

PUBLIC

Advanced Planning Features in SAP Analytics Cloud

ANA260

Exercises / Solutions

Product Management SAP Analytics Cloud Planning / SAP SE

TABLE OF CONTENTS

HEADLINE 1	ERROR! BOOKMARK NOT DEFINED.
Headline 2	Error! Bookmark not defined.
<i>Headline 3</i>	<i>Error! Bookmark not defined.</i>

In this session we want to focus on the advanced planning features of SAP Analytics Cloud. We have provided two exercises. The first exercise is about the new value driver tree widget which was released this year. The value driver tree component is now a story widget which links to an existing model. The calculations of the tree are modeled as calculated accounts in the underlying data model.

The second exercise focuses on planning APIs in the Analytics Designer. With these APIs you can create, change, update and delete dimension members of a planning model. This capability can be used to create new master data in a planning application.

Due to time restrictions, we recommend that you start with the exercise that is most relevant for you. The two exercises are independent.

EXERCISE 1 – VALUE-DRIVER TREE

In this exercise you will create a value driver tree for an existing planning model. The value driver tree is used to simulate net sales over the next four years based on certain drivers, like price index and market growth. The calculations for the nodes of the tree are provided in an MS Excel workbook. Explore the semantics of the used formula expressions further using the [SAP Analytics Cloud Help pages](#).

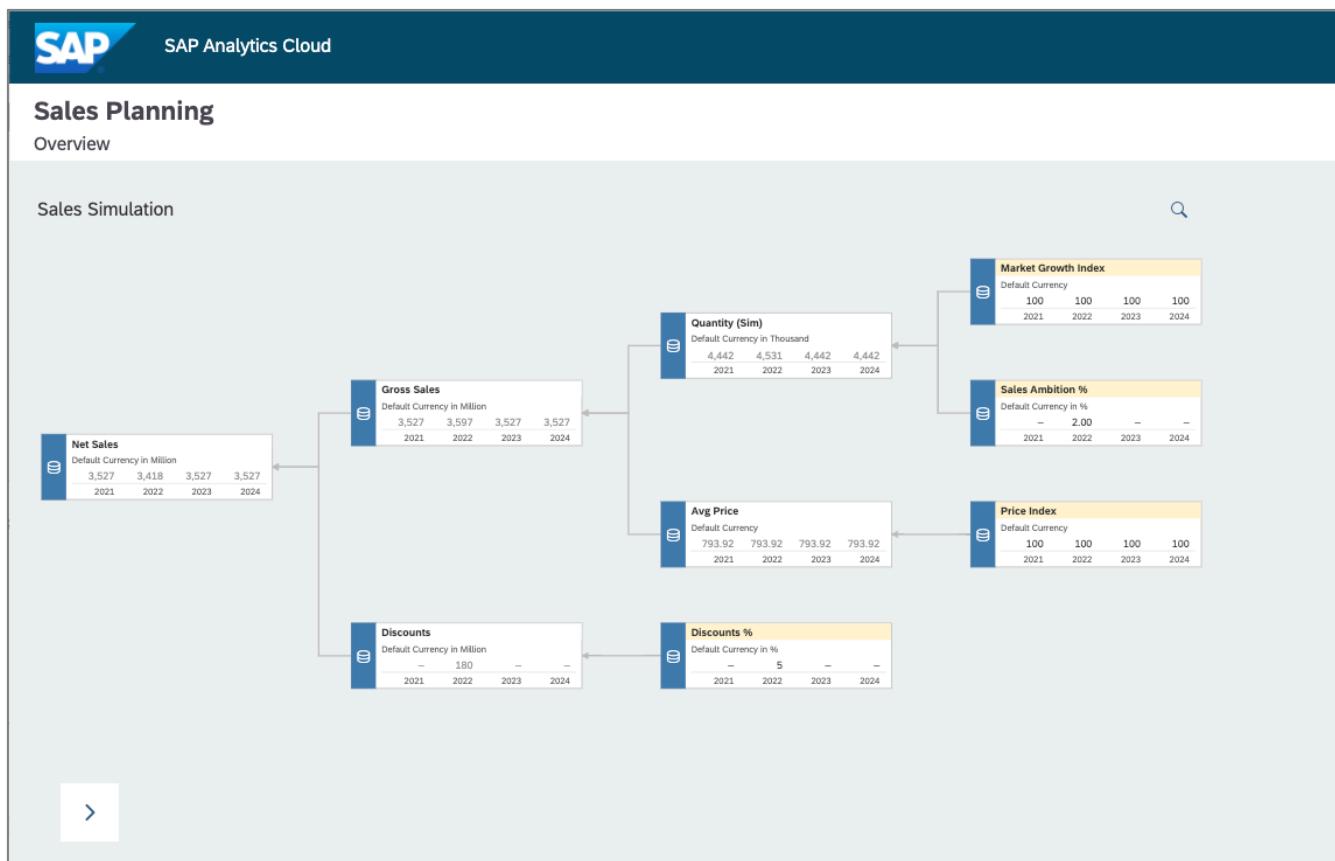
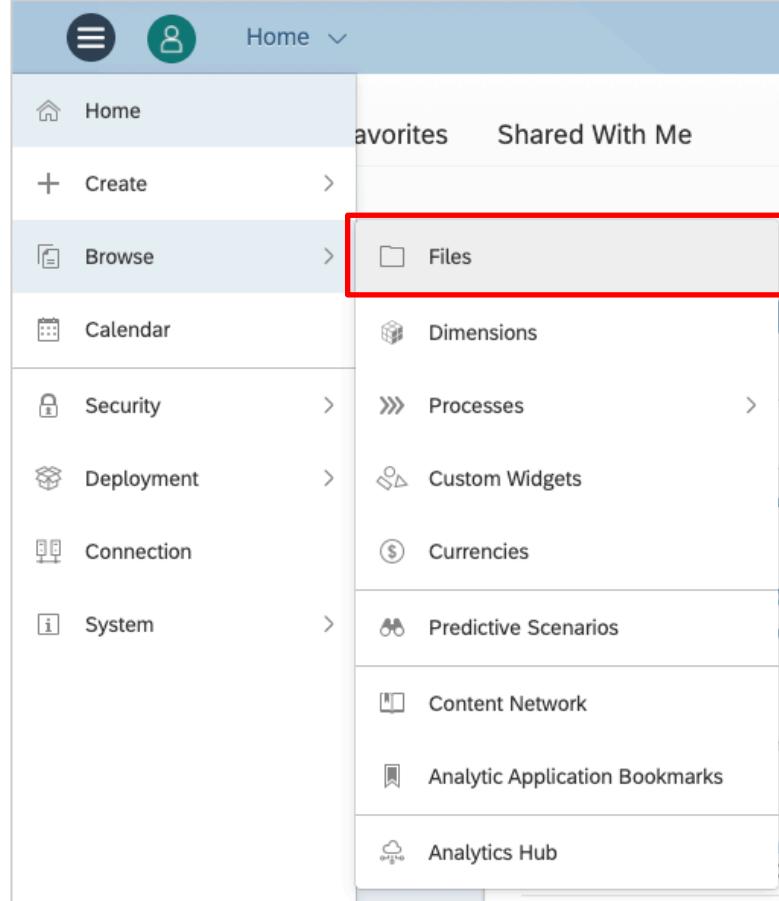
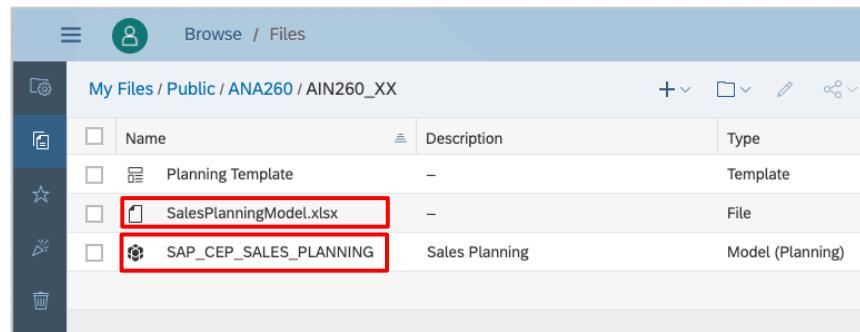
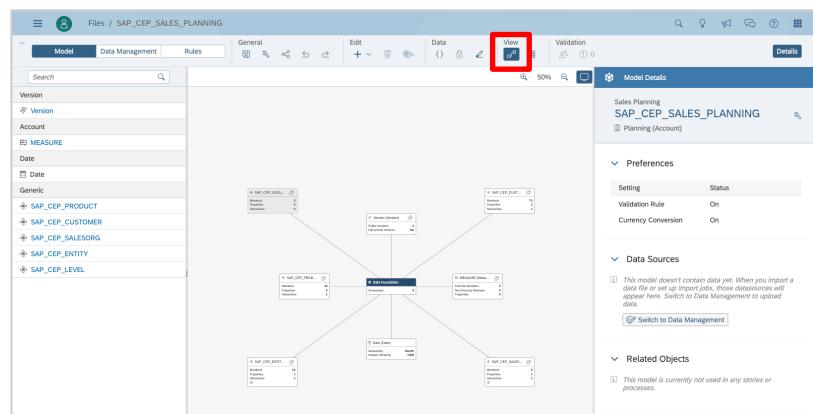


Figure 1 Final page for exercise 3

Figure 1 shows the final page after having finished the exercise. The value driver tree component can be used to simulate net sales values.

Explanation	Screenshot
<p>1. Navigate to the file repository.</p>	 <p>The screenshot shows the SAP Fiori Home interface. On the left, there's a sidebar with icons for Home, Create, Browse, Calendar, Security, Deployment, Connection, and System. On the right, there are links for Favorites, Shared With Me, Dimensions, Processes, Custom Widgets, Currencies, Predictive Scenarios, Content Network, Analytic Application Bookmarks, and Analytics Hub. A red box highlights the 'Files' link under the 'Browse' category.</p>
<p>2. Make sure that you are in My Files / Public / ANA260 / ANA260_XX, where you should replace XX with your student ID. 3. Click on SalesPlanningModel.xlsx to download the file. 4. Click on the model SAP_CEP_SALES_PLANNING to open the modeler.</p>	 <p>The screenshot shows the 'Files' view in the SAP Fiori application. It displays a list of files in a table format. The first item is 'SalesPlanningModel.xlsx' (Type: File) and the second item is 'SAP_CEP_SALES_PLANNING' (Type: Model (Planning)). Both items are highlighted with red boxes.</p>

5. The modeling environment of SAP Analytics Cloud opens. Make yourself familiar with the data model. You can hide the star schema visualization from the toolbar.



6. From the dimension list, navigate to the member maintenance for the dimension **MEASURE**.

Name	Description	Number of Members	Number of Hierarchies	Other Attributes
Version				
Version	Version	3	—	
Account				
MEASURE	Measure	4	1	
Date				
Date	Date	—	—	
Generic				
SAP_CEP_PRODUCT	Product	29	1	
SAP_CEP_CUSTOMER	Customer	73	1	
SAP_CEP_SALESORG	Sales Org	9	1	(1)
SAP_CEP_ENTITY	Entity	12	1	(1)
SAP_CEP_LEVEL	Planning Level	3	0	

7. Position the cursor to the first empty cell.

MEASURE						
Member ID	Description	Hierarchy	Formula	Account Type	Rate Type	Calculated On
1 DISCOUNTS	Discounts	<root>	EXP	Average		
2 GROSS_SALES	Gross Sales	<root>	INC	Average		
3 PRICE	Price	<root>		Average		
4 QUANTITY	Quantity	<root>	NFIN			None
5						
6						
7						
8						
9						
10						
11						

8. Switch to the Excel which you have downloaded. In the tab **Measure** select the rows and copy them to the clipboard (**Ctrl-C**).

