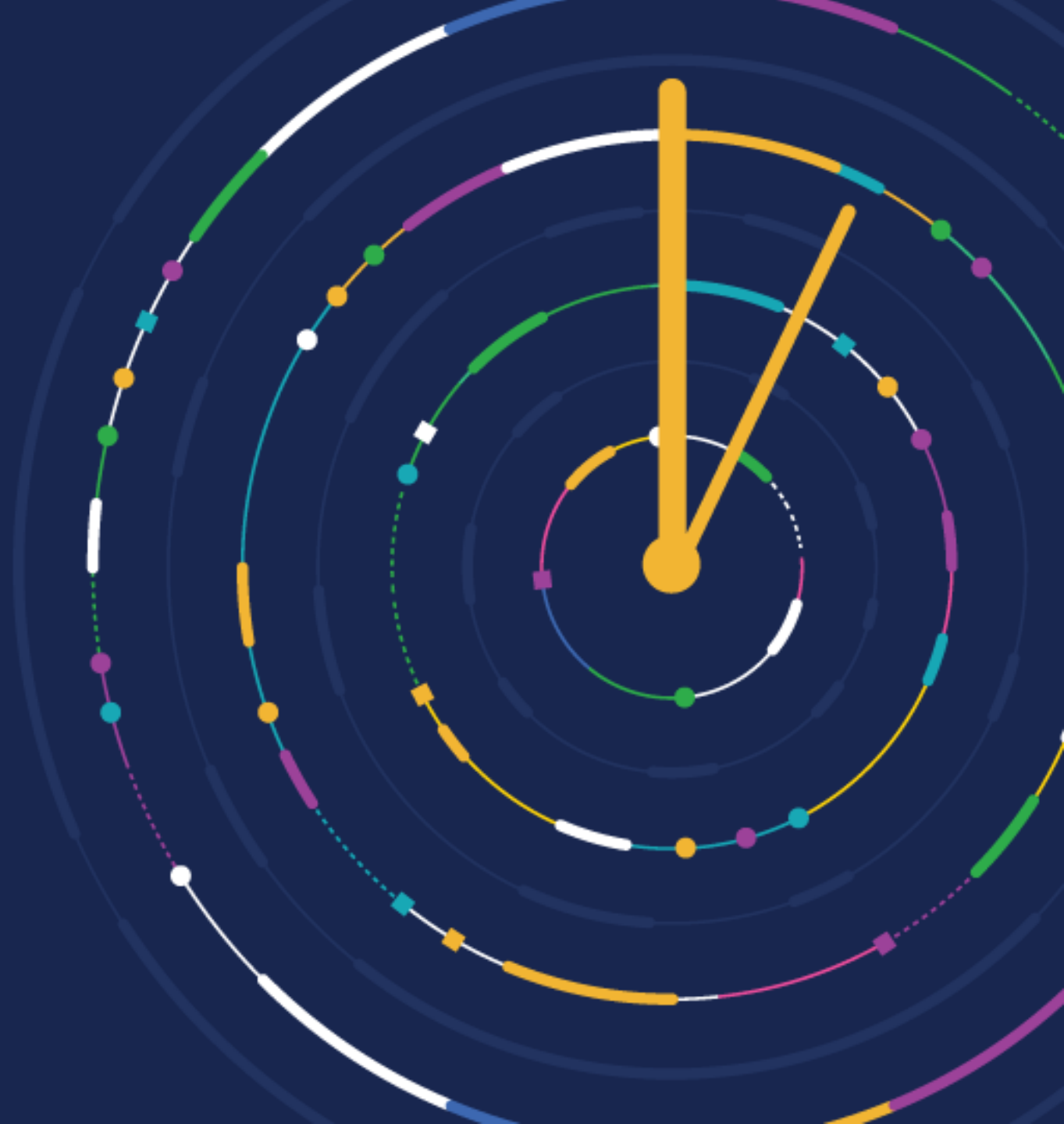


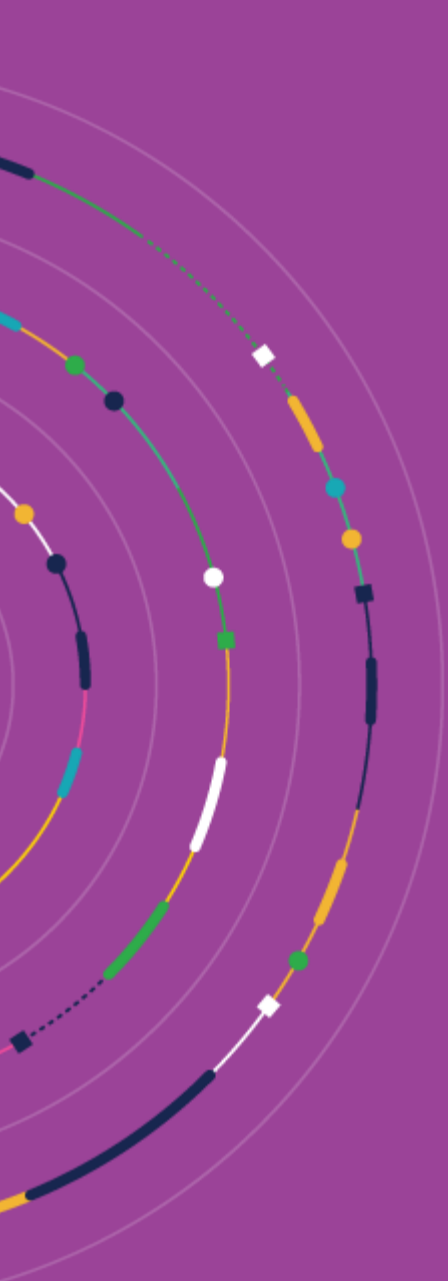


Intro to integrating other software with Business Central - the options & the pros & cons

