



Embedded Analytics done Low-Code



01

Introduction



02

Architecture



03

CDS Views in Eclipse



04

Demo



05

Reports



06

SAC/Analysis for Office

Introduction



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EY

01

Introduction



02

Architecture



03

CDS Views in Eclipse



04

Demo



05

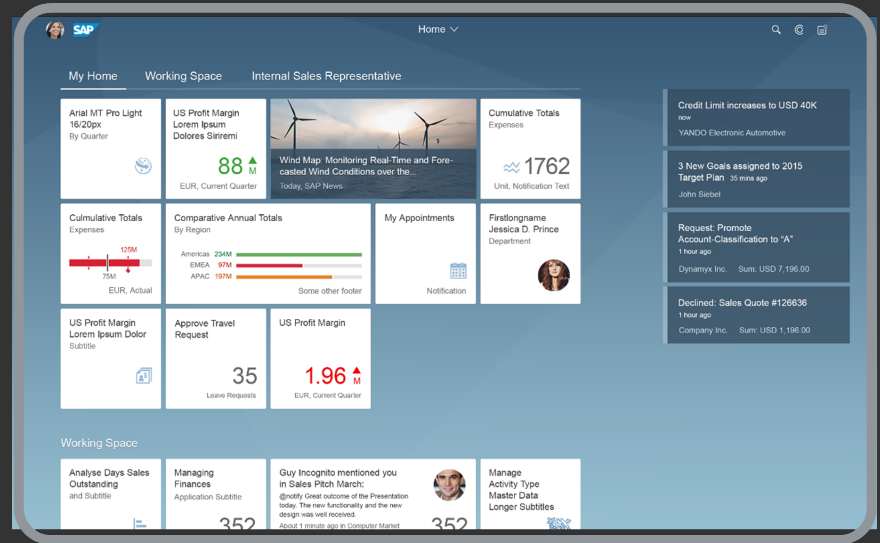
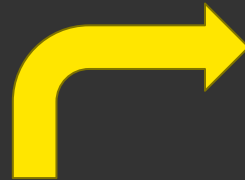
Reports