A	B	C	D	E	F	G	H	I	J	K	L
Member ID	Description	Hierarchy	Formula	Account Type	Rate Type	Calculated Aggregates	Exception	Aggregation Dimension	Required Dimensions	Scale	
1 AVG_PRICE	Avg Price (G)	SIM_KPI	[GROSS_SALES]/[QUANTITY]								
2 AVG_PRICE_BASE	Avg Price (LU)	SIM_KPI									
4 AVG_PRICE_SIM	Avg Price	SIM_KPI	[AVG_PRICE_BASE]*(1+[PRICE_INDEX_LU]-100)/100								
DISCOUNT_RATIO_DRV	Discount Ratio	SIM_KPI									
6 DISCOUNT_SIM	Discounts	SIM_KPI	[GROSS_SALES_SIM]*[AVG_PRICE_SIM]	EXP	Average						
7 GROSS_SALES_SIM	Gross Sales	SIM_KPI	[QUANTITY_SIM]*[AVG_PRICE_SIM]	INC	Average						
8 MARKET_GROWTH	Market Growth Index	SIM_KPI	LOOKUP([MARKET_GROWTH],[dSAP_CEP_PRODUCT]*"#" and [dSAP_CEP_SALESORG]*"#" and [dSAP_CEP_CUSTOMER]*"#")			Avg	Date				
9 MARKET_GROWTH_L	Market Growth Index	SIM_KPI	[LOOKUP([MARKET_GROWTH],[dSAP_CEP_PRODUCT]*"#" and [dSAP_CEP_SALESORG]*"#" and [dSAP_CEP_CUSTOMER]*"#")]								
10 NET_SALES_SIM	Net Sales	SIM_KPI	[GROSS_SALES_SIM]-[DISCOUNT_SIM]	INC	Average						
11 PRICE_INDEX	Price Index (Base)	SIM_KPI	LOOKUP([PRICE_INDEX],[dSAP_CEP_PRODUCT]*"#" and [dSAP_CEP_SALESORG]*"#" and [dSAP_CEP_CUSTOMER]*"#")	NFIN		Avg	Date				
12 PRICE_INDEX_LU	Price Index	SIM_KPI	[dSAP_CEP_SALESORG]*"#" and [dSAP_CEP_CUSTOMER]*"#"								
13 QUANTITY_REF	Quantity Ref	SIM_KPI	LOOKUP([QUANTITY],[dDate]*"2020" and [dVersion]*"publicActual")								
14 QUANTITY_SIM	Quantity (Sim)	SIM_KPI	[QUANTITY_REF]*[dMARKET_GROWTH_LU]-100/100*(1+[SALES_AMBITION])	NFIN							
15 SALES_AMBITION	Sales Ambition %	SIM_KPI									
16 SIM_KPI	Simulation KPIs	<root>								Label	
17											
18											
19											
20											
21											
22											
23											
24											

9. Switch back to the modeling environment and paste the rows (**Ctrl-V**).

Member ID	Description	Hierarchy	Formula	Account Type	Rate Type	Calculated On	Aggregation Type
1 DISCOUNTS	Discounts	<root>		EXP	Average		
2 GROSS_SALES	Gross Sales	<root>		INC	Average		
3 PRICE	Price	<root>			Average		None
4 QUANTITY							
5 AVG_PRICE	Avg Price (Calc)	SIM_KPI	[GROSS_SALES][QUAN...				
6 AVG_PRICE_BASE	Avg Price (LU)	SIM_KPI	LOOKUP([AVG_PRICE]...)				
7 AVG_PRICE_SIM	Avg Price	SIM_KPI	[AVG_PRICE_BASE]*(1+...				
8 DISCOUNT_RATIO_DRV	Discount %	SIM_KPI					
9 DISCOUNT_SIM	Discounts	SIM_KPI	[GROSS_SALES_SIM]*...	EXP	Average		
10 GROSS_SALES_SIM	Gross Sales	SIM_KPI	[QUANTITY_SIM][AVG_...	INC	Average		
11 MARKET_GROWTH	Market Growth Index (B...	SIM_KPI	LOOKUP([MARKET_GR...				
12 MARKET_GROWTH_LU	Market Growth Index	SIM_KPI					
13 NET_SALES_SIM	Net Sales	SIM_KPI	[GROSS_SALES_SIM]-...	INC	Average		
14 PRICE_INDEX	Price Index (Base)	SIM_KPI			NFIN		
15 PRICE_INDEX_LU	Price Index	SIM_KPI	LOOKUP([PRICE_INDEX...				
16 QUANTITY_REF	Quantity (Ref)	SIM_KPI	LOOKUP([QUANTITY]...)				
17 QUANTITY_SIM	Quantity (Sim)	SIM_KPI	[QUANTITY_REF]*(1+L...	NFIN			
18 SALES_AMBITION	Sales Ambition %	SIM_KPI					
19 SIM_KPI	Simulation KPIs	<root>					
20							Label
21							

10. Save the model.



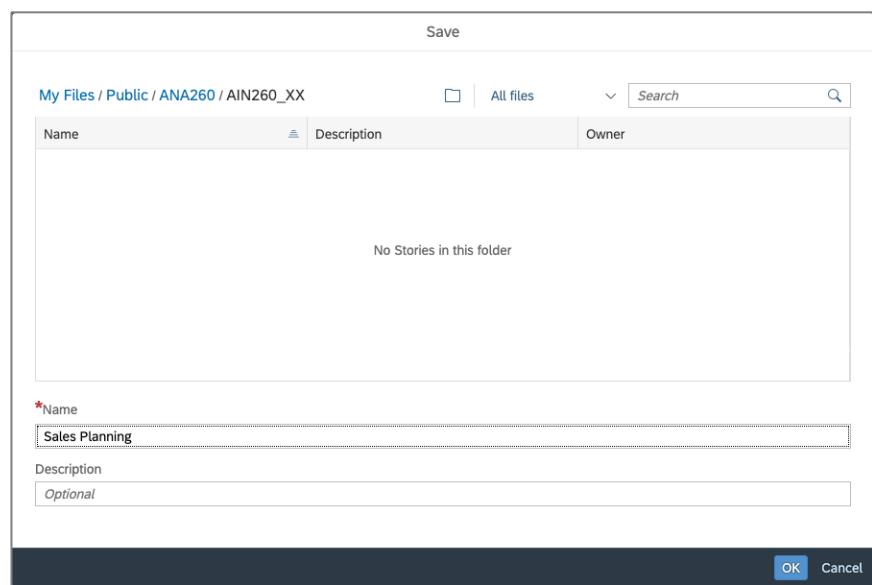
11. Navigate back to the folder **My Files / Public / AIN260 / AIN260_XX** and open the story template **Planning Template**.

Name	Description	Type
Planning Template	-	Template
SalesPlanningModel.xlsx	-	File
SAP_CEP_SALES_PLANNING	Sales Planning	Model (Planning)

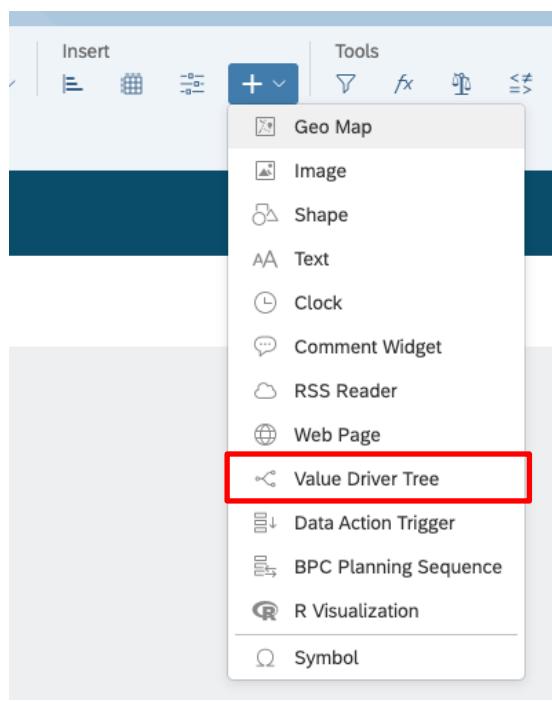
12. Based on this template you will create a new story for the Value-driver Tree.

13. **Save** the story

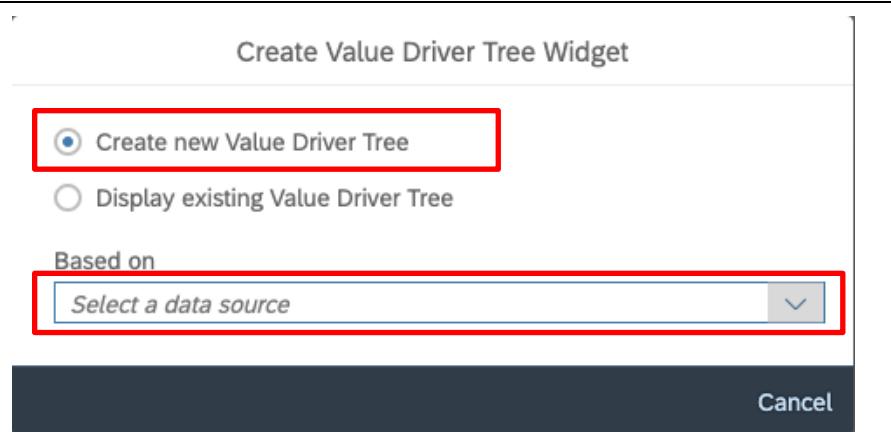
14. Navigate to **My Files / Public / ANA260 / ANA260_XX** and name the story **Sales Planning**.
15. Hit the **OK** button.



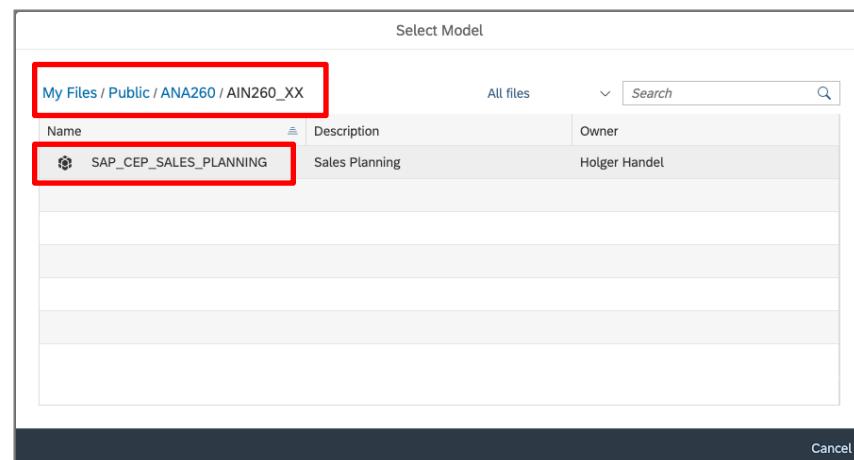
16. Insert a new component for the **Value Driver Tree** from the story toolbar.



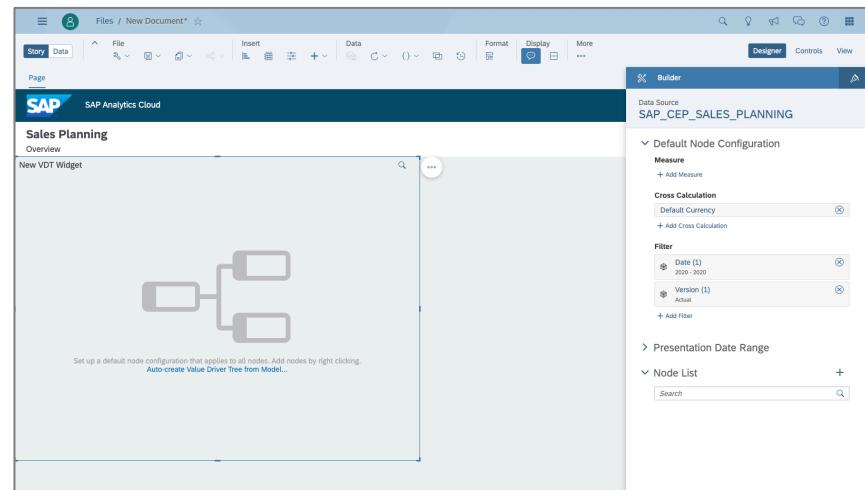
17. Make sure that the option **Create new Value Driver Tree** is selected.
18. Click on **Select a data source**.



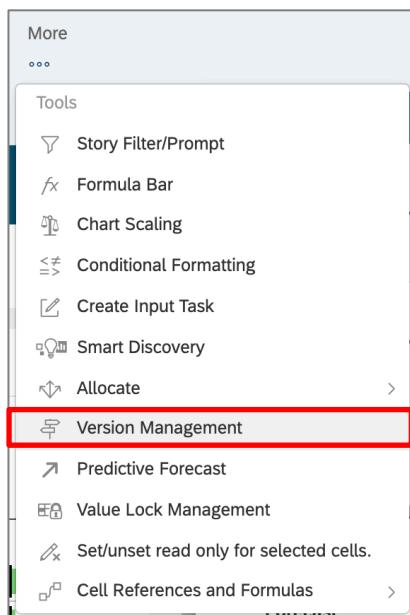
19. Navigate to your workshop folder **my Files / Public / ANA260 / AIN260_XX**.
20. Select the model **SAP_CEP_SALES_PLANNING**



21. A new Value Driver Tree component is added to the canvas.
22. Make sure that the component is selected to open the version manager from the toolbar.



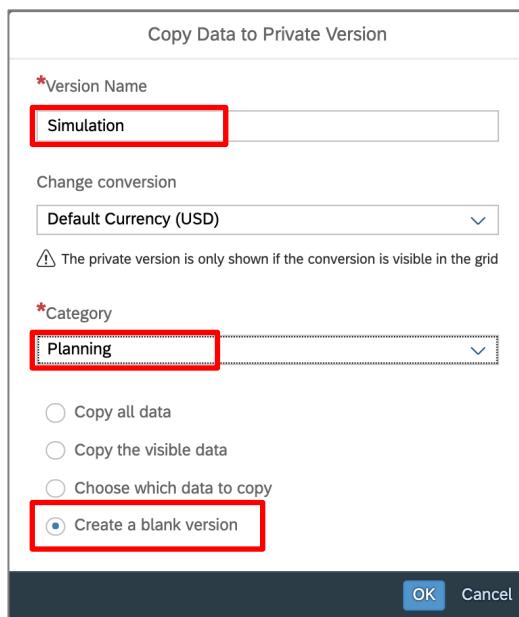
23. Open the version management from the toolbar.