Tomasz Fica

CUSTOMER DAY 2023



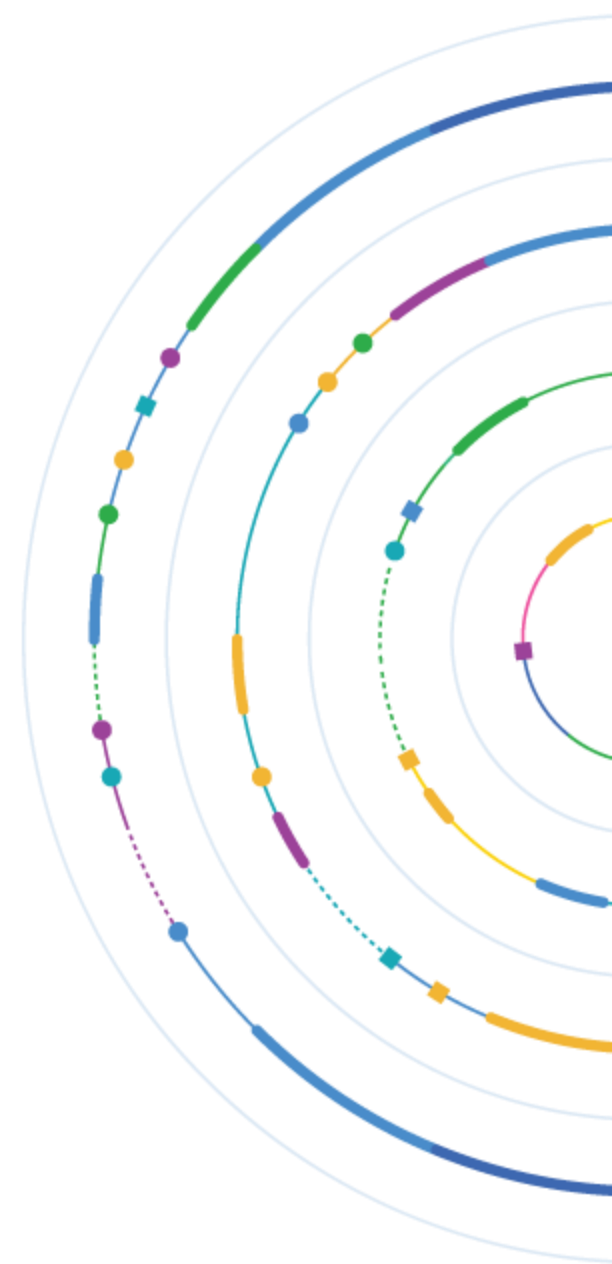


Chapter 1

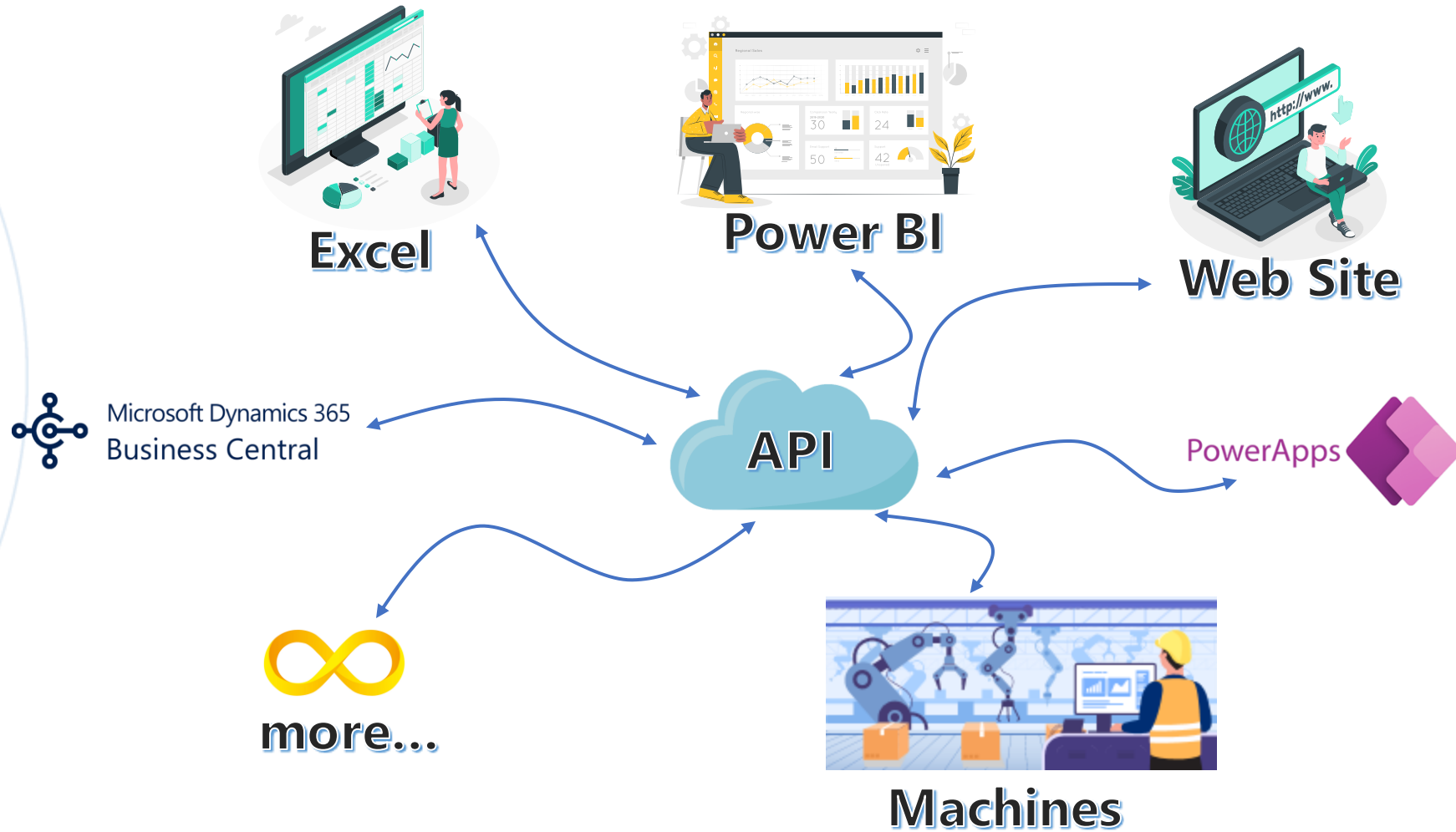
„It's all about communication“

What is an API?

- **A**pplication **P**rogramming **I**nterface – used as a data connection between computer programs
- **API** - an interface that allows the applications to communicate / interact with each other



What it can do for you?