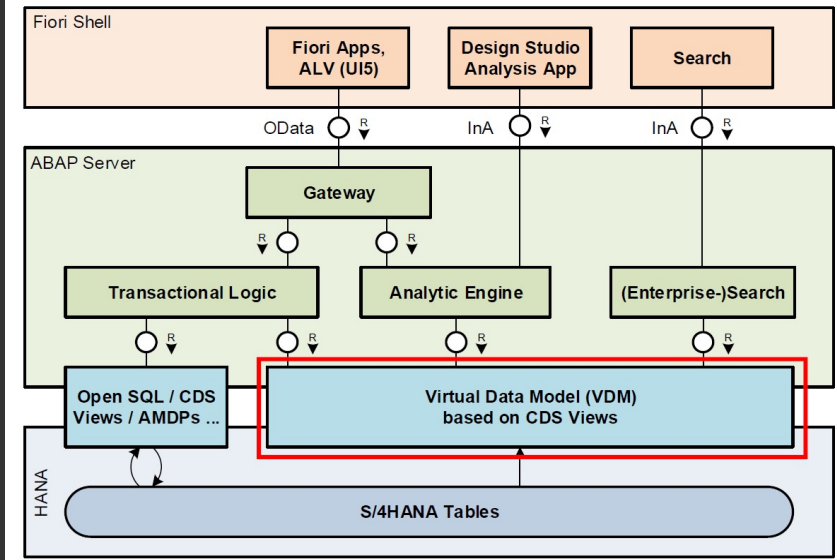
06

SAC/Analysis for Office

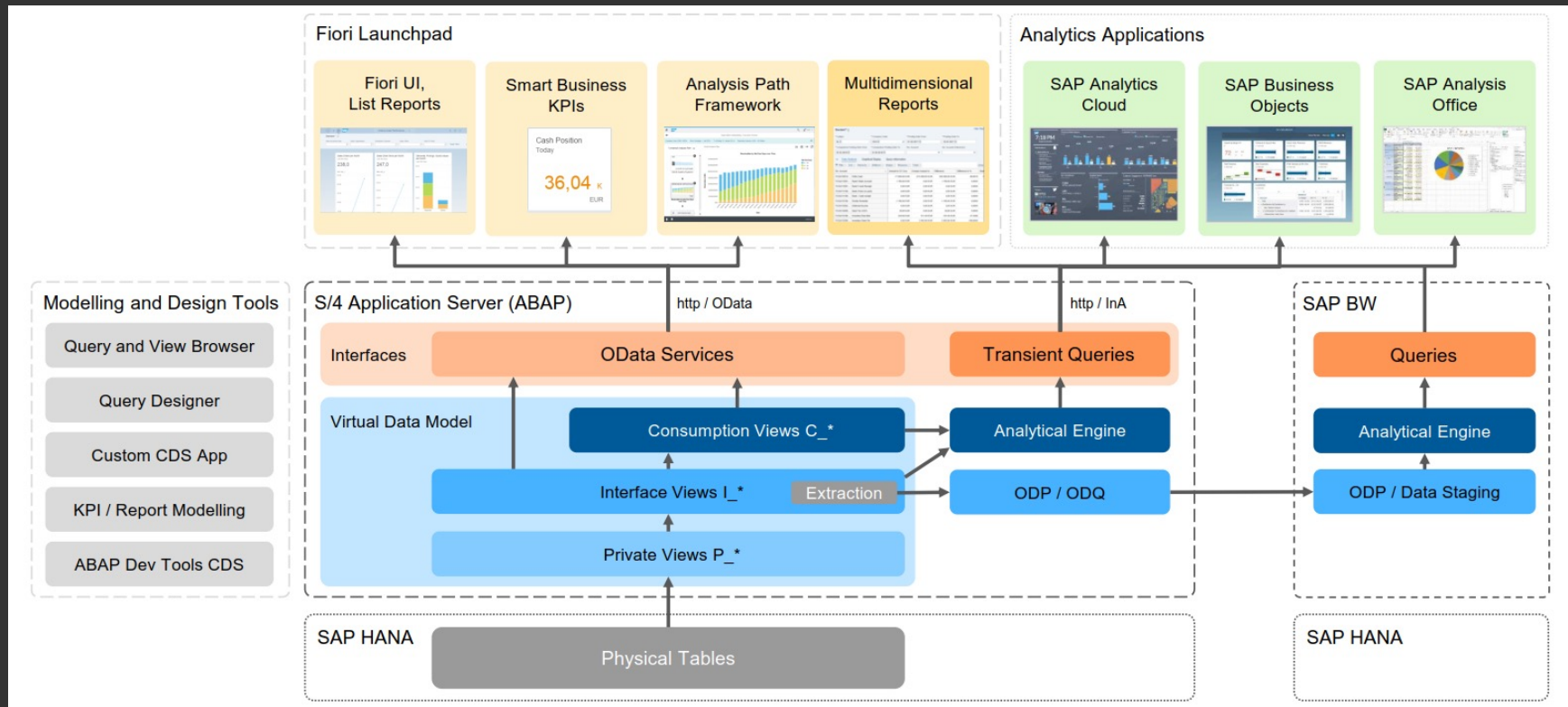
S/4 HANA Architecture



Workspace



SAP S4 Hana Analytics = Virtual data model + Analytical Apps + Design Tools





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01

Introduction



02

Architecture



03

CDS Views in Eclipse



04

Demo



05

Reports



06

SAC/Analysis for Office

CDS views in Eclipse

- ▶ Eclipse = development tool used for ABAP-development (among other things)

```
26
27 define view I_SalesOrderItemCube
28 with parameters
29   P_ExchangeRateType : kurst,
30   P_DisplayCurrency : vdm_v_display_currency
31 as select from I_SalesDocumentItemAnalytics as SDIA
32
33 left outer to one join P_OpnSlsOrdsForDelivAnlyts(P_ExchangeRateType:$parameters.P_ExchangeRateType, P_DisplayCurrency: $parameters.P_DisplayCurrency) as OpnSlsOrdsForDeliv --11.12.2018 & CE1902
34   on SDIA.SalesDocument = OpnSlsOrdsForDeliv.SalesDocument --11.12.2018 & CE1902
35   and SDIA.SalesDocumentItem = OpnSlsOrdsForDeliv.SalesDocumentItem --11.12.2018 & CE1902
36
37 left outer to one join P_OpnSlsOrdsForInvclnAnlyts(P_ExchangeRateType:$parameters.P_ExchangeRateType, P_DisplayCurrency: $parameters.P_DisplayCurrency) as OpnSlsOrdsForInvcln --11.12.2018 & CE1902
38   on SDIA.SalesDocument = OpnSlsOrdsForInvcln.SalesDocument --11.12.2018 & CE1902
39   and SDIA.SalesDocumentItem = OpnSlsOrdsForInvcln.SalesDocumentItem --11.12.2018 & CE1902
40
41 left outer to one join I_UnitOfMeasure as UnitOfMeasure on OrderQuantityUnit = UnitOfMeasure.UnitOfMeasure
42 left outer to one join I_SDDocStandardPartner as StandardPartner on SDIA.SalesDocument = StandardPartner.SDDocument
43 left outer to one join I_SDDocItemStandardPartner as ItemStandardPartner on SDIA.SalesDocument = ItemStandardPartner.SDDocument
44   and SDIA.SalesDocumentItem = ItemStandardPartner.SDDocumentItem
45 left outer to one join I_CalendarDate as CalendarDate on SDIA.CreationDate = CalendarDate.CalendarDate
46 left outer to one join I_CalendarDate as CalendarDateSalesOrder on SDIA.SalesDocumentDate = CalendarDateSalesOrder.CalendarDate
47
48 //I_CustomerProjectItem has been replaced by I_EngagementProjectItem
49 left outer to one join I_EngagementProjectItem as CustomerProjectItem on SDIA.SalesDocument = CustomerProjectItem.EngagementProjectItem
50   and CustomerProjectItem.EngagementProjectItemType = '0SOH'
51 //Associations
52 association [1..1] to I_SalesOrder as _SalesOrder on $projection.SalesOrder = _SalesOrder.SalesOrder
53 association [0..1] to I_SalesOrderType as _SalesOrderType on $projection.SalesOrderType = _SalesOrderType.SalesOrderType
54