24. Currently, there are two versions. Click on the copy icon of an existing version.

A screenshot of the 'Version management' screen. The 'Data Source' is set to 'SAP_CEP_SALES_PLANNING'. Under 'Public Versions', there are two entries: 'Actual' and 'Plan'. The 'Actual' entry has a copy icon (a blue square with a white document icon) highlighted with a red rectangular box. Under 'Private Versions', there is a message: 'There are no Private Versions'.

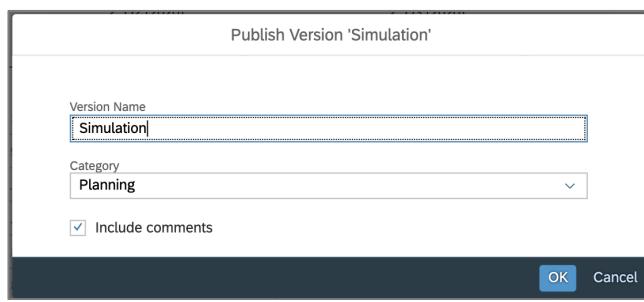
25. Specify the settings for the version copy. Provide a version name. Make sure that Category is set to **Planning** and that you choose **Create a blank version**.



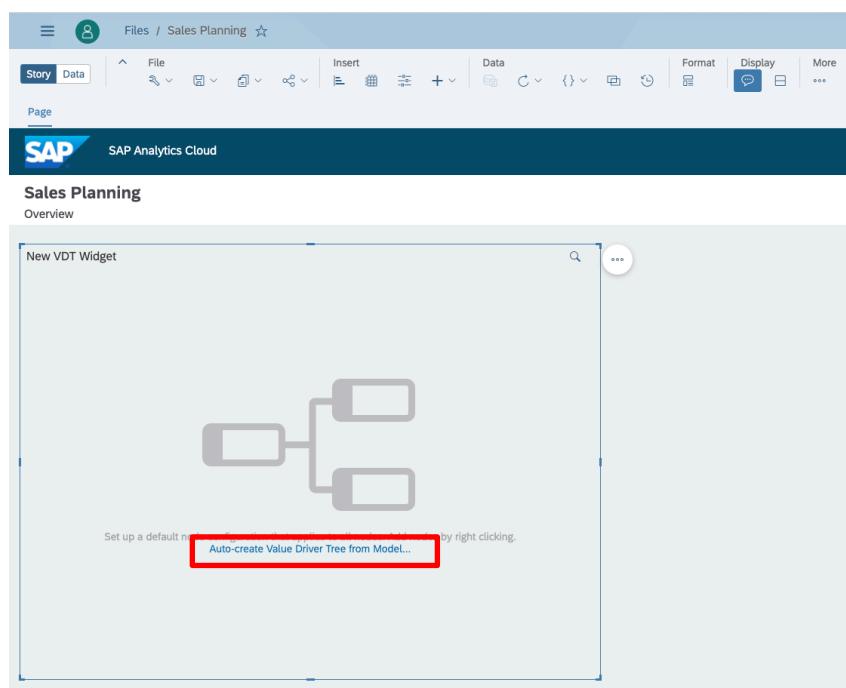
26. The new version is created and appears in the Private Versions section. Publish the version.



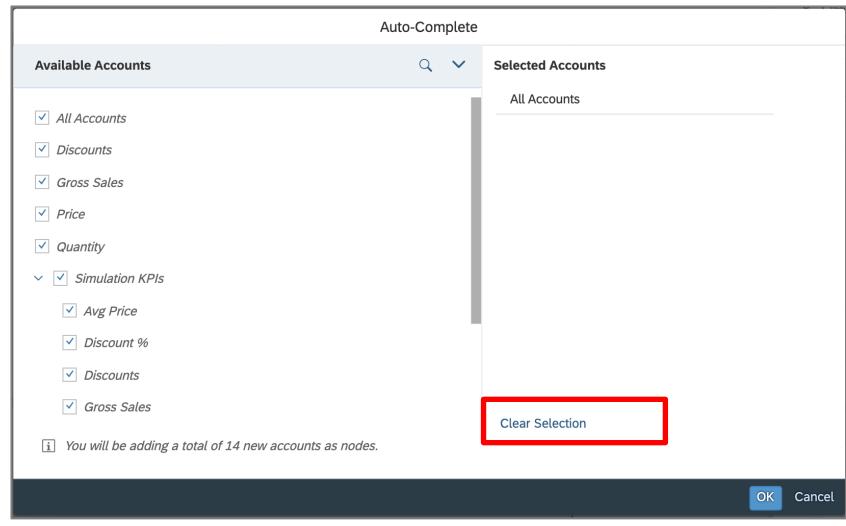
27. Provide the version name and verify that category **Planning** is selected.



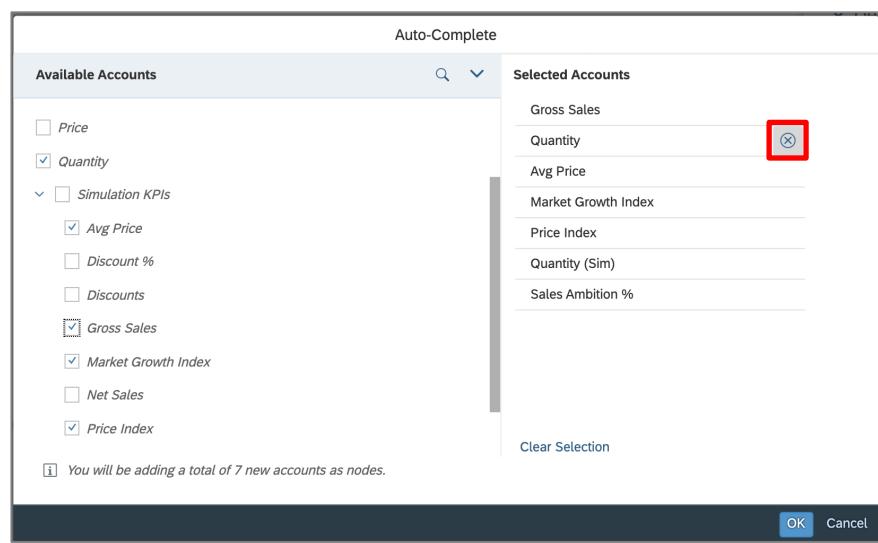
28. There are two ways to define the VDT. First, you can configure the nodes of the tree manually via the builder panel. Second, the system can create the tree automatically from the account dimension of the underlying data model.
29. Click on **Auto-create Value Driver Tree from Model** to let the system create the tree from the model.



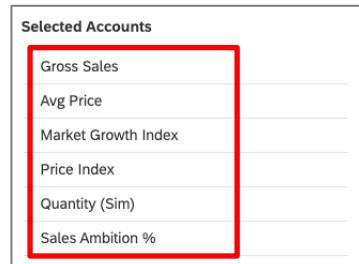
30. In the Auto-Complete dialog you can select which accounts should be used to build the tree. Initially, all accounts are selected. **Clear the selection.**



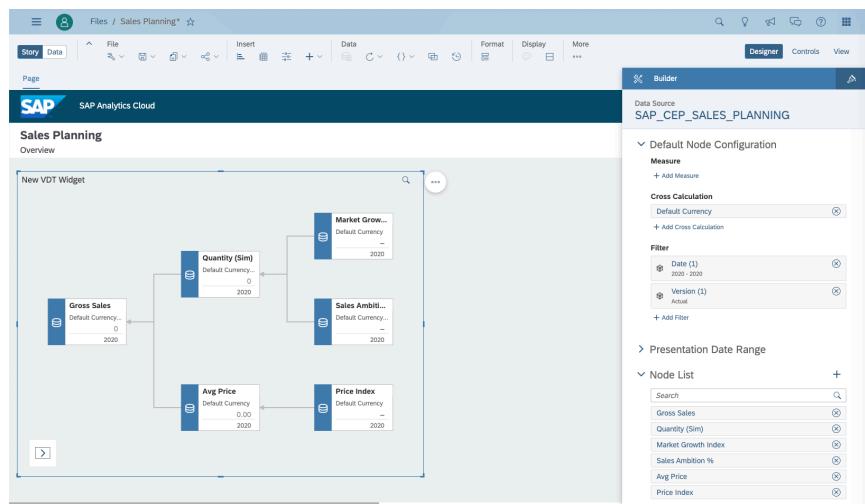
31. Select the member **Gross Sales** under the node *Simulation KPIs*. The system will automatically select all dependent elements as well.



32. Remove elements from the list of selected accounts by clicking the remove icon.
 33. This should be the final list of selected accounts.
 34. Hit the **OK** button to close the dialog.



35. You can see the value driver tree which was automatically created by the system. The link between the nodes of the tree indicate the which other KPI's are impacted by a particular node of the tree.



36. In the builder panel, you can see and adjust the configuration of the value driver tree. In the section **Default Node Configuration**, you can adjust configuration settings which apply to all nodes in the tree. In the section **Node List**, you can see all the nodes of the tree. By clicking on one element you will navigate to the specific settings of a node.
37. Click on the filter settings for the dimension **Date**.

The screenshot shows the SAP CEP Sales Planning builder panel. In the 'Default Node Configuration' section, there is a 'Filter' area. A red box highlights the 'Date (1)' filter, which is set to '2020 - 2020'. Below it is another filter for 'Version (1)' set to 'Actual'. The 'Presentation Date Range' and 'Node List' sections are also visible.

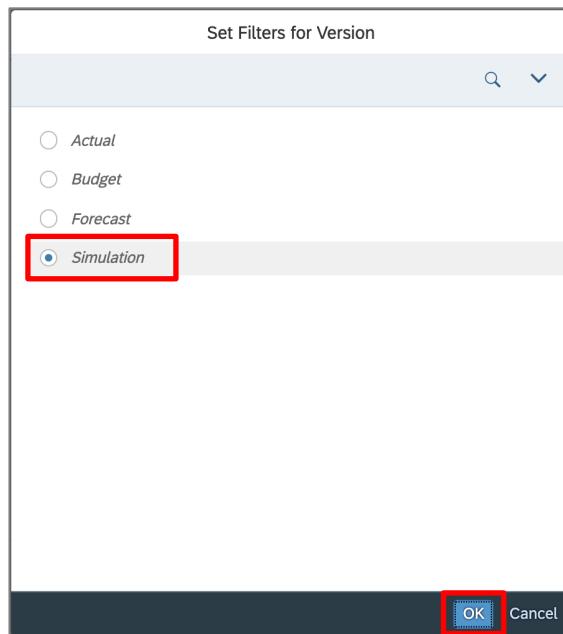
38. Adjust the time range to show data on yearly granularity from 2021 to 2024.

The screenshot shows the 'Set Data Range for Date' dialog. It has a timeline from 2020 to 2024. Under 'Range 1 : 2021 - 2024', the 'Granularity' dropdown is set to 'Year'. A red box highlights the 'Year' dropdown, the '2021' dropdown, and the 'to' button. A dropdown menu for '2024' is open, showing options for 2020, 2021, 2022, 2023, and 2024. The 'OK' button is visible at the bottom right.

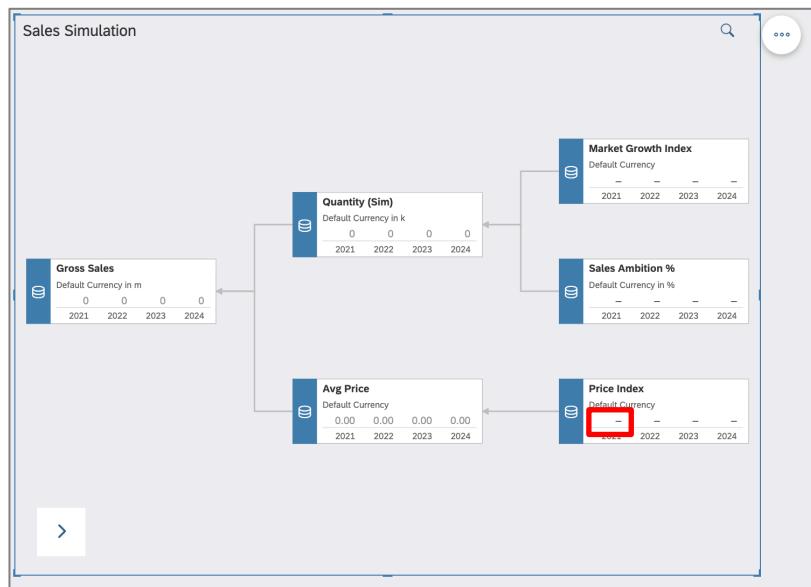
39. Adjust the filter settings for the dimension **Version**.

The screenshot shows the 'Filter' section of the builder panel. A red box highlights the 'Version (1)' filter, which is set to 'Actual'. Other filters like 'Date (1)' and '+ Add Filter' are also visible.

40. Select the version **Simulation** which you have created before.
41. Click **OK**.



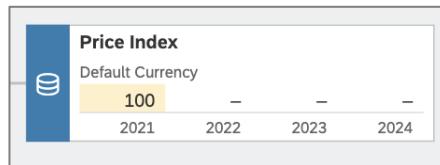
42. The tree will be adjusted according to the changed settings. Each node will show values for the years 2021 to 2024 and for the version Simulation. Since you have created a blank version, no data is available yet. Click into the node **Price Index**.