Secure Communication

Application

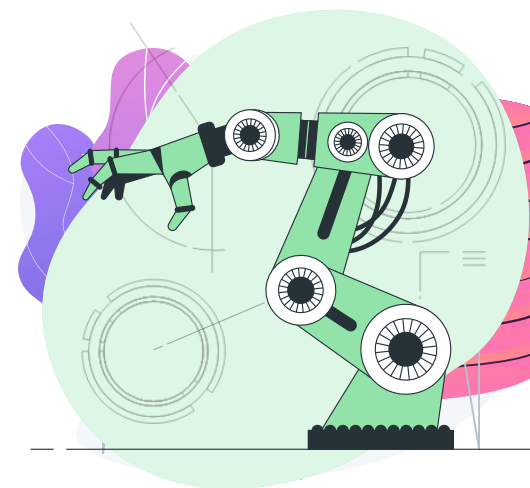


request
response



query
result

Machine

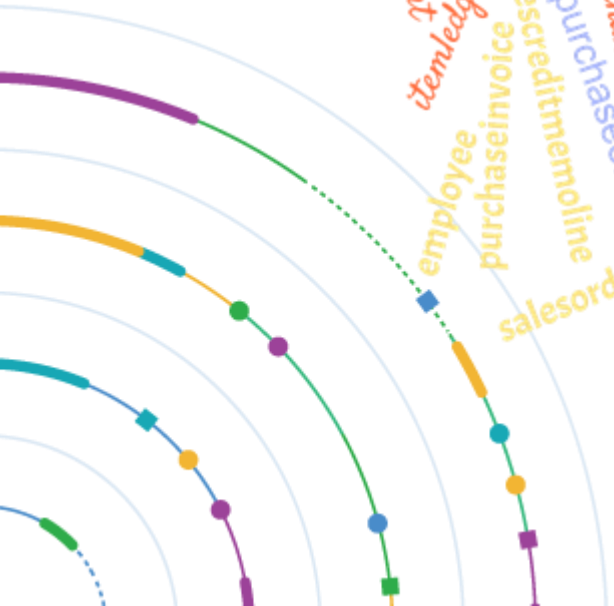


Chapter 2

„How MS Dynamics 365 deals with APIs?“

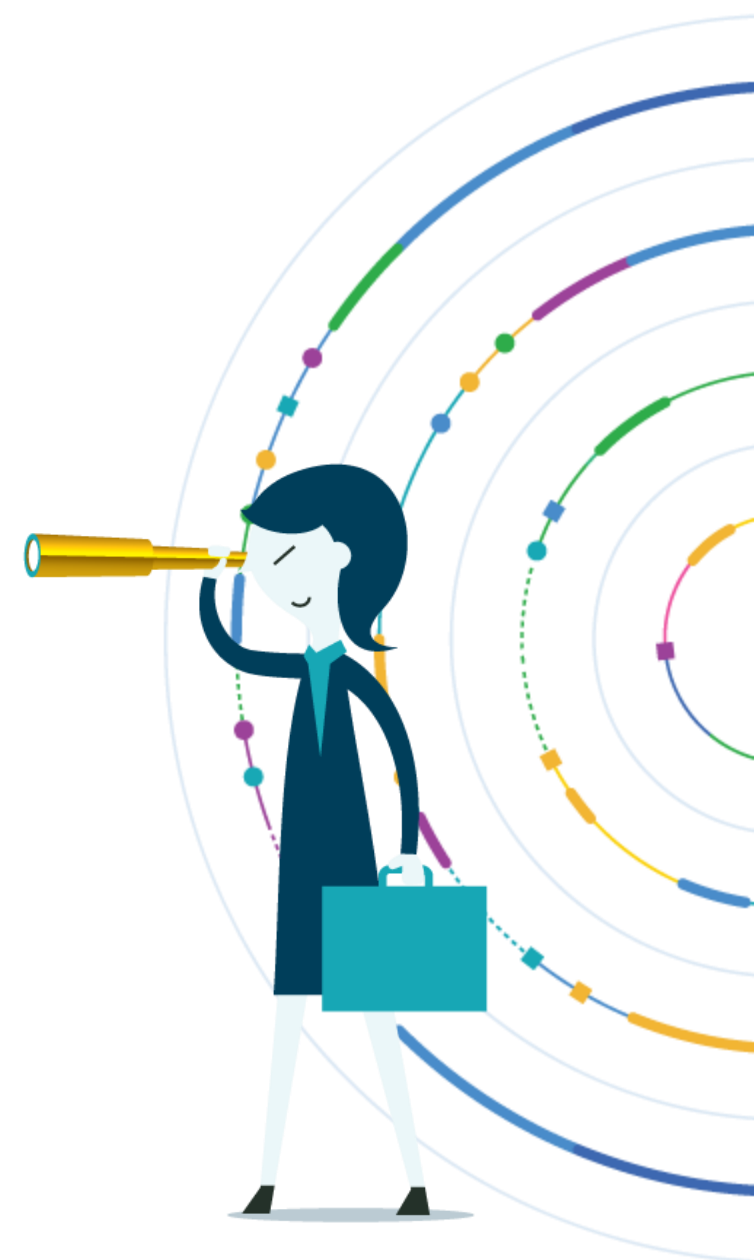


„Standard“ APIs



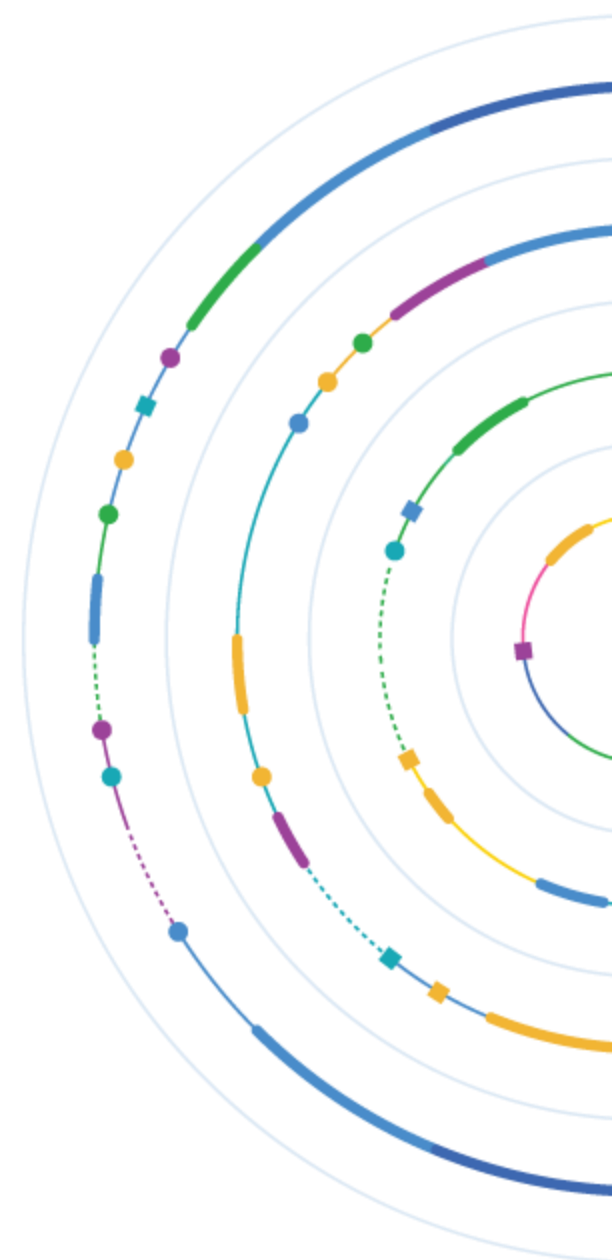
„Standard“ APIs

Caption	APIVersion	EntitySetName	EntityName	SourceTable	InsertAllowed	ModifyAllowed	DeleteAllowed
APIV2 - Accounts	v2.0	accounts	account	15	No	No	No
APIV2 - Aged AP	v2.0	agedAccountsPayables	agedAccountsPayable	5499	No	No	No
APIV2 - Aged AR	v2.0	agedAccountsReceivables	agedAccountsReceivable	5499	No	No	No
APIV2 - Apply Vendor Entries	v2.0	applyVendorEntries	applyVendorEntry	2250	No	Yes	No
APIV2 - Attachments	v2.0	attachments	attachment	5509	Yes	Yes	Yes
APIV2 - Balance Sheet	v2.0	balanceSheets	balanceSheet	5487	No	No	No
APIV2 - Bank Accounts	v2.0	bankAccounts	bankAccount	270	Yes	Yes	Yes
APIV2 - Cash Flow Statement	v2.0	cashFlowStatements	cashFlowStatement	5503	No	No	No
APIV2 - Company Information	v2.0	companyInformation	companyInformation	79	No	Yes	No
APIV2 - Contacts	v2.0	contacts	contact	5050	Yes	Yes	Yes
APIV2 - Contacts Information	v2.0	contactsInformation	contactInformation	5049	No	No	No
APIV2 - Countries/Regions	v2.0	countriesRegions	countryRegion	9	Yes	Yes	Yes
APIV2 - Currencies	v2.0	currencies	currency	4	Yes	Yes	Yes
APIV2 - Customers	v2.0	customers	customer	18	Yes	Yes	Yes
APIV2 - Cust Financial Details	v2.0	customerFinancialDetails	customerFinancialDetail	18	No	No	No
APIV2 - Customer Payments	v2.0	customerPayments	customerPayment	81	Yes	Yes	Yes
APIV2 - Cust. Paym. Journals	v2.0	customerPaymentJournals	customerPaymentJournal	232	Yes	Yes	Yes
APIV2 - Cust. Return Reasons	v2.0	customerReturnReasons	customerReturnReason	231	Yes	Yes	Yes
APIV2 - Default Dimensions	v2.0	defaultDimensions	defaultDimension	352	Yes	Yes	Yes
APIV2 - Dimensions	v2.0	dimensions	dimension	348	No	No	No



„Standard“ APIs

Caption	EntitySetName	EntityName	SourceTable	InsertAllowed	ModifyAllowed	DeleteAllowed
APIV2 - Dimension Set Lines	dimensionSetLines	dimensionSetLine	5489	Yes	Yes	Yes
APIV2 Dimension Values Entity	dimensionValues	dimensionValue	349	No	No	No
APIV2 - Document Attachments	documentAttachments	documentAttachment	5509	Yes	Yes	Yes
APIV2 - Employees	employees	employee	5200	Yes	Yes	Yes
APIV2 - G/L Entries	generalLedgerEntries	generalLedgerEntry	17	No	No	No
APIV2 - Gen. Prod. Post. Group	generalProductPostingGroups	generalProductPostingGroup	251	No	No	No
