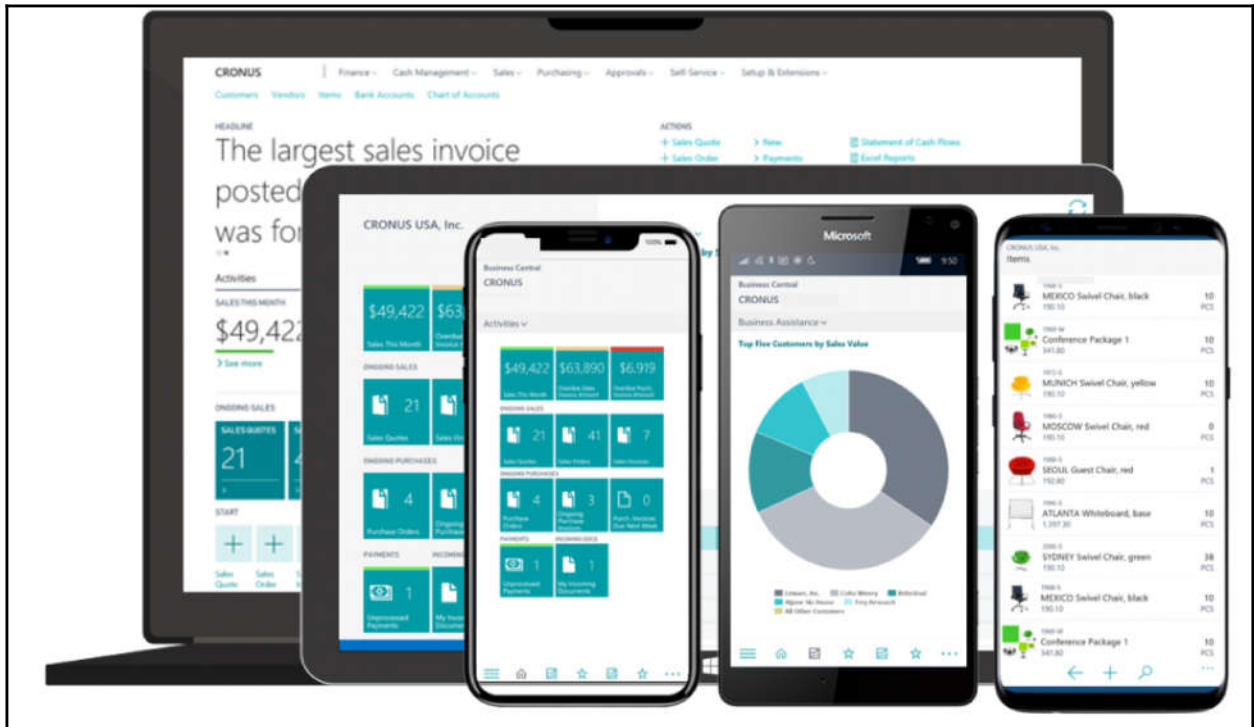


Chapter 1: Microsoft Dynamics 365 Business Central Overview

The screenshot displays the Microsoft Dynamics 365 Business Central dashboard for the company 'CRONUS USA, Inc.'. The interface includes a top navigation bar with various menu items like Finance, Cash Management, Sales, Purchasing, Approvals, Self-Service, and Setup & Extensions. Below the navigation, there's a 'HEADLINE' section with a greeting 'Good afternoon!' and an 'ACTIONS' menu listing options like Sales Quote, Sales Order, Sales Invoice, Purchase Order, Purchase Invoice, Reports, Balance Sheet, Income Statement, Statement of Cash Flows, Statement of Retained Earnings, and Excel Reports. The 'Activities' section features three key metrics: 'SALES THIS MONTH' at \$1,906, 'OVERDUE SALES INVOICE AMOUNT' at \$63,890, and 'OVERDUE PURCH. INVOICE AMOUNT' at \$49,422. Below this, there are sections for 'ONGOING SALES' (Sales Quotes: 2, Sales Orders: 4, Sales Invoices: 7), 'ONGOING PURCHASES' (Purchase Orders: 4, Ongoing Purch. Invoices: 3, Purch. Invo. Next Week: 0), and 'PAYMENTS' (Unprocessed Payments: 1, Average Col. Days: 5.8). At the bottom, there are sections for 'INCOMING DOCUMENTS' (1), 'MY USER TASKS' (0), 'START' buttons for Sales Quote, Sales Order, Sales Invoice, Purchase Invoice, and Sales Return Order, and 'PRODUCT VIDEOS'.



My Company | 회계 | 고급 회계 | 매출 | 매출 | 승인 | Self-Service | 설정 & 익스텐션

매출처 | 매출지 | 품목 | 은행계정 | 계정과목

헤드라인

Business Central 을 더 자세히 알고 싶으세요?

작업

- + 매출 건적
- + 매출 주문
- + 매출 주문
- + 매출 승장
- > 지불 보고서
- > 보고서
- > 신규
- ☑ 손익계산서
- ☑ 현금 흐름 명세서
- ☑ 대차대조표
- ☑ 지불 처리
- ☑ Excel 보고서

활동

이번 달 매출	연체 매출 승장 금액	연체 매출 승장 금액
0	0	0
> 더 보기	> 더 보기	> 더 보기

매출	매입	지불	수신 문서
건적	매입 주문	미처리 지불	내 수신 문서
0	0	0	0
주문	진행중인 매입 승장	평균 수집 일	
0	0	0.0	
승장	다음 주 인기 매입 승장		
0	0		

ACTIONS

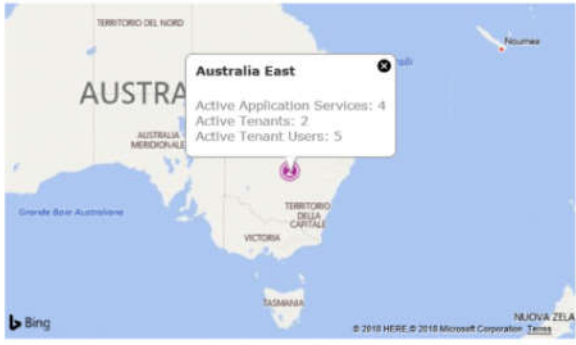
Add Application Version
Add Application Service
Add Tenant
New Document

Central Web Service Access
Web Service Access

General

- HOME
- Application Services
- Application Tenants
- Applications
- Platforms

Active Tenants By Region



Active Application Services

Name	Location
Test	Australia East

Inactive Application Services

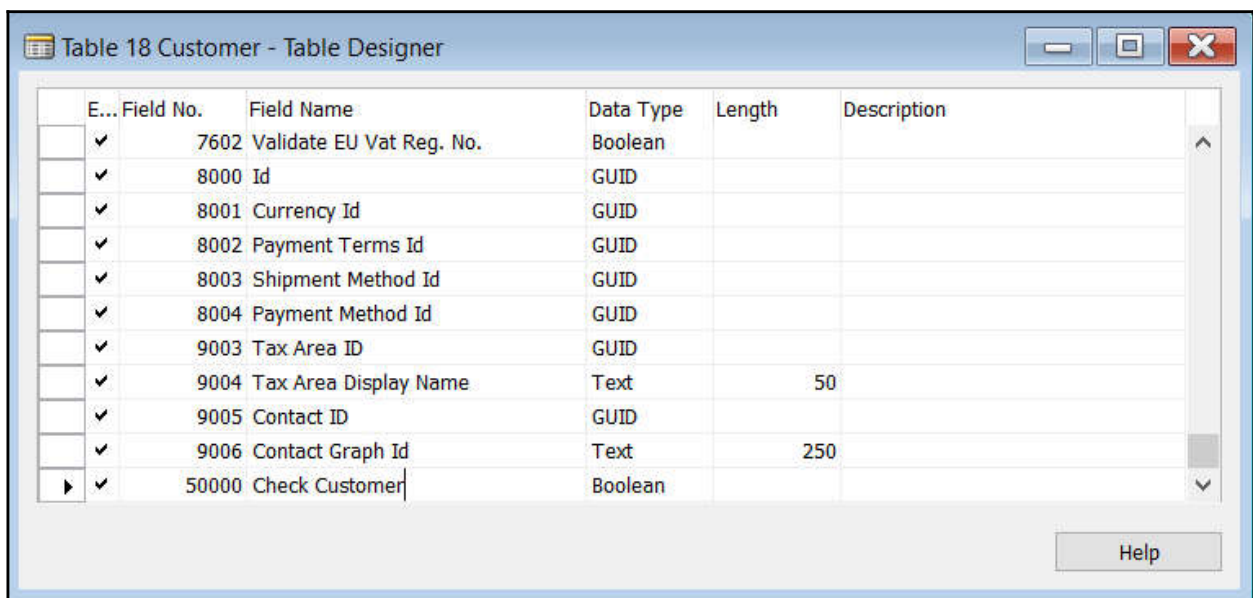
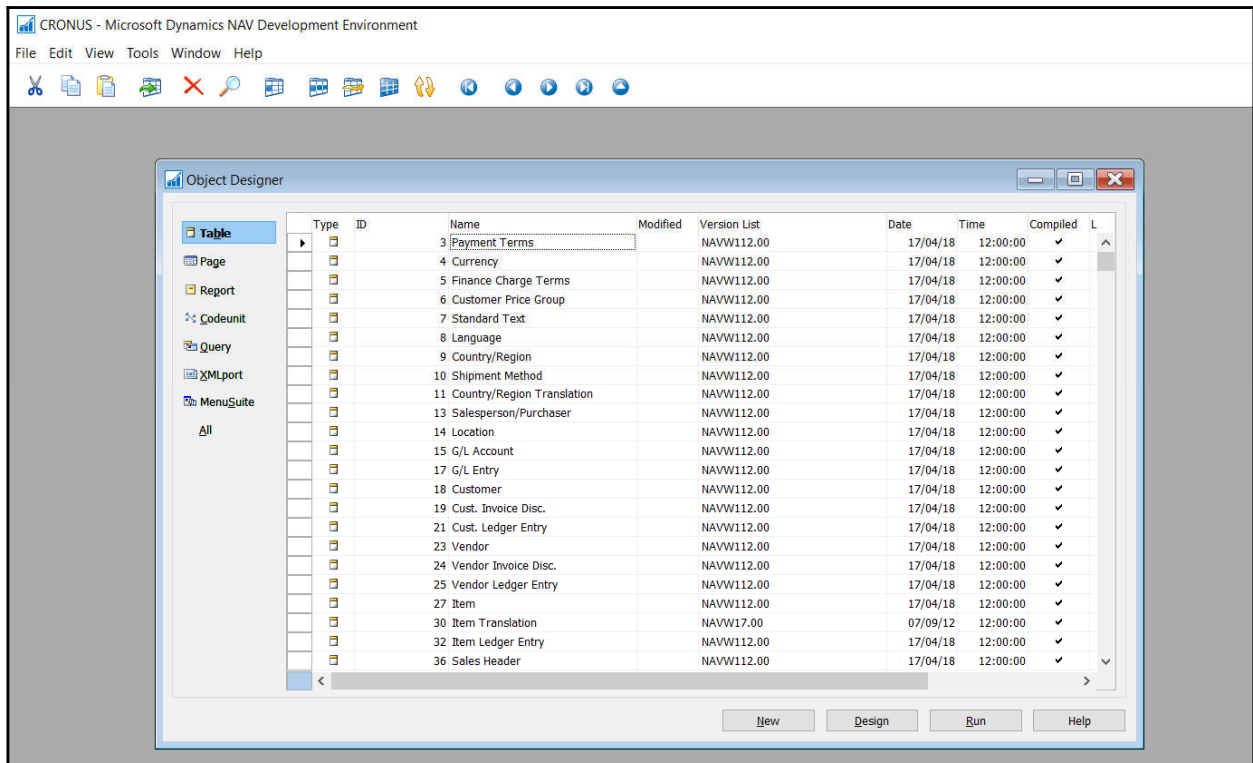
Name	Location
	Australia East

Management Portal Activities

Application Serv... Resources In Use

Service Status Messages

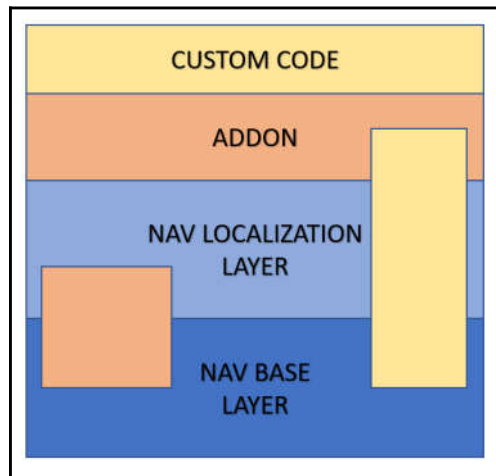
Chapter 2: The New Extension Model



```
Table 18 Customer - C/AL Editor
977 Check Customer - OnValidate()
978 IF "Check Customer" THEN
979 BEGIN
980     //Custom code goes here...
981 END;
982
983 Check Customer - OnLookup()
984
```

```
Page 21 Customer Card - C/AL Editor
275 Check Customer - OnValidate()
276 IF "Check Customer" THEN
277 BEGIN
278     //Custom code goes here...
279 END;
280
281
```

```
Codeunit 80 Sales-Post - C/AL Editor
49 EverythingInvoiced := TRUE;
50
51 // Lines
52 SalesLine.RESET;
53 SalesLine.SETRANGE("Document Type",SalesHeader."Document Type");
54 SalesLine.SETRANGE("Document No.",SalesHeader."No.");
55
56 //My custom piece of code
57 Customer.GET(SalesHeader."Sell-to Customer No.");
58 IF Customer."Check Customer" THEN
59 BEGIN
60     //Custom code goes here...
61 END;
62
63 OnBeforePostLines(SalesLine,SalesHeader,SuppressCommit);
64
65 LineCount := 0;
66 RoundingLineInserted := FALSE;
67 MergeSaleslines(SalesHeader,SalesLine,TempPrepaymentSalesLine,TempCombinedSalesLine);
68 AdjustFinalInvWith100PctPrepmt(TempCombinedSalesLine);
69
70 TempVATAmountLineRemainder.DELETEALL;
```



CRONUS - Microsoft Dynamics NAV Development Environment - [Table 18 Customer - C/AL Editor]

File Edit View Tools Window Help

✂ 📄 📂 🔍 📄 📄 🔄 🔄

```
1  Documentation()  
2  |  
3  OnInsert()|...  
26 OnModify()...  
38 OnDelete()...  
166 OnRename()...  
175 No. - OnValidate()...  
184 No. - OnLookup()...  
186 Name - OnValidate()...  
190 Name - OnLookup()  
191 |  
192 Search Name - OnValidate()  
193 |  
194 Search Name - OnLookup()
```

CRONUS - Microsoft Dynamics NAV Development Environment - [Table 18 Customer - C/AL Editor]

File Edit View Tools Window Help

```

1 Documentation()
2
3 OnInsert()
4 IF "No." = '' THEN BEGIN
5     SalesSetup.GET;
6     SalesSetup.TESTFIELD("Customer Nos.");
7     NoSeriesMgt.InitSeries(SalesSetup."Customer Nos.",xRec."No. Series",0D,"No.,"No. Series");
8 END;
9
10 IF "Invoice Disc. Code" = '' THEN
11     "Invoice Disc. Code" := "No.";
12
13 IF NOT (InsertFromContact OR (InsertFromTemplate AND (Contact <> '')) OR ISTEMPORARY) THEN
14     UpdateContFromCust.OnInsert(Rec);
15
16 IF "Salesperson Code" = '' THEN
17     SetDefaultSalesperson;
18
19 DimMgt.UpdateDefaultDim(
20     DATABASE::Customer,"No.",
21     "Global Dimension 1 Code","Global Dimension 2 Code");
22
23 UpdateReferencedIds;
24 SetLastModifiedDateTime;
25
26 OnModify()...

```

Codeunit 50001 EventSubscriber Functions - C/AL Editor

```

1 Documentation()
2
3 OnRun()
4
5 LOCAL [EventSubscriber] MyFunction(VAR Rec : Record "Sales Header";RunTrigger : Boolean)
6 // Your code is written here
7

```

MyFunction - Properties

Property	Value
ID	1000000001
Local	Yes
TryFunction	<No>
Event	Subscriber
EventPublisherObject	Table Sales Header
EventFunction	OnBeforeInsertEvent
OnMissingLicense	<Error>
OnMissingPermission	<Error>

100 %

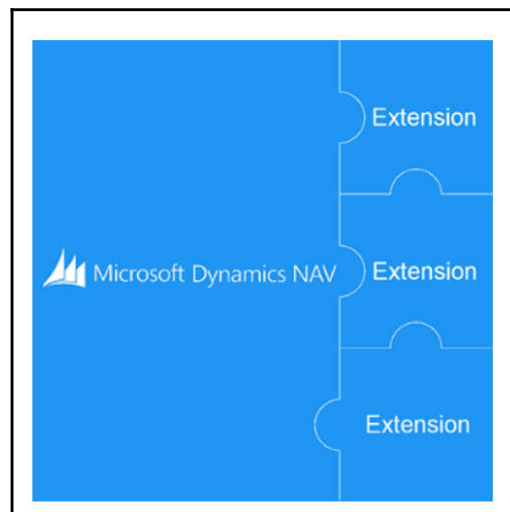
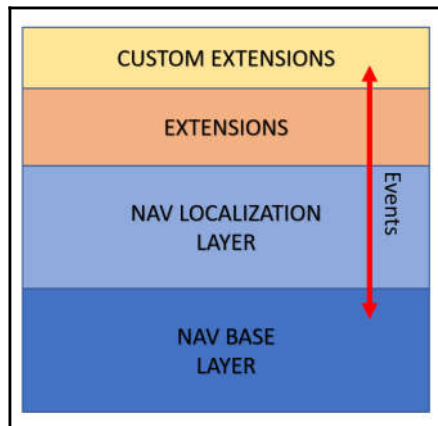
OnAfterValidateCustomer - Properties	
Property	Value
ID	1101340007
Local	Yes
TryFunction	<No>
Event	Subscriber
EventPublisherObject	Table Customer
EventFunction	OnAfterValidateEvent
EventPublisherElement	Customer Posting Group
OnMissingLicense	<Error>
OnMissingPermission	<Error>

```

LOCAL [EventSubscriber] OnAfterValidateCustomer(VAR Rec : Record Customer;VAR xRec : Record Customer;CurrFieldNo : Integer)