43. With the number panel you can change the value. Type in 100 and press **OK**.



44. You will see the value in the cell of the node.



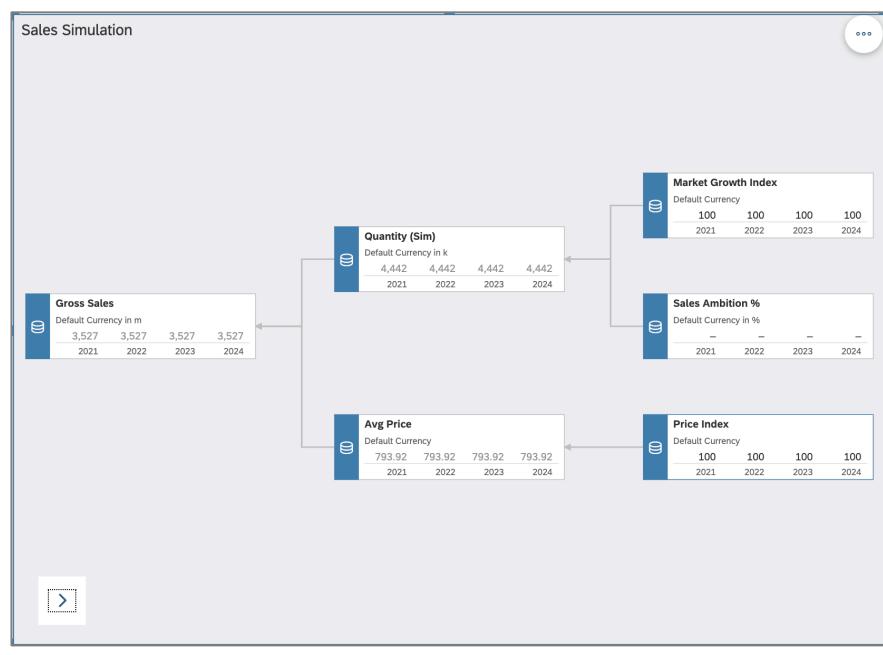
45. Repeat this for all the elements of the node **Price Index**.



46. Repeat the same procedure for the node **Market Growth Index**.



47. Since you have values for the drivers, the other KPI's of the tree are calculated.



48. Go back to the builder panel.
Add another node to the tree by clicking on the + -icon.

The screenshot shows the SAP CEP Sales Planning builder panel. At the top, it displays the Data Source as "SAP_CEP_SALES_PLANNING". Below this, there are sections for "Default Node Configuration", "Cross Calculation" (with "Default Currency" selected), and "Filter" (with "Date (1)" and "Version (1)" selected). Under "Presentation Date Range", there is a "Node List" section. A red box highlights the "+" icon at the top right of this list. The list itself contains items: Search, Gross Sales, Quantity (Sim), Market Growth Index, Sales Ambition %, Avg Price, and Price Index.

49. This will add a new entry to the list and a corresponding component into the widget. Since the configuration of the new node is not yet valid the item will be shown in red. Click on this entry to open the specific configuration for the new element.

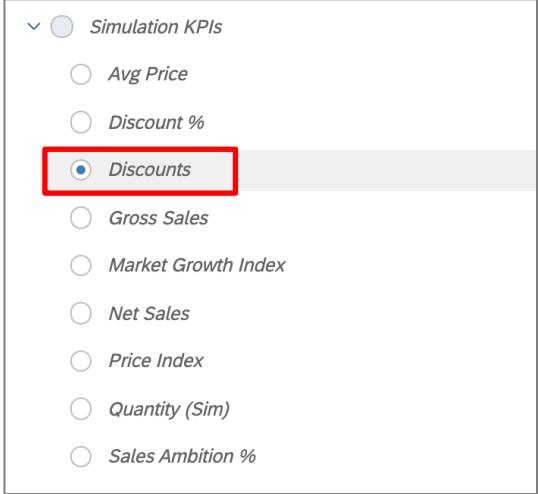
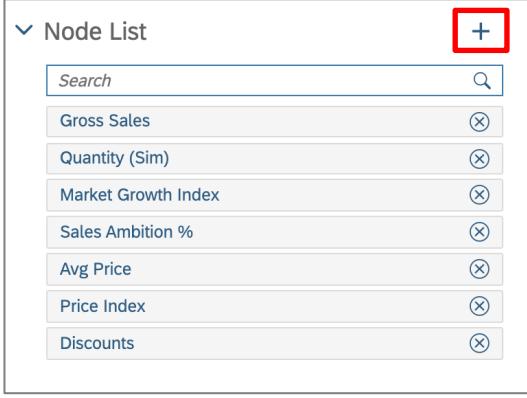
The screenshot shows the SAP CEP Sales Planning builder panel with the "Node List" section expanded. A red box highlights the new entry "Untitled" in the list, which is marked with a red exclamation point icon. The other entries in the list are: Search, Gross Sales, Quantity (Sim), Market Growth Index, Sales Ambition %, Avg Price, and Price Index.

50. First, you need to specify to which member of the account dimension should be linked. Click on **Add Measure**.

The screenshot shows the 'Builder' application interface. At the top, it says 'Node' and 'Untitled'. Below that is the 'Measure' section, which includes a 'Cross Calculation' area with a 'Default Currency' dropdown and a '+ Add Cross Calculation' button. There is also a 'Filter' section with two items: 'Date (1)' (2021 - 2024) and 'Version (1)' (Simulation), each with edit and delete icons. Below these are '+ Add Filter' and '+ Relationships' sections. Under '+ Relationships', there are 'Parents' and 'Children' sections, each with a '+ Add Parent' or '+ Add Child' button.

51. In the drop-down box, click on **Select Measure**.

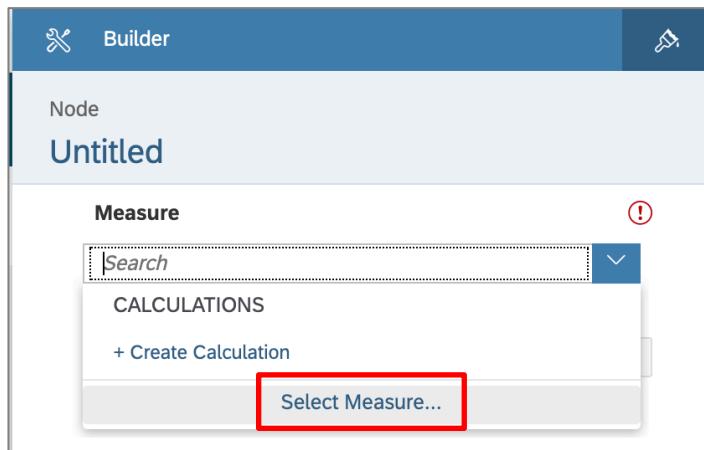
The screenshot shows a dropdown menu titled 'Measure'. It has a search bar at the top. Below the search bar is a 'CALCULATIONS' section with a '+ Create Calculation' button. At the bottom of the dropdown is a large button labeled 'Select Measure...'. A red box highlights this 'Select Measure...' button.

52. Select Discounts from the member list.	
53. Click into the name field for the node to change the title from Untitled to Discounts .	
54. Switch back to the Default Node Configuration .	
55. Add another node to the tree.	
56. Click on the new element named Untitled .	

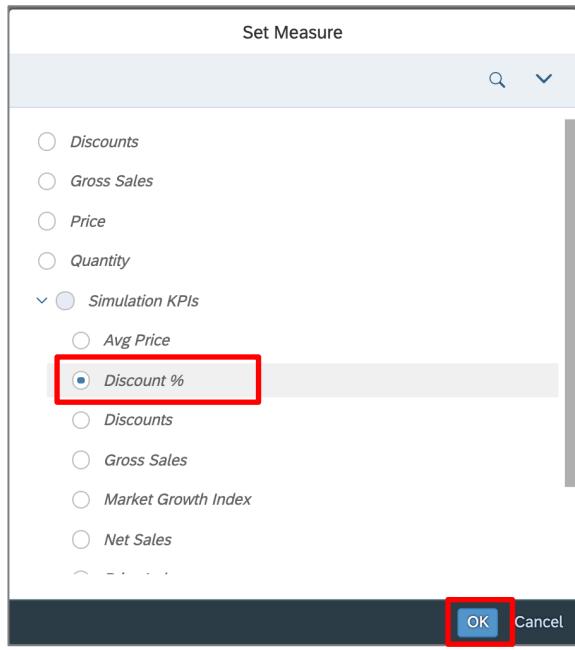
57. Click on **Add Measure** to link the node to an element of the account dimension.



58. In the drop-down box, click on **Select Measure**.



59. Select **Discount %** from the list.
60. Click **OK**.



<p>61. Change the node name to Discounts %.</p>	
<p>62. In the section Relationships you can establish the relation to other nodes of the tree. Click on Add Parent to define the parent node for Discount %, i.e. the node which is influenced by the value of Discount%.</p>	<p>Relationships</p> <p>Parents</p> <p>+ Add Parent</p> <p>Children</p> <p>+ Add Child</p>
<p>63. Select Discount from the list since a change in Discount % will change the absolute discounts.</p>	<p>Relationships</p> <p>Parents</p> <p>Gross Sales</p> <p>Quantity (Sim)</p> <p>Market Growth Index</p> <p>Sales Ambition %</p> <p>Avg Price</p> <p>Price Index</p> <p>Discounts</p>
<p>64. As a result, you can see that the relationship between the nodes is also graphically shown in the value driver tree widget.</p>	

65. If you navigate back to the default node settings, you will see the updated node list. Add another node.

The screenshot shows a 'Node List' interface with a search bar at the top. Below the search bar is a list of nodes: Gross Sales, Quantity (Sim), Market Growth Index, Sales Ambition %, Avg Price, Price Index, Discounts, and Discounts %. A red box highlights the '+' button in the top right corner of the list area.

66. A new node named Untitled will be added to the list. Click on the new element to configure the node.

The screenshot shows the same 'Node List' interface as above, but now it includes a new node named 'Untitled'. The 'Untitled' node is highlighted with a red box. It has a warning icon (!) and a delete icon (X) next to it.

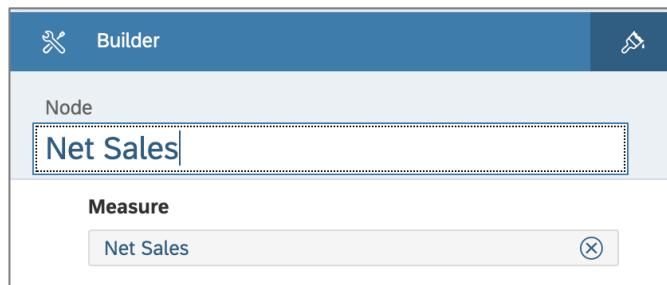
67. Click on **Add Measure** to connect the node to a measure.

The screenshot shows a 'Builder' interface. The top bar says 'Builder'. Below it, the word 'Node' is followed by 'Untitled'. Under the 'Measure' section, there is a button labeled '+ Add Measure' which is highlighted with a red box.

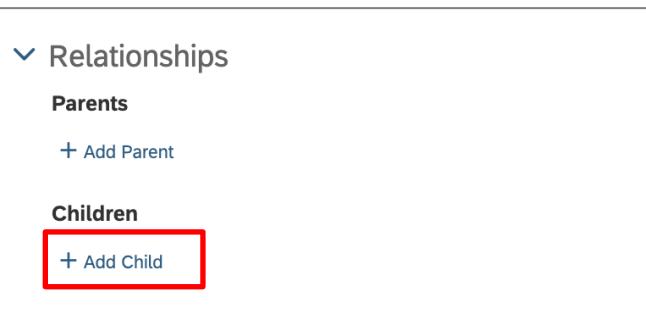
68. Select **Net Sales** from the list.

The screenshot shows a list of measures under a 'Simulation KPIs' category. The measures listed are Avg Price, Discount %, Discounts, Gross Sales, Market Growth Index, Net Sales, Price Index, and Quantity (Sim). The 'Net Sales' option is selected and highlighted with a red box.

69. Rename the node to **Net Sales**.



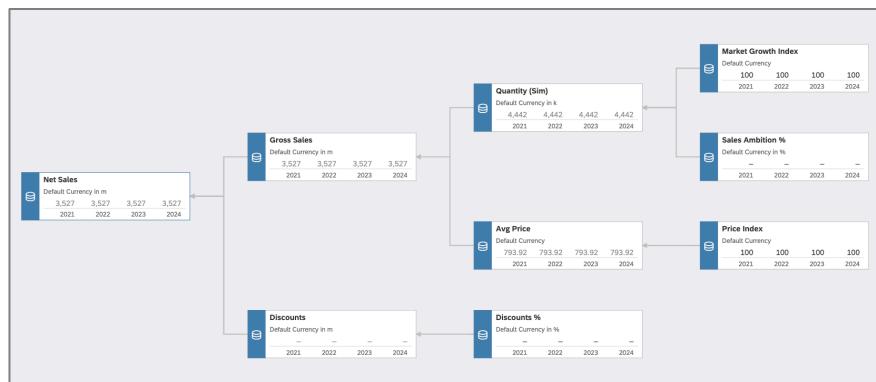
70. Establish the relationships to other nodes. Since Net Sales is the top node of the tree you need to configure the children meaning the nodes which will impact Net Sales. Click on **Add Child**.



