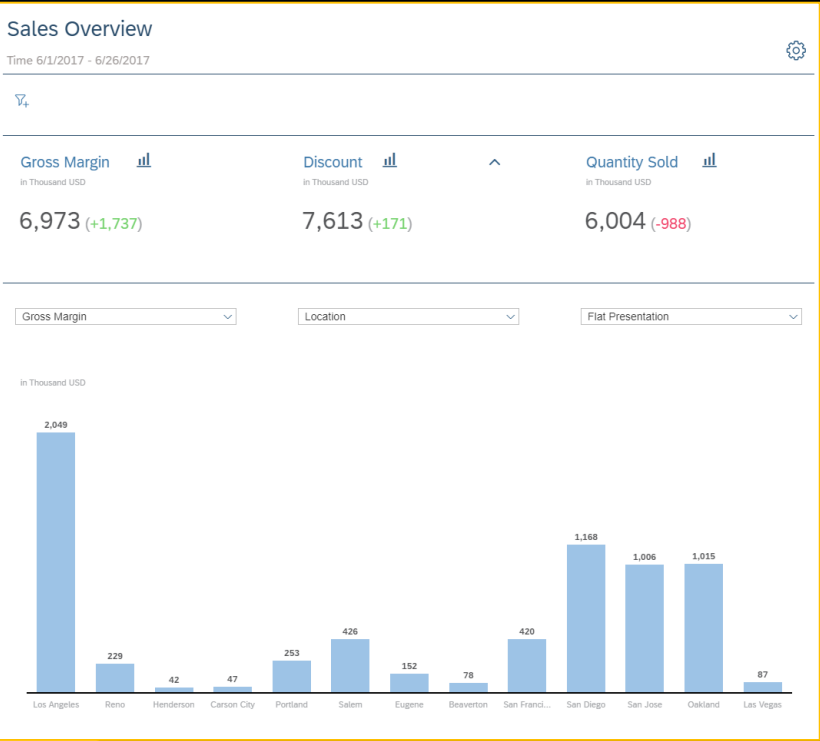
Recent Innovations

Application on-initialization

- Application on-initialization event can be defined at design time
- Using scripting capability to define the application on-initialization event
- Gaining the flexibility to add custom parameters for initial loading of applications (e.g. different start up view)



Start Up view with Table and dimension Product



Start Up view with chart and dimension location

Analytics Designer

Q2/2019

- Planning support (Part II): Provides scripting capability to trigger version management, publish, revert and version management history
- OData Calls:
 - OData function calls in the context of an App Design script
 - Programmatic access to OData
- Create story from widget
- Dynamic text enhancements
- Global variable enhancements
- Text input widget, slider and range slider widget
- Adding analytical applications to recently used list on home page
- Scripting value help enhancements
- API enhancements:
 - E.g. getUserID, DataSource APIs, Navigate to APIs, Result Set APIs

Q3/2019

- Container widgets
 - Tab strips, panels,
- Theming
- Custom Widget Beta Program
- Data Analyzer
 - Direct query access with new Navigation panel from BW queries
- Bookmark support
- Geo map support
- Set Position and size of widgets
- Integrating Search to Insight with scripting access
- Translation of texts in applications
- Single Cell Planning
- BPC live Planning Sequence
- Browser Debugging
- Copy and paste technical components within outline
- Script refactoring capabilities
- Table Export to Excel, CSV

Future Direction

- Custom widgets with data access
- Dynamic layout : Dynamic adjustment of screen real-estate without re-arranging all elements
- Blending support
- Dynamic image with scripting access
- Application performance features
 - Lazy loading of data sources
 - Customizing query parallel execution etc.
- Mobile support
- Enterprise features
 - Composites as re-usable widget
 - Export to PDF
 - Templates
- Shared data sources
- Transient direct access to BW queries
- Navigation panel
- Digital Boardroom integration
- Datasource APIs

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Useful links

- Product Updates and Plan: https://www.sapanalytics.cloud/product_updates/
- Documentation Link: https://help.sap.com/viewer/product/SAP_ANALYTICS_CLOUD/
- Product Tutorials: <https://wiki.scn.sap.com/wiki/display/BOC/SAP+Analytics+Cloud+-+Official+Product+Tutorials>
- Developer Handbook: https://www.sapanalytics.cloud/wp-content/uploads/2019/05/SAP_DeveloperHandbookSACAnalyticsDesignerMay2019.pdf
- API Reference Documentation: <https://help.sap.com/doc/958d4c11261f42e992e8d01a4c0dde25/latest/en-US/index.html>
- Blogs:
 - [Announcing the Q2 2019 Release of SAP Analytics Cloud](#)
 - [Delight Your Business Users With Custom Analytics Applications](#)
 - [Introducing Analytics Designer in SAP Analytics Cloud: What is it, why use it and when can I get started? \(Part 1\)](#)
 - [SAP Analytics Cloud Analytics Designer — now generally available](#)