```

CU_90_2017_T0M M	CU_90_2018 M
682 InsertReturnReceiptLine(ReturnRcptHeader, Sales	682 InsertReturnReceiptLine(ReturnRcptHeader, SalesLine, CostBaseAmount) :
683	683
684 IF SalesHeader.Invoice THEN	684 IF SalesHeader.Invoice THEN
685 IF SalesHeader."Document Type" IN (SalesHeader	685 IF SalesHeader."Document Type" IN (SalesHeader."Document Type"::Order, Sale
686 SalesInvLine.InitFromSalesLine(SalesInvHead	686 SalesInvLine.InitFromSalesLine(SalesInvHeader, xSalesLine) :
687 ItemJnlPostLine.CollectValueEntryRelation(Te	687 ItemJnlPostLine.CollectValueEntryRelation(TempValueEntryRelation, SalesIn
688	688
689	689
690	690
691	691 OnBeforeSalesInvLineInsert(SalesInvLine, SalesInvHeader, xSalesLine) :
692 SalesInvLine.INSERT(TRUE) :	692 SalesInvLine.INSERT(TRUE) :
693	693 OnAfterSalesInvLineInsert(SalesInvLine, SalesInvHeader, xSalesLine, ItemJ
694 CreatePostedDeferralScheduleFromSalesDoc(xSa	694 CreatePostedDeferralScheduleFromSalesDoc(xSalesLine, SalesInvLine.GetDocu
695 SalesInvHeader."No.", SalesInvLine."Line No	695 SalesInvHeader."No.", SalesInvLine."Line No.", SalesInvHeader."Posting D
696 END ELSE BEGIN	696 END ELSE BEGIN
697 SalesCrMemoLine.InitFromSalesLine(SalesCrMem	697 SalesCrMemoLine.InitFromSalesLine(SalesCrMemoHeader, xSalesLine) :
698 ItemJnlPostLine.CollectValueEntryRelation(Te	698 ItemJnlPostLine.CollectValueEntryRelation(TempValueEntryRelation, SalesCr
699	699 OnBeforeSalesCrMemoLineInsert(SalesCrMemoLine, SalesCrMemoHeader, xSalesLi
700 SalesCrMemoLine.INSERT(TRUE) :	700 SalesCrMemoLine.INSERT(TRUE) :
701	701 OnAfterSalesCrMemoLineInsert(SalesCrMemoLine, SalesCrMemoHeader, SalesHea
702 CreatePostedDeferralScheduleFromSalesDoc(xSa	702 CreatePostedDeferralScheduleFromSalesDoc(xSalesLine, SalesCrMemoLine.GetD
703 SalesCrMemoHeader."No.", SalesCrMemoLine."I	703 SalesCrMemoHeader."No.", SalesCrMemoLine."Line No.", SalesCrMemoHeader."
704 END;	704 END;
705	705
706 END;	706 END;
707	707
708 LOCAL PROCEDURE PostGLAndCustomer@164(SalesHeader@10	708 LOCAL PROCEDURE PostGLAndCustomer@164(SalesHeader@1000 : Record 36;VAR TempInvoi
709 BEGIN	709 BEGIN
710	710 OnBeforePostGLAndCustomer(SalesHeader, TempInvoicePostBuffer, CustLedgEntry) :
711	711
712 WITH SalesHeader DO BEGIN	712 WITH SalesHeader DO BEGIN
713 // Post sales and VAT to G/L entries from postin	713 // Post sales and VAT to G/L entries from posting buffer



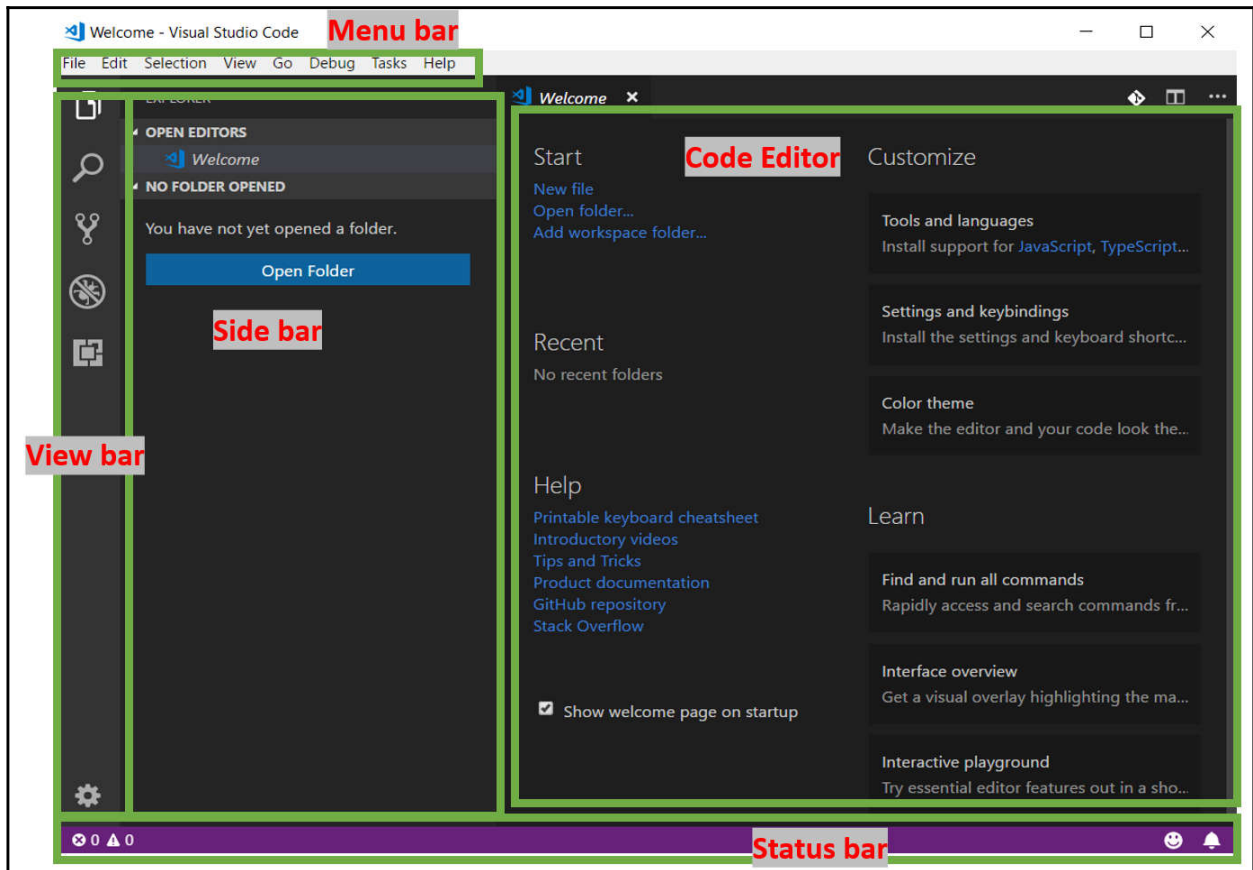
- [-] [-] dbo.CRONUS International Ltd_\$Currency for Reminder Level
- [-] [-] dbo.CRONUS International Ltd_\$Currency Total Buffer
- [-] [-] dbo.CRONUS International Ltd_\$Current Salesperson
- [-] [-] dbo.CRONUS International Ltd_\$Cust_ Invoice Disc_
- [-] [-] dbo.CRONUS International Ltd_\$Cust_ Ledger Entry
- [-] [-] dbo.CRONUS International Ltd_\$Custom Report Selection
- [-] [-] dbo.CRONUS International Ltd_\$Customer
- [-] [-] dbo.CRONUS International Ltd_\$Customer Amount
- [-] [-] dbo.CRONUS International Ltd_\$Customer Bank Account
- [-] [-] dbo.CRONUS International Ltd_\$Customer Category
- [-] [-] dbo.CRONUS International Ltd_\$Customer Discount Group
- [-] [-] dbo.CRONUS International Ltd_\$Customer Posting Group
- [-] [-] dbo.CRONUS International Ltd_\$Customer Price Group
- [-] [-] dbo.CRONUS International Ltd_\$Customer Template
- [-] [-] **dbo.CRONUS International Ltd_\$Customer\$89cf2b50-3f92-44e4-8ce2-5df7659a9ba0**
 - [-] [-] Columns
 - [-] [-] timestamp (timestamp, not null)
 - [-] [-] No_ (PK, nvarchar(20), not null)
 - [-] [-] Customer Category (nvarchar(20), not null)
 - [-] [-] Keys
 - [-] [-] Constraints
 - [-] [-] Triggers
 - [-] [-] Indexes
 - [-] [-] Statistics
- [-] [-] dbo.CRONUS International Ltd_\$Customized Calendar Change
- [-] [-] dbo.CRONUS International Ltd_\$Customized Calendar Entry

DynamicsNAV110 - (Running)

General			▼
Database			▼
Client Services		7046	▼
SOAP Services		7047	▼
OData Services		7048	▼
NAS Services			▼
Management Services		7045	▼
Azure Key Vault Encryption Provider			▼
Azure Active Directory (Azure AD)			▼
Task Scheduler			▼
Reports			▼
Development			▲

Allowed Extension Target Level:	Internal	▼	HttpClient AL Function Maximum Timeo...	00:05:00
Enable Developer Service Endpoint:	<input type="checkbox"/>		HttpClient AL Function Response Size:	15
Enable loading application symbol references at server ...	<input type="checkbox"/>		Port:	7049
Enable SSL:	<input type="checkbox"/>			

Chapter 3: Modern Development Environment Overview





2 0 ALProject6 -- NORMAL --

Ln 12, Col 12 Spaces: 4 UTF-8 LF AL

- [Multi-cursor Editing](#) - block selection, select all occurrences, add additional cursors and more
- [IntelliSense](#) - get code assistance and parameter suggestions for your code and external modules.
- [Line Actions](#) - quickly move lines around to re-order your code.
- [Rename Refactoring](#) - quickly rename symbols across your code base.
- [Refactoring via Extraction](#) - quickly extract common code into a separate function or constant.
- [Formatting](#) - keep your code looking great with inbuilt document & selection formatting.
- [Code Folding](#) - focus on the most relevant parts of your code by folding other areas.
- [Errors and Warnings](#) - see errors and warning as you type.
- [Snippets](#) - spend less time typing with snippets.



AL Language 0.15.18771

AL development tools for Dynamics 365 Business Central
Microsoft

18K ★ 5



```
1 {
2   "version": "0.2.0",
3   "configurations": [
4     {
5       "type": "al",
6       "request": "launch",
7       "name": "Microsoft cloud sandbox",
8       "startupObjectId": 22,
9       "startupObjectType": "Page"
10    }
11  ]
12 }
```

```
1 {
2   "id": "b4a07b21-6615-45ef-8511-13e9c39ab01f",
3   "name": "MyFirstExtension",
4   "publisher": "Default publisher",
5   "brief": "This is a brief description of my extension",
6   "description": "This is a more detailed and verbose description",
7   "version": "1.0.0.0",
8   "privacyStatement": "https://privacy.microsoft.com/en-us/privacystatement",
9   "EULA": "https://privacy.microsoft.com/en-us/EULA",
10  "help": "https://bc.dtacconi.com/en-us/Help",
11  "url": "https://bc.dtacconi.com/en-us/ExtensionDescription",
12  "logo": "C:\\\\TEMP\\MyFirstExt.bmp",
13  "capabilities": [],
14  "dependencies": [],
15  "screenshots": [],
16  "platform": "12.0.0.0",
17  "application": "12.0.0.0",
18  "idRange": {
19    "from": 50100,
20    "to": 50149
21  }
22 }
```

```
"Message": {
  "prefix": "tMessage",
  "body": [
    "MESSAGE([' + FORMAT($1) + ']:$1');",
    "$2"
  ],
  "description": "Display the field or variable selected"
}
```

0 references

pageextension 50149 CustomerCardExt extends "Customer Card"

```
{
  trigger OnOpenPage();
  begin
    Message('App published: Hello world');
  end;
}
```

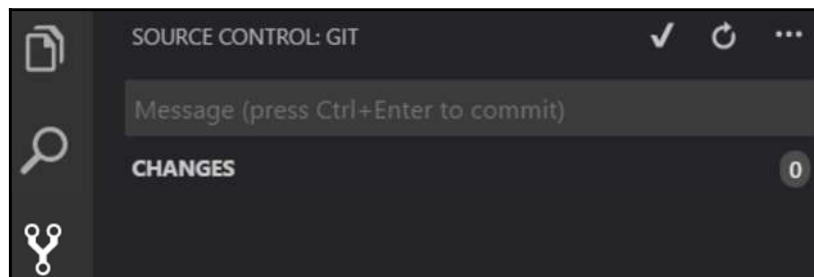
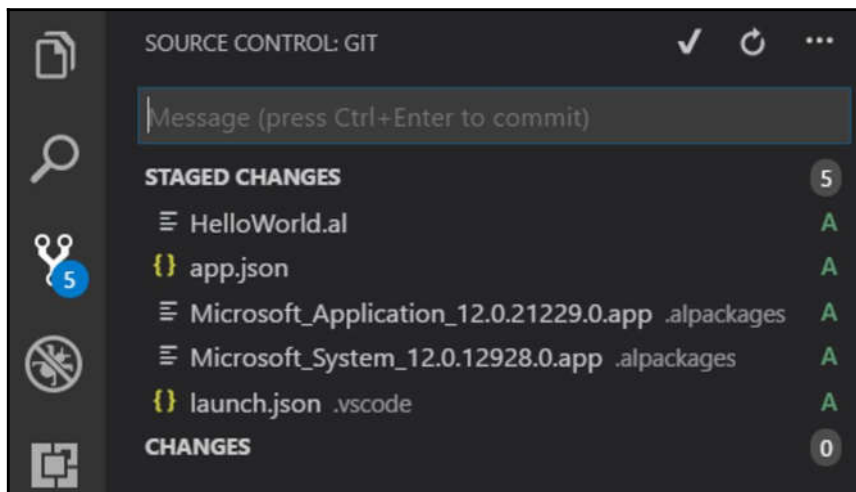
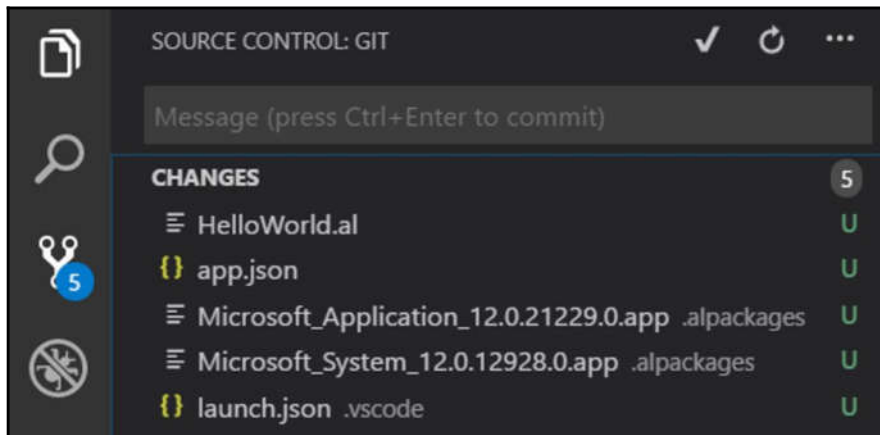
0 references

pageextension 50149 CustomerCardExt extends "Customer Card"

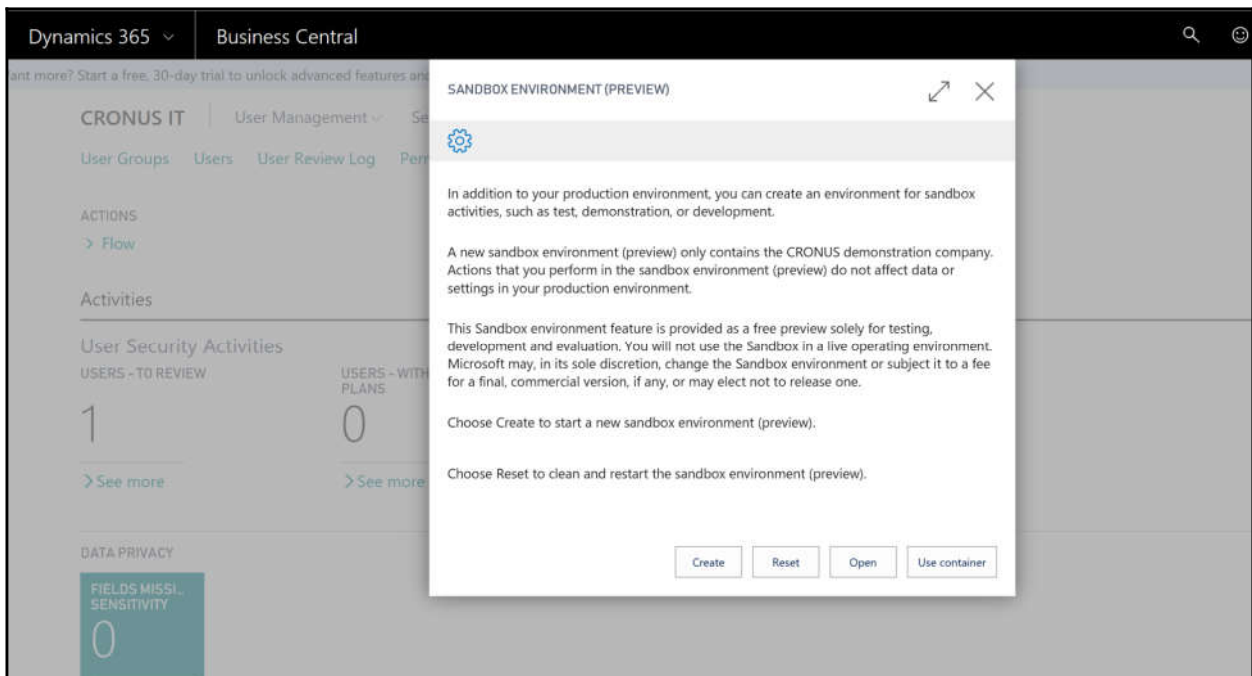
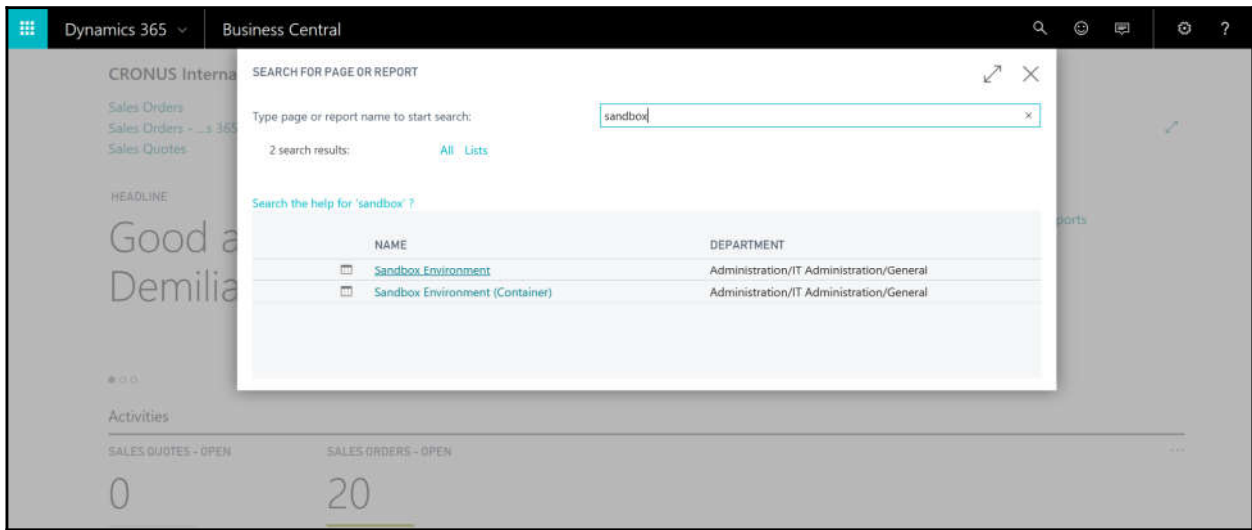
```
{
  trigger OnOpenPage();
  begin
    Message('App published: Hello world');
    MESSAGE([' + FORMAT(Name) + ']:Name');
    MESSAGE([' + FORMAT(Address) + ']:Address');
    MESSAGE([' + FORMAT("Last Date Modified") + ']:"Last Date Modified");
  end;
}
```