71. Connect Net Sales to the two nodes **Gross Sales** and **Discounts**.



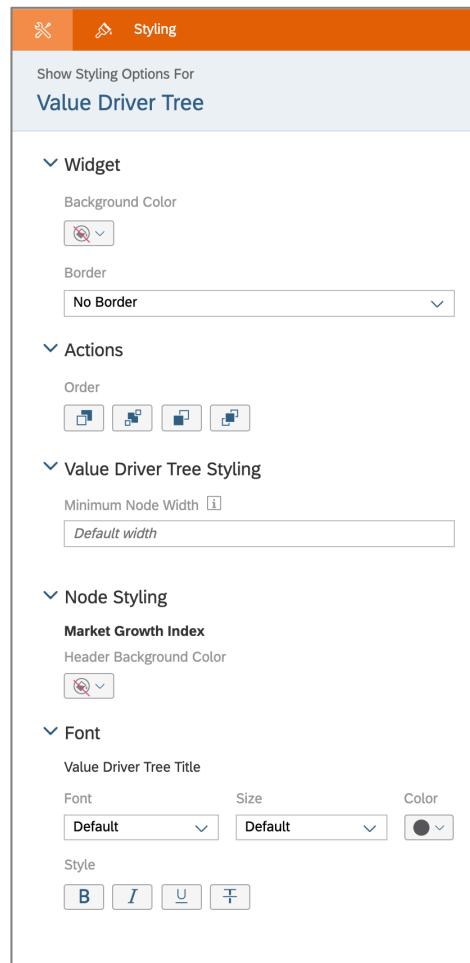
72. The final structure of the tree should look like this.



73. Change some driver values and watch how Net Sales is impacted.
74. Next, we will change the styling of the driver nodes, i.e. the nodes at the bottom of the tree which can be changed by the users. Click on the node **Market Growth Index**.



75. In the builder panel, switch to the **Styling** view.



76. In the section **Node Styling**, change the **Header Background Color** of the node.

Node Styling

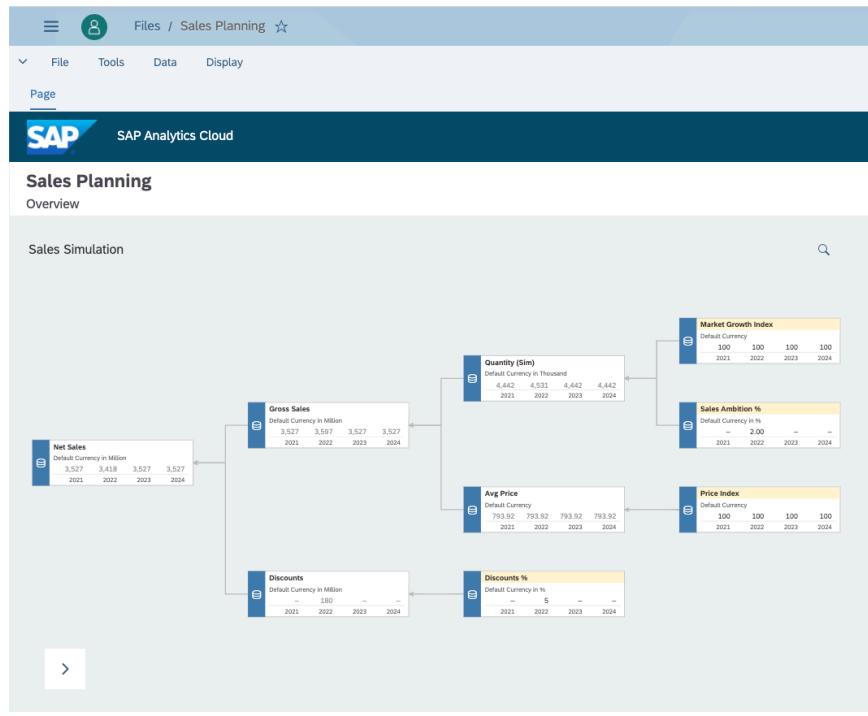
Market Growth Index

Header Background Color

77. The header of the node will be displayed with a different background color.

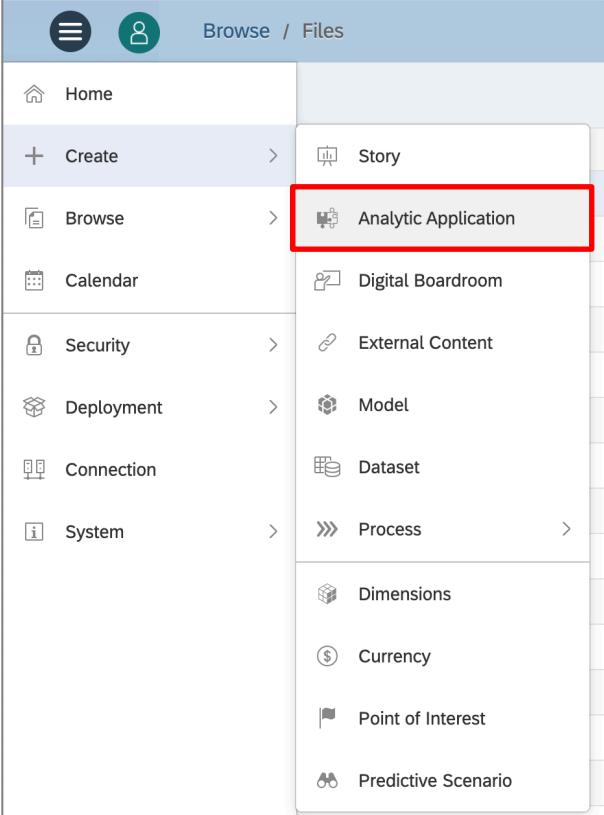
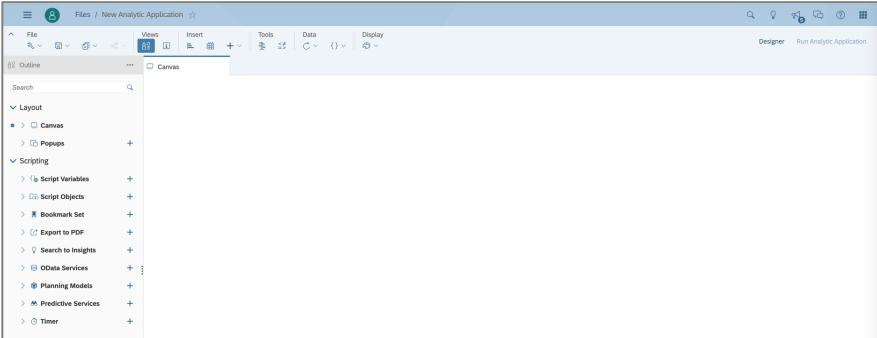


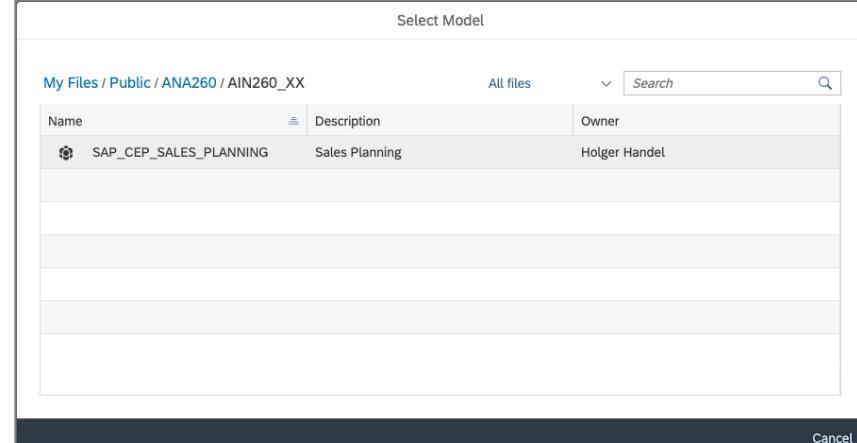
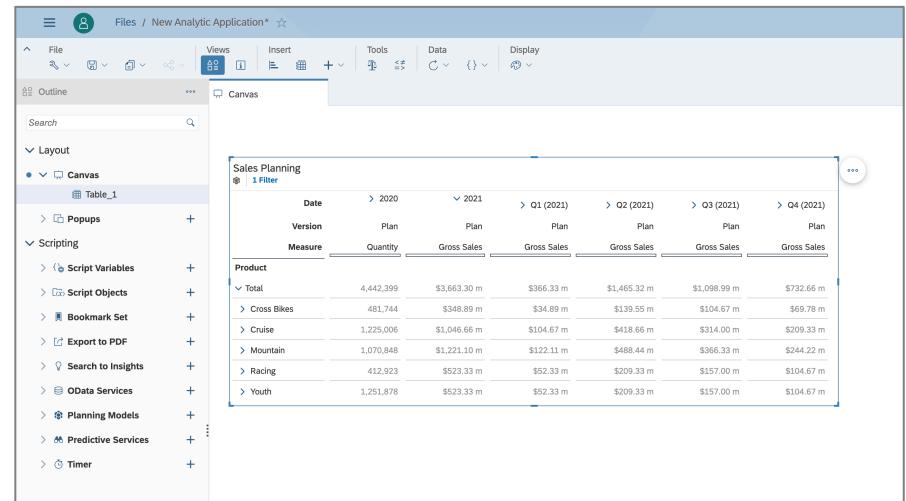
78. Repeat the procedure for the nodes **Sales Ambition %**, **Price Index** and **Discounts %**.



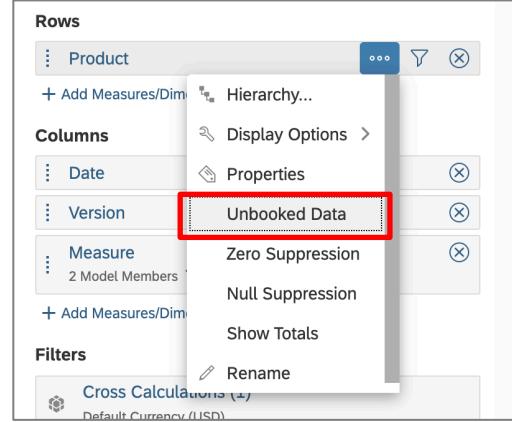
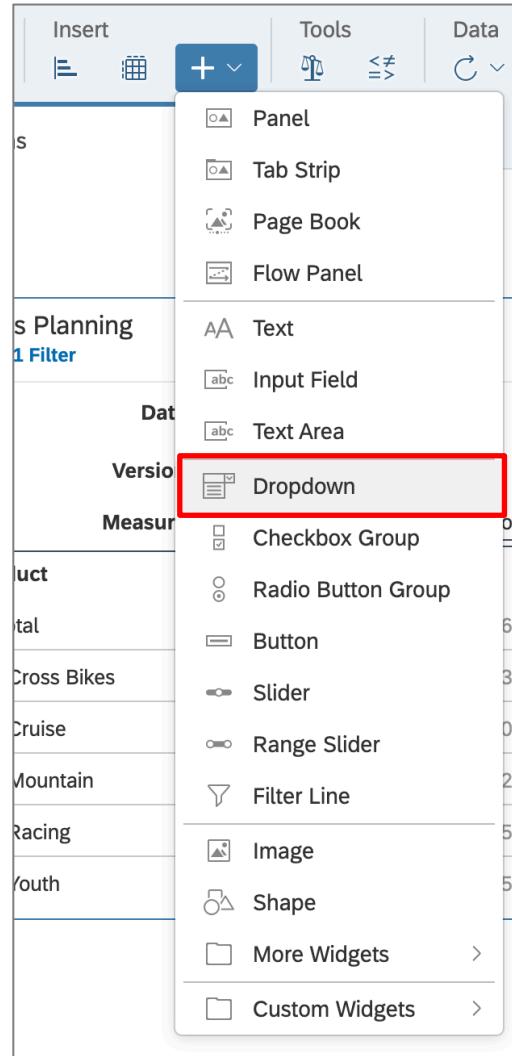
EXERCISE 2

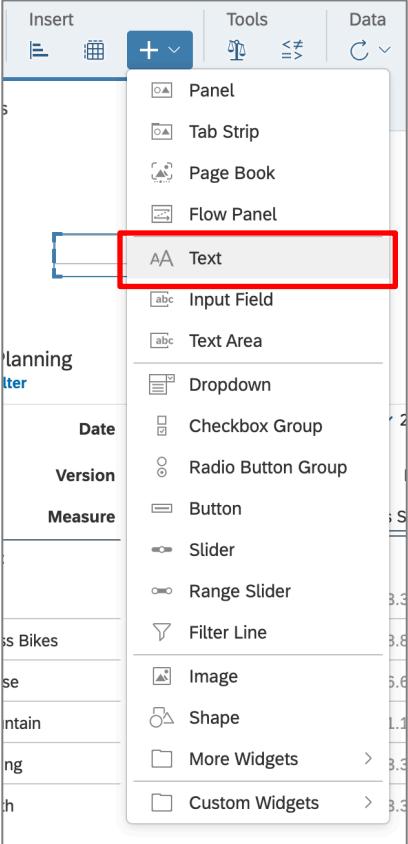
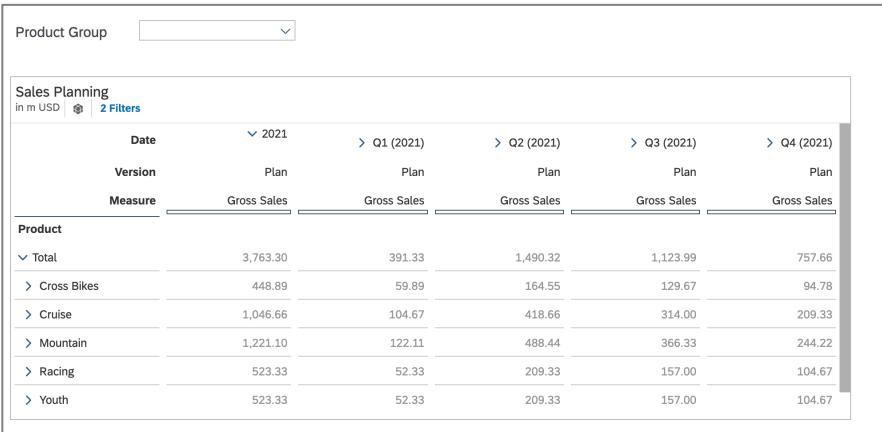
In this exercise you will create an analytic application. In this application you will make use of different APIs which are relevant for planning use-cases like version publish but also master data creation.