APIV2 - Income Statement	incomeStatements	incomeStatement	5503	No	No	No
APIV2 - Inventory Post. Group	inventoryPostingGroups	inventoryPostingGroup	94	No	No	No
APIV2 - Items	items	item	27	Yes	Yes	Yes
APIV2 - Item Categories	itemCategories	itemCategory	5722	Yes	Yes	Yes
APIV2 - Item Ledger Entries	itemLedgerEntries	itemLedgerEntry	32	No	No	No
APIV2 - Item Variants	itemVariants	itemVariant	5401	Yes	Yes	Yes
APIV2 - Journals	journals	journal	232	Yes	Yes	Yes
APIV2 - JournalLines	journalLines	journalLine	81	Yes	Yes	Yes
APIV2 - Locations	locations	location	14	Yes	Yes	Yes
APIV2 - Opportunities	opportunities	opportunity	5092	Yes	Yes	Yes
APIV2 - Payment Methods	paymentMethods	paymentMethod	289	Yes	Yes	Yes
APIV2 - Payment Terms	paymentTerms	paymentTerm	3	Yes	Yes	Yes
APIV2 - PDF Document	pdfDocument	pdfDocument	5509	No	No	No
APIV2 - Pictures	pictures	picture	5468	No	Yes	Yes



„Standard“ APIs

Caption	EntitySetName	EntityName	SourceTable	InsertAllowed	ModifyAllowed	DeleteAllowed
APIV2 - Jobs	projects	project	167	Yes	Yes	Yes
APIV2 - Purchase Credit Memos	purchaseCreditMemos	purchaseCreditMemo	5508	Yes	Yes	Yes
APIV2 - Purch. Cr. Memo Lines	purchaseCreditMemoLines	purchaseCreditMemoLine	5478	Yes	Yes	Yes
APIV2 - Purchase Invoices	purchaseInvoices	purchaseInvoice	5477	Yes	Yes	Yes
APIV2 - Purchase Invoice Lines	purchaseInvoiceLines	purchaseInvoiceLine	5478	Yes	Yes	Yes
APIV2 - Purchase Orders	purchaseOrders	purchaseOrder	5496	Yes	Yes	Yes
APIV2 - Purchase Order Lines	purchaseOrderLines	purchaseOrderLine	5478	Yes	Yes	Yes
APIV2 - Purchase Receipts	purchaseReceipts	purchaseReceipt	120	No	No	No
APIV2 - Purch Receipt Lines	purchaseReceiptLines	purchaseReceiptLine	121	No	No	No
APIV2 - Retained Earnings	retainedEarningsStatements	retainedEarningsStatement	5503	No	No	No
APIV2 - Sales Credit Memos	salesCreditMemos	salesCreditMemo	5507	Yes	Yes	Yes
APIV2 - Sales Credit Mem Lines	salesCreditMemoLines	salesCreditMemoLine	5476	Yes	Yes	Yes
APIV2 - Sales Invoices	salesInvoices	salesInvoice	5475	Yes	Yes	Yes
APIV2 - Sales Invoice Lines	salesInvoiceLines	salesInvoiceLine	5476	Yes	Yes	Yes
APIV2 - Sales Orders	salesOrders	salesOrder	5495	Yes	Yes	Yes
APIV2 - Sales Order Lines	salesOrderLines	salesOrderLine	5476	Yes	Yes	Yes
APIV2 - Sales Quotes	salesQuotes	salesQuote	5505	Yes	Yes	Yes
APIV2 - Sales Quote Lines	salesQuoteLines	salesQuoteLine	5476	Yes	Yes	Yes
APIV2 - Sales Shipments	salesShipments	salesShipment	110	No	No	No
APIV2 - Sales Shipment Lines	salesShipmentLines	salesShipmentLine	111	No	No	No