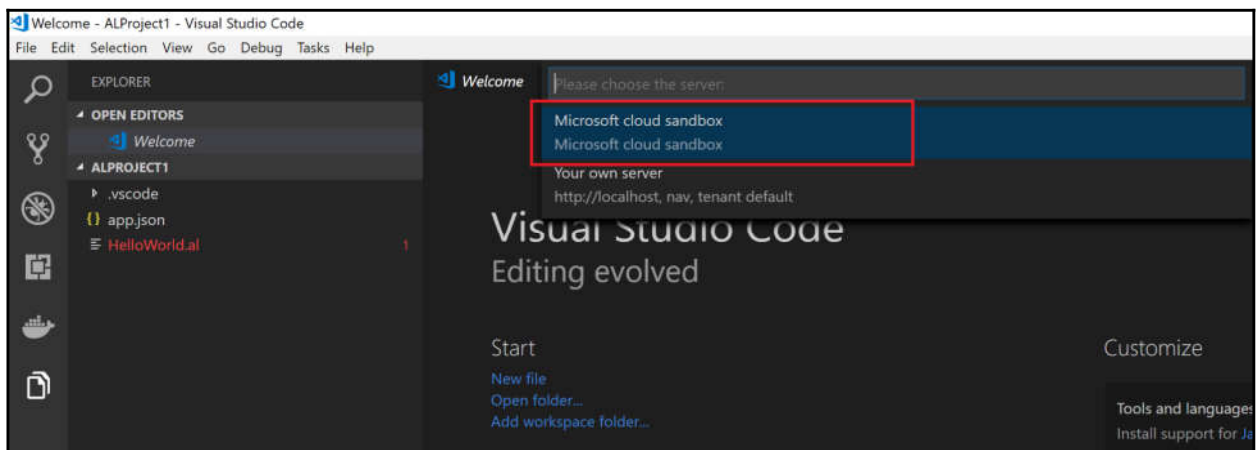
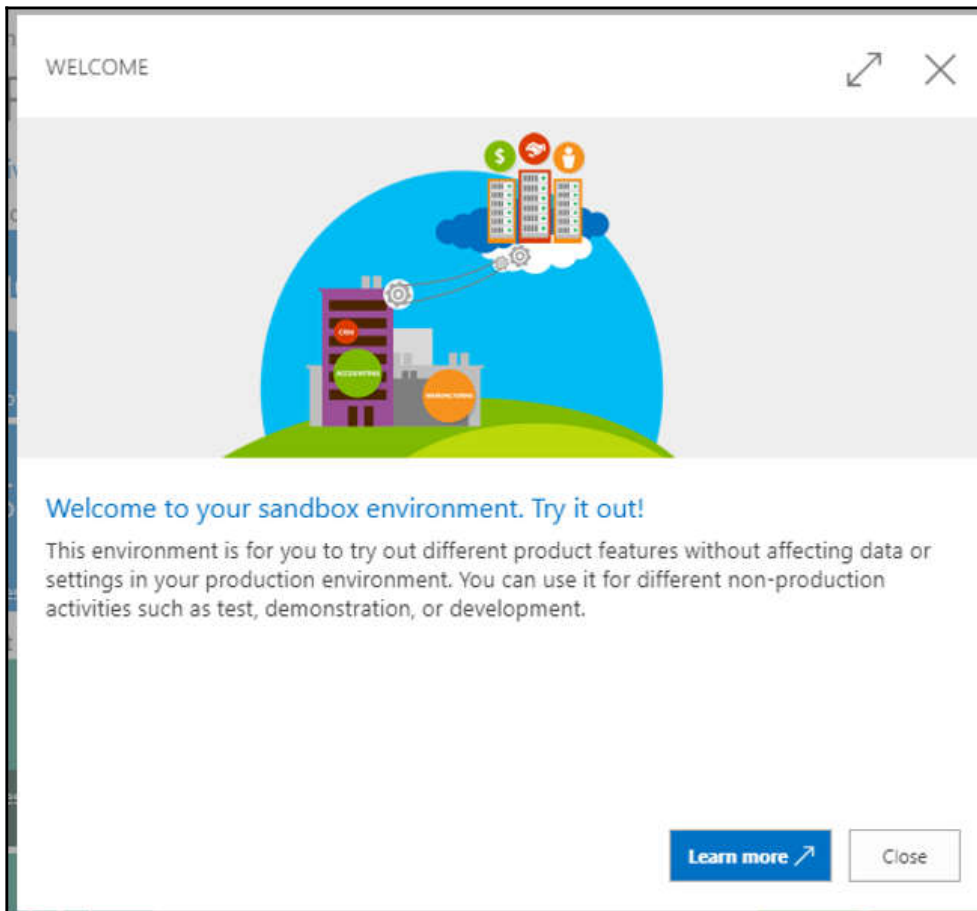
SOURCE CONTROL





Chapter 4: Creating Your Development Sandbox





launch.json - ALProject1 - Visual Studio Code

File Edit Selection View Go Debug Tasks Help

EXPLORER

- OPEN EDITORS
 - launch.json .vscode
- ALPROJECT1
 - .vscode
 - launch.json
 - app.json
 - HelloWorld.al 1

```
1 [
2   "version": "0.2.0",
3   "configurations": [
4     {
5       "type": "al",
6       "request": "launch",
7       "name": "Microsoft cloud sandbox",
8       "startupObjectId": 22,
9       "startupObjectType": "Page"
10    }
11  ]
12 ]
```

launch.json - ALProject1 - Visual Studio Code

File Edit Selection View Go Debug Tasks Help

EXPLORER

- OPEN EDITORS
 - launch.json .vscode
- ALPROJECT1
 - .vscode
 - launch.json
 - app.json
 - HelloWorld.al 1

```
1 [
2   "version": "0.2.0",
3   "configurations": [
4     {
5       "type": "al",
6       "request": "launch",
7       "name": "Microsoft cloud sandbox",
8       "startupObjectId": 22,
9       "startupObjectType": "Page"
10    }
11  ]
12 ]
```

Dynamics 365 Business Central

Want more? Start a free, 30-day trial to unlock advanced features and

CRONUS IT | User Management | Settings

User Groups Users User Review Log Permissions

ACTIONS
> Flow

Activities

User Security Activities

USERS - TO REVIEW 1
> See more

USERS - WITH PLANS 0
> See more

DATA PRIVACY

FIELDS MISSING SENSITIVITY 0

SANDBOX ENVIRONMENT (CONTAINER) (PREVIEW)

If your development requirements go beyond what the sandbox environment offers, you can create a container-based environment with the full product and use that for development and testing. You can host the container either locally or on an Azure VM.

If you decide to use Azure VM you will be asked to log into the Azure Portal and fill out an Azure Resource Management Template, and then press Purchase. The Virtual Machine will be running a container with the same version of the product as your production environment and will run in your own subscription incurring costs as determined by the selected VM size.

If you decide to run locally we will provide a PowerShell script that must be run on a Windows machine with PowerShell and the appropriate container hosting software installed. The PowerShell script will install and use the NavContainerHelper to run a container with the same version of the product as your production environment.

This Sandbox environment feature is provided as a free preview solely for testing, development and evaluation. You will not use the Sandbox in a live operating environment. Microsoft may, in its sole discretion, change the Sandbox environment or its availability.

Custom deployment

Deploy from a custom template

TEMPLATE



Customized template
10 resources

Edit template

Edit parameters

Learn more

BASICS

* Subscription

* Resource group Create new Use existing

* Location

SETTINGS

Vm Name

Accept Eula

Remote Desktop Access

Vm Size

Vm Admin Username

Nav Admin Username

Azure Sql Admin Username

* Admin Password

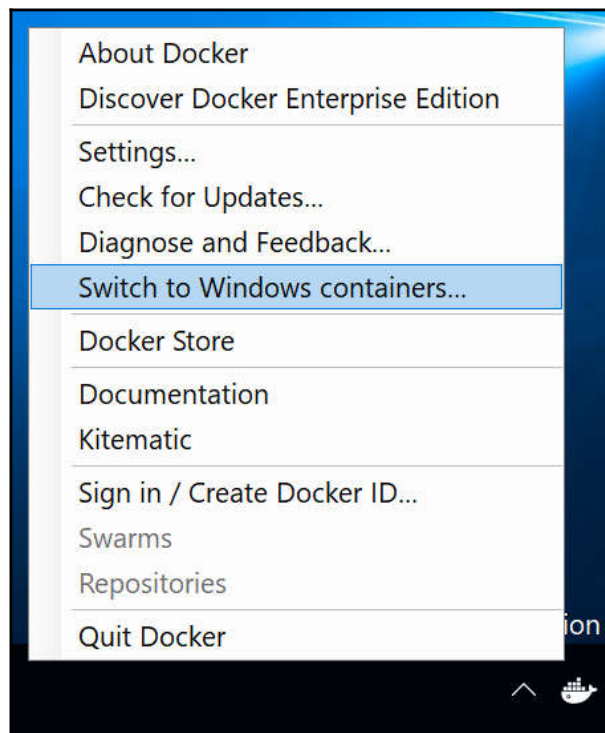
Pin to dashboard

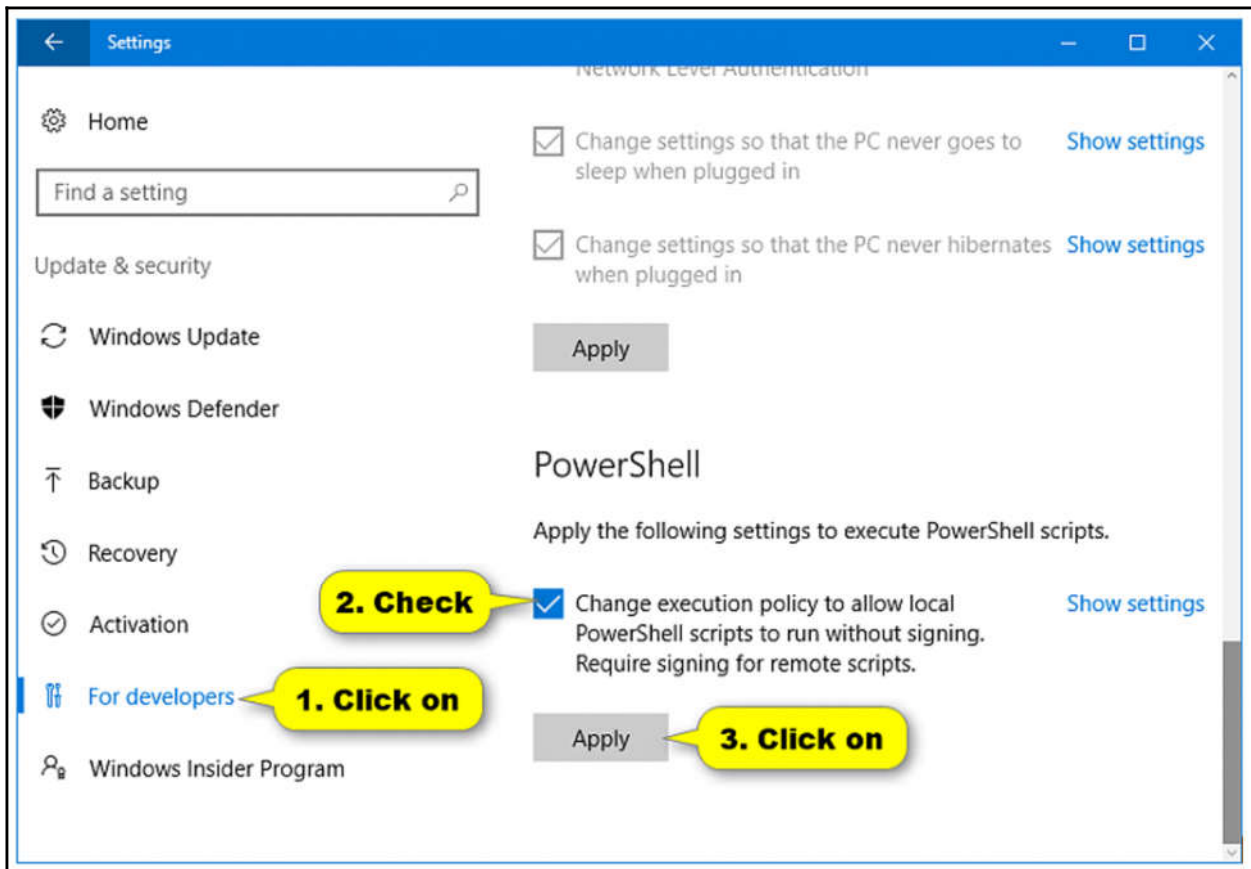
Purchase

Custom deployment

Deploy from a custom template

Assign Premium Plan ⓘ	Yes	▼
Create Test Users ⓘ	Yes	▼
Nav Docker Image ⓘ	microsoft/bcsandbox:12.0.21405.22470	×
License File Uri ⓘ		
App Bacpac Uri ⓘ		
Tenant Bacpac Uri ⓘ		
SQL Server Type ⓘ	SQLExpress	▼
Include App Uris ⓘ		
Run Windows Update ⓘ	No	▼
Use Lets Encrypt Certificate ⓘ	No	▼
Contact E Mail For Lets Encrypt ⓘ		
Auto Shutdown ⓘ	Disabled	▼
Auto Shutdown Timezone Id ⓘ	GMT Standard Time	▼
Auto Shutdown Time ⓘ	20:00	





Dynamics 365 Business Central

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CRONUS IT | User Management | User Groups | Users | User Review Log | Permissions

ACTIONS
> Flow

Activities

User Security Activities

USERS - TO REVIEW	USERS - WITH PLANS
1	0
> See more	> See more

DATA PRIVACY

FIELDS MISSING SENSITIVITY

0

SANDBOX ENVIRONMENT (CONTAINER) (PREVIEW)

If your development requirements go beyond what the sandbox environment offers, you can create a container-based environment with the full product and use that for development and testing. You can host the container either locally or on an Azure VM.

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If you decide to run locally we will provide a PowerShell script that must be run on a Windows machine with PowerShell and the appropriate container hosting software installed. The PowerShell script will install and use the NavContainerHelper to run a container with the same version of the product as your production environment.

This Sandbox environment feature is provided as a free preview solely for testing, development and evaluation. You will not use the Sandbox in a live operating environment. Microsoft may, in its sole discretion, change the Sandbox environment or

Host in Azure Host locally

```

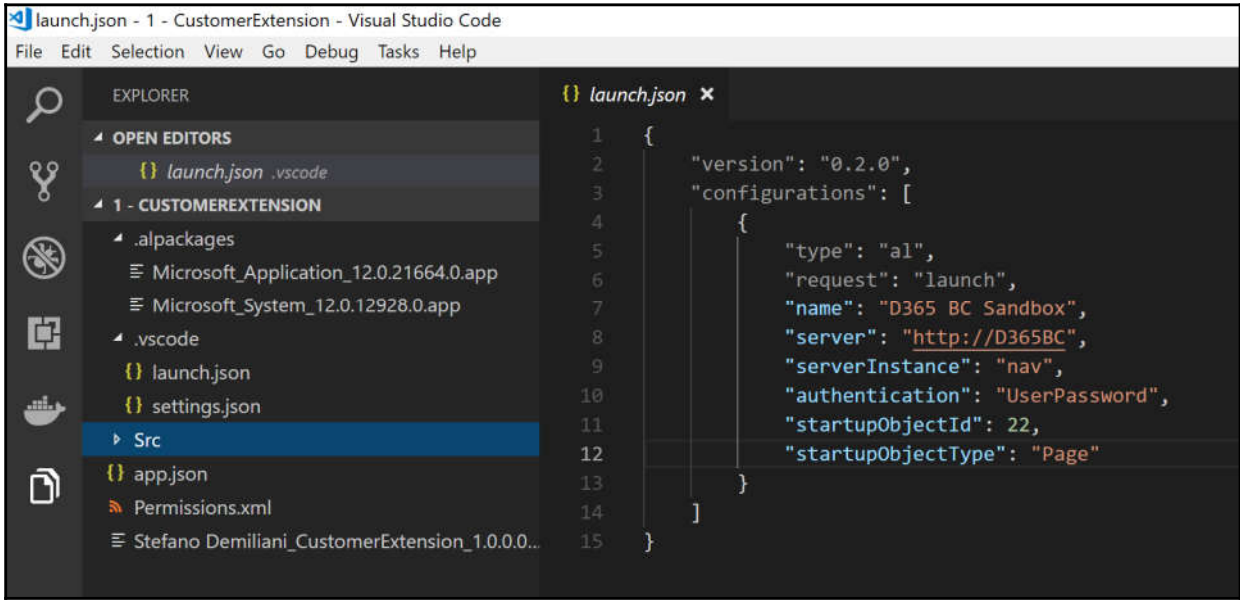
Amministratore: Windows PowerShell ISE
File Modifica Visualizza Strumenti Debug Componenti aggiuntivi ?
CreateBCSandbox.ps1* X
1  install-module navcontainerhelper -force
2
3  # set accept_eula to $true to accept the eula found here: https://go.microsoft.com/fwlink/?linkid=861843
4  $accept_eula = $true
5
6  $containername = 'p365bc'
7  $navdockerimage = 'microsoft/bcsandbox:12.0.21229.0'
8  $appbacpacuri = ''
9  $tenantbacpacuri = ''
10
11  $additionalParameters = @()
12  if ($appbacpacuri -ne '' -and $tenantbacpacuri -ne '') {
13      $additionalParameters = @("--env appbacpac=""$appbacpacuri"" --env tenantBacpac=""$tenantbacpacuri""")
14  }
15
16  $credential = get-credential -username $env:USERNAME -message "using windows authentication. Please enter your windows credentials."
17  New-NavContainer -accept_eula:$accept_eula
18                    -containername $containername
19                    -auth windows
20                    -credential $credential
21                    -includeside
22                    -alwayspull
23                    -doNotExportObjectsToText
24                    -usessl:$false
25                    -updateHosts
26                    -assignPremiumPlan
27                    -shortcuts Desktop
28                    -imageName $navdockerimage
29                    -additionalParameters $additionalParameters
30
31  Setup-NavContainerTestUsers -containerName $containername -password $credential Password
32

```

```
Starting Internet Information Server
Creating Self signed Certificate
Self signed Certificate Thumbprint 976CE96F4F6E3DE8343B725819D453766E77227E
Modifying Service Tier Config File with Instance Specific Settings
Starting NAV Service Tier
Creating DotNetCore Web Server Instance
Enabling Financials User Experience
Creating http download site
Creating windows user admin
Setting SA Password and enabling SA
Creating admin as SQL User and add to sysadmin
Creating SUPER user
Container IP Address: 172.19.98.95
Container Hostname : D365BC
Container Dns Name : D365BC
Web Client : http://D365BC/NAV/
Dev. Server : http://D365BC
Dev. ServerInstance : NAV

Files:
http://D365BC:8080/a1-0.15.18771.vsix

Initialization took 41 seconds
Ready for connections!
```