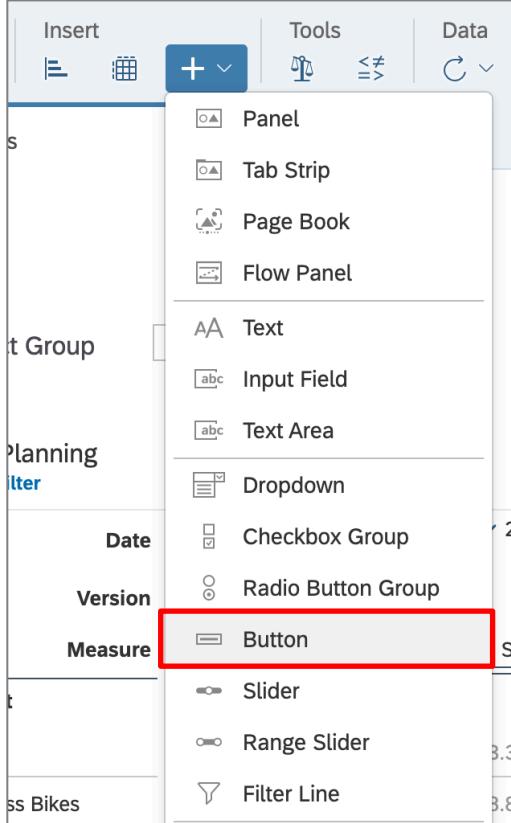
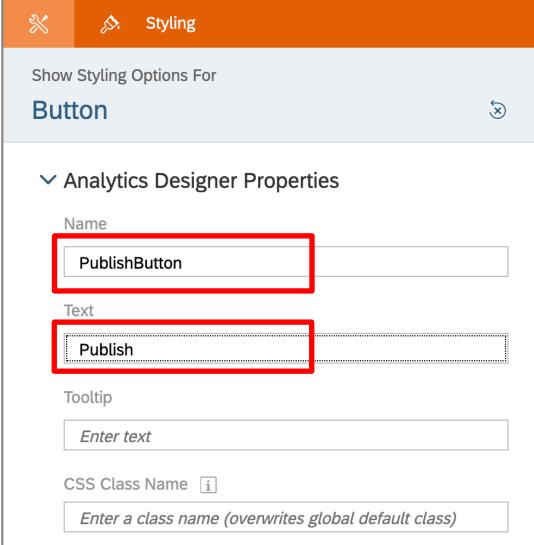
Explanation	Screenshot
<p>1. From the main menu, create a new Analytic Application.</p>	
<p>2. A new analytic application is created with an empty canvas.</p>	
<p>3. From the toolbar, add a table component to the canvas.</p>	

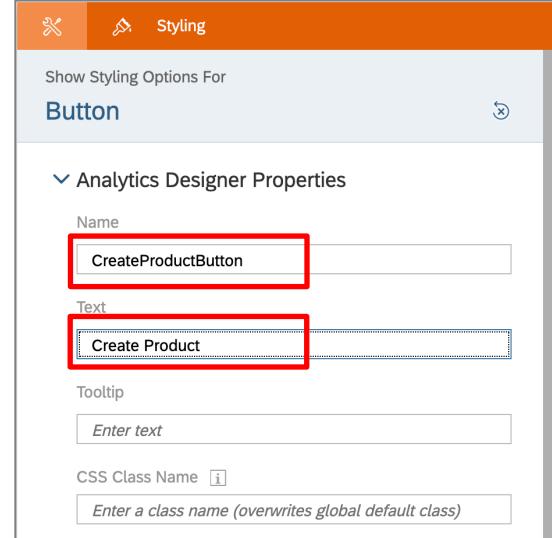
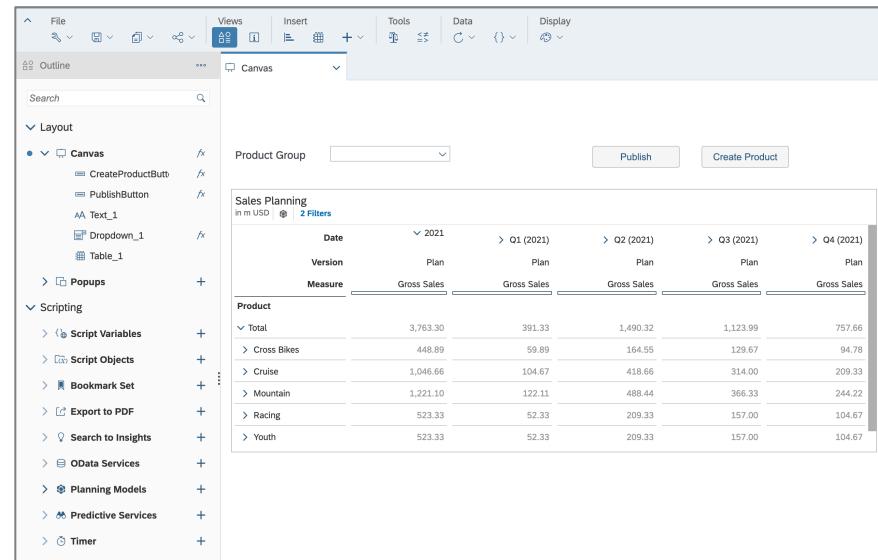
Explanation	Screenshot
<p>4. Select the model SAP_CEP_SALES_PLANNING from My Files / Public / ANA260 / AIN260_XX as the data model for the table.</p>	
<p>5. Place the table on the canvas and provide a title.</p>	

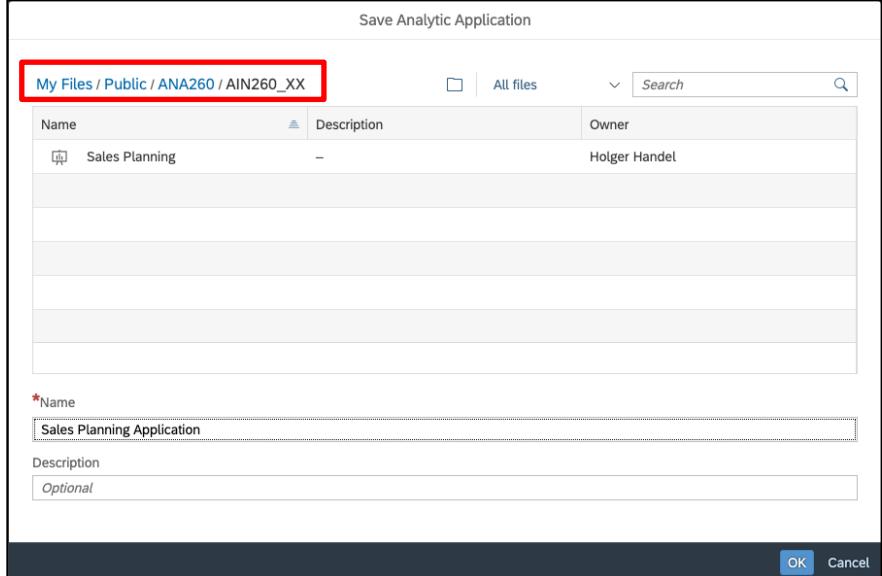
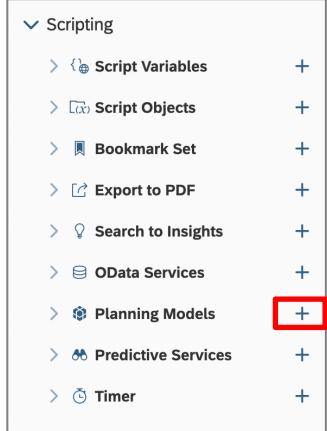
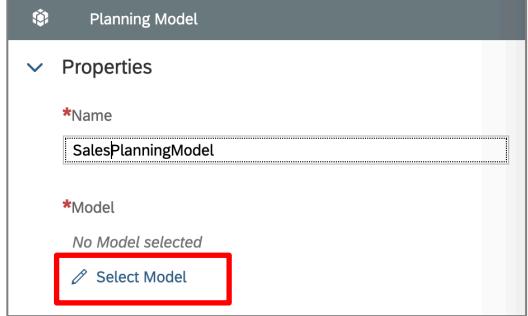
Explanation	Screenshot
<p>6. In the Builder panel for the table, adjust the configuration as shown.</p> <p><u>Beta table:</u></p> <ul style="list-style-type: none"> • selected <p><u>Rows:</u></p> <ul style="list-style-type: none"> • Product <p><u>Columns:</u></p> <ul style="list-style-type: none"> • Date • Version • Measure <p><u>Filters:</u></p> <ul style="list-style-type: none"> • Product: Total • Date: 2021 • Measures: Gross Sales • Version: public.Plan 	

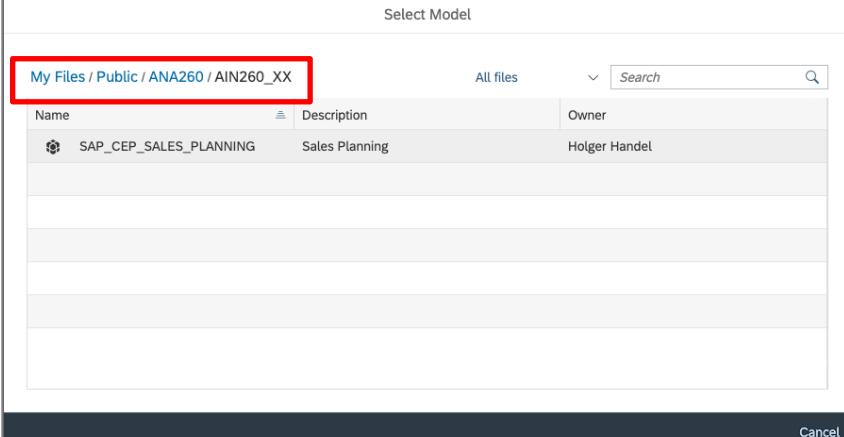
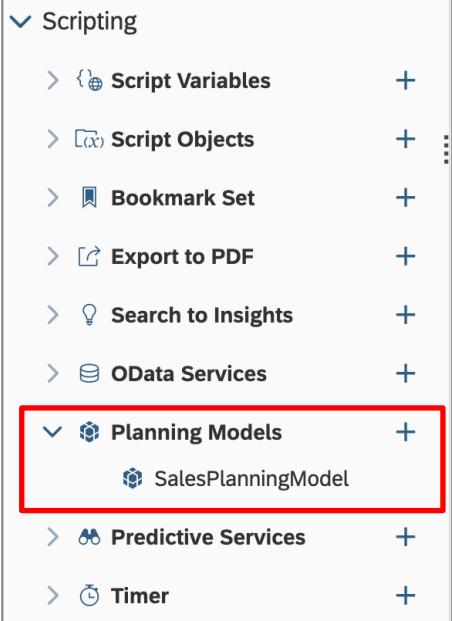
Explanation	Screenshot
7. Set the Product dimension to Unbooked Data .	 <p>The screenshot shows the Tableau interface with a context menu open over the 'Product' dimension in the Rows section. The menu includes options like 'Hierarchy...', 'Display Options', 'Properties', and 'Unbooked Data'. The 'Unbooked Data' option is highlighted with a red box.</p>
8. Add a Dropdown component from the toolbar.	 <p>The screenshot shows the Tableau interface with the 'Insert' toolbar open. The 'Dropdown' component is highlighted with a red box in the list of available components.</p>