55 //I_CustomerProject has been replaced by I_EngagementProject
56 association [0..1] to I_EngagementProject as _CustomerProject on $projection.CustomerProject = _CustomerProject.EngagementProject
57 association [0..1] to I_SalesOrganization as _SalesOrganization on $projection.SalesOrganization = _SalesOrganization.SalesOrganization
58 association [0..1] to I_CustomerClassification as _SoldToPartyClassification on $projection.SoldToPartyClassification = _SoldToPartyClassification.CustomerClassification
59 association [0..1] to I_Customer as _ShipToParty on $projection.ShipToParty = _ShipToParty.Customer
60 association [0..1] to I_Customer as _BillToParty on $projection.BillToParty = _BillToParty.Customer
61 association [0..1] to I_Customer as _PayerParty on $projection.PayerParty = _PayerParty.Customer
62 association [0..1] to I_Employee as _SalesEmployee on $projection.SalesEmployee = _SalesEmployee.PersonnelNumber
63 association [0..1] to I_Employee as _ResponsibleEmployee on $projection.ResponsibleEmployee = _ResponsibleEmployee.PersonnelNumber
64 association [0..1] to I_Product as _Product on $projection.Product = _Product.Product
65
66 //Extensibility
67 association [0..1] to E_SalesDocumentItemBasic as _Extension on $projection.SalesOrder = _Extension.SalesDocument
68   and $projection.SalesDocumentItem = _Extension.SalesDocumentItem
69 {
70   // Keys
71   @ObjectModel.foreignKey.association: '_SalesOrder'
72   // @Consumption.valueHelpDefinition: [ { entity: { name: 'I_SalesOrderStdVH', element: 'SalesOrder' } } ]
73   key cast( SDIA.SalesDocument as vdm_sales_order preserving type ) as SalesOrder,
74   _SalesOrder,
75   key cast( SDIA.SalesDocumentItem as sales_order_item preserving type ) as SalesOrderItem,
76   @ObjectModel.association.type: [#TO_COMPOSITION_CHILD]
77   ScheduleLine,
```



01

Introduction



02

Architecture



03

CDS Views in Eclipse



04

Demo



05

Reports



06

SAC/Analysis for Office

Demo

Case

- Skye Bikes is a Norwegian-based webshop selling cycling equipment
- They have explored standard Fiori apps, but are missing some fields and calculations. They want to have a report that shows:
 - Trend with net value and number of products sold per month
 - Grouped by product group and customers city (with text)
 - Delivery time per product group

Steps

- Use the view browser to discover which existing views can be used
- Create a custom CDS view by associating standard CDS views and add calculations (counting number of line items in sales order and delivery time)
- Create an analytical query with further calculations (average delivery time, total number of products..) and filters.
- Create a drilldown-report.