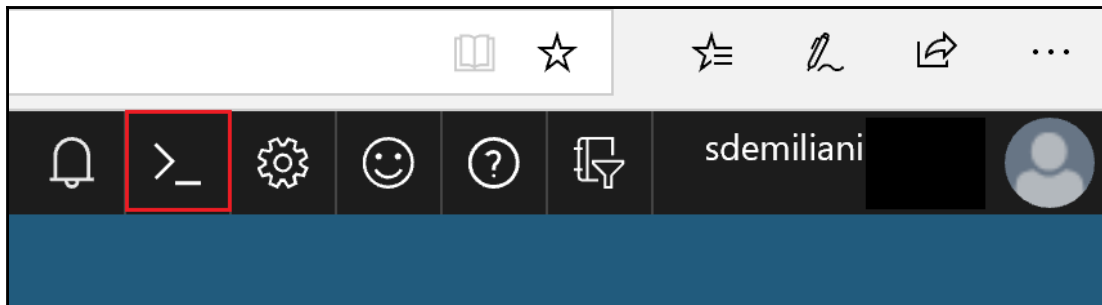
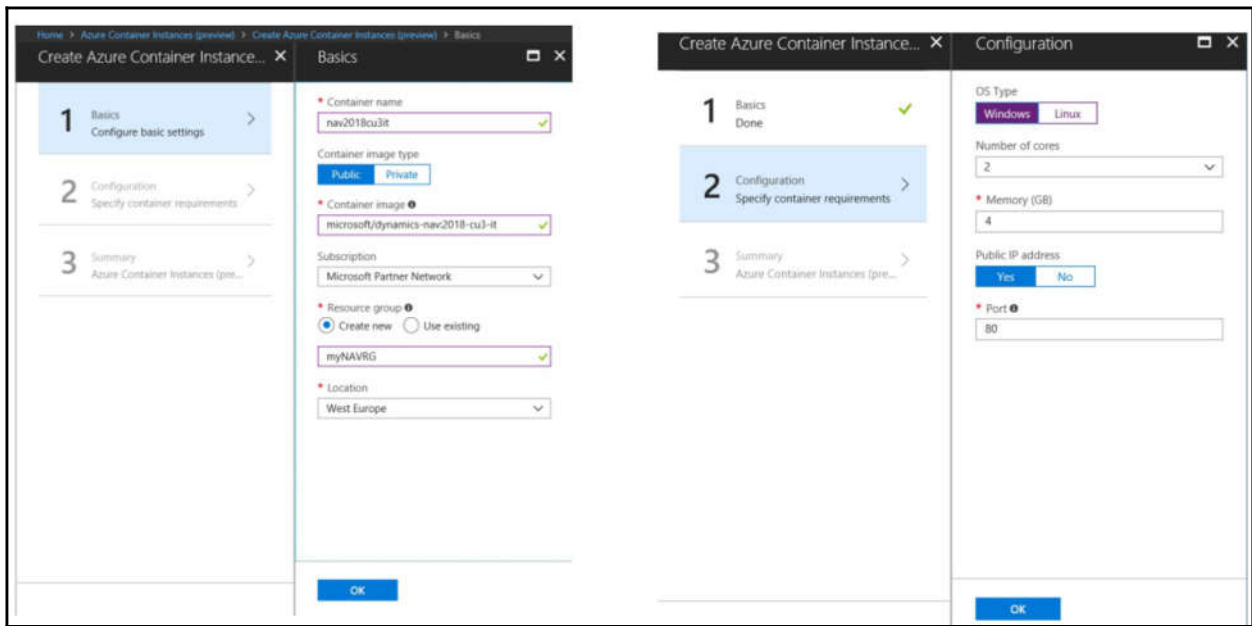


```
Prompt dei comandi
Microsoft Windows [Versione 10.0.17134.48]
(c) 2018 Microsoft Corporation. Tutti i diritti sono riservati.

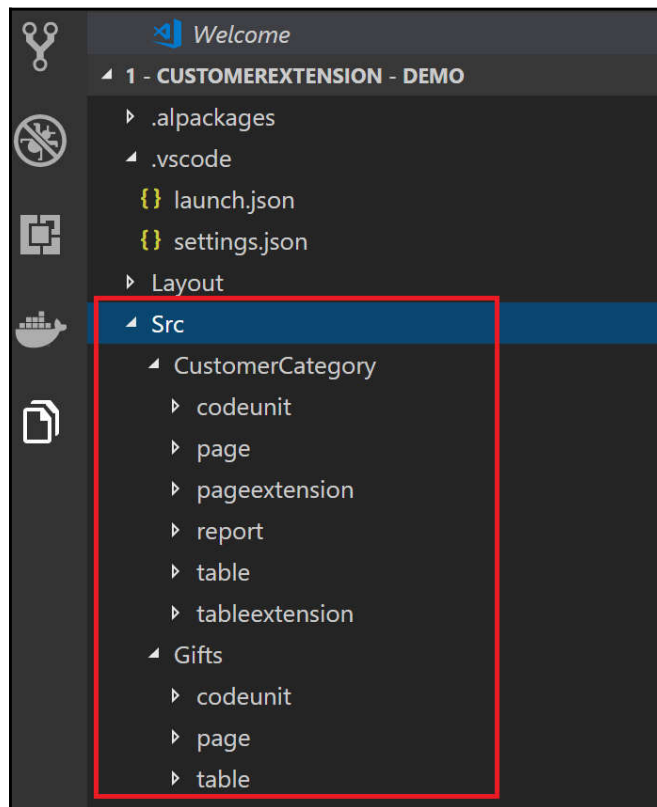
C:\Users\StefanoDemiliani>docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
71fc02198a02      microsoft/bcsandbox:latest "powershell -Command..." 3 weeks ago        Up 2 weeks (healthy) 80/
```

```
Amministratore: Windows PowerShell ISE
File Modifica Visualizza Strumenti Debug Componenti aggiuntivi ?
DockerContainerMSWorkshopMilan.ps1* X
1
2 $imageName = "microsoft/bcsandbox:latest"
3 $navcredential = New-Object System.Management.Automation.PSCredential -argumentList "admin", (ConvertTo-SecureString -String "P
4 New-NavContainer -accept_eula
5                 -containerName "D365BC"
6                 -Auth NavUserPassword
7                 -imageName $imageName
8                 -Credential $navcredential
9
10
11
12 |
13
14

PS C:\WINDOWS\system32> docker logs D365BC
Initializing...
Starting Container
Hostname is D365BC
PublicDnsName is D365BC
Using NavUserPassword Authentication
Starting Local SQL Server
Starting Internet Information Server
Creating Self Signed Certificate
Self Signed Certificate Thumbprint 976CE96F4F6E3DE8343B725819D453766E77227E
Modifying Service Tier config File with Instance Specific Settings
Starting NAV Service Tier
Creating DotNetCore Web Server Instance
Enabling Financials User Experience
Creating http download site
Creating windows user admin
Setting SA Password and enabling SA
Creating admin as SQL User and add to sysadmin
Creating SUPER user
Container IP Address: 172.19.98.95
Container Hostname : D365BC
Container Dns Name : D365BC
Web Client          : http://D365BC/NAV/
Web Server          : http://D365BC
Dev. ServerInstance : NAV
```



Chapter 5: Developing an Extension with AL and VS Code



```
app.json x
1 {
2   "id": "3ba9246e-5bb0-4eac-b9ea-5269737fb9cc",
3   "name": "CustomerExtension",
4   "publisher": "Stefano Demiliani",
5   "brief": "My Customer Extension",
6   "description": "My Customer Extension for D365BC",
7   "version": "1.0.0.0",
8   "privacyStatement": "",
9   "EULA": "",
10  "help": "",
11  "url": "http://www.demiliani.com",
12  "logo": "C:\\Users\\Stefano\\OneDrive\\Immagini\\Avatar.PNG",
13  "capabilities": [],
14  "dependencies": [],
15  "screenshots": [],
16  "platform": "12.0.0.0",
17  "application": "12.0.0.0",
18  "idRange": {
19    "from": 50100,
20    "to": 50149
21  }
22 }
```

```

0 references
table id MyTable
{
  DataClassification = ToBeClassified;

  fields
  {
    1 reference
    field(1;MyField; Integer)
    {
      DataClassification = ToBeClassified;
    }
  }

  keys
  {
    - reference
    key(PK; MyField)
    {
      Clustered = true;
    }
  }

  var
    0 references
    myInt: Integer;

  trigger OnInsert()
  begin
  end;

  trigger OnModify()
  begin
  end;

  trigger OnDelete()
  begin
  end;
end;

```

Tab50100.CustomerCategory.al x

```
1
2 8 references
3 table 50100 "Customer Category"|
4 {
5     DrillDownPageId = "Customer Category List";
6     LookupPageId = "Customer Category List";
7     Caption='Customer Category';
8
9     fields
10    {
11        7 references
12        field(1; No; Code[20])
13        {
14            DataClassification = CustomerContent;
15            Caption = 'No.';
16            trigger OnValidate();
17            begin
18            end;
19        }
20        2 references
21        field(2; Description; Text[50])
22        {
23            DataClassification = CustomerContent;
24            CaptionML = ENU = 'Description', ITA = 'Descrizione';
25        }
26        5 references
27        field(3; Default; Boolean)
28        {
29            DataClassification = CustomerContent;
30            Caption = 'Default';
31        }
32        1 reference
33        field(4; TotalCustomersForCategory; Integer)
34        {
35            FieldClass = FlowField;
36            CalcFormula = count (Customer where ("Customer Category" = field (No)));
37            CaptionML = ENU = 'Total customers for category', ITA = 'Nr. clienti nella categoria';
38        }
39
40        0 references
41        field(5; EnableNewsletter; Option)
42        {
43            OptionMembers = " ", "Full", "Limited";
44        }
45    }
46 }
```


1	<u>tpage</u>	
2	□ tpage, Page	
3	□ tpage, Page of type list	Snippet: Page of type list (AL Language) ×
4	□ tpage (CRS)	page Id PageName
5	□ tpagecust	{
6	□ tpagecust (CRS)	PageType = List;
7	□ tpageext	SourceTable = TableName;
8	□ tpageext (CRS)	
9	□ tpagefield	layout
10	□ tpagefield (CRS)	{
11	□ tpagelist (CRS)	area(content)
12	□ tpagesetup (CRS)	{
13	□ tpagewizard (CRS: 3 steps)	

```
1
2 references
3 page 50100 "Customer Category List"
4 {
5     PageType = List;
6     SourceTable = "Customer Category";
7     UsageCategory = Lists; //To be inserted in Search
8     //CaptionML = ENU = 'Customer Category List', ITA = 'Lista Categorie Cliente';
9     Caption = 'Customer Category List';
10
11     layout
12     {
13         0 references
14         area(content)
15         {
16             0 references
17             repeater(Group)
18             {
19                 0 references
20                 field(No; No)
21                 {
22                     ApplicationArea = All;
23                 }
24                 0 references
25                 field(Description; Description)
26                 {
27                     ApplicationArea = All;
28                 }
29                 0 references
30                 field(Default; Default)
31                 {
32                     ApplicationArea = All;
33                 }
34                 0 references
35                 field(TotalCustomersForCategory; TotalCustomersForCategory)
36                 {
37                     ApplicationArea = All;
38                     Tooltip='Total Customers for Category';
39                 }
40
41                 //Campo con SourceExpression una funzione definita in una codeunit
42                 //field(TEST;cu.TEST)
43                 //{
44                 //    Editable = false;
45                 //}
46             }
47         }
48         0 references
49         area(factboxes)
50         {
51         }
52     }
53 }
```

```

action("Create Default Category")
{
    Image = CreateForm;
    Promoted = true;
    PromotedCategory = Process;
    PromotedIsBig = true;
    ApplicationArea = All;
    ToolTip = 'Create default category';
    Caption='Create default category';

    trigger OnAction();
    var
        CustManagement: Codeunit "Customer Management";
    begin
        //!Integration event raised
        OnBeforeCreateDefaultCategoryAction(Rec);
        CustManagement.CreateDefaultCategory();
        //!Integration event raised
        OnAfterCreateDefaultCategoryAction(Rec);
    end;
}
}

var
    //cu: Codeunit "Customer Management";

[IntegrationEvent(true, true)]
1 reference
local procedure OnBeforeCreateDefaultCategoryAction(var CustomerCategory: Record "Customer Category")
begin
end;

[IntegrationEvent(true, true)]
1 reference
local procedure OnAfterCreateDefaultCategoryAction(var CustomerCategory: Record "Customer Category")
begin
end;

```

```

2 references
1  page 50103 "Free Gift List"
2  {
3      PageType = List;
4      SourceTable = FreeGifts;
5      UsageCategory = Lists; //Per poterla inserire nel Search
6      CaptionML=ENU='Free Gift Setup',ITA='Free Gift Setup';
7
8      layout
9      {
10         0 references
11         area(content)
12         {
13             0 references
14             repeater(Group)
15             {
16                 0 references
17                 field(CustomerCategoryCode; CustomerCategoryCode)
18                 {
19                     ApplicationArea = All;
20                 }
21                 0 references
22                 field(ItemNo; ItemNo)
23                 {
24                     ApplicationArea = All;
25                 }
26                 0 references
27                 field(MinimumOrderQuantity; MinimumOrderQuantity)
28                 {
29                     ApplicationArea = All;
30                     Style = Strong;
31                 }
32                 0 references
33                 field(GiftQuantity;GiftQuantity)
34                 {
35                     ApplicationArea = All;
36                     Style = Strong;
37                 }
38             }
39         }
40         0 references
41         area(factboxes)
42         {

```

```
1 ttableext|
2
3
4
5
6
7
8
9
10
11
12
13
```

Snippet: Table Extension (AL Language) ×

```
tableextension Id MyExtension extends
MyTargetTable
{
    fields
    {
        // Add changes to table fields
here
    }

    var
        mvInt: Integer;
```

```
tableextension 50101 ItemLedgerEntryExtension extends "Item Ledger Entry"
{
    fields
    {
        1 reference
        field(50100;"Customer Category";Code[20])
        {
            TableRelation = "Customer Category".No;
            Description = 'Customer Category';
            Caption = 'Customer Category';
        }
    }

    modify("Document No.")
    {
        Caption = 'Document No.';
    }
}
}
```

- AccessByPermission
- AutoFormatExpression
- AutoFormatType
- AutoIncrement
- BlankNumbers
- BlankZero
- CalcFormula
- Caption
- CaptionClass
- CaptionML
- CharAllowed
- ClosingDates

AccessByPermission property ×

Sets a value for a table field or UI element that determines the permission mask for an object that a user must have to see and access the related page fields or UI element in the client. The UI element will be removed at runtime if the user does not have permissions to a certain object as specified in the Access By Permission window..

All types of UI elements will be removed if they relate to an object to which the user does not have the required permissions:

```
1 tpageext
2 tpageext Snippet: Page Extension (AL Language) x
3
4 pageextension Id MyExtension extends
5 MyTargetPage
6 {
7     layout
8     {
9         // Add changes to page layout
10        here
11    }
12
13    actions
14    {
```

```
0 references
pageextension 50103 CustomerListExtension extends "Customer List"
{
    actions
    {
        addlast(Processing)
        {
            0 references
            action("Assign Default Category")
            {
                Image = ChangeCustomer;
                Promoted = true;
                PromotedCategory = Process;
                PromotedIsBig = true;
                ApplicationArea = All;
                Caption = 'Assign Default Category to all Customers';
                ToolTip = 'Assigns the Default Category to all Customers';

                trigger OnAction();
                var
                    CustManagement: Codeunit "Customer Management";
                begin
                    CustManagement.AssignDefaultCategory();
                end;
            }
        }
    }
}
```

Cod50100.CustomerManagementAl ●

```
1 tcodeunit
2
3
4
5
6
7
8
9
10
11
12
13
14
15
```

Snippet: Codeunit (AL Language) x

```
codeunit Id MyCodeunit
{
    trigger OnRun()
    begin

    end;

    var
        myInt: Integer;
}
```