Explanation	Screenshot																																																						
9. Add a Text component from the toolbar.																																																							
10. Click into the text field to enter a text. Enter Product Group as the text.																																																							
11. Arrange the components on the canvas as shown in the screenshot with the text field and the drop-down box above the table component.	 <table border="1"> <thead> <tr> <th>Date</th> <th>2021</th> <th>> Q1 (2021)</th> <th>> Q2 (2021)</th> <th>> Q3 (2021)</th> <th>> Q4 (2021)</th> </tr> <tr> <th>Version</th> <th>Plan</th> <th>Plan</th> <th>Plan</th> <th>Plan</th> <th>Plan</th> </tr> <tr> <th>Measure</th> <th>Gross Sales</th> <th>Gross Sales</th> <th>Gross Sales</th> <th>Gross Sales</th> <th>Gross Sales</th> </tr> </thead> <tbody> <tr> <td>Total</td> <td>3,763.30</td> <td>391.33</td> <td>1,490.32</td> <td>1,123.99</td> <td>757.66</td> </tr> <tr> <td>Cross Bikes</td> <td>448.89</td> <td>59.89</td> <td>164.55</td> <td>129.67</td> <td>94.78</td> </tr> <tr> <td>Cruise</td> <td>1,046.66</td> <td>104.67</td> <td>418.66</td> <td>314.00</td> <td>209.33</td> </tr> <tr> <td>Mountain</td> <td>1,221.10</td> <td>122.11</td> <td>488.44</td> <td>366.33</td> <td>244.22</td> </tr> <tr> <td>Racing</td> <td>523.33</td> <td>52.33</td> <td>209.33</td> <td>157.00</td> <td>104.67</td> </tr> <tr> <td>Youth</td> <td>523.33</td> <td>52.33</td> <td>209.33</td> <td>157.00</td> <td>104.67</td> </tr> </tbody> </table>	Date	2021	> Q1 (2021)	> Q2 (2021)	> Q3 (2021)	> Q4 (2021)	Version	Plan	Plan	Plan	Plan	Plan	Measure	Gross Sales	Total	3,763.30	391.33	1,490.32	1,123.99	757.66	Cross Bikes	448.89	59.89	164.55	129.67	94.78	Cruise	1,046.66	104.67	418.66	314.00	209.33	Mountain	1,221.10	122.11	488.44	366.33	244.22	Racing	523.33	52.33	209.33	157.00	104.67	Youth	523.33	52.33	209.33	157.00	104.67				
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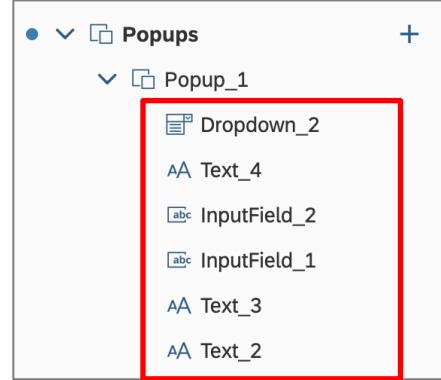
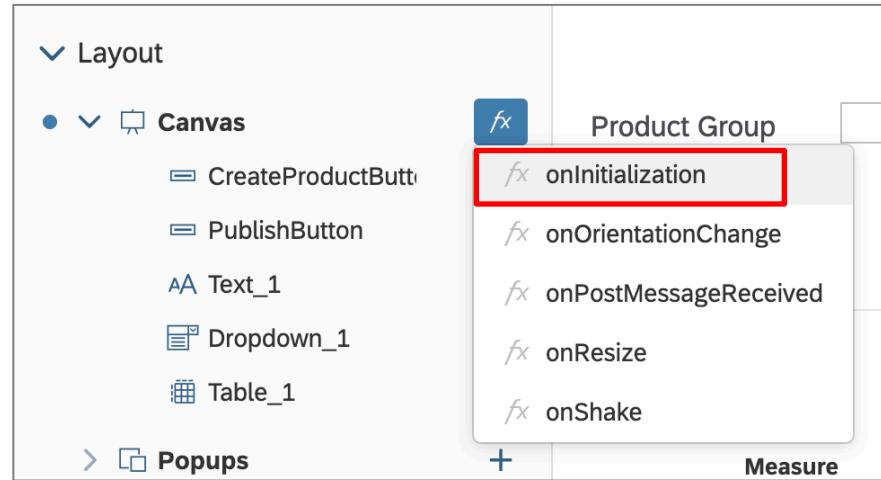
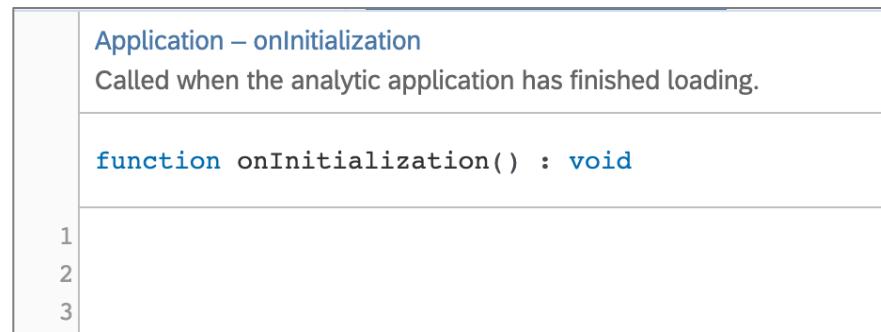
Explanation	Screenshot
12. Add two Buttons from the toolbar.	
13. Select the first button component in the canvas and open the Builder panel. In the Styling view, adjust Name and Text for the button as shown.	

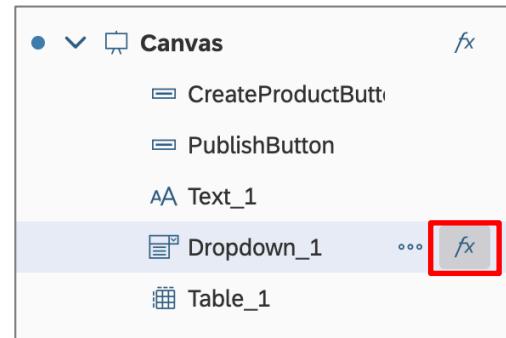
Explanation	Screenshot																																																								
<p>14. Repeat the steps for the second button to adjust Name and Text accordingly.</p>	 <p>The screenshot shows the 'Styling' dialog for a 'Button' component. The 'Analytics Designer Properties' section is open. The 'Name' field contains 'CreateProductButton' and the 'Text' field contains 'Create Product'. Both fields are highlighted with red boxes. Other visible fields include 'Tooltip' (with placeholder 'Enter text') and 'CSS Class Name' (with placeholder 'Enter a class name (overwrites global default class)').</p>																																																								
<p>15. Arrange the components in the canvas as shown.</p>	 <p>The screenshot shows the Analytics Designer canvas. The left sidebar shows the 'Layout' panel with components: 'Canvas' (containing 'CreateProductButton', 'PublishButton', 'Text_3', 'Dropdown_1', 'Table_1'), 'Popups', and 'Scripting'. The main area displays a 'Sales Planning' grid titled 'in m USD'. The grid has columns for 'Date' (2021), 'Version' (Plan), 'Measure' (Gross Sales), and four quarters (Q1, Q2, Q3, Q4). The data includes:</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Version</th> <th>Measure</th> <th>Q1 (2021)</th> <th>Q2 (2021)</th> <th>Q3 (2021)</th> <th>Q4 (2021)</th> </tr> </thead> <tbody> <tr> <td>2021</td> <td>Plan</td> <td>Gross Sales</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>3,763.30</td> <td>391.33</td> <td>1,490.32</td> <td>1,123.99</td> </tr> <tr> <td>Cross Bikes</td> <td></td> <td></td> <td>448.89</td> <td>59.89</td> <td>164.55</td> <td>129.67</td> </tr> <tr> <td>Cruise</td> <td></td> <td></td> <td>1,046.66</td> <td>104.67</td> <td>418.66</td> <td>314.00</td> </tr> <tr> <td>Mountain</td> <td></td> <td></td> <td>1,221.10</td> <td>122.11</td> <td>488.44</td> <td>366.33</td> </tr> <tr> <td>Racing</td> <td></td> <td></td> <td>523.33</td> <td>52.33</td> <td>209.33</td> <td>157.00</td> </tr> <tr> <td>Youth</td> <td></td> <td></td> <td>523.33</td> <td>52.33</td> <td>209.33</td> <td>157.00</td> </tr> </tbody> </table>	Date	Version	Measure	Q1 (2021)	Q2 (2021)	Q3 (2021)	Q4 (2021)	2021	Plan	Gross Sales					Total			3,763.30	391.33	1,490.32	1,123.99	Cross Bikes			448.89	59.89	164.55	129.67	Cruise			1,046.66	104.67	418.66	314.00	Mountain			1,221.10	122.11	488.44	366.33	Racing			523.33	52.33	209.33	157.00	Youth			523.33	52.33	209.33	157.00
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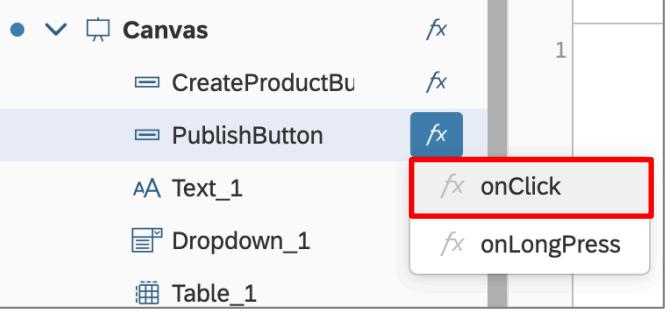
Explanation	Screenshot
<p>16. Save the Analytic Application. Make sure that folder My Files/ Public / ANA260 / AIN260_XX is selected.</p>	
<p>17. In the Scripting section of the outline view, add a new Planning Model.</p>	
<p>18. Enter SalesPlanningModel as the name for the model. 19. Click on Select Model.</p>	

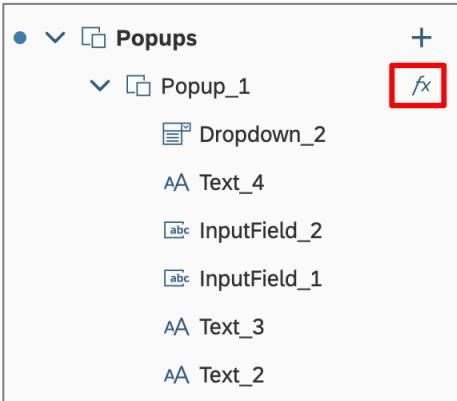
Explanation	Screenshot						
<p>20. Select SAP_CEP_SALES_PLANNING from My files / Public / ANA260 / AIN260_XX.</p>	 <table border="1"> <thead> <tr> <th>Name</th> <th>Description</th> <th>Owner</th> </tr> </thead> <tbody> <tr> <td>SAP_CEP_SALES_PLANNING</td> <td>Sales Planning</td> <td>Holger Handel</td> </tr> </tbody> </table>	Name	Description	Owner	SAP_CEP_SALES_PLANNING	Sales Planning	Holger Handel
Name	Description	Owner					
SAP_CEP_SALES_PLANNING	Sales Planning	Holger Handel					
<p>21. The new planning model is shown in the Scripting section of the outline view. This object is bound to the planning model and can be used to call some planning related API's.</p>	 <ul style="list-style-type: none"> < Scripting <ul style="list-style-type: none"> > Script Variables + > Script Objects + > Bookmark Set + > Export to PDF + > Search to Insights + > OData Services + < Planning Models + <ul style="list-style-type: none"> SalesPlanningModel > Predictive Services + > Timer + 						
<p>22. Create a new Popup window.</p>	 <ul style="list-style-type: none"> < Layout <ul style="list-style-type: none"> > Canvas > Popups + 						

Explanation	Screenshot
<p>23. In the Builder panel for the popup, switch on Enable header & footer.</p> <p>24. Enter a title for the popup</p>	
<p>25. Add three text fields, two input fields and a drop-down component to the popup.</p> <p>26. Arrange the components as shown and provide the texts for the text fields.</p>	