„Standard“ APIs

Caption	EntitySetName	EntityName	SourceTable	InsertAllowed	ModifyAllowed	DeleteAllowed
APIV2 - Shipment Methods	shipmentMethods	shipmentMethod	10	Yes	Yes	Yes
APIV2 - Tax Areas	taxAreas	taxArea	5504	Yes	Yes	Yes
APIV2 - Tax Groups	taxGroups	taxGroup	5480	Yes	Yes	Yes
APIV2 - Time Registr. Entries	timeRegistrationEntries	timeRegistrationEntry	5510	Yes	Yes	Yes
APIV2 - Trial Balance	trialBalances	trialBalance	5488	No	No	No
APIV2 - Units of Measure	unitsOfMeasure	unitOfMeasure	204	Yes	Yes	Yes
APIV2 - Vendors	vendors	vendor	23	Yes	Yes	Yes
APIV2 - Vendor Payments	vendorPayments	vendorPayment	81	Yes	Yes	Yes
APIV2 - Vendor Paym. Journals	vendorPaymentJournals	vendorPaymentJournal	232	Yes	Yes	Yes

URL to connect

https://businesscentral.dynamics.com/b379c622-33e3-429a-8018-cde5cf732898/TMCD01

Dynamics 365 Business Central

Environment: TMCD01

CRONUS UK Ltd. | Finance | Cash Management | Sales | Purchasing | Shopify | All Reports

Customers | Vendors | Items | Bank Accounts | Chart of Accounts

This is a sandbox environment for test, demo, or development purposes only. Don't show this again.

Get started

Hi, meet Business Central!

You're all set to try out our demo company, Cronus. Go explore on your own, or take a quick tour first.

Show demo tours

Some features connect to other Microsoft services

Activities

Sales This Month	Overdue Sales Invoice Amount	Overdue Purch. Invoice Amount	Sales Invoices Predicted Overdue
£1,237	£39,754	£35,196	0
> See more	> See more	> See more	> See more

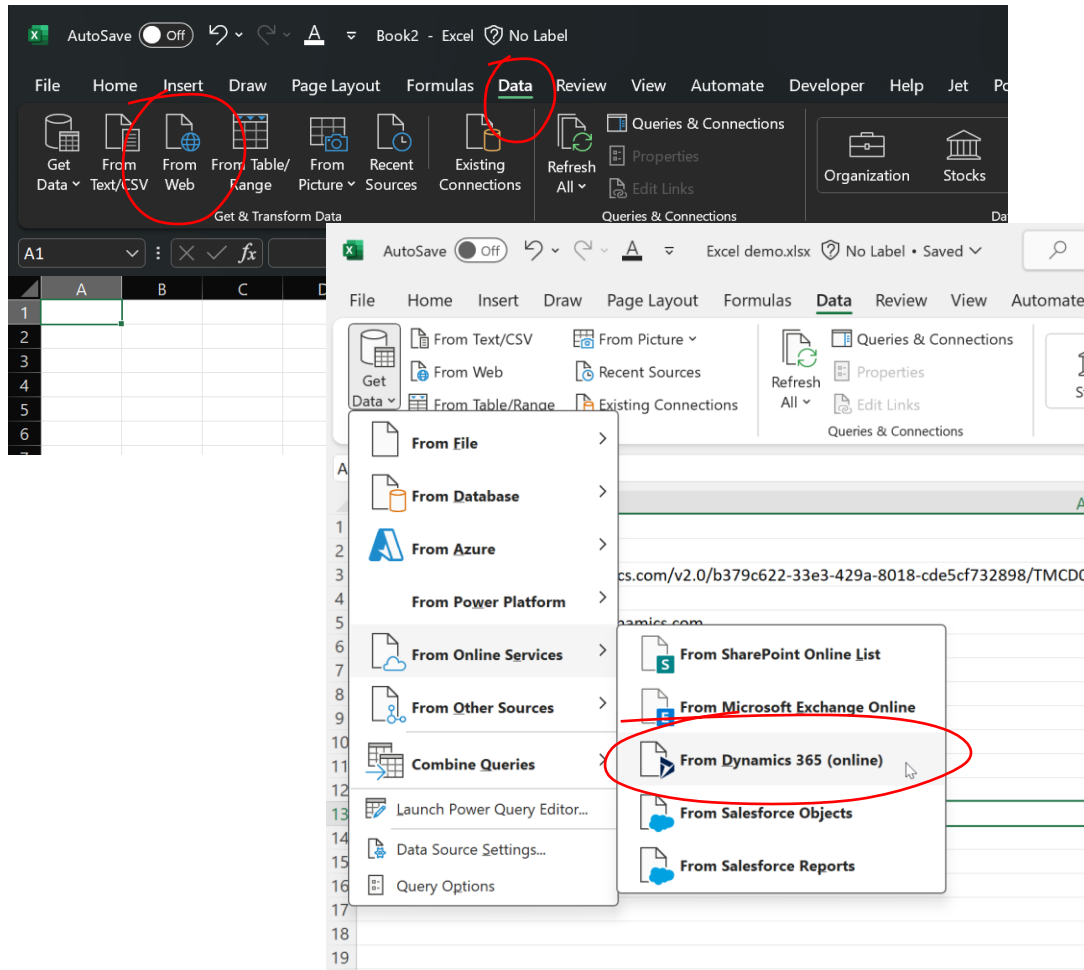
Ongoing Sales

Ongoing Purchases

URL to connect

`https://api.businesscentral.dynamics.com/
v2.0/
k379a612-3be3-429a-8018-cde5cf732898/
TheCD02/segmentName>/
api/v2.0/
companies(73681553015)-ee11-8df4-6045bdc89477)/
api/parse`

Demo – BC and Excel



[https://api.businesscentral.dynamics.com/v2.0/b379c622-33e3-429a-8018-cde5cf732898/TMCD01/api/v2.0/companies\(7368d553-0c5c-ee11-8df4-6045bdc89477\)/vendors](https://api.businesscentral.dynamics.com/v2.0/b379c622-33e3-429a-8018-cde5cf732898/TMCD01/api/v2.0/companies(7368d553-0c5c-ee11-8df4-6045bdc89477)/vendors)

Demo – BC and Excel

The screenshot shows the Microsoft Excel interface with a data table. The ribbon is set to 'Home'. The table has the following data:

	A	B	C	D	E
1	Column1.number	Column1.displayName	Column1.addressLine1	Column1.addressLine2	Column1.balance
2	10000	Fabrikam, Inc.	10 North Lake Avenue		1267.5
3	20000	First Up Consultants	Allan Turing Road, 20	Surrey	3601.8
4	30000	Graphic Design Institute	Arbachtalstrasse 6	Unter Achalm	4273.5
5	40000	Wide World Importers	Aviator Way, 3000	Manchester Business Park	13364.28
6	50000	Nod Publishers	Waterloo Place, 2-4	Waverly Gate	12689.16
7	82000	Subcontractor			0

A dialog box at the bottom of the screen displays the message: "List may be incomplete." with a "Load more" link and "OK" and "Cancel" buttons.