Cod50100.CustomerManagement.al •

```
1 1 reference
2 codeunit 50100 "Customer Management"
3 {
4
5     trigger OnRun();
6     begin
7     end;
8
9
10 1 reference
11 procedure AssignDefaultCategory(CustomerCode: Code[20])
12
13     var
14         Customer : Record Customer;
15         CustomerCategory : Record "Customer Category";
16     begin
17         //Set default category for a Customer
18         Customer.Get(CustomerCode);
19         CustomerCategory.SetRange(Default,true);
20         if CustomerCategory.FindFirst() then
21         begin
22             Customer."Customer Category" := CustomerCategory.No;
23             Customer.Modify();
24         end;
25     end;
26
27 0 references
28 procedure AssignDefaultCategory()
29
30     var
31         Customer : Record Customer;
32         CustomerCategory : Record "Customer Category";
33     begin
34         //Set default category for ALL Customer
35         CustomerCategory.SetRange(Default,true);
36         if CustomerCategory.FindFirst() then
37         begin
38             if Customer.FindSet() then
39             repeat
40                 Customer."Customer Category" := CustomerCategory.No;
41                 Customer.Modify();
42             until Customer.Next()=0;
43         end;
44     end;
45 end;
```



```

Cod50101.FreeGiftManagement.al •
0 references
1 codeunit 50101 "FreeGiftManagement"
2 {
3     [EventSubscriber(ObjectType::Table, 37, 'OnAfterValidateEvent', 'Quantity', false, false)]
4     0 references
5     local procedure AddFreeGift(var Rec: Record "Sales Line")
6     var
7         FreeGift: Record FreeGifts;
8         SalesLine: Record "Sales Line";
9         Customer: Record Customer;
10    begin
11        //if (Rec.Type = Rec.Type::Item) and (IsCustomerGOLD(Rec."Sell-to Customer No.")) then begin
12        if (Rec.Type = Rec.Type::Item) and (Customer.Get(Rec."Sell-to Customer No.")) then begin
13            if FreeGift.Get(Customer."Customer Category", Rec."No.") and (rec.Quantity > FreeGift.MinimumOrderQuantity) then begin
14                //Integration event raised
15                OnBeforeFreeGiftSalesLineAdded(Rec);
16                //Creates a new Sales Line with the gift
17                SalesLine.init;
18                SalesLine.TransferFields(Rec);
19                SalesLine."Line No." := Rec."Line No." + 10000;
20                SalesLine.Validate(Quantity, FreeGift.GiftQuantity);
21                SalesLine.Validate("Line Discount %", 100);
22                if SalesLine.Insert() then;
23                //Integration Event raised
24                OnAfterFreeGiftSalesLineAdded(Rec, SalesLine);
25            end;
26        end;
27    end;
28
29
30    [IntegrationEvent(true, true)]
31    1 reference
32    local procedure OnBeforeFreeGiftSalesLineAdded(var Rec: Record "Sales Line")
33    begin
34    end;
35
36    [IntegrationEvent(true, true)]
37    1 reference
38    local procedure OnAfterFreeGiftSalesLineAdded(var Rec: Record "Sales Line"; var SalesLineGift: Record "Sales Line")
39    begin
40    end;
41
42    [EventSubscriber(ObjectType::Table, 32, 'OnAfterInsertEvent', '', false, false)]

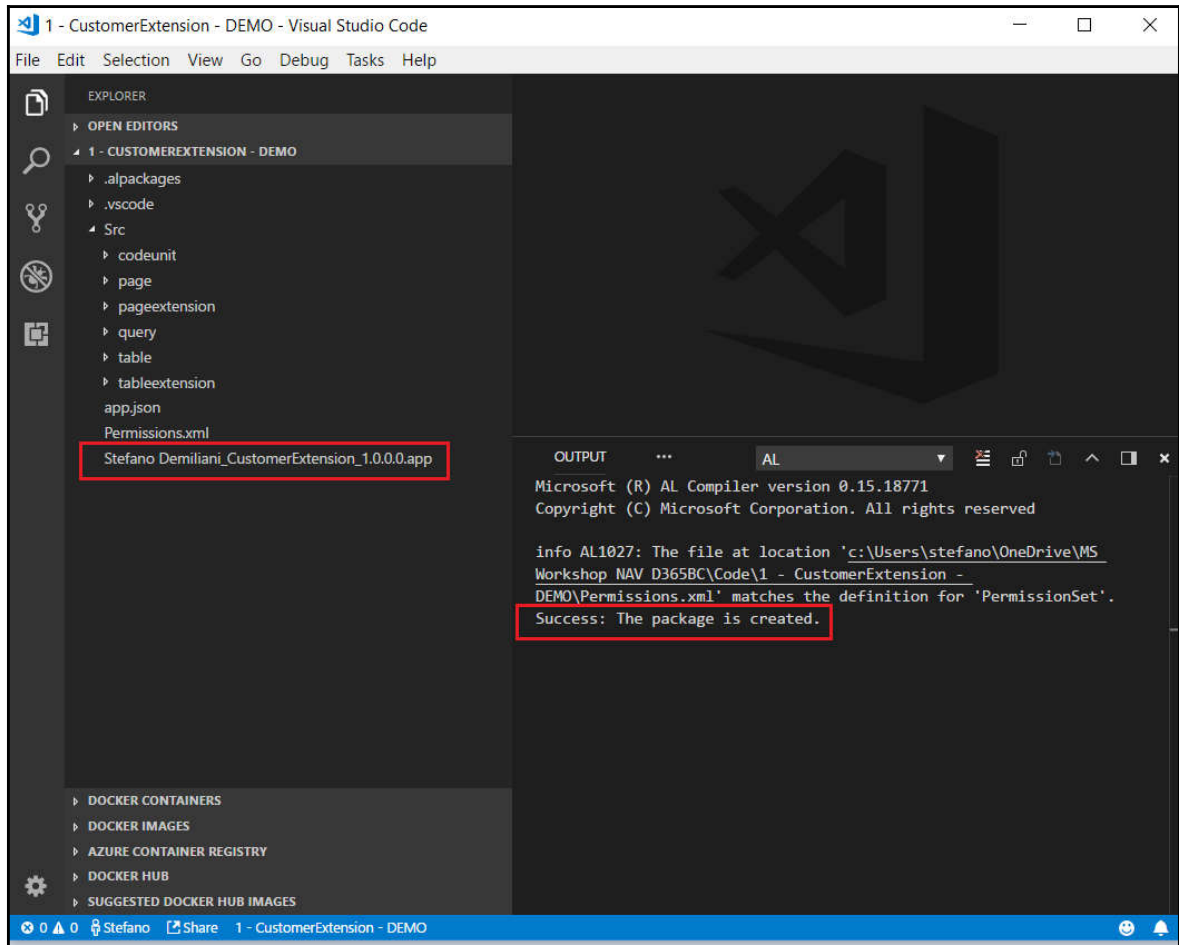
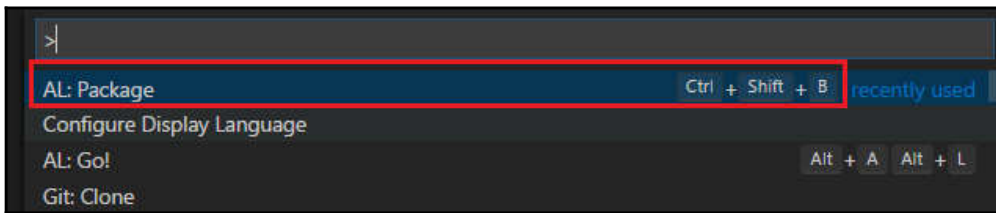
```

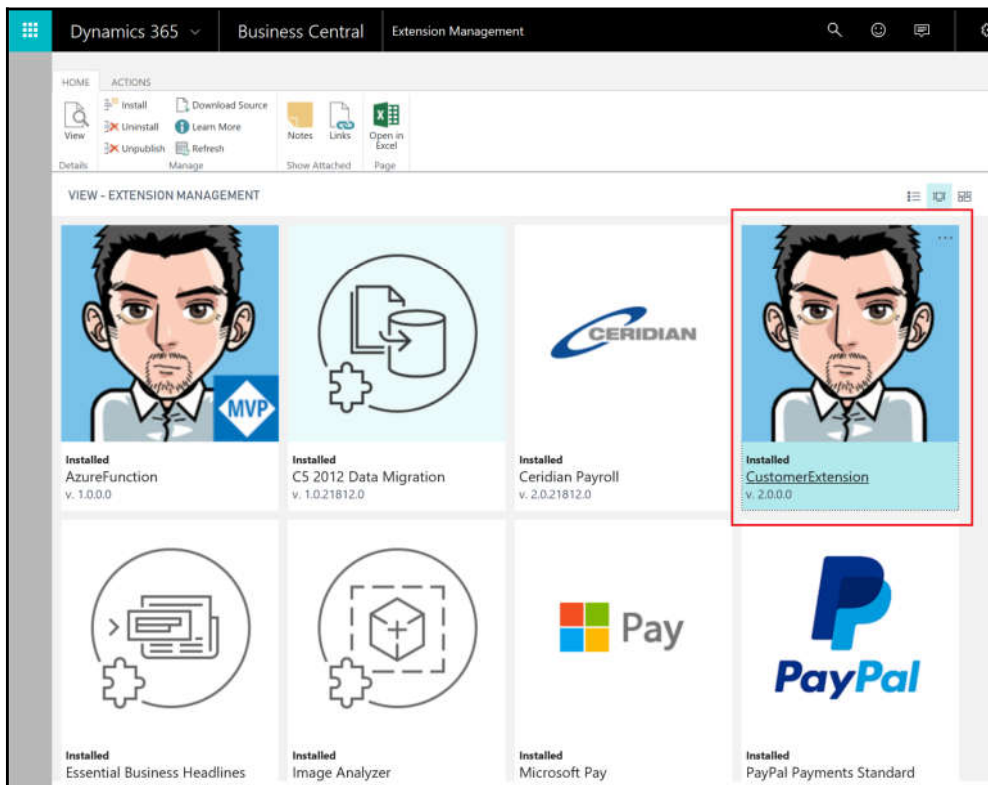
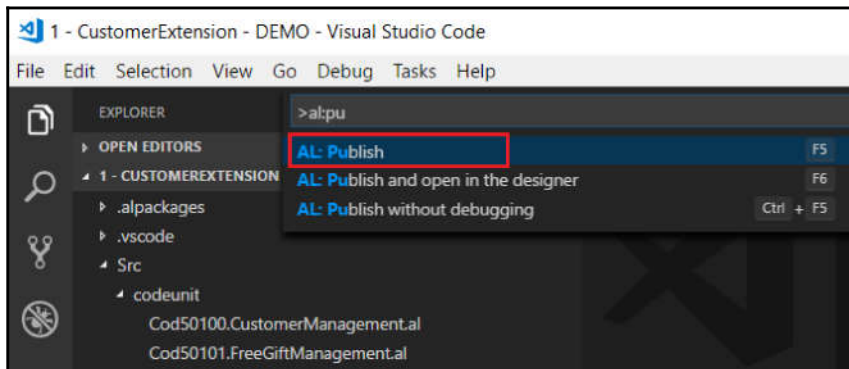
The screenshot shows the Visual Studio Code interface. On the left, the Explorer pane displays a project structure for 'CUSTOMEREXTENSION - DEMO'. The file 'Permissions.xml' is highlighted with a red box. On the right, the Permissions.xml file is open, showing XML code for two permission sets. The first permission set is for 'Customer Category Setup' (RoleID: CustomerCategorySetup) and applies to 'TableData' (ObjectID: 50100). The second permission set is for '50101' and also applies to 'TableData' (ObjectID: 50101). Both sets grant Read, Insert, Modify, Delete, and Execute permissions.

```

Permissions.xml •
1 <PermissionSets>
2   <PermissionSet RoleID="CustomerCategorySetup" RoleName="Customer Category Setup">
3     <Permission>
4       <ObjectType>TableData</ObjectType>
5       <ObjectID>50100</ObjectID>
6       <ReadPermission>Yes</ReadPermission>
7       <InsertPermission>Yes</InsertPermission>
8       <ModifyPermission>Yes</ModifyPermission>
9       <DeletePermission>Yes</DeletePermission>
10      <ExecutePermission>Yes</ExecutePermission>
11      <SecurityFilter />
12    </Permission>
13  </PermissionSet>
14  <PermissionSet>
15    <ObjectType>TableData</ObjectType>
16    <ObjectID>50101</ObjectID>
17    <ReadPermission>Yes</ReadPermission>
18    <InsertPermission>Yes</InsertPermission>
19    <ModifyPermission>Yes</ModifyPermission>
20    <DeletePermission>Yes</DeletePermission>
21    <ExecutePermission>Yes</ExecutePermission>
22    <SecurityFilter />
23  </PermissionSet>
24 </PermissionSets>

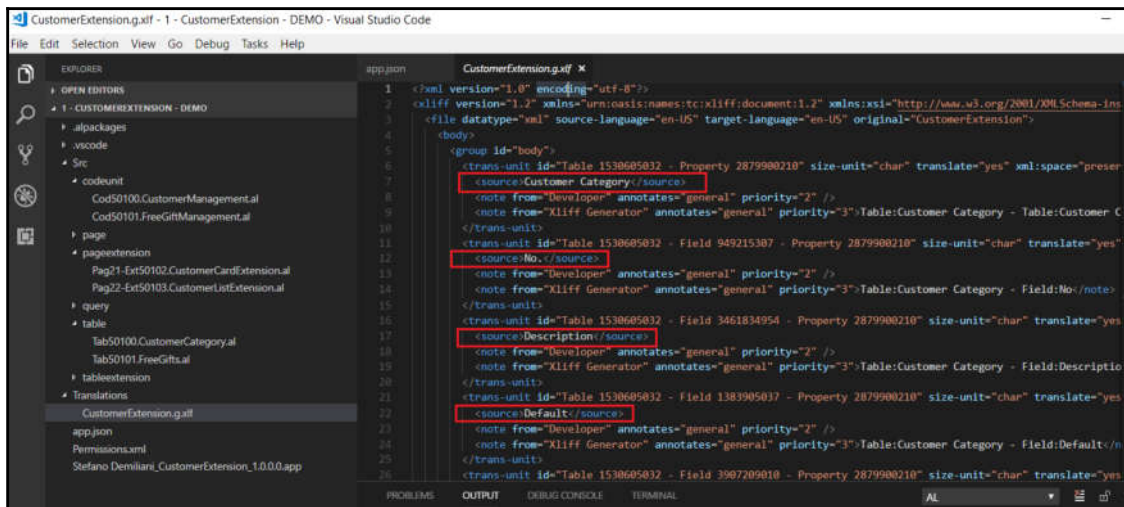
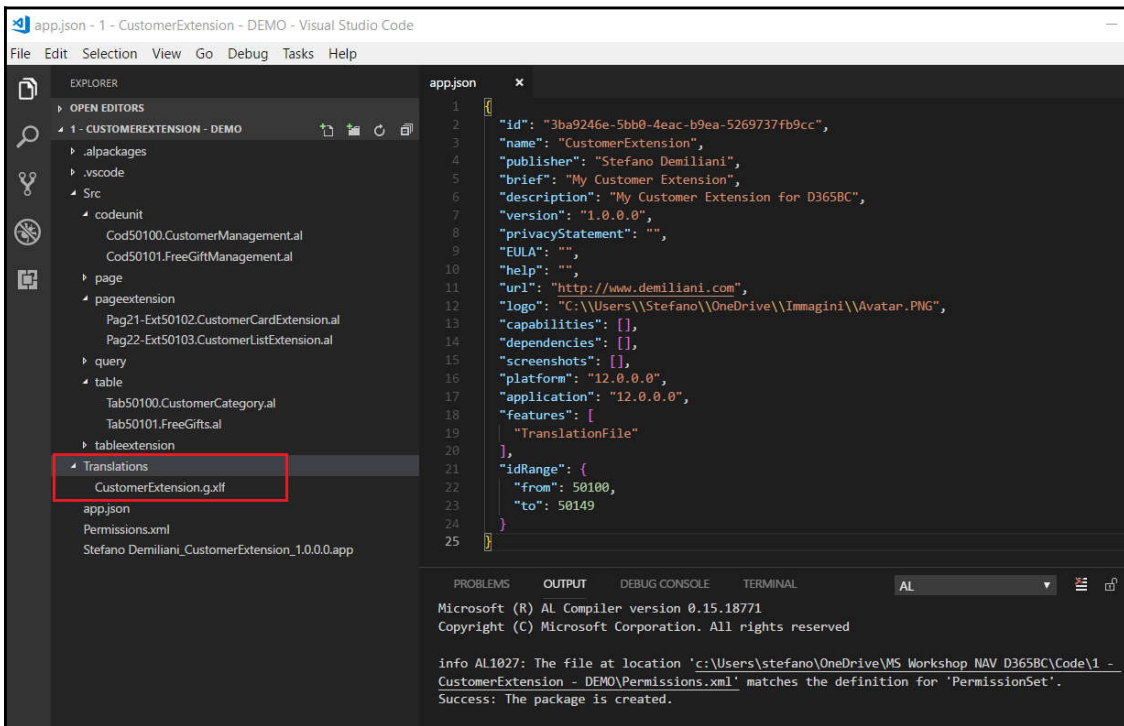
```





app.json

```
1  {
2    "id": "3ba9246e-5bb0-4eac-b9ea-5269737fb9cc",
3    "name": "CustomerExtension",
4    "publisher": "Stefano Demiliani",
5    "brief": "My Customer Extension",
6    "description": "My Customer Extension for D365BC",
7    "version": "1.0.0.0",
8    "privacyStatement": "",
9    "EULA": "",
10   "help": "",
11   "url": "http://www.demiliani.com",
12   "logo": "C:\\Users\\Stefano\\OneDrive\\Immagini\\Avatar.PNG",
13   "capabilities": [],
14   "dependencies": [],
15   "screenshots": [],
16   "platform": "12.0.0.0",
17   "application": "12.0.0.0",
18   "features": [
19     "TranslationFile"
20   ],
21   "idRange": {
22     "from": 50100,
23     "to": 50149
24   }
25 }
```



```

CustomerExtension.it-IT.xlf
1 <?xml version="1.0" encoding="utf-8"?>
2 <xliff version="1.2" xmlns="urn:oasis:names:tc:xliff:document:1.2" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schema
3 <file datatype="xml" source-language="en-US" target-language="it-IT" original="CustomerExtension">
4 <body>
5 <group id="body">
6 <trans-unit id="Table 1530605032 - Property 2879900210" size-unit="char" translate="yes" xml:space="preserve">
7 <source>Customer Category</source>
8 <target>Categoria Cliente</target>
9 <note from="Developer" annotates="general" priority="2" />
10 <note from="Xliff Generator" annotates="general" priority="3">Table:Customer Category - Table:Customer Category</note>
11 </trans-unit>
12 <trans-unit id="Table 1530605032 - Field 949215307 - Property 2879900210" size-unit="char" translate="yes" xml:space="preserve">
13 <source>No.</source>
14 <target>Codice</target>
15 <note from="Developer" annotates="general" priority="2" />
16 <note from="Xliff Generator" annotates="general" priority="3">Table:Customer Category - Field:No.</note>
17 </trans-unit>
18 <trans-unit id="Table 1530605032 - Field 3461834954 - Property 2879900210" size-unit="char" translate="yes" xml:space="preserve">
19 <source>Description</source>
20 <target>Descrizione</target>
21 <note from="Developer" annotates="general" priority="2" />
22 <note from="Xliff Generator" annotates="general" priority="3">Table:Customer Category - Field:Description</note>
23 </trans-unit>
24 <trans-unit id="Table 1530605032 - Field 1383905037 - Property 2879900210" size-unit="char" translate="yes" xml:space="preserve">
25 <source>Default</source>
26 <target>Default</target>
27 <note from="Developer" annotates="general" priority="2" />
28 <note from="Xliff Generator" annotates="general" priority="3">Table:Customer Category - Field:Default</note>
29 </trans-unit>
30 <trans-unit id="Table 1530605032 - Field 3907209010 - Property 2879900210" size-unit="char" translate="yes" xml:space="preserve">
31 <source>Total customers for category</source>
32 <note from="Developer" annotates="general" priority="2" />
33 <note from="Xliff Generator" annotates="general" priority="3">Table:Customer Category - Field:TotalCustomersForCategory</note>
34 </trans-unit>

```

	1440 Headline RC Business Manager
	1441 Headline RC Order Processor
	1442 Headline RC Accountant
	1443 Headline RC Project Manager
	1444 Headline RC Relationship Mgt.
	1445 Headline RC Administrator
	1446 Headline RC Team Member
	1447 Headline RC Prod. Planner
	1448 Headline RC Serv. Dispatcher

Property	Value
ID	
Name	Headline RC Business Manager
Caption	Headline
CaptionML	ENU=Headline
Editable	<Yes>
Description	<>
Permissions	<Undefined>
PageType	HeadlinePart
InstructionalTextML	<Undefined>
CardPageID	<Undefined>
DataCaptionExpr	<Undefined>
RefreshOnActivate	Yes
PromotedActionCategoriesML	<Undefined>
SourceTable	Headline RC Business Manager

⋮ Dynamics 365 ▼ Business Central

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

CRONUS IT | Sales ▼ Purchasing ▼ Inventory ▼ Posted Documents ▼ Self-Service ▼

Sales Orders
Blanket Sales Orders
Sales Return Orders
Item Journals
Transfer Orders

Sales Orders - ...s 365 for Sales
Sales Invoices
Items
Sales Journals

Sales Quotes
Sales Credit Memos
Customers
Cash Receipt Journals

HEADLINE

Good afternoon!