Demo

The screenshot displays the SAP Fiori 'My Home' dashboard. At the top, the SAP logo is followed by a 'Home' dropdown menu. A navigation bar contains the following links: Change Management and Coordination, My Home (active), Enterprise Search, Output Control, Business Event Handling, Message Monitoring, Advanced Compliance Reporting, Recipes, Substances, and Calculations. Search and user profile icons are located in the top right corner.

The main content area features several tiles:

- View Browser**: Browse Views, with an S/4HANA icon.
- Custom CDS Views**: Represented by a grid and gear icon.
- Custom Analytical Queries**: Represented by a grid and gear icon.
- Manage KPIs and Reports**: Represented by a circular arrow icon.

Below these, the **Enterprise Search** section includes:

- Configure Personalized Search**: Enterprise Search, with a person and gear icon.
- Display Search Models**: Enterprise Search.

The **Output Control** section contains:

- Manage Output Items**: Failed Output Items, with a notification icon showing 0 items.

The **Business Event Handling** section includes:

- Business Event Subscription**: Subscription Manager.
- Business Event Queue**: Number of Events in ...

CDS views generated from Fiori

Custom CDS view

```
@[S20] ZZ1_SALES
7 @Analytics.internalName: #LOCAL
8 @Search.searchable: false
9 @Metadata.allowExtensions: true
10 define view ZZ1_Sales
11 with parameters
12 @EndUserText.label: 'Exchange Rate Type'
13 @Consumption.hidden: false
14 P_ExchangeRateType : KURST,
15 @EndUserText.label: 'Display Currency'
16 @Consumption.hidden: false
17 P_DisplayCurrency : VDM_V_DISPLAY_CURRENCY,
18 @EndUserText.label: 'From Date'
19 @Consumption.hidden: false
20 FromDate : abap.DATS
21 as select from
22 I_SalesOrderItemCube( P_ExchangeRateType: $parameters.P_ExchangeRateType, P_DisplayCurrency: $parameters.P_DisplayCurrency ) as I_SalesOrderItemCube
23 association[0..1] to I_ProductGroupText as I_ProductGroupText
24 on I_ProductGroupText.MaterialGroup = I_SalesOrderItemCube.MaterialGroup and
25 I_ProductGroupText.Language = $session.system_language
26 association[0..1] to I_Customer as I_Customer
27 on I_Customer.Customer = I_SalesOrderItemCube.SoldToParty
28 association[1..1] to I_SalesOrderItemCube as CKE_toBase
29 on ( _CKE_toBase.SalesOrder = I_SalesOrderItemCube.SalesOrder or
30 ( _CKE_toBase.SalesOrder is null and I_SalesOrderItemCube.SalesOrder is null ) ) and
31 ( _CKE_toBase.SalesOrderItem = I_SalesOrderItemCube.SalesOrderItem or
32 ( _CKE_toBase.SalesOrderItem is null and I_SalesOrderItemCube.SalesOrderItem is null ) )
33 { @EndUserText.label: 'Sales Order'
34 @ObjectModel.foreignKey.association: 'SalesOrder'
35 @ObjectModel.text.element: null
36 @Consumption.hidden: false
37 @Consumption.filter.mandatory: false
38 @Consumption.filter.multipleSelections: false
39 key I_SalesOrderItemCube.SalesOrder as SalesOrder,
40 @EndUserText.label: 'Item'
41 @ObjectModel.text.element: null
42 @Consumption.hidden: false
43 @Consumption.filter.mandatory: false
44 @Consumption.filter.multipleSelections: false
45 key I_SalesOrderItemCube.SalesOrderItem as SalesOrderItem,
```