Demo – Power BI

The screenshot shows the Power BI Desktop interface. The 'Get data' option in the 'Home' ribbon is highlighted with a red box. A 'Get Data' dialog box is open, showing a list of data sources. The 'Online Services' category is selected, and 'Dynamics 365 Business Central' is highlighted with a red box. The dialog box also shows 'Import data from Excel' and 'Import data from...' options.

Once loaded



What else can you do? *

Get data

Insert data

Modify data

Delete data

Run actions

Post

Release

Print

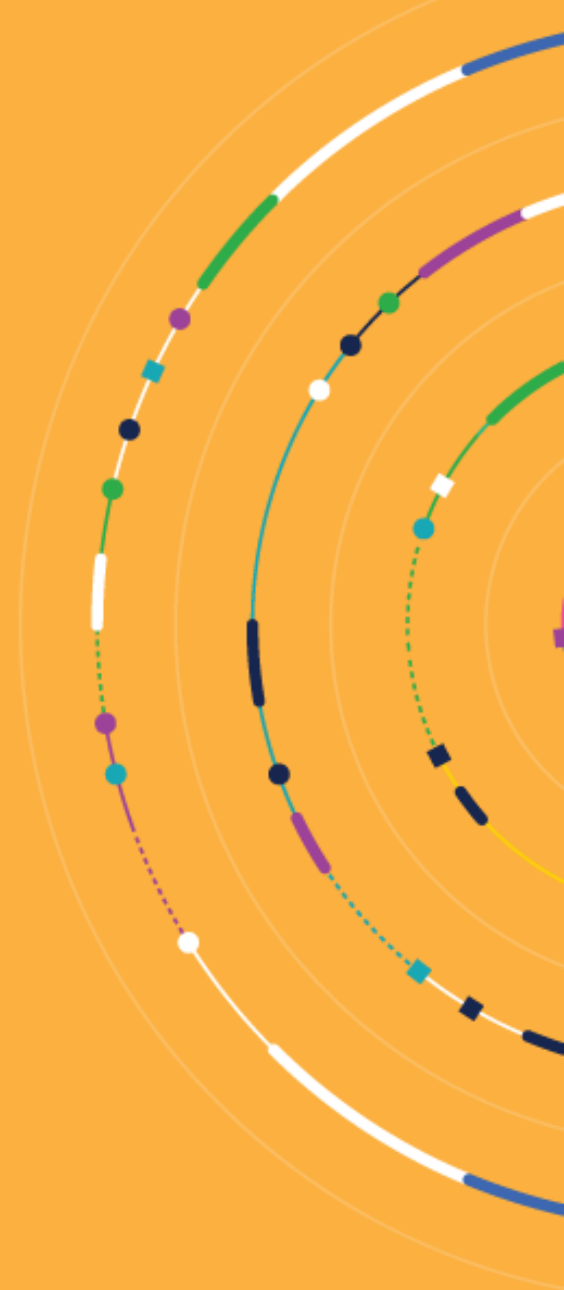
Other...

* What you can do depends on the tool that you are using

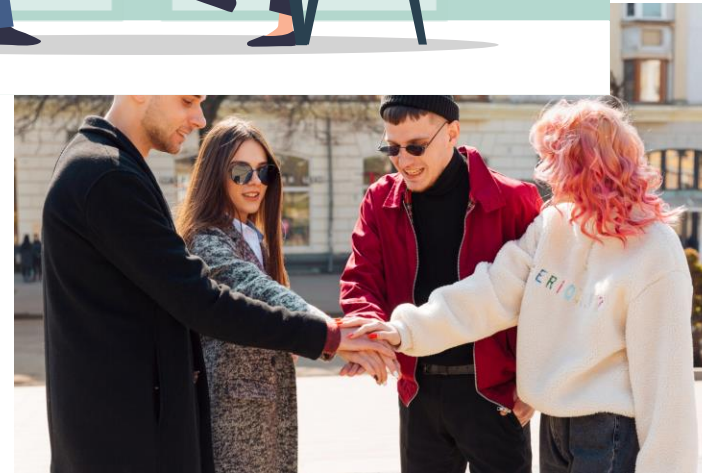


Chapter 3

„Relations are the key“



Relations



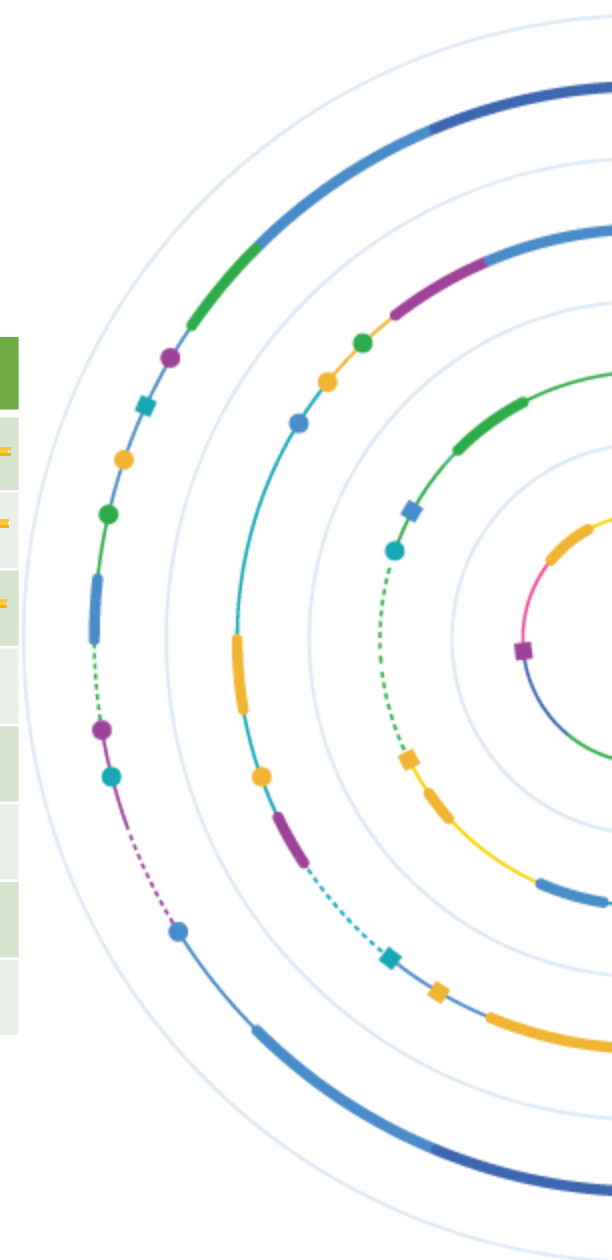
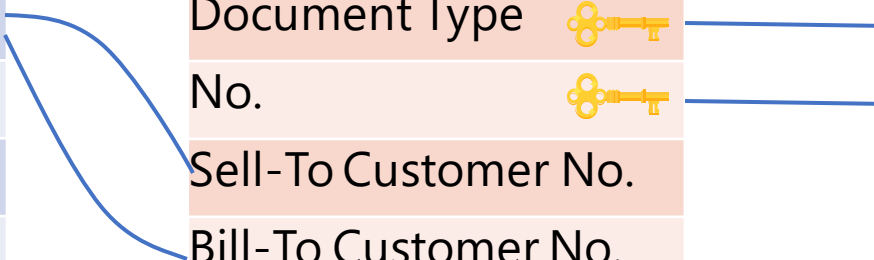
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Table Relations

Customer	
No.	🔑
Name	
Address	
City	
SystemID	

Sales Header	
Document Type	🔑
No.	🔑
Sell-To Customer No.	
Bill-To Customer No.	
Ship-To Code	
SystemID	

Sales Line	
Document Type	🔑
Document No.	🔑
Line No.	🔑
Type	
No.	
Quantity	
Unit Price	
SystemID	

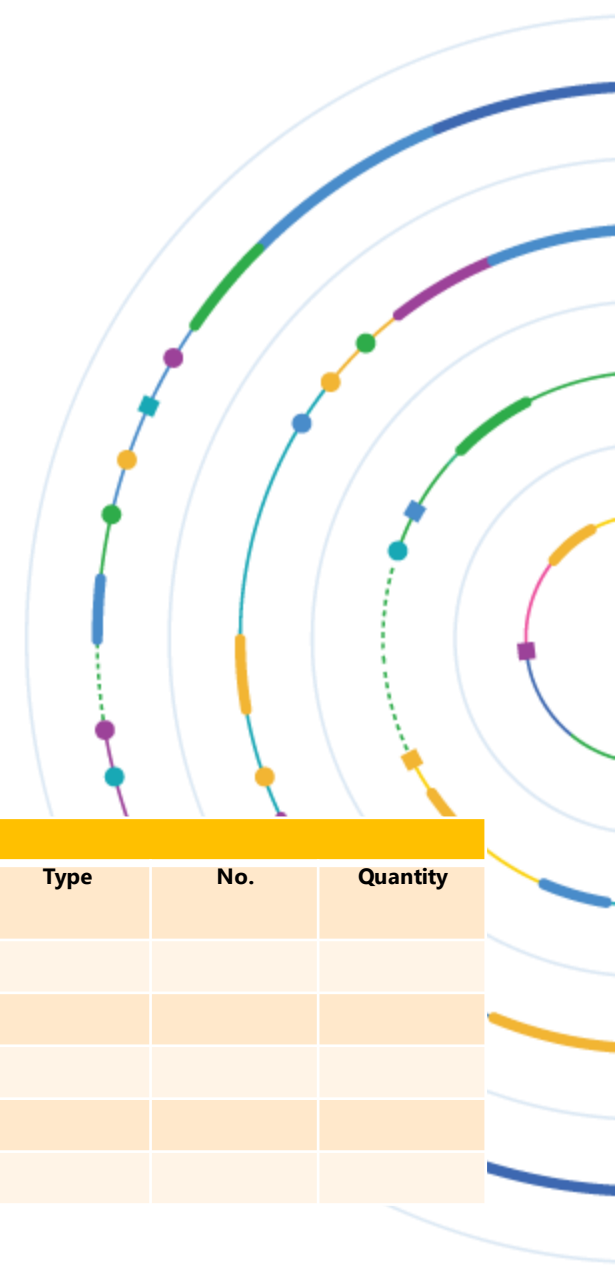


Customer			
No.	Name	Address	City
CUST001	Adatum Corporation	Station Road, 21	Cambridge
CUST002	Trey Research	Southwark Bridge Rd, 91-95	London
CUST003	School of Fine Art	10 High Tower Green	Miami

Sales Header				
Document Type	No.	Sell-To Customer No.	Bill-To Customer No.	Amount
Order	SO0001	CUST001	CUST001	£ 20 000
Invoice	INV0001	CUST001	CUST002	£ 5 000
Cr. Memo	CM0001	CUST003	CUST003	£ 17 000

Sales Line					
Document Type	Document No.	Line No.	Type	No.	Quantity
Order	SO0001	10000	Item	213-BO-21	3
Order	SO0001	20000	Item	221-AZ-N	2
Invoice	INV0001	10000	G/L Account	5203	1
Invoice	INV0001	20000	G/L Account	5204	1
Cr. Memo	CM0001	10000	Item	331-2111	2

Result													
Document Type	No.	Sell-To Customer No.	Sell-To Customer Name	Sell-To Customer Address	Sell-To Customer City	Bill-To Customer No.	Bill-To Customer Name	Bill-To Customer Address	Bill-To Customer City	Amount	Type	No.	Quantity

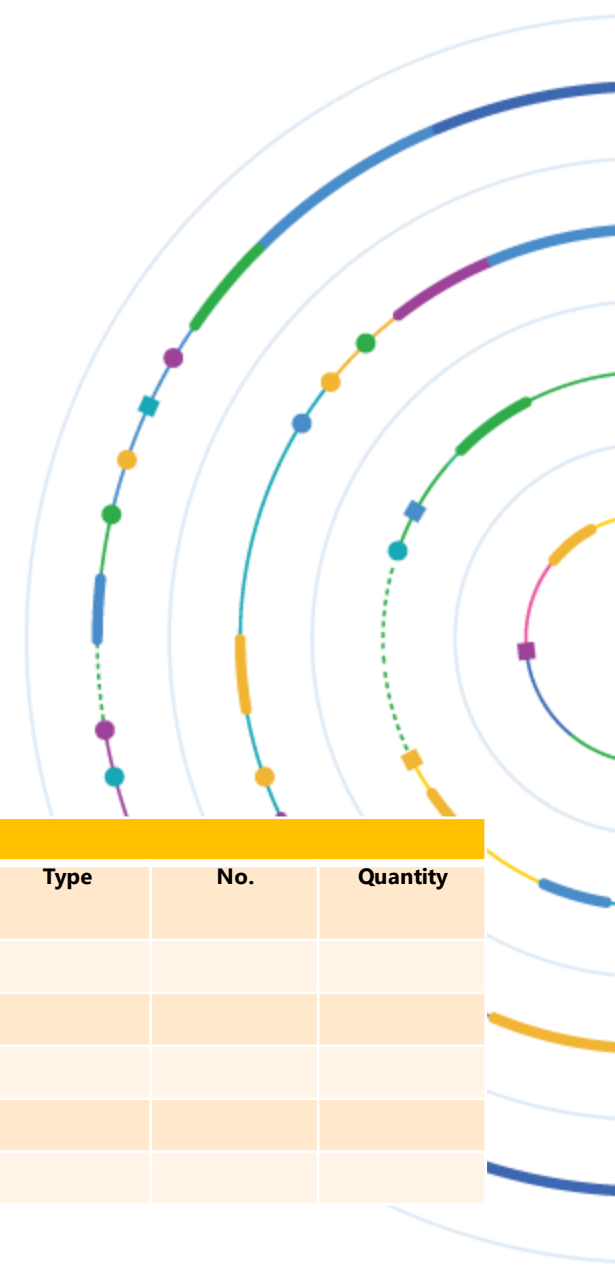


Customer			
No.	Name	Address	City
CUST001	Adatum Corporation	Station Road, 21	Cambridge
CUST002	Trey Research	Southwark Bridge Rd, 91-95	London
CUST003	School of Fine Art	10 High Tower Green	Miami

Sales Header				
Document Type	No.	Sell-To Customer No.	Bill-To Customer No.	Amount
Order	SO0001	CUST001	CUST001	£ 20 000
Invoice	INV0001	CUST001	CUST002	£ 5 000
Cr. Memo	CM0001	CUST003	CUST003	£ 17 000

Sales Line					
Document Type	Document No.	Line No.	Type	No.	Quantity
Order	SO0001	10000	Item	213-BO-21	3
Order	SO0001	20000	Item	221-AZ-N	2
Invoice	INV0001	10000	G/L Account	5203	1
Invoice	INV0001	20000	G/L Account	5204	1
Cr. Memo	CM0001	10000	Item	331-2111	2

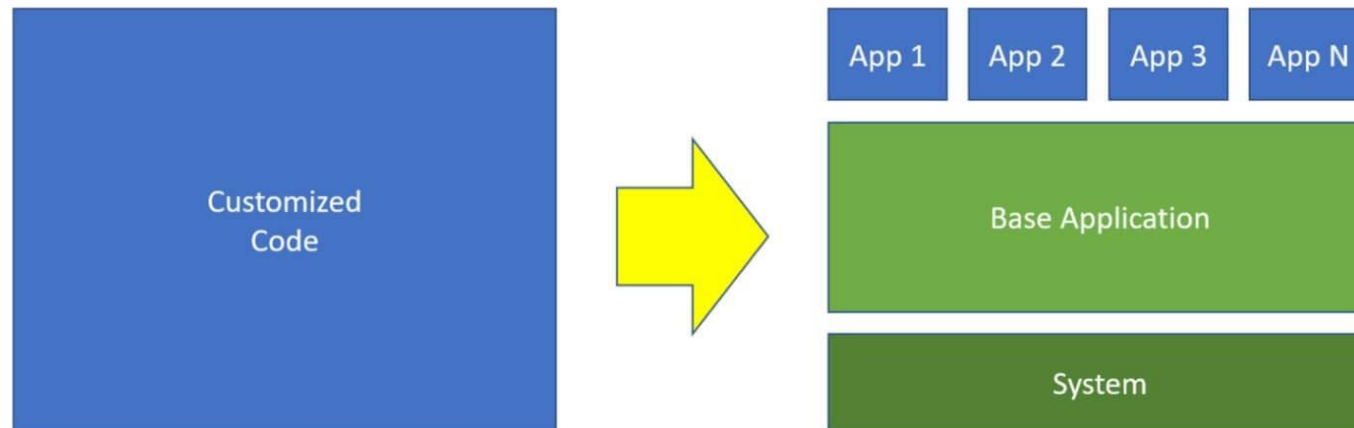
Result													
Document Type	No.	Sell-To Customer No.	Sell-To Customer Name	Sell-To Customer Address	Sell-To Customer City	Bill-To Customer No.	Bill-To Customer Name	Bill-To Customer Address	Bill-To Customer City	Amount	Type	No.	Quantity



Chapter 4

„If standard is not enough...”

Create your own extensions



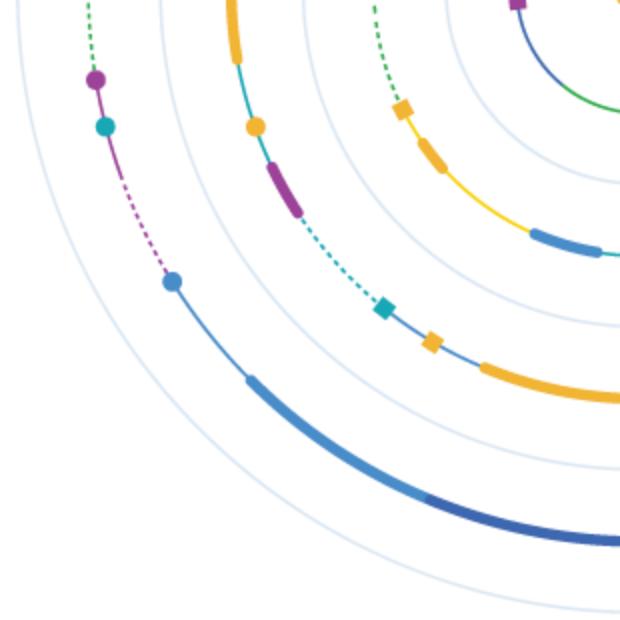
VS Code as a tool to create extensions



```
21 {
22     0 references
23     area(processing)
24     {
25         0 references
26         action(TriggeringDebugger)
27         {
28             ApplicationArea = All;
29
30         trigger OnAction()
31         var
32             WithOverloadedOperators: Codeunit WithOverloadedOperators;
33             Parts : Record Parts;
34             TestFullALTracing : Codeunit TestFullALTracing;
35         begin
36             SetFilter(Address, '<> A');
37             if (HasAddress()) then
38             begin
39                 TestFullALTracing.EmitSomeText();
40                 Parts.Insert();
41                 Parts.SetFilter(Parts.ThisAmount, '>1000');
42             end;
43         end;
44     }
45 }
```

Demo

Customer Loyalty – extending Customer record





QUESTIONS ?





THANK YOU

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