ACTIONS

+ Sales Quote
+ Sales Order

+ Sales Invoice
+ Sales Credit Memo

● ○

Rpt50100-CustomerCategoryList.al

1 treport

2  **treport**

Snippet: Report (AL Language) x

```
report Id MyReport
{
    dataset
    {
        dataitem(DataItemName;
SourceTableName)
        {
            column(ColumnName;
SourceFieldName)
            {
```

3
4
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17
18
19

EXPLORER

OPEN EDITORS 1 UNSAVED

1 - CUSTOMEREXTENSION - DEMO

- .alpackages
- .vscode
- Src
 - codeunit
 - page
 - pageextension
 - query
 - report
 - Rpt50100-CustomerCategoryList.al
 - table
 - tableextension
 - Translations
 - CustomerExtension.g.xlf
 - CustomerExtension.it-IT.xlf
 - app.json
 - Permissions.xml
 - Stefano Demiliani_CustomerExtension_1.0.0.0.app

- DOCKER CONTAINERS
- DOCKER IMAGES
- AZURE CONTAINER REGISTRY

Rpt50100-CustomerCategoryList.al

```

1 0 references
2 report 50100 CustomerCategoryList
3 {
4     //DefaultLayout = Word;
5     RDCLayout = 'Layout\CustomerCategoryListRDLC.rdl';
6     WordLayout = 'Layout\CustomerCategoryListWord.docx';
7     UsageCategory = ReportsAndAnalysis;
8     ApplicationArea = All;
9     Caption='Customer Category List';
10
11 dataset
12 {
13     0 references
14     dataitem(CustomerCategory; "Customer Category")
15     {
16         column(No;No)
17         {
18         }
19         column(Description;Description)
20         {
21         }
22         column(TotalCustomersForCategory;TotalCustomersForCategory)
23         {
24         }
25         column(FreeGiftsAvailable;FreeGiftsAvailable)
26         {
27         }
28         trigger OnAfterGetRecord()
29         var
30         begin
31             CalcFields(TotalCustomersForCategory);
32         end;
33     }
34 }
35
36
37
38
39
40
41

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

D365BC > Code > 1 - CustomerExtension - DEMO > Layout

Cerca in Layout

Nome	Stato	Ultima modifica	Tipo	Dimensione
CustomerCategoryListRDLC.rdl	✓ R	28/06/2018 17:16	File RDL	3 KB
CustomerCategoryListWord.docx	✓ R	28/06/2018 17:16	Documento di Mic...	4 KB

CustomerCategoryListRDLC.rdl - Microsoft SQL Server Report Builder

File Home Insert View

Run Paste

Font Paragraph Border Number Layout

Report Data

- Built-in Fields
- Parameters
- Images
- Data Sources
 - DataSource
- Datasets
 - DataSet_Result
 - No
 - Description
 - TotalCustomersForCate
 - FreeGiftsAvailable

CUSTOMER CATEGORY LIST

No	Description	Total Customers	Free Gifts
[No]	[Description]	[TotalCustomersFor	[FreeGiftsAvailable]

To add an item to the page footer: add an item to the report and then drag it here.

```
app.json x
1 {
2   "id": "fd85a2c4-36ac-454b-a5b0-b0a3c3fe8647",
3   "name": "Dependency",
4   "publisher": "Stefano Demiliani",
5   "brief": "",
6   "description": "",
7   "version": "1.0.0.0",
8   "privacyStatement": "",
9   "EULA": "",
10  "help": "",
11  "url": "",
12  "logo": "C:\\Users\\StefanoDemiliani\\OneDrive\\Immagini\\Avatar.PNG",
13  "capabilities": [],
14  "dependencies": [
15    {
16      "appId": "3ba9246e-5bb0-4eac-b9ea-5269737fb9cc",
17      "name": "CustomerExtension",
18      "publisher": "Stefano Demiliani",
19      "version": "1.0.0.0"
20    }
21  ],
22  "screenshots": [],
23  "platform": "12.0.0.0",
24  "application": "12.0.0.0",
25  "features": [
26    "TranslationFile"
27  ],
28  "idRange": {
29    "from": 50100,
30    "to": 50149
31  }
32 }
```

```
1 0 references
2 pageextension 50108 MyDependentExtension extends "Customer Category List"
3 {
4   layout
5   {
6     // Add changes to page layout here
7   }
8   actions
9   {
10    // Add changes to page actions here
11    addlast(processing)
12  {
13    0 references
14    action("Delete Default Category")
15    {
16      Image = Delete;
17      Promoted = true;
18      PromotedCategory = Process;
19      PromotedIsBig = true;
20      ApplicationArea = All; //Always add this!
21      Caption = 'Delete Default Category';
22      ToolTip = 'Delete Default Category';
23
24      trigger OnAction();
25      var
26        CustomerCategory : Record "Customer Category";
27        //This line is only to show that I can reference the codeunit inside the dependent extension
28        cuCustomer : Codeunit "Customer Management";
29      begin
30        //Delete the default Customer Category record
31        CustomerCategory.SetRange(Default,true);
32        CustomerCategory.Delete();
33      end;
34    }
35  }
36 }
```

```
Welcome Install.al
0 references
1 codeunit 50105 CustomerCategoryInstall
2 {
3     // Subtype = install codeunit.
4     Subtype = Install;
5
6     // This trigger includes code for company-related operations.
7     trigger OnInstallAppPerCompany();
8     var
9         archivedVersion : Text;
10        CustomerCategory : Record "Customer Category";
11    begin
12        archivedVersion := NavApp.GetArchiveVersion;
13        if archivedVersion = '1.0.0.0' then begin
14            NavApp.RestoreArchiveData(Database::"Customer Category");
15            NavApp.RestoreArchiveData(Database::Customer);
16
17            NavApp.DeleteArchiveData(Database::"Customer Category");
18            NavApp.DeleteArchiveData(Database::Customer);
19        end;
20
21        if CustomerCategory.IsEmpty() then
22            InsertDefaultCustomerCategory();
23
24        //TODO:
25        //SetDefaultCustomerCategoryForEveryCustomer();
26
27    end;
28
29    // Insert the GOLD, SILVER, BRONZE reward levels
30    1 reference
31    procedure InsertDefaultCustomerCategory();
32    begin
33        InsertCustomerCategory('TOP', 'Top Customer');
34        InsertCustomerCategory('MEDIUM', 'Standard Customer');
35        InsertCustomerCategory('BAD', 'Bad Customer');
36    end;
37
38    // Create and insert a reward level in the "Reward" table.
39    3 references
40    procedure InsertCustomerCategory(ID : Code[30]; Description : Text[250]);
41    var
42        CustomerCategory : Record "Customer Category";
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
UpgradeCodeunit.al x
0 references
1 codeunit 50106 CustomerCategoryUpgrade
2 {
3     //IMPORTANT: Remember to increase the version number of the extension in the app.json file
4     //Upgrade-NAVApp cmdlet
5
6     Subtype = Upgrade;
7
8     // "OnUpgradePerCompany" trigger is used to perform the actual upgrade.
9     trigger OnUpgradePerCompany();
10
11     var
12         CustomerCategory : Record "Customer Category";
13
14         // "ModuleInfo" is the current executing module.
15         Module : ModuleInfo;
16     begin
17         // Get information about the current module.
18         NavApp.GetCurrentModuleInfo(Module);
19
20         // In the new version, the BAD class is upgraded to WARNING
21         if Module.DataVersion.Major = 1 then begin
22             IF CustomerCategory.Get('BAD') THEN BEGIN
23                 CustomerCategory.Rename('WARNING');
24                 CustomerCategory.Description := 'Warning Customer [UPG]';
25                 CustomerCategory.Modify();
26             END;
27         end;
28     end;
29 }
```

```
trigger OnCheckPreconditionsPerDatabase();
var
    DependentModuleInfo: ModuleInfo;
begin
    NavApp.GetModuleInfo('abcdefg5a-32ae-4d99-bb1c-81e02d123456', DependentModuleInfo);
    if DependentModuleInfo.DataVersion.Major < 3 then
        error('App %1 needs to be upgraded to version 3 first', DependentModuleInfo.Name)
    end;
end;
```

end;

Chapter 6: Deploying Extensions

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL
Microsoft (R) AL Compiler version 0.16.16948
Copyright (C) Microsoft Corporation. All rights reserved

Success: The package is created.
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL
[2018-06-23 17:30:04.40] Authenticating...
[2018-06-23 17:30:05.55] Sending request to https://api.businesscentral.dynamics.com/v1.0/sandbox/dev/apps?SchemaUpdateMode=synchronize
[2018-06-23 17:30:11.04] Success: The package 'Default publisher_TESTDEPLOY_1.0.0.0.app' has been published to the server.
```

```
launch.json x
1  {
2    "version": "0.2.0",
3    "configurations": [
4      {
5        "type": "al",
6        "request": "launch",
7        "name": "Dynamics 365 Business Central Cloud Sandbox",
8        "startupObjectId": 22,
9        "startupObjectType": "Page"
10     },
11     {
12       "type": "al",
13       "request": "launch",
14       "name": "On-Premise Local Dynamics 365 Business Central Docker Contained Sandbox",
15       "server": "http://bcdocker",
16       "serverInstance": "NAV",
17       "authentication": "Windows"
18     },
19     {
20       "type": "al",
21       "request": "launch",
22       "name": "On-Premise Azure VM hosted Dynamics 365 Business Central Docker Contained Sandbox",
23       "server": "http://bcdocker.cloudapp.net",
24       "serverInstance": "NAV",
25       "authentication": "UserPassword"
26     }
27   ]
28 }
```

Please choose the server:

Dynamics 365 Business Central Cloud Sandbox

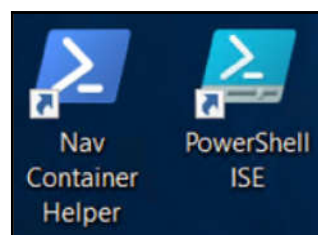
Microsoft cloud sandbox

On-Premise Local Dynamics 365 Business Central Docker Contained Sandbox

http://bcdocker, NAV, tenant default

On-Premise Azure VM hosted Dynamics 365 Business Central Docker Contained Sandbox

http://bcdocker.cloudapp.net, NAV, tenant default



```
PS C:\demo> Publish-NavContainerApp -containerName navserver -appFile C:\DEMO\TEST.app -skipVerification
Copy C:\DEMO\TEST.app to container navserver (c:\run\TEST.app)
Welcome to the NAV Container PowerShell prompt
```

```
Publishing c:\run\TEST.app
App successfully published
```

```
PS C:\demo> Sync-NavContainerApp -containerName navserver -appName ALProject1
Synchronizing c:\run\TEST.app on default
App successfully synchronized
```

```
PS C:\demo> Install-NavContainerApp -containerName navserver -appName ALProject1
Installing ALProject1 on default
App successfully installed
```


Dynamics 365 Business Central

CRONUS Danmark A/S | Finance | Cash Management | Sales | Purchasing | Approvals | Self-Service | Setup & Extensions

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

HEADLINE

Good afternoon!

ACTIONS

- + Sales Quote > New
- + Sales Order > Payments
- + Sales Invoice > Reports
- + Purchase Order Balance Sheet
- + Purchase Invoice Income Statement

Statement of Cash
Statement of Ret
Excel Reports

i App published: Hello world

OK

Activities

SALES THIS MONTH	OVERDUE SALES INVOICE AMOUNT	OVERDUE PURCH. INVOICE AMOUNT
kr10,590	kr585,914	kr277,320
> See more	> See more	> See more

```
PS C:\demo> UnInstall-NavContainerApp -containerName navserver -appName ALProject1
UnPublish-NavContainerApp -containerName navserver -appName ALProject1

Uninstalling ALProject1 from default
App successfully uninstalled
Unpublishing ALProject1

App successfully unpublished
```

ENABLED 5

AL Language 0.16.19969

AL development tools for Dynamics 365 Business Central

Microsoft

26K ★ 5

Settings icon

```
1 {
2   "version": "0.2.0",
3   "configurations": [
4     {
5       "type": "al",
6       "request": "launch",
7       "name": "Your own server",
8       "server": "http://BCSANDBOX",
9       "serverInstance": "NAV",
10      "authentication": "Windows",
11      "startupObjectId": 22,
12      "startupObjectType": "Page"
13    }
14  ]
15 }
```

```
1 {
2   "id": "84a521ce-2c19-4857-9811-7e6a015b9b52",
3   "name": "FIRST EXTENSION",
4   "publisher": "Tacconi Inc.",
5   "brief": "",
6   "description": "",
7   "version": "1.0.0.0",
8   "privacyStatement": "",
9   "EULA": "",
10  "help": "",
11  "url": "",
12  "logo": "",
13  "capabilities": [],
14  "dependencies": [],
15  "screenshots": [],
16  "platform": "12.0.0.0",
17  "application": "12.0.0.0",
18  "idRange": {
19    "from": 50100,
20    "to": 50149
21  }
22 }
```

```
0 references
pageextension 50100 CustomerListExt extends "Customer List"
{
    trigger OnOpenPage();
    begin
        Message('Flower and Fruit App published');
    end;
}
```

```
0 references
table 50100 Flower
{
    DataClassification = ToBeClassified;

    fields
    {
        1 reference
        field(1;MyField;Integer)
        {
            DataClassification = ToBeClassified;
        }
        0 references
        field(2;Name;Code[30])
        {
            DataClassification = ToBeClassified;
        }
        0 references
        field(3;Description;Text[50])
        {
            DataClassification = ToBeClassified;
        }
    }

    keys
    [
        - reference
        key(PK;MyField)
        {
            Clustered = true;
        }
    ]
}
```

```
1 {
2   "id": "6106f7a9-36bf-4a4c-8480-f2198b711101",
3   "name": "SECOND EXTENSION",
4   "publisher": "Tacconi Inc.",
5   "brief": "",
6   "description": "",
7   "version": "1.0.0.0",
8   "privacyStatement": "",
9   "EULA": "",
10  "help": "",
11  "url": "",
12  "logo": "",
13  "capabilities": [],
14  "dependencies": [
15    {
16      "appId": "84a521ce-2c19-4857-9811-7e6a015b9b52",
17      "name": "FIRST EXTENSION",
18      "publisher": "Tacconi Inc.",
19      "version": "1.0.0.0"
20    }
21  ],
22  "screenshots": [],
23  "platform": "12.0.0.0",
24  "application": "12.0.0.0",
25  "idRange": {
26    "from": 50100,
27    "to": 50149
28  }
29 }
```

└─ .alpackages

- ☰ Microsoft_Application_12.3.23828.0.app
- ☰ Microsoft_System_12.0.12928.0.app
- ☰ Tacconi Inc_FIRST EXTENSION_1.0.0.0.app

```
0 references
table 50101 Fruit
{
    DataClassification = ToBeClassified;

    fields
    {
        1 reference
        field(1;MyField;Integer)
        {
            DataClassification = ToBeClassified;
        }
        0 references
        field(2;Name;Code[30])
        {
            DataClassification = ToBeClassified;
        }
        0 references
        field(3;Description;Text[50])
        {
            DataClassification = ToBeClassified;
        }
    }

    keys
    {
        - reference
        key(PK;MyField)
        {
            Clustered = true;
        }
    }
}
```

```
0 references
page 50100 "Flower List"
{
    PageType = List;
    SourceTable = Flower;

    layout
    {
        0 references
        area(content)
        {
            0 references
            repeater(Group)
            {
                0 references
                field(Name;Name)
                {
                    ApplicationArea=All;
                }
                0 references
                field(Description;Description)
                {
                    ApplicationArea=All;
                }
            }
        }
    }
}
```

```

0 references
page 50101 "Flower Card"
{
    PageType = Card;
    SourceTable = Flower;

    layout
    {
        0 references
        area(content)
        {
            0 references
            group(GroupName)
            {
                0 references
                field(Name;Name)
                {
                    ApplicationArea=All;
                }
                0 references
                field(Description;Description)
                {
                    ApplicationArea=All;
                }
            }
        }
    }
}

```

Results		Messages																																																																					
timestamp	Package ID	ID	Name	Publisher																																																																			
1	0x000000000004BFD8	8362B5E7-AFC2-456E-A2B8-FD0930D8857A	6106F7A9-36BF-4A4C-8480-F2198B711101	SECOND EXTESNION	Tacconi Inc.																																																																		
<table border="1"> <thead> <tr> <th>timestamp</th> <th>App ID</th> <th>Table</th> <th>Company Na</th> <th>Version Ma</th> <th>Version Mi</th> <th>Version B...</th> <th>Version Revis</th> <th>Archive Table Na</th> <th>Metad</th> <th>Table Blob Vers</th> </tr> </thead> <tbody> <tr> <td colspan="11"> <table border="1"> <thead> <tr> <th>timestamp</th> <th>App ID</th> <th>Package</th> <th>Name</th> <th>Publis</th> <th>Version Ma</th> <th>Version Mi</th> <th>Version B...</th> <th>Version Revis</th> <th>Compatibility Ma</th> <th>Compatibility Mi</th> </tr> </thead> <tbody> <tr> <td colspan="11"> <table border="1"> <thead> <tr> <th>timestamp</th> <th>App ID</th> <th>Add-In Na</th> <th>Public Key To</th> <th>Versi</th> <th>Categ</th> <th>Descripti</th> <th>Resour</th> </tr> </thead> <tbody> <tr> <td colspan="8"></td> </tr> </tbody> </table> </td> </tr> </tbody> </table> </td> </tr> </tbody> </table>												timestamp	App ID	Table	Company Na	Version Ma	Version Mi	Version B...	Version Revis	Archive Table Na	Metad	Table Blob Vers	<table border="1"> <thead> <tr> <th>timestamp</th> <th>App ID</th> <th>Package</th> <th>Name</th> <th>Publis</th> <th>Version Ma</th> <th>Version Mi</th> <th>Version B...</th> <th>Version Revis</th> <th>Compatibility Ma</th> <th>Compatibility Mi</th> </tr> </thead> <tbody> <tr> <td colspan="11"> <table border="1"> <thead> <tr> <th>timestamp</th> <th>App ID</th> <th>Add-In Na</th> <th>Public Key To</th> <th>Versi</th> <th>Categ</th> <th>Descripti</th> <th>Resour</th> </tr> </thead> <tbody> <tr> <td colspan="8"></td> </tr> </tbody> </table> </td> </tr> </tbody> </table>											timestamp	App ID	Package	Name	Publis	Version Ma	Version Mi	Version B...	Version Revis	Compatibility Ma	Compatibility Mi	<table border="1"> <thead> <tr> <th>timestamp</th> <th>App ID</th> <th>Add-In Na</th> <th>Public Key To</th> <th>Versi</th> <th>Categ</th> <th>Descripti</th> <th>Resour</th> </tr> </thead> <tbody> <tr> <td colspan="8"></td> </tr> </tbody> </table>											timestamp	App ID	Add-In Na	Public Key To	Versi	Categ	Descripti	Resour								
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1	0x000000000004BFD8	8362B5E7-AFC2-456E-A2B8-FD0930D8857A																												
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appid	tableid	istableextensi	metadata	targettablena	originalobje...	originalobjectna										
1	6106F7A9-36BF-4A4C-8480-F2198B711101	50101	0	0x02457D5BE5976D6FDA3010C7BF4AC57B7002943EC88DC4...	Fruit	50101										
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Setup & Extensions ▾

Extensions: [All](#) |  Search Manage ▾ Page ▾

Extensions: [All](#) |  Search Manage ▾ Page ▾

VIEW - EXTN. DEPLOYMENT STATUS DETAIL

Uploading Extension: TESTANDY by Default publisher 1.0.0.0, Schedule: Immediate

General

Description	Uploading Extension: TESTANDY by Default publisher 1.0...	Status	Completed
Started Date	21/06/2018 17:09	Details	Publish operation completed successfully.

```
"startupObjectId": 9301,  
"startupObjectType": "Page"
```

```
{
  "id": "de7687ce-cb19-41a8-b225-4c91d183f1f4",
  "name": "TESTWORKDESC",
  "publisher": "DTACCONI",
  "brief": "",
  "description": "",
  "version": "1.0.0.0",
  "privacyStatement": "",
  "EULA": "",
  "help": "",
  "url": "",
  "logo": "",
  "capabilities": [],
  "dependencies": [],
  "screenshots": [],
  "platform": "12.0.0.0",
  "application": "12.0.0.0",
  "target": "Extension",
  "showMyCode": true,
  "idRange": {
    "from": 50100,
    "to": 50149
  }
}
```