Custom Analytical Query

```
@[S20] ZZ1_SALES @[S20] ZZ1_Q_SALES
1 1:abapCatalog.sqlViewName : 'ZZ1_Q_SALES_1'
2 @Analytics.query: true
3 @odata.publish: true
4 @EndUserText.label: 'Sales Report'
5 define view ZZ1_Q_SALES with parameters
6
7
8
9
10 @Consumption.defaultValue: 'M'
11 @Consumption.hidden: false
12 P_ExchangeRateType : KURST,
13 P_DisplayCurrency : VDM_V_DISPLAY_CURRENCY,
14 FromDate : abap.DATS
15 as select from ZZ1_SALES(P_ExchangeRateType:$parameters.P_ExchangeRateType,
16 P_DisplayCurrency:$parameters.P_DisplayCurrency,
17 FromDate:$parameters.FromDate)
18
19 {
20 @Consumption.hidden:true
21 $parameters.P_ExchangeRateType as P_ExchangeRateType_param,
22 @Consumption.hidden:true
23 $parameters.P_DisplayCurrency as P_DisplayCurrency_param,
24 @Consumption.hidden:true
25 $parameters.FromDate as FromDate_param,
26 CustomerPurchaseOrderDate,
27 DeliveryDate,
28 DeliveryDays,
29 NetAmount,
30 NumberOfProductsSold,
31 OrderQuantityUnit,
32 ProductName,
33 Product_Ql,
34 PurchaseOrderMonth,
35 SoldToPartyName,
36 @DefaultAggregation: #FORMULA
37 @AnalyticsDetails.query.formula: 'SUMCT ( $projection.NumberOfProductsSold )'
38 @EndUserText.label: 'Total number of products sold'
39 0 as TotalNumberOfProductsSold,
```

CDS views generated from Fiori

Edit Calculated Field

Field Label

Delivery days

*Field Alias

DeliveryDays

Fields Functions

1 DATS_DAYS_BETWEEN(I_SalesOrderItemCube._SalesOrder.CustomerPurchaseOrderDate,I_SalesOrderItemCube._ScheduleLine.DeliveryDate)

```
8 @EndUserText.label: 'Delivery days'
9 @ObjectModel.text.element: null
10 @Consumption.hidden: false
11 @Consumption.filter.mandatory: false
12 @Consumption.filter.multipleSelections: false
13 @Aggregation.default: #SUM
14 @ObjectModel.readOnly: true
15 DATS_DAYS_BETWEEN(I_SalesOrderItemCube._SalesOrder.CustomerPurchaseOrderDate,I_SalesOrderItemCube._ScheduleLine.DeliveryDate) as DeliveryDays,
```

Expression: ("Delivery days" / "Number of Products sold") Edit

Exception Aggregation: ☒

Function: AVG

Dimensions: Purchase Order month ⊗ +

```
0 as Totalnumberofproductssold,
@DefaultAggregation: #FORMULA
@AnalyticsDetails.query.formula: '( $projection.DeliveryDays / $projection.NumberofProductsSold )'
@EndUserText.label: 'Average delivery days'
@AnalyticsDetails: { exceptionAggregationSteps: [{ exceptionAggregationBehavior: #AVG, exceptionAggregationElements: ['PurchaseOrderMonth'] }] }
@AnalyticsDetails.query.decimals: 0
0 as Averagedeliverydays,
```



01

Introduction



02

Architecture



03

CDS Views in Eclipse



04

Demo



05

Reports



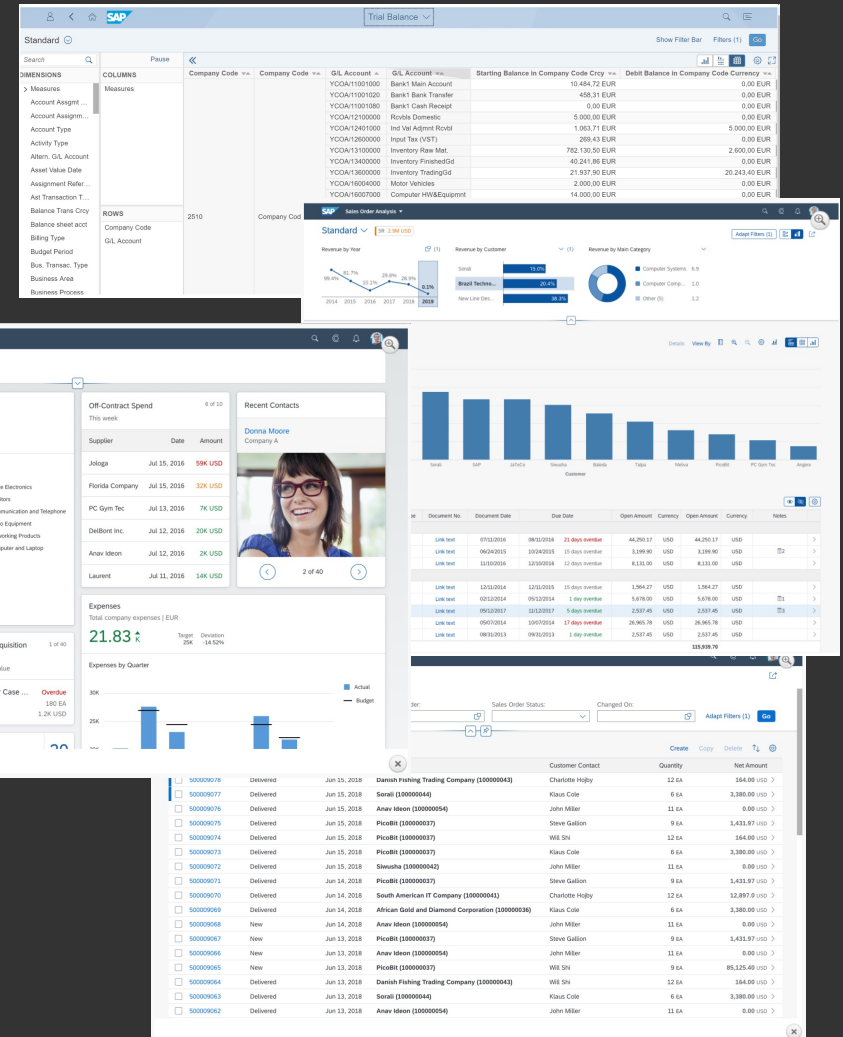
06

SAC/Analysis for Office

KPIs and Reports

Launchpad designer:

- ▶ Multidimensional report
- Manage KPIs and reports
- ▶ Drilldown-report
- ▶ Analytical list page
- ▶ Fiori elements
- ▶ Overview page
- ▶ List report
- ▶ SAP Analytics Cloud
- ▶ Analysis for office





01

Introduction



02

Architecture



03

CDS Views in Eclipse



04

Demo



05

Reports



06

SAC/Analysis for Office

SAP Analytics Cloud

The screenshot displays the SAP Analytics Cloud (SAC) user interface. At the top, a blue banner reads "New features are available. [Check them out.](#)". Below this is a navigation bar with the SAP logo, a home icon, and the text "Home". On the right side of the navigation bar are icons for search, help, notifications (with a red badge showing "11"), and user profile. The main content area has a sidebar on the left with various icons for navigation. The top of the main area shows tabs for "Today", "Catalog", "Favorites", and "Shared With Me". The central part of the screen features a large greeting: "Hello, Arman Muzaffar P103619!". Below the greeting is a search bar labeled "Ask a question". A prominent white box contains four action items: "Explore a sample story" (with a bar chart icon), "Create an account" (with a green checkmark), "Create your first story" (with a green checkmark), and "Learn more in the help center" (with a book icon). Below this box are three panels: "Recent Stories" listing "SAC_Training_Solution_1.7 Collaboration", "SAC_Training_Solution_1.4 Thresholds, Variances, and Condi...", and "SAC_Training_Solution_1.2.2 Calculations"; "Recent Analytic Applications" with a message "There are no recent applications yet! Open one to start this list."; and "Recent Digital Boardroom Presentations" listing "PAR_EY_DBR_FINANCESTATEM... Finance Dashboard".

New features are available. [Check them out.](#)

SAP Home

Today Catalog Favorites Shared With Me

Hello, Arman Muzaffar P103619!

Ask a question

 Explore a sample story

 Create an account

 Create your first story

 Learn more in the help center

Recent Stories

-  SAC_Training_Solution_1.7 Collaboration
-  SAC_Training_Solution_1.4 Thresholds, Variances, and Condi...
-  SAC_Training_Solution_1.2.2 Calculations

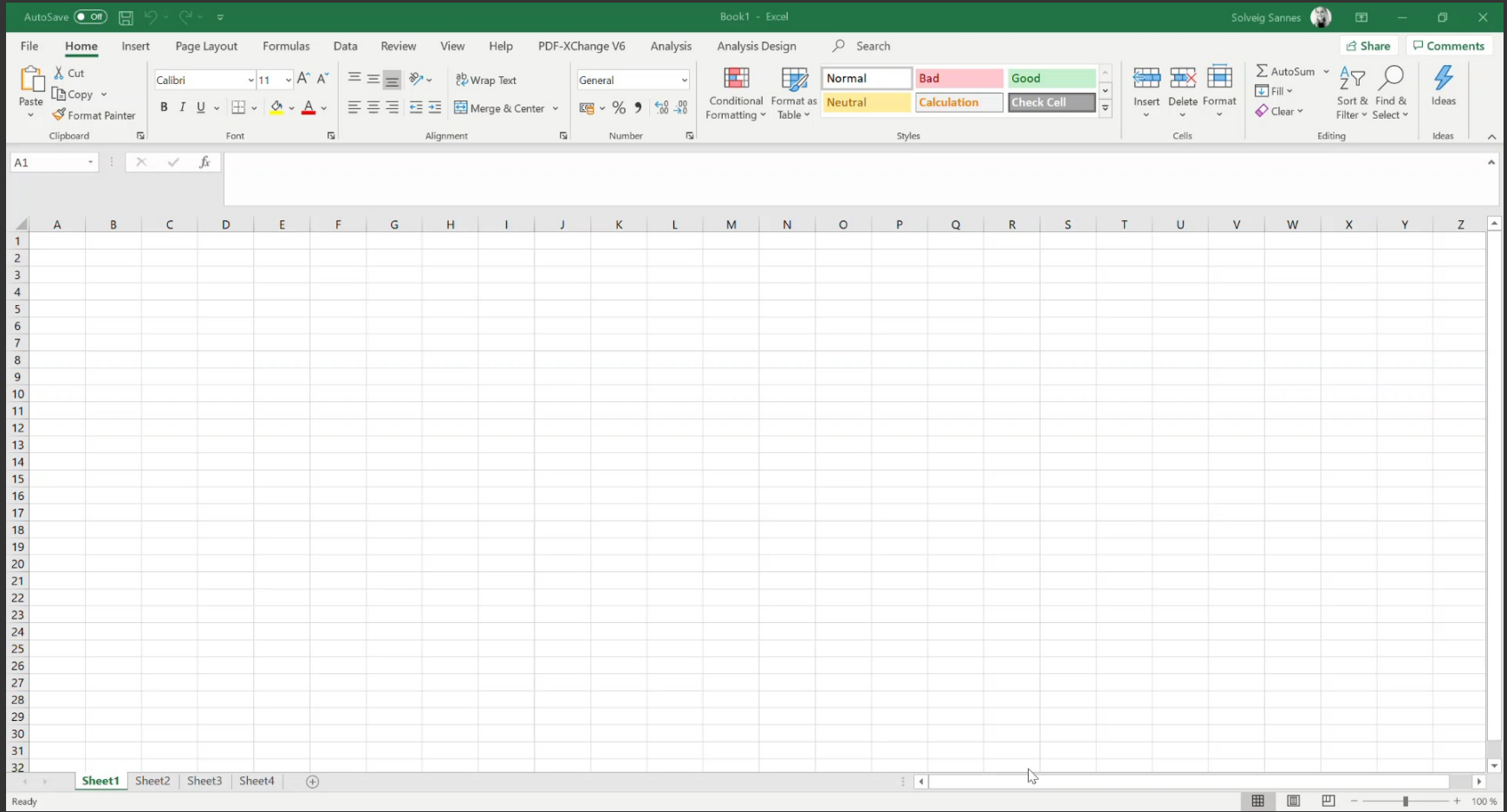
Recent Analytic Applications

 There are no recent applications yet! Open one to start this list.

Recent Digital Boardroom Presentations

-  PAR_EY_DBR_FINANCESTATEM... Finance Dashboard

Analysis for Office



Questions?

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