Thank you

Jie Deng

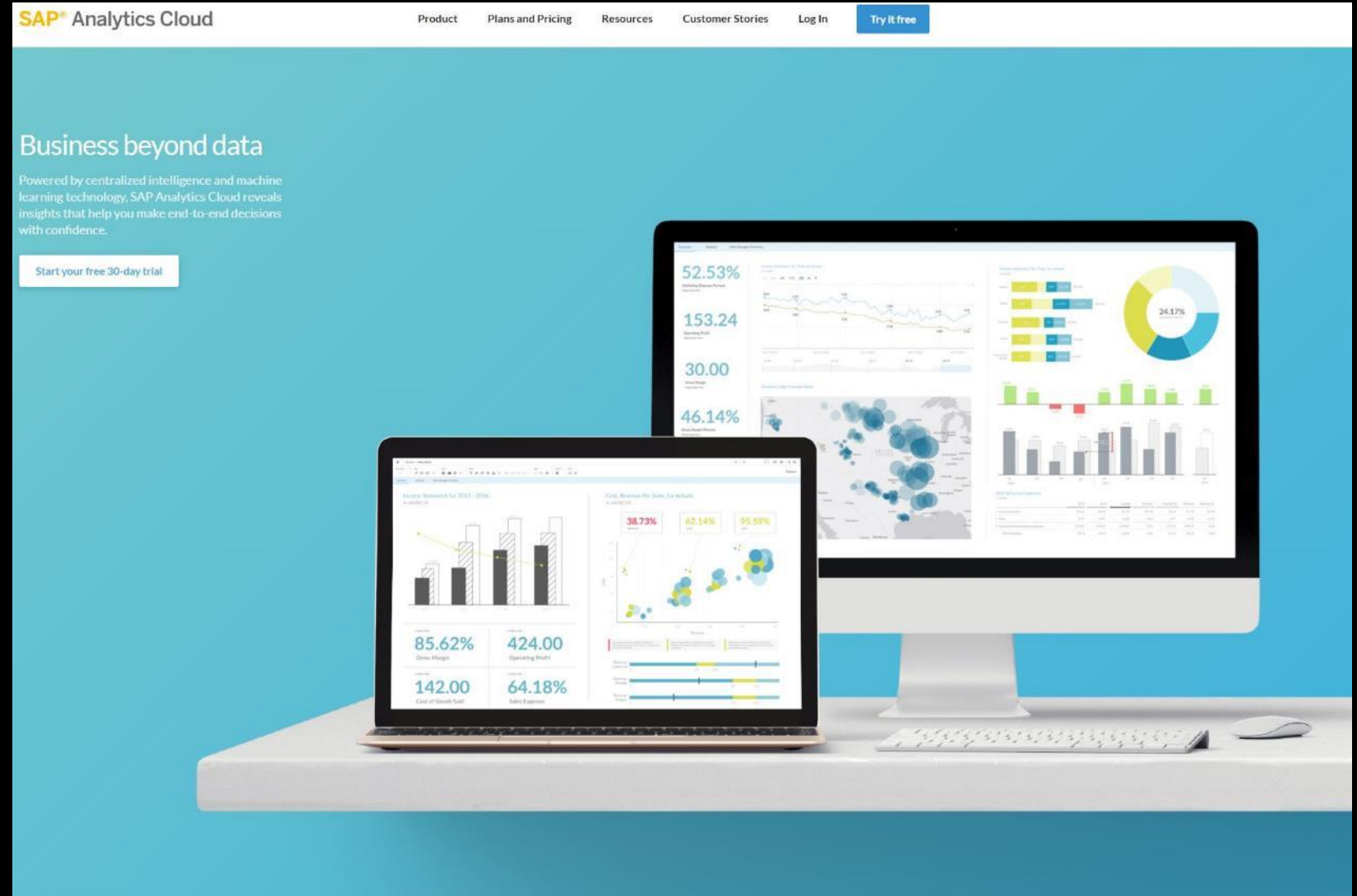
Product Manager, SAP Analytics
contact: jie.deng@sap.com

Key links for more information

For customers and partners

Key links

- sapanalytics.cloud website
- [30-day trial](#)
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