Installed
TESTWOR
v. 1.0.0.0

Manage

- Install
- Uninstall
- Unpublish
- Download Source
- Learn More

Gestione

- View

```

0 references
1 pageextension 50100 PageExtension50100 extends "Sales Invoice"
2 {
3     layout
4     {
5         addafter("Status")
6         {
7             0 references
8             field("EXT Your Reference";"Your Reference")
9             {
10                ApplicationArea=All;
11            }
12            0 references
13            group("Wrkedscription")
14            {
15                CaptionML=ENU='Work Description',DAN='Work Description';
16                0 references
17                field("EXTWorkDescription";EXTWorkDescription)
18                {
19                    ApplicationArea=All;
20                    ShowCaption=false;
21                    Multiline=true;
22                    Importance=Promoted;
23                }
24                trigger OnValidate()
25                begin
26                    SetWorkDescription(EXTWorkDescription);
27                end;
28            }
29        }
30    }
31
32    trigger OnAfterGetRecord()
33    begin
34        EXTWorkDescription := GetWorkDescription();
35    end;
36
37    var
38        3 references
39        EXTWorkDescription: Text;
40    }

```

```

32    trigger OnAfterGetRecord()
33    begin
34        EXTWorkDescription := GetWorkDescription();
35    end;
36

```

The image shows a screenshot of the Visual Studio Code debug console interface. The main window displays a JavaScript code editor for a file named `PAGEEXT.50100.SalesInvoice.al`. The code includes several function triggers and a variable declaration:

```
19 ShowCaption=false;
20 Multiline=true;
21 Importance=Promoted;
22
23 trigger OnValidate()
24 begin
25     SetWorkDescription(EXTWorkDescription);
26 end;
27
28 }
29
30 }
31
32 trigger OnAfterGetRecord()
33 begin
34     EXTWorkDescription := GetWorkDescription();
35 end;
36
37 var
38     3 references
39     EXTWorkDescription: Text;
40
41 }
```

The `EXTWorkDescription := GetWorkDescription();` line is highlighted in yellow. The left sidebar contains several panels:

- VARIABLES:** Shows global variables like `Rec: Invoice, '102200'` and `xRec: Quote, ''`, and a local variable `EXTWorkDescription: ''`.
- WATCH:** An empty panel for monitoring variable values.
- CALL STACK:** Shows the current function `OnAfterGetRecord` in `PageExtension50100` at line `34`, with a note "PAUSED ON BREAKPOINT".
- BREAKPOINTS:** Shows a breakpoint set at line `34` in `PAGEEXT.50100.SalesInvoice.al`.

The bottom panel is the **TERMINAL**, which displays the following output:

```
[2018-06-30 16:48:40.42] Sending request to http://bcdksandbox:7049/NAV/dev/
[2018-06-30 16:48:41.15] Success: The package 'DTACCONI_TESTWORKDESC_1.0.0.0'
```



Try a preview of our new settings editor

al.

DEFAULT WORKSPACE SETTINGS

Place your settings in the right hand side editor to override.

```
// Enables/disables syntax aware folding markers.
"typescript.experimental.syntaxFolding": true,

// Customizes what kind of terminal to launch.
"terminal.explorerKind": "integrated",

// A set of command IDs whose keybindings will not be sent to the shell and
instead always be handled by Code. This allows the use of keybindings that
would normally be consumed by the shell to act the same as when the terminal
is not focused, for example ctrl+p to launch Quick Open.
"terminal.integrated.commandsToSkipShell": [
  "editor.action.toggleTabFocusMode",
  "workbench.action.debug.continue",
```

USER SETTINGS (1)

WORKSPACE SETTINGS

Place your settings here to overwrite the User Settings.

```
1 {
2
3 }
```

USER SETTINGS

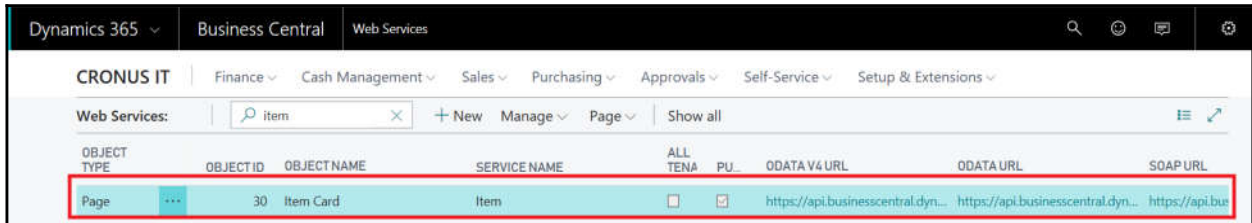
WORKSPACE SETTINGS

Place your settings here to overwrite the User Settings.

```
1 {
2   "al.enableCodeAnalysis": true,
3   "al.codeAnalyzers": [
4     "${CodeCop}",
5     "${PerTenantExtensionCop}"
6   ]
7 }
```

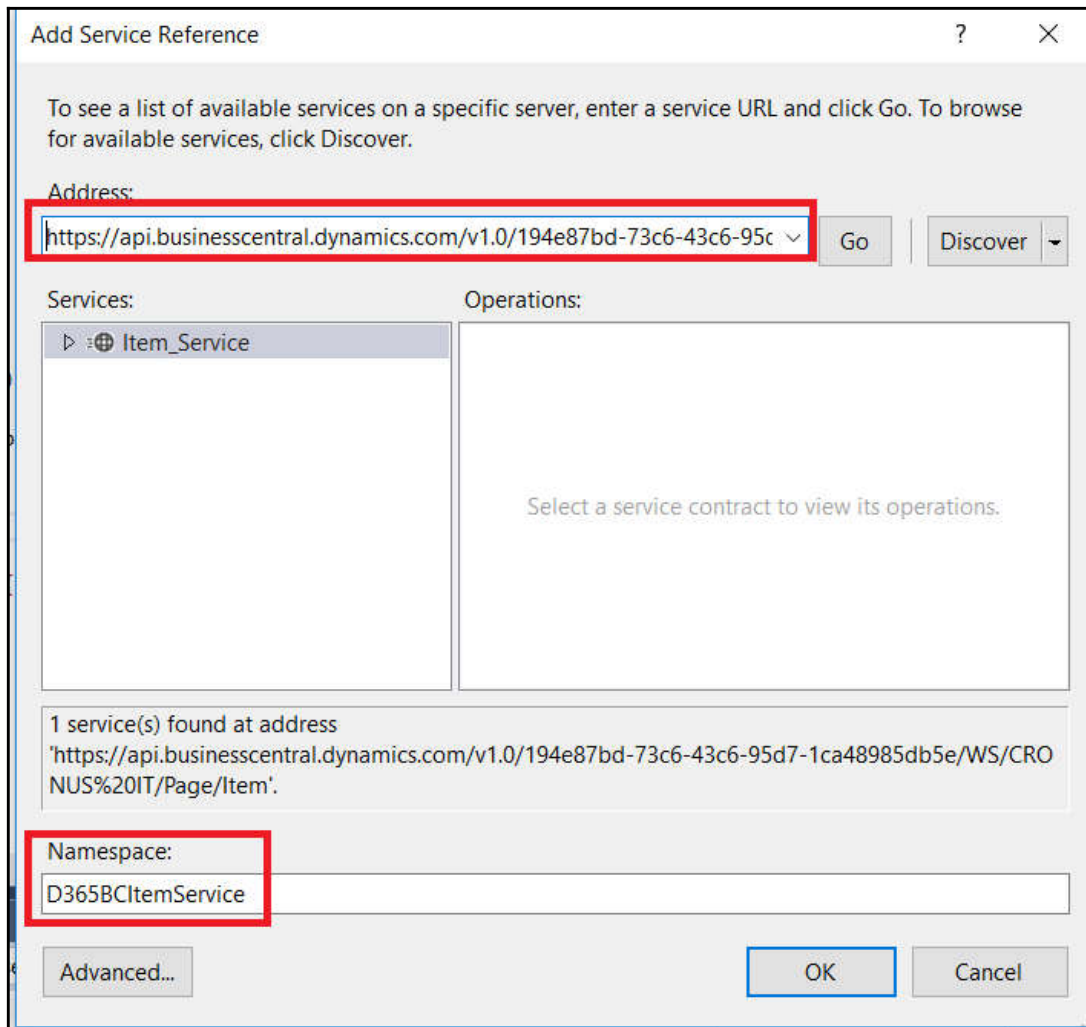
```
error PTE0005: App.json 'target' property must not be set to 'Internal'.
Error: The package could not be created.
```

Chapter 7: Integration and Serverless Processing



The screenshot shows the Dynamics 365 Business Central Web Services interface. The top navigation bar includes 'Dynamics 365', 'Business Central', and 'Web Services'. Below this, there are tabs for 'CRONUS IT', 'Finance', 'Cash Management', 'Sales', 'Purchasing', 'Approvals', 'Self-Service', and 'Setup & Extensions'. The main area displays a search bar with 'item' and a '+ New' button. Below the search bar is a table with the following columns: OBJECT TYPE, OBJECTID, OBJECTNAME, SERVICE NAME, ALL TENA, PU, ODATA V4 URL, ODATA URL, and SOAP URL. The first row of the table is highlighted with a red border and contains the following data: Page, 30, Item Card, Item, [checkbox], [checkbox], https://api.businesscentral.dyn..., https://api.businesscentral.dyn..., https://api.bus...

OBJECT TYPE	OBJECTID	OBJECTNAME	SERVICE NAME	ALL TENA	PU	ODATA V4 URL	ODATA URL	SOAP URL
Page	30	Item Card	Item	<input type="checkbox"/>	<input checked="" type="checkbox"/>	https://api.businesscentral.dyn...	https://api.businesscentral.dyn...	https://api.bus...



The screenshot shows the 'Add Service Reference' dialog box. The title bar reads 'Add Service Reference'. Below the title bar, there is a text area with the following text: 'To see a list of available services on a specific server, enter a service URL and click Go. To browse for available services, click Discover.' Below this text is an 'Address:' label followed by a text input field containing the URL 'https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95c...'. To the right of the input field are 'Go' and 'Discover' buttons. Below the input field are two columns: 'Services:' and 'Operations:'. The 'Services:' column contains a tree view with a single item 'Item_Service'. The 'Operations:' column is empty and contains the text 'Select a service contract to view its operations.' Below these columns is a text area containing the following text: '1 service(s) found at address https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/WS/CRONUS%20IT/Page/Item'. Below this text area is a 'Namespace:' label followed by a text input field containing the value 'D365BCItemService'. At the bottom of the dialog box are three buttons: 'Advanced...', 'OK', and 'Cancel'.

Dynamics 365 Business Central Web Services > Users > Stefano Demiliani

HOME ACTIONS MANAGE MANAGE

EDIT - USER CARD

General

User Name State

Full Name Contact Email

Web Service Access

Web Service Access Key Web Service Expiry Date

Dynamics 365 Business Central Users > Customers > C00020 - SOAP Customer

HOME ACTIONS NAVIGATE REPORT MANAGE

EDIT - CUSTOMER CARD

C00020 · SOAP Customer

General

Name Blocked

Balance (LCY) Total Sales

Balance Due (LCY) Costs (LCY)

Credit Limit (LCY) Tax Representative...

Exposure (LCY) Tax Representative...

Individual

Individual Person Date of Birth

Resident Place of Birth

First Name Fiscal Code

Last Name PA Code

Address & Contact

Customer Picture

Attachments

Documents 0

Sell-to Customer Sales History

0	0	0
Ongoing Sales Quotes	Ongoing Sales Blanket Orders	Ongoing Sales Orders
0	0	0
Ongoing Sales Invoices	Ongoing Sales Credit Memos	Posted Sales Orders

Companies D365BC

GET Params

Authorization Headers (1) Body Pre-request Script Tests

Type

Body Cookies Headers (14) Test Results

Pretty Raw Preview JSON

```

1 {
2   "@odata.context": "https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta/$metadata#companies",
3   "value": [
4     {
5       "id": "80d28ea6-02a3-4ec3-98f7-936c2000c7b3",
6       "systemVersion": "23241",
7       "name": "CRONUS IT",
8       "displayName": "CRONUS IT",
9       "businessProfileId": ""
10    },
11   ],
12   {
13     "id": "2f8ea8a1-549d-414e-9ced-aeb0dc7bf3d7",
14     "systemVersion": "23241",
15     "name": "My Company",
16     "displayName": "",
17     "businessProfileId": ""
18   }
19 ]

```

Specific Company D365BC

GET Params

Authorization Headers (1) Body Pre-request Script Tests

Key	Value	Description
<input checked="" type="checkbox"/> Authorization	Basic c2RlbWlsaWFuaTpXT3BtcjNDNFj3SGZ5ZkRhY0FhOHRlbn...	
New key	Value	Description

Body Cookies Headers (14) Test Results Status: 200 OK

Pretty Raw Preview JSON

```

1 {
2   "@odata.context": "https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta/$metadata#companies/$entity",
3   "id": "80d28ea6-02a3-4ec3-98f7-936c2000c7b3",
4   "systemVersion": "23241",
5   "name": "CRONUS IT",
6   "displayName": "CRONUS IT",
7   "businessProfileId": ""
8 }

```




Customer D365BC Examples (1) ▾

GET ▾ Params Send ▾ Save ▾

Authorization Headers (2) Body Pre-request Script Tests Code

Type ▾

Body Cookies Headers (14) Test Results Status: 200 OK Time: 2223 ms

Pretty Raw Preview ▾    Save Response

```
1 {
2   "@odata.context": "https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta
3   /$metadata#companies(80d28ea6-02a3-4ec3-98f7-936c2000c7b3)/customers",
4   "value": [
5     {
6       "@odata.etag": "W/\\"Jz0001N2eE9RTfHFT0REU1JSaFJL0D1rYUxIcVN4Y1ptaXdBY0xnQ2M5QnBmRk09MTswMDsn\"",
7       "id": "eb9b418a-59f9-46f6-8f7f-1f1e033ae0da",
8       "number": "40000",
9       "displayName": "Alpine Ski House",
10      "type": "Company",
11      "phoneNumber": "",
12      "email": "ian.deberry@contoso.com",
13      "website": "",
14      "taxLiable": false,
15      "taxAreaId": "74f443b6-9ab3-404b-86ee-a79b6a852bd7",
16      "taxAreaDisplayName": "Clienti e fornitori UE",
17      "taxRegistrationNumber": "533435789",
18      "currencyId": "00000000-0000-0000-0000-000000000000",
19      "currencyCode": "EUR",
20      "paymentTermsId": "b22af43b-a12a-482d-a498-ba0e0e33c821",
21      "shipmentMethodId": "00000000-0000-0000-0000-000000000000",
22      "paymentMethodId": "00000000-0000-0000-0000-000000000000",
23      "blocked": " ",
24    }
25  ]
26 }
```

Customer Create D365BC

POST

https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta/companies(80d28ea6-02a3-4ec3-98f7-9...

Authorization Headers (2) Body Pre-request Script Tests

form-data x-www-form-urlencoded raw binary JSON (application/json)

```
1 {
2   "displayName": "Stefano Demiliani",
3   "type": "Company",
4   "phoneNumber": "3334455",
5   "email": "demiliani@outlook.com",
6   "website": "www.demiliani.com",
7   "taxLiable": false,
8   "currencyId": "00000000-0000-0000-0000-000000000000",
9   "currencyCode": "EUR",
10  "blocked": " ",
11  "balance": 0,
12  "overdueAmount": 0,
13  "totalSalesExcludingTax": 0,
14  "address": {
15    "street": "Viale Kennedy 87",
16    "city": "Borgomanero",
17    "state": "Italy",
18    "countryLetterCode": "IT",
19    "postalCode": "IT-28021"
20  }
21 }
```

POST https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta/companies(80d28ea6-02a3-4ec3-98f7-9...

form-data x-www-form-urlencoded raw binary JSON (application/json)

```
1 {
2   "displayName": "Stefano Demiliani",
3   "type": "Company",
4   "phoneNumber": "3334455",
5   "email": "demiliani@outlook.com",
6   "website": "www.demiliani.com",
7   "taxLiable": false,
8   "currencyId": "00000000-0000-0000-0000-000000000000",
9   "currencyCode": "EUR",
10  "blocked": " ",
11  "balance": 0,
12  "overdueAmount": 0,
13  "totalSalesExcludingTax": 0
14 }
```

Body Cookies Headers (15) Test Results Status: 201 C

Pretty Raw Preview JSON

```
1 {
2   "@odata.context": "https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta/$metadata#companies(80d28ea6-02a3-4ec3-98f7-936c2000c7b3)/customers/$entity",
3   "@odata.etag": "W/\\"JzQ001kvM2kyMGtEVXZGL2xDV0Z2bVpnR1lWaGcyT2RMU2NZMENMeDBuMnJUUG69MTswMDsn\\"",
4   "id": "7ccfd105-41fd-497b-8c5b-8b2b231781c7",
5   "number": "C00030",
6   "displayName": "Stefano Demiliani",
7   "type": "Company",
8   "phoneNumber": "3334455",
9   "email": "demiliani@outlook.com",
10  "website": "www.demiliani.com",
11  "taxLiable": false,
12  "taxAreaId": "a5775c77-c940-41aa-a3fe-9802881892cd",
13  "taxAreaDisplayName": "Clienti e fornitori nazionali",
14  "taxRegistrationNumber": "",
15  "currencyId": "00000000-0000-0000-0000-000000000000",
16  "currencyCode": "EUR",
17  "paymentTermsId": "6199aa6f-e51f-49ec-af38-254ab5e3d597",
18  "shipmentMethodId": "00000000-0000-0000-0000-000000000000",
19  "paymentMethodId": "edd717f3-cab9-4794-9443-6c8d43474848",
20  "blocked": " ",
21  "balance": 0,
22  "overdueAmount": 0,
23  "totalSalesExcludingTax": 0
24 }
```

Special Prices & Discounts

HOME ACTIONS NAVIGATE REPORT MANAGE

Edit New Delete Sales Quote Sales Invoice Sales Order Sales Credit Memo Reminder Send Approval Request Cancel Approval Request Approvals Create a Flow See my Flows Bank Accounts Ship-to Addresses Contact Attachments Previous Next

Manage New Document Request Approval Customer Page

EDIT - CUSTOMER CARD

C00030 · Stefano Demiliani

Customer Picture

Attachments

Documents

Specifies the number of sales blanket orders that have been registered for the customer.

Ongoing Sales Quotes	Ongoing Sales Blanket Orders	Ongoing Sales Orders
0	0	0
Ongoing Sales	Ongoing Sales	Posted Sales
0	0	0

General

No. Service Zone Code

Name Document Sending...

IC Partner Code Total Sales **0,00**

Balance (LCY) **0,00** Costs (LCY) **0,00**

Balance Due (LCY) **0,00** Profit (LCY) **0,00**

Credit Limit (LCY) Profit %

Exposure (LCY) Tax Representative...