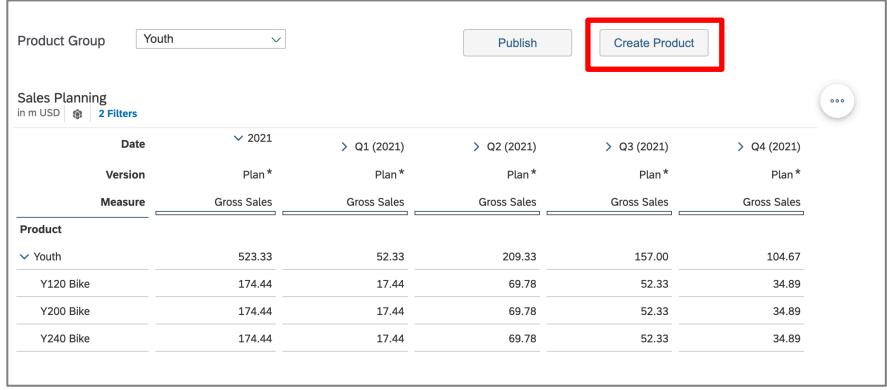
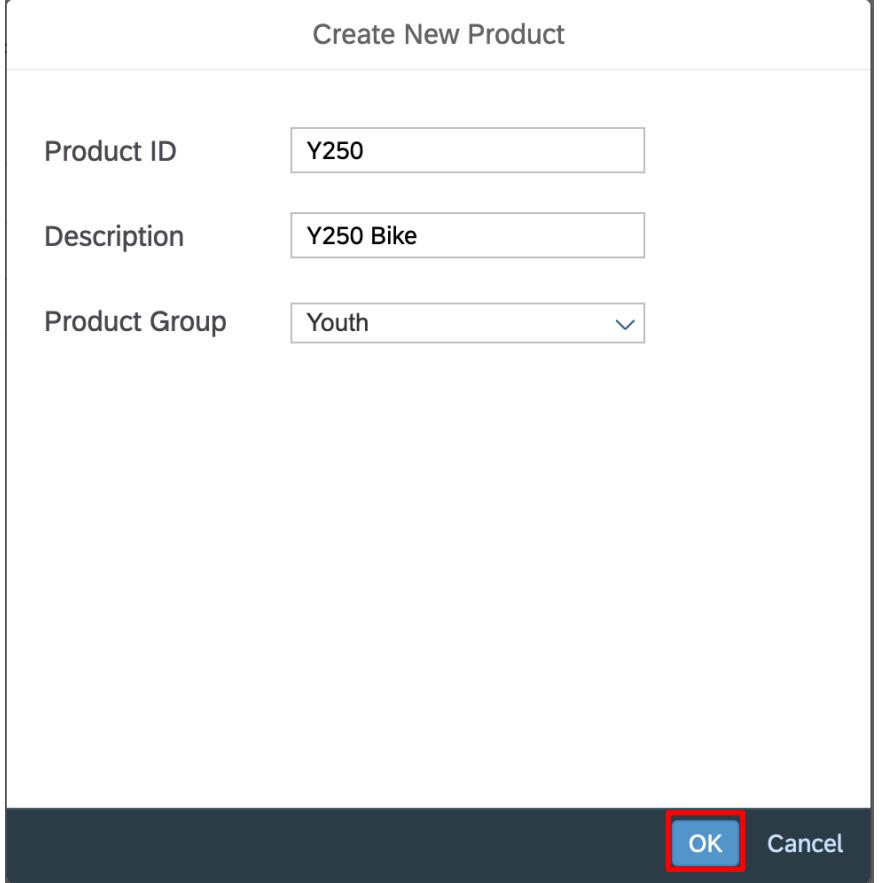
Explanation	Screenshot
27. You should see the following components for the Popup window in the outline.	 <pre> ● • Popups + Popups_1 + Dropdown_2 + Text_4 + InputField_2 + InputField_1 + Text_3 + Text_2 </pre>
28. Open the onInitialization() event handler for the canvas.	 <pre> ▼ Layout ● • Canvas + CreateProductButton + PublishButton + Text_1 + Dropdown_1 + Table_1 </pre> <p style="text-align: right;">Product Group</p> <p style="text-align: right;">Measure</p>
29. The onInitialization() handler is called when the application has finished loading.	 <p>Application – onInitialization</p> <p>Called when the analytic application has finished loading.</p> <pre> function onInitialization() : void 1 2 3 </pre>

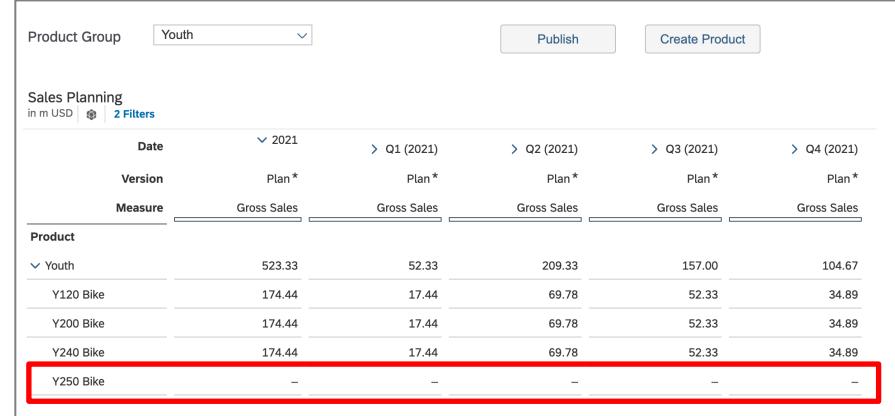
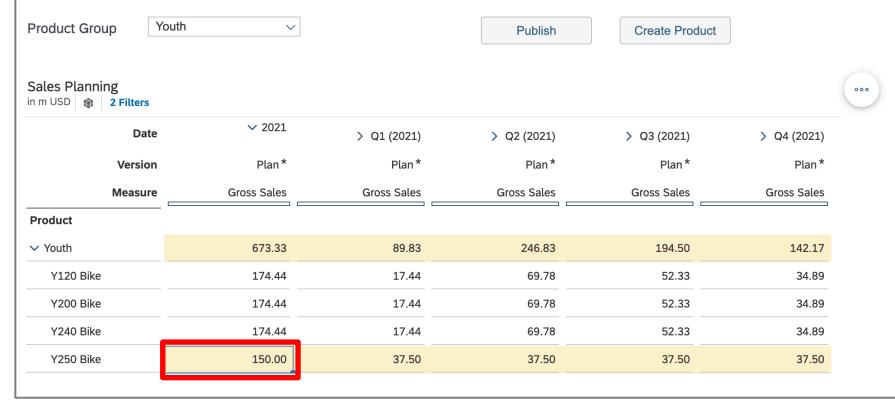
Explanation	Screenshot
<p>30. Provide the script for the event handler. You can either enter the script manually as shown in the screenshot or copy & paste from the file provided in the additional downloads for the exercise.</p> <p>31. In the event handler, the application loads the members of the Product dimension. The elements representing product groups are used to populate the drop-down menus in the application.</p>	<pre>Application – onInitialization Called when the analytic application has finished loading. function onInitialization() : void 1 // add the member ALL to the drop down list 2 Dropdown_1.addItem("ALL", "All"); 3 4 // get the elements of the dimension SAP_CEP_PRODUCT from the planning model object 5 var productGroups = SalesPlanningModel.getMembers("SAP_CEP_PRODUCT"); 6 7 // loop over all the elements and pick the product group members to the drop down menus 8 var num_items = 0; 9 for (var i=0;i<productGroups.length;i++) { 10 // if the element has TOTAL as parent it represents a product group 11 if (productGroups[i].hierarchies.H1.parentId=="TOTAL") { 12 // add the product group element to the two drop down menus 13 Dropdown_1.addItem(productGroups[i].id, productGroups[i].description); 14 Dropdown_2.addItem(productGroups[i].id, productGroups[i].description); 15 if (num_items==0) { 16 // if the first element is processed set it as the selected item for DropDown_2 17 // Note: DropDown_2 is the drop down menu of the popup window 18 Dropdown_2.setSelectedKey(productGroups[i].id); 19 } 20 num_items++; 21 } 22 } 23 24 // set the ALL item as the selected item for DropDown_1 (drop down menu of the main canvas) 25 Dropdown_1.setSelectedKey("ALL");</pre>
<p>32. Open the onSelect() event handler for the component Dropdown_1.</p>	
<p>33. The onSelect() handler is called when the user selects an item from the drop down menu.</p>	<pre>Dropdown_1 – onSelect Called when the user selects an item in the dropdown. function onSelect() : void</pre>

Explanation	Screenshot
34. Provide the script for the event handler. The key of the selected item is used to set the filter for the table. If item ALL is selected, the filter is removed.	<pre data-bbox="584 371 1449 650"> Dropdown_1 – onSelect Called when the user selects an item in the dropdown. function onSelect() : void 1 2 // get the selected key 3 var selectedItem = Dropdown_1.getSelectedKey(); 4 if (selectedItem === "ALL") { 5 // remove dimension filter in case user chooses ALL member 6 Table_1.getDataSource().removeDimensionFilter("SAP_CEP_PRODUCT"); 7 } else { 8 // get selected member id from dropdown box and set the dimension filter 9 Table_1.getDataSource().setDimensionFilter("SAP_CEP_PRODUCT", "[SAP_CEP_PRODUCT].[H1].&[" + selectedItem + "]"); 10 } 11 </pre>
35. Open the event handler onClick() for the PublishButton component.	
36. The event handler is called when the user clicks on the button. Provide the script to publish the plan version.	<pre data-bbox="616 1047 1400 1336"> PublishButton – onClick Called when the user clicks the button. function onClick() : void 1 2 // publish the plan version 3 Table_1.getPlanning().getPublicVersion("Plan").publish(); 4 </pre>
37. Open the event handler onClick() for the button CreateProductButton.	

Explanation	Screenshot
38. Provide the script for the event handler. The script initializes the components of the popup window and opens the window at the end.	<p>CreateProductButton – onClick Called when the user clicks the button.</p> <pre data-bbox="595 454 1428 876"> function onClick() : void { // set initial values for the input fields InputField_1.setValue("NEW_PRODUCT"); InputField_2.setValue("New Product"); // get the selected product group var selectedProductGroup = Dropdown_1.getSelectedKey(); if (selectedProductGroup !== "ALL") { // initialize the drop down menu of the popup window with the product group // selected in the canvas Dropdown_2.setSelectedKey(selectedProductGroup); } // open the popup window Popup_1.open(); }</pre>
39. Open the event handler for the popup window.	
40. The event handler is called when the user clicks on a button in the footer of the popup.	<p>Popup_1 – onButtonClick Called when the user clicks any button in the footer of the popup.</p> <pre data-bbox="628 1510 1281 1615"> function onButtonClick(buttonId: string) : void { }</pre>

Explanation	Screenshot
<p>41. Provide the script for the event handler. The script reads the user inputs for the new product id, description and the product group to which the product should belong to. Then, a new dimension member is created using the API provided by the planning model object. Finally, the table is refreshed, and the popup is closed.</p>	<pre> Popup_1 – onButtonClick Called when the user clicks any button in the footer of the popup. function onButtonClick(buttonId: string) : void 1 2 // button1 represents th OK button 3 if (buttonId === "button1") { 4 // get the values the user has entered (id, description and product group) 5 var productId = InputField_1.getValue(); 6 var productDesc = InputField_2.getValue(); 7 var parentId = Dropdown_2.getSelectedKey(); 8 9 // create a new element for the dimension product with the user inputs 10 SalesPlanningModel.createMembers("SAP_CEP_PRODUCT", { 11 id: productId, 12 description: productDesc, 13 hierarchies: { 14 H1: {parentId: parentId} 15 } 16 }); 17 } 18 19 // refresh the table 20 Table_1.getDataSource().refreshData(); 21 // close the popup window 22 Popup_1.close(); </pre>
<p>42. Save the application and hit the Run Analytic Application button to start the application.</p>	

Explanation	Screenshot
<p>43. Select a product group from the drop-down box.</p> <p>44. Click on the Create Product button.</p>	 <p>The screenshot shows a Sales Planning interface. At the top, there is a dropdown menu labeled "Product Group" set to "Youth", a "Publish" button, and a red-bordered "Create Product" button. Below this is a table titled "Sales Planning in m USD" with filters for "2 Filters". The table has columns for Date (2021), Version, Measure (Gross Sales), and Plan* for Q1, Q2, Q3, and Q4 (2021). The data grid lists products like Y120 Bike, Y200 Bike, and Y240 Bike with their respective sales figures.</p>
<p>45. Provide the information for the new product.</p> <p>46. When finished click on OK.</p>	 <p>The screenshot shows a "Create New Product" dialog box. It includes fields for "Product ID" (Y250), "Description" (Y250 Bike), and "Product Group" (Youth, with a dropdown arrow). At the bottom right of the dialog is a dark blue bar containing the "OK" button, which is also highlighted with a red box.</p>

Explanation	Screenshot																																																			
47. When the popup window is closed you can see the new product in the table.	 <p>The screenshot shows a sales planning interface for the Youth product group. The table displays Gross Sales for five products across four quarters (Q1, Q2, Q3, Q4) of 2021. A new product, Y250 Bike, has been added to the table, which is highlighted with a red box.</p> <table border="1"> <thead> <tr> <th rowspan="2">Product</th> <th colspan="5">Sales Planning in m USD 2 Filters</th> </tr> <tr> <th>Date</th> <th>Q1 (2021)</th> <th>Q2 (2021)</th> <th>Q3 (2021)</th> <th>Q4 (2021)</th> </tr> <tr> <th>Version</th> <th>Plan *</th> <th>Plan *</th> <th>Plan *</th> <th>Plan *</th> </tr> <tr> <th>Measure</th> <th>Gross Sales</th> <th>Gross Sales</th> <th>Gross Sales</th> <th>Gross Sales</th> </tr> </thead> <tbody> <tr> <td>>Youth</td> <td>523.33</td> <td>52.33</td> <td>209.33</td> <td>157.00</td> <td>104.67</td> </tr> <tr> <td>Y120 Bike</td> <td>174.44</td> <td>17.44</td> <td>69.78</td> <td>52.33</td> <td>34.89</td> </tr> <tr> <td>Y200 Bike</td> <td>174.44</td> <td>17.44</td> <td>69.78</td> <td>52.33</td> <td>34.89</td> </tr> <tr> <td>Y240 Bike</td> <td>174.44</td> <td>17.44</td> <td>69.78</td> <td>52.33</td> <td>34.89</td> </tr> <tr> <td>Y250 Bike</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> </tbody> </table>	Product	Sales Planning in m USD 2 Filters					Date	Q1 (2021)	Q2 (2021)	Q3 (2021)	Q4 (2021)	Version	Plan *	Plan *	Plan *	Plan *	Measure	Gross Sales	Gross Sales	Gross Sales	Gross Sales	>Youth	523.33	52.33	209.33	157.00	104.67	Y120 Bike	174.44	17.44	69.78	52.33	34.89	Y200 Bike	174.44	17.44	69.78	52.33	34.89	Y240 Bike	174.44	17.44	69.78	52.33	34.89	Y250 Bike	—	—	—	—	—
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