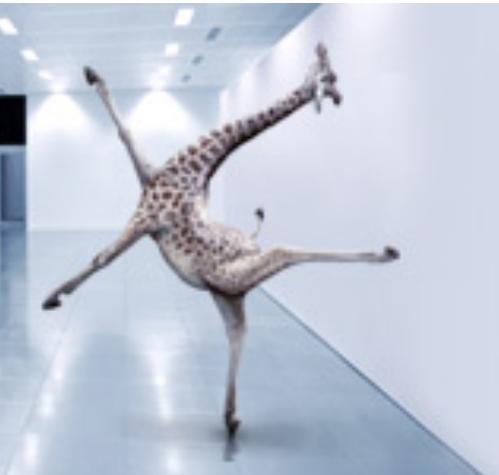


# Micro Focus Visual COBOL



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A giraffe is captured mid-air, performing a high kick or leap, set against a light blue background. This imagery serves as a metaphor for innovation and taking bold steps forward.

¿Preparado para innovar?  
De el paso a Visual COBOL



# Objetivos Fundamentales



## COSTE

Reducir o evitar el coste del cambio y el plazo de comercialización

## CALIDAD

Mejorar la calidad de las competencias y la entrega de servicios

## RIESGO

Mitigar el riesgo

## AGILIDAD

Mejorar la agilidad y flexibilidad del negocio

# ¿Como debería ser el entorno de desarrollo ideal ?



## Lenguaje Moderno

- Construido sobre la valiosa base de la experiencia
- Sintaxis OO Lightweight
- Despliegue a los principales frameworks
- Funciones de framework faciles de usar
- Facil gestión dentro del framework
- Fácil de aprender

## Potentes Soluciones

- Modernos IDEs – Visual Studio & Eclipse
- Set de herramientas integradas
- Asistentes inteligentes



# Soluciones de Desarrollo COBOL



## Desarrollo para Windows y .NET

- Visual COBOL for Visual Studio 2010 y 2012
- Visual COBOL for Azure



## Desarrollo para Windows y Unix

- Visual COBOL for Eclipse
- Visual COBOL Developer Hub
- Visual COBOL Distributed Edition



# Plantillas de proyecto disponibles ahora para COBOL



The screenshot shows the 'Installed Templates' dialog in the Visual Studio IDE. The 'Recent Templates' and 'Online Templates' sections are visible on the left. The 'Installed Templates' section is selected, showing various project types under the 'COBOL' category, including 'Cloud', 'Database', 'Managed', 'Native', 'WebApp' (which is highlighted), 'Visual C#', 'Database', 'Modeling Projects', 'Test Projects', and 'Other Project Types'. On the right, the 'Application' template details are displayed: Configuration is set to 'N/A', Platform is 'N/A', Assembly name is 'Simple1', Default namespace is 'Simple1', Target framework is '.NET Framework 4' (selected from a dropdown menu), Output type is 'Console Application', and there is a button labeled 'Assembly Info...'. A scroll bar is visible on the right side of the dialog.





Window1.xaml.cbl [Code]\*

*Sintaxis COBOL  
colorizada,  
márgenes COBOL*

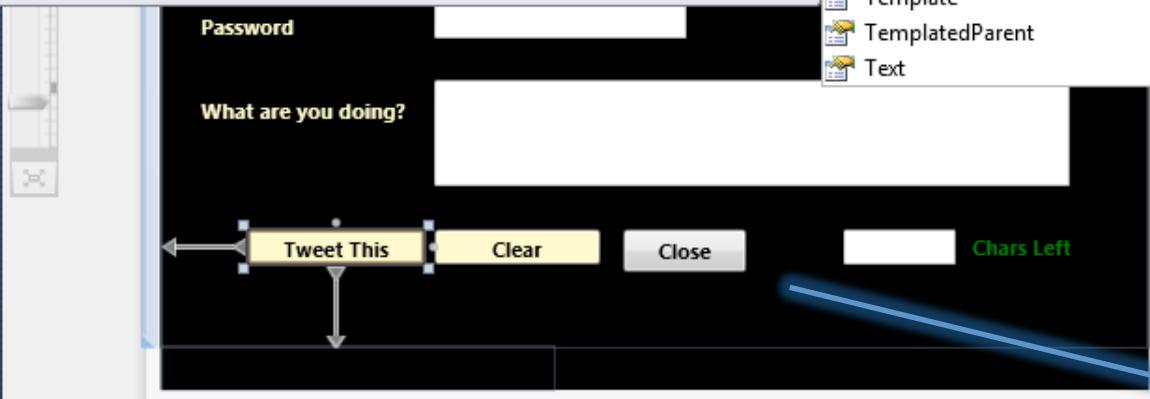
```
method-id. TweetButtonClick final private.
procedure division using by value sender as object e as type "System.Windows
    set tweetObj to new CobTweet()

    if self::tbStatusMsg::Text::Length > 140
        set tweetStr to self::tbStatusMsg::Text::Substring(0, 140)
    else
        set tweetStr to self::tbStatusMsg::T
end-if
set Result to tweetObj::PostTweet(self:
```

100 %

System.Windows.Controls.Control::TabIndex AS binary-long

The documentation cache is still being constructed. Please try again in a few seconds.



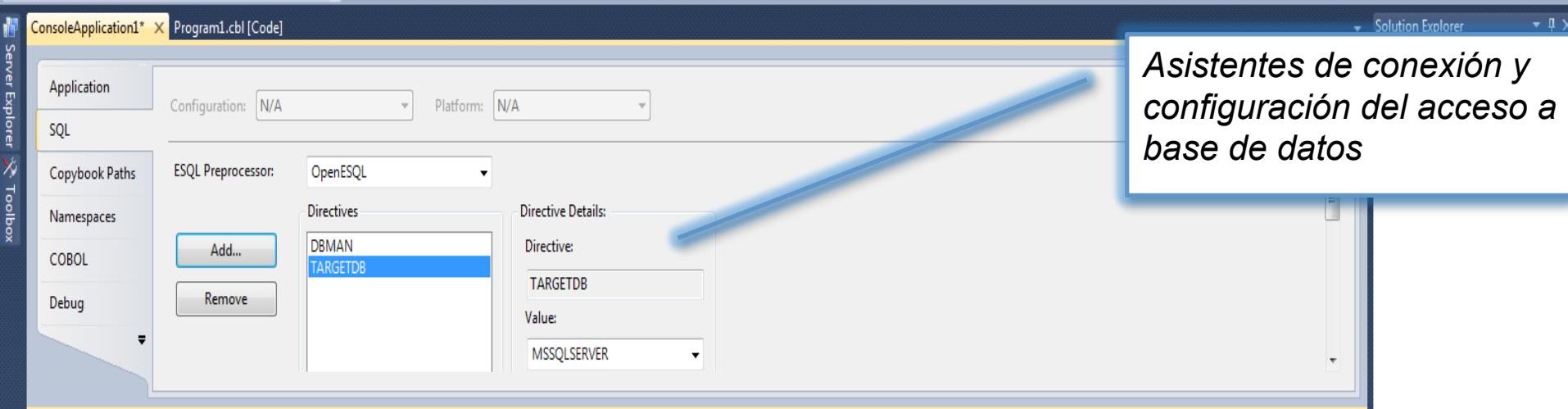
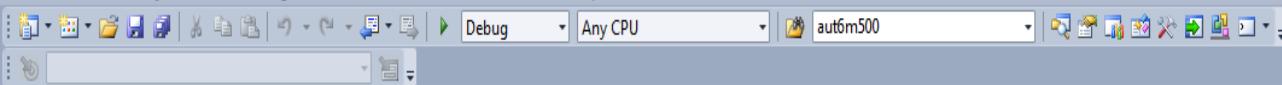
- ShouldSerializeTriggers
- SnapsToDevicePixels
- SpellCheck
- Style
- TabIndex
- Tag
- Template
- TemplatedParent
- Text

*IntelliSense,  
snippets y  
comentarios COBOL*