Blocked Tax Representative...

Privacy Blocked Last Date Modified **26/07/2018**

Salesperson Code

Individual >

Address & Contact Show more

Customer Update D365BC

PATCH

Authorization Headers (2) **Body** Pre-request Script Tests

form-data
 x-www-form-urlencoded
 raw
 binary
 JSON (application/json)

```

1 {
2   "phoneNumber": "+390322845333"
3 }
  
```

Customer Update D365BC Examples (0) ▾

PATCH Params Send ▾ Save ▾

Authorization Headers (3) **Body** Pre-request Script Tests Code

form-data x-www-form-urlencoded raw binary JSON (application/json) ▾

```
1 {
2   "phoneNumber": "+390322845333"
3 }
```

Body Cookies Headers (14) Test Results Status: 200 OK Timer: 1597 ms

Pretty Raw Preview Save Response

```
1 {
2   "@odata.context": "https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta/$metadata#companies(80d28ea6-02a3-4ec3-98f7-936c2000c7b3)/customers/$entity",
3   "@odata.etag": "W/\\"JzQ003d15C9sNGY0UEZlMXVLQ1VHamRobDBWakR5ZiWR0U3VuMkJOUTRUQ2tFQVU9MTswMDsn\"",
4   "id": "7ccfd105-41fd-497b-8c5b-8b2b231781c7",
5   "number": "C00030",
6   "displayName": "Stefano Demilliani",
7   "type": "Company",
8   "phoneNumber": "+390322845333",
9   "email": "demilliani@outlook.com",
10  "website": "www.demilliani.com",
11  "taxliable": false,
12  "taxAreaId": "a5775c77-c940-41aa-a3fe-9802881892cd",
13  "taxAreaDisplayName": "Clienti e fornitori nazionali",
14  "taxRegistrationNumber": "",
15  "currencyId": "00000000-0000-0000-0000-000000000000",
16  "currencyCode": "EUR",
17  "paymentTermsId": "6199aa6f-e51f-49ec-af38-254ab5e3d597",
18  "shipmentMethodId": "00000000-0000-0000-0000-000000000000",
```

HOME		ACTIONS		NAVIGATE		REPORT		Special Prices & Discounts		MANAGE	
Manage			New Document					Request Approval			Customer

EDIT - CUSTOMER CARD ✕

Balance Due (LCY)	0,00	Profit (LCY)	0,00
Credit Limit (LCY)	0,00	Profit %	0,0
Exposure (LCY)	0,00	Tax Representative...	v
Blocked	v	Tax Representative...	...
Privacy Blocked	<input type="checkbox"/>	Last Date Modified	26/07/2018
Salesperson Code	...		

Individual >

Address & Contact Show more

ADDRESS	CONTACT
Address	Primary Contact Code
Address 2	Contact Name
Post Code	Phone No.
City	Email
Country/Region Code	Home Page

► Sales invoices D365BC Examples (1) ▾

GET ▾ Params Send ▾ Save ▾

Authorization ● Headers (2) Body Pre-request Script Tests Code

Key	Value	Description	...	Bulk Edit	Presets ▾
<input checked="" type="checkbox"/>	Authorization	Basic c2RlbWlsaWFuaTpXT3BtcjNDNFj3SGZ...			
<input checked="" type="checkbox"/>	Content-Type	application/json			
	New key	Value			Description

Body Cookies Headers (14) Test Results Status: 200 OK Time: 826 ms

Pretty Raw Preview Save Response

```

1 - {
2   "@odata.context": "https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta
3     /$metadata#companies(80d28ea6-02a3-4ec3-98f7-936c2000c7b3)/salesInvoices/$entity",
4   "@odata.etag": "W/\\"JzQ000poQV1mN0dnenlwdE1ZK3dKK1RmcUIkR011RUhBeTnsTmJHTUJmU1dTb0U9MTswMDsn\\"",
5   "id": "034a122b-962b-4007-b3d1-00718c2f21ff",
6   "number": "17-102013",
7   "externalDocumentNumber": "",
8   "invoiceDate": "2017-02-21",
9   "dueDate": "2017-02-21",
10  "customerPurchaseOrderReference": "",
11  "customerId": "8659911c-0cb8-4b3f-a2ff-a1805fa992e0",
12  "contactId": "",
13  "customerNumber": "50000",
14  "customerName": "Relecloud",
15  "currencyId": "00000000-0000-0000-0000-000000000000",
16  "currencyCode": "EUR",
17  "orderId": "00000000-0000-0000-0000-000000000000",
18  "orderNumber": "",
19  "paymentTermsId": "6199aa6f-e51f-49ec-af38-254ab5e3d597",
20  "shipmentMethodId": "00000000-0000-0000-0000-000000000000",
21  "salesperson": "GC",
22  "pricesIncludeTax": false,
23  "discountAmount": 0,
24  "discountAppliedBeforeTax": true,
    "totalAmountExcludingTax": 3868.4,
  }

```



```
Body Cookies Headers (14) Test Results Status: 200 OK Time: 826 ms
Pretty Raw Preview JSON Save Response
33     "countryLetterCode": "IT",
34     "postalCode": "37100"
35   },
36   "salesInvoiceLines@odata.context": "https://api.businesscentral.dynamics.com/v1.0/194e87bd-73c6-43c6-95d7-1ca48985db5e/api/beta/$metadata#companies(80d28ea6-02a3-4ec3-98f7-936c200c7b3)/salesInvoices(034a122b-962b-4007-b3d1-00718c2f21ff)/salesInvoiceLines",
37   "salesInvoiceLines": [
38     {
39       "@odata.etag": "W/\"JzQ000tJV1ozL1NUb1ZnMjY5UGlySXBoZG0vekJvTG1KvW9xMmJPcnI0UjZfVhc9MTswMDsn\"",
40       "documentId": "034a122b-962b-4007-b3d1-00718c2f21ff",
41       "sequence": 10000,
42       "itemId": "70546a5e-d776-4268-a3e3-feac1702f1ca",
43       "accountId": "00000000-0000-0000-0000-000000000000",
44       "lineType": "Item",
45       "description": "Cassettiera ATENE",
46       "unitOfMeasureId": "3696d816-643b-4144-909b-edf17d235c2a",
47       "unitPrice": 435.8,
48       "quantity": 8,
49       "discountAmount": 0,
50       "discountPercent": 0,
51       "discountAppliedBeforeTax": false,
52       "amountExcludingTax": 3486.4,
53       "taxCode": "STANDARD",
54       "taxPercent": 20,
```

{ } app.json x

```
2   "id": "73cd9423-1c38-4737-9e05-a578791bb906",
3   "name": "DotNetTest",
4   "publisher": "SD",
5   "brief": "",
6   "description": "",
7   "version": "1.0.0.0",
8   "privacyStatement": "",
9   "EULA": "",
10  "help": "",
11  "url": "",
12  "logo": "",
13  "capabilities": [],
14  "dependencies": [],
15  "screenshots": [],
16  "platform": "11.0.0.0",
17  "application": "11.0.0.0",
18  "idRange": {
19    "from": 50100,
20    "to": 50149
21  },
22  "runtime": "Latest",
23  "target": "Internal"
24 }
```

USER SETTINGS WORKSPACE SETTINGS

Place your settings here to overwrite the Default Settings.


```


1  {
2      "git.ignoreMissingGitWarning": true,
3      "al.assemblyProbingPaths": [
4          ".\netpackages",
5          "c:/Windows/assembly/",
6          "C:/Program Files/Microsoft Dynamics NAV/110/Service/Add-ins",
7          "C:/DotNetAddins"
8      ],
9      "window.zoomLevel": 1
10 }


```


New Project - D365BCWorkshopFunction X


Azure Functions v1 (.NET Framework)


 Empty


 Blob trigger


 Http trigger


 Queue trigger


 Timer trigger

Storage Account (AzureWebJobsStorage)




Storage Emulator

⚠ Some capabilities may require an Azure storage account.

Access rights

Function

Creates an Azure function project with an Http trigger. Additional triggers can be added during development

<input type="checkbox"/>	 D365BCWorkshopFunction	Application Insights	D365BCWorkshop	West Europe
<input type="checkbox"/>	 d365bcworkshopfunction	Storage account	D365BCWorkshop	West Europe
<input type="checkbox"/>	 D365BCWorkshopFunction	App Service	D365BCWorkshop	West Europe

business central

Sorted by popularity

All flows Featured Approval Button Data collection Email Events and calendar Mobile Notifications Productivity Social media Sync

Low stock warning

By Microsoft Flow Community
Used 90 times

Request approval for Dynamics 365 Business Central customer

By Microsoft
Used 87 times

Request approval for Dynamics 365 Business Central purchase order

By Microsoft
Used 54 times

Request approval for Dynamics 365 Business Central sales order

By Microsoft
Used 44 times

Request approval for Dynamics 365 Business Central purchase invoice

By Microsoft
Used 30 times

Request approval for Dynamics 365 Business Central sales quote

By Microsoft

Request approval for Dynamics 365 Business Central vendor

By Microsoft

Request approval for Dynamics 365 Business Central item

By Microsoft

Request approval for Dynamics 365 Business Central sales invoice

By Microsoft

Request approval for Dynamics 365 Business Central general journal lin...

By Microsoft


Request approval for Dynamics 365 Business Central purchase credit m...

By Microsoft

Request approval for Dynamics 365 Business Central general journal ba...

By Microsoft

Request approval for Dynamics 365 Business Central sales credit memo

 When a sales document approval is requested (Preview) ...


* Company name v

Header fourth condition v

Header fourth condition is

Using the default values for the parameters. [Edit](#)


↓

 Get item (Preview) ...

* Company name v



Using the default values for the parameters. [Edit](#)

↓

 Start an approval ...

* Titolo

* Assegnato a

Dettagli number x totaling  amountIncludi... x for  sellToCustome... x needs to be approved."/>

Collegamento all'elemento

Descrizione collegamento

Using the default values for the parameters. [Edit](#)

+

+
Condition
...

+
response x

is equal to
v

Approve

Edit in advanced mode
Collapse condition

✓
If yes

+
Execute action (Preview)
...

* Company name CRONUS IT v

workflowStepInstanceId Workflow Step... x

Using the default values for the parameters. [Edit](#)

↓

+
Condition 2
...

+
Requested By... x

is not equal to
v

Choose a value

Edit in advanced mode
Collapse condition

✓
If yes

✗
If no

✉
Send an email
...

* To
+
Requested By... x

* Subject Sales order + number x approved

* Body
+ Nome respons... x has approved sales order + number x totaling + amountIncludi... x for + sellToCustome... x

Comments:
+
Commenti x

Show advanced options v

+
Add an action
...
More

If no

Execute action 2 (Preview)

* Company name: CRONUS IT

workflowStepInstanceId: Workflow Step... x

Using the default values for the parameters. [Edit](#)

↓

Condition 3

Requested By... x is not equal to Choose a value

[Edit in advanced mode](#) [Collapse condition](#)

If yes

Send an email 2

* To: Requested By... x ;

* Subject: Sales order number x rejected

* Body: Nome respons... x has rejected sales order number x totaling amountIncludi... x for sellToCustome... x

Comments: Commenti x

[Show advanced options](#)

If no

[Add an action](#) [More](#)

PowerApps

Home Learn **Apps** Data Business logic Notifications

+ Create an app ← Import package (preview) ▶ Microsoft Dynamics 365

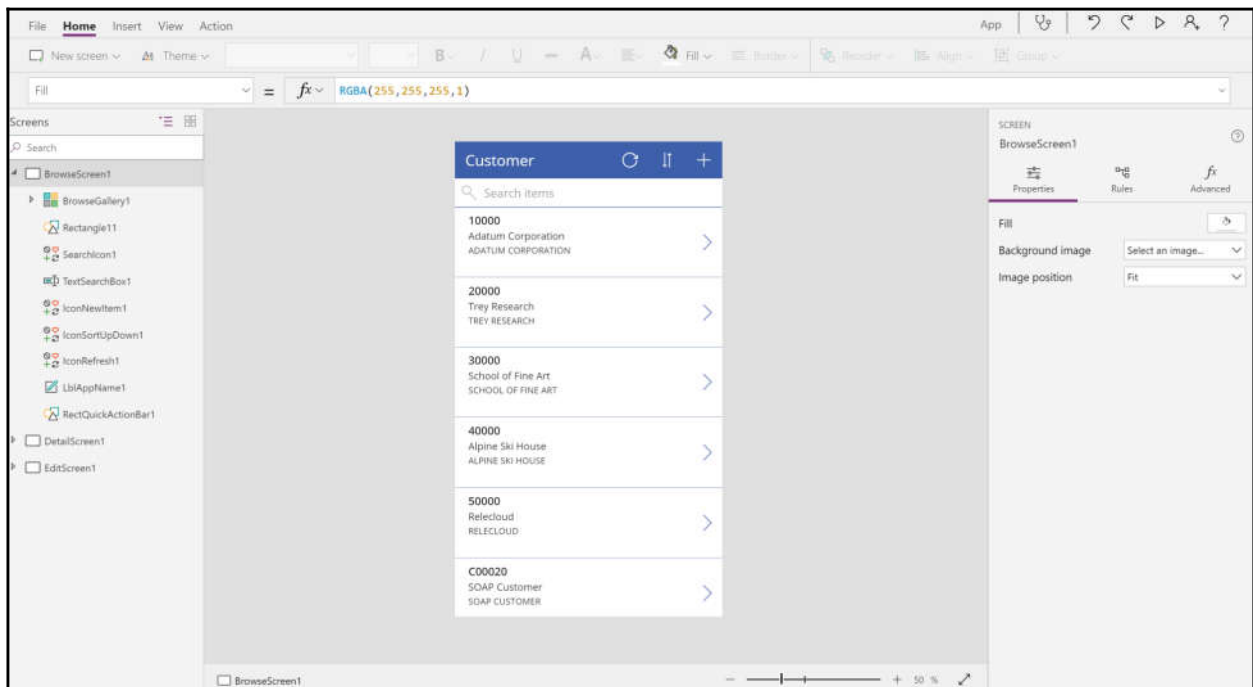
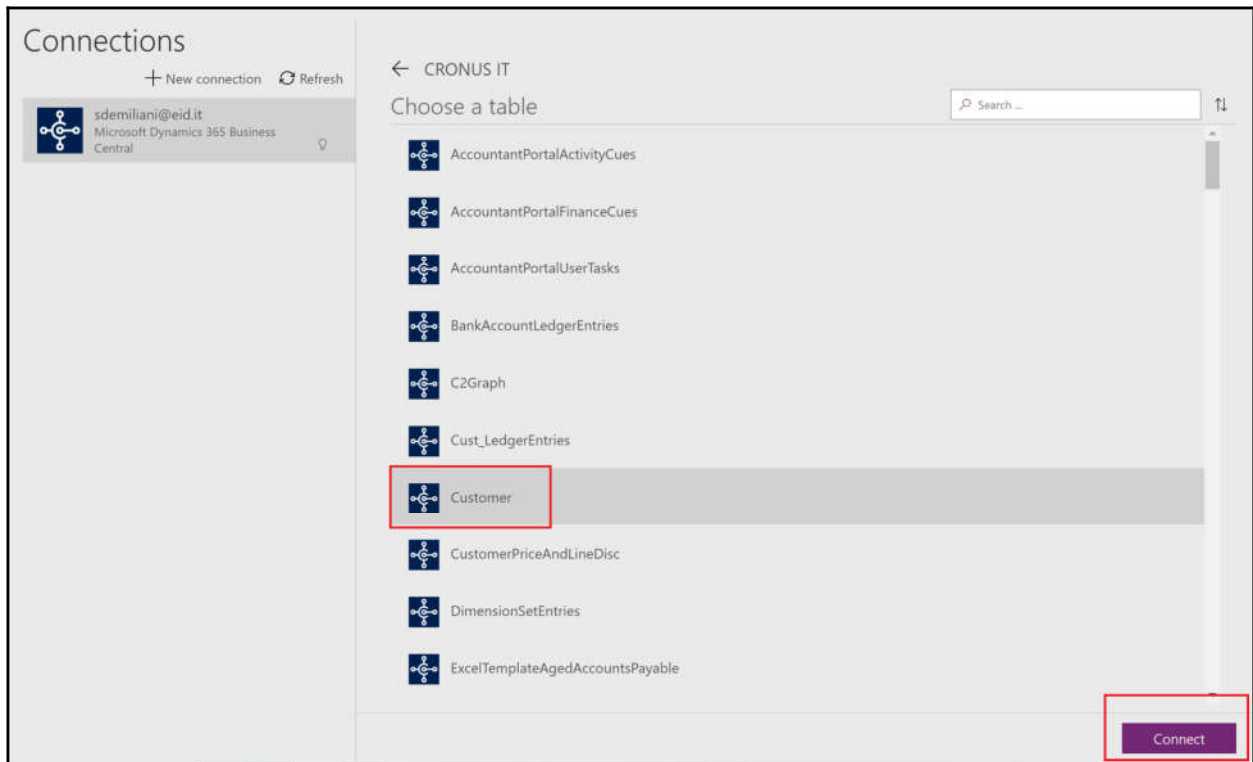
Apps in EID srl (default)

Recent apps Apps I can edit Org apps

No apps found.

This is where your apps will live. Create an app to get started. [Learn more](#)

Create an app



fx Customer

Balance 0
Balance 0
Credit_L 0
Exposur 0

Data

<input checked="" type="checkbox"/>	IC_Partner_Code	abc	...
<input checked="" type="checkbox"/>	Balance_LCY	123	...
<input checked="" type="checkbox"/>	Balance_Due_LCY	123	...
<input checked="" type="checkbox"/>	Credit_Limit_LCY	123	...
<input checked="" type="checkbox"/>	Exposure_LCY	123	...
<input type="checkbox"/>	Blocked		
<input type="checkbox"/>	Privacy_Blocked		
<input type="checkbox"/>	Salesperson_Code		

DISPLAY DetailForm1

Properties Rules Advanced

Data Customer

Fields 8 selected

Layout Vertical

Visible On




Position X: 0 Y: 88


Size Width: 640 Height: 1048


Customer ↻ ↕ +



🔍 Search items

10000 Adatum Corporation ADATUM CORPORATION	>
20000 Trey Research TREY RESEARCH	>
30000 School of Fine Art SCHOOL OF FINE ART	>
40000 Alpine Ski House ALPINE SKI HOUSE	>

Customer   

 Tre

20000
Trey Research
TREY RESEARCH 

< Customer  

No
10000
Name
Adatum Corporation
Search_Name
ADATUM CORPORATION
IC_Partner_Code
Balance_LCY
0
Balance_Due_LCY
0
Credit_Limit_LCY
0
Exposure_LCY
0

Save as



The cloud
Save to PowerApps



This computer
Save a copy to my computer

This app will be saved in the environment EID srl (default).

My apps



D365BC_CustomersApp

Created: 07/31/2018 Modified: 07/31/2018



Play



Edit



Delete



Export package (preview)

Details • Share • Versions • Settings • Analytics (preview)

✓ Version 1 is published.

+ Add everyone in my org ⓘ

Send an email invitation (optional)

Shared with

Name	Email	Permission ⓘ
Stefano Demiliani	sdemiliani@██████████	Owner ▾ ×

Cancel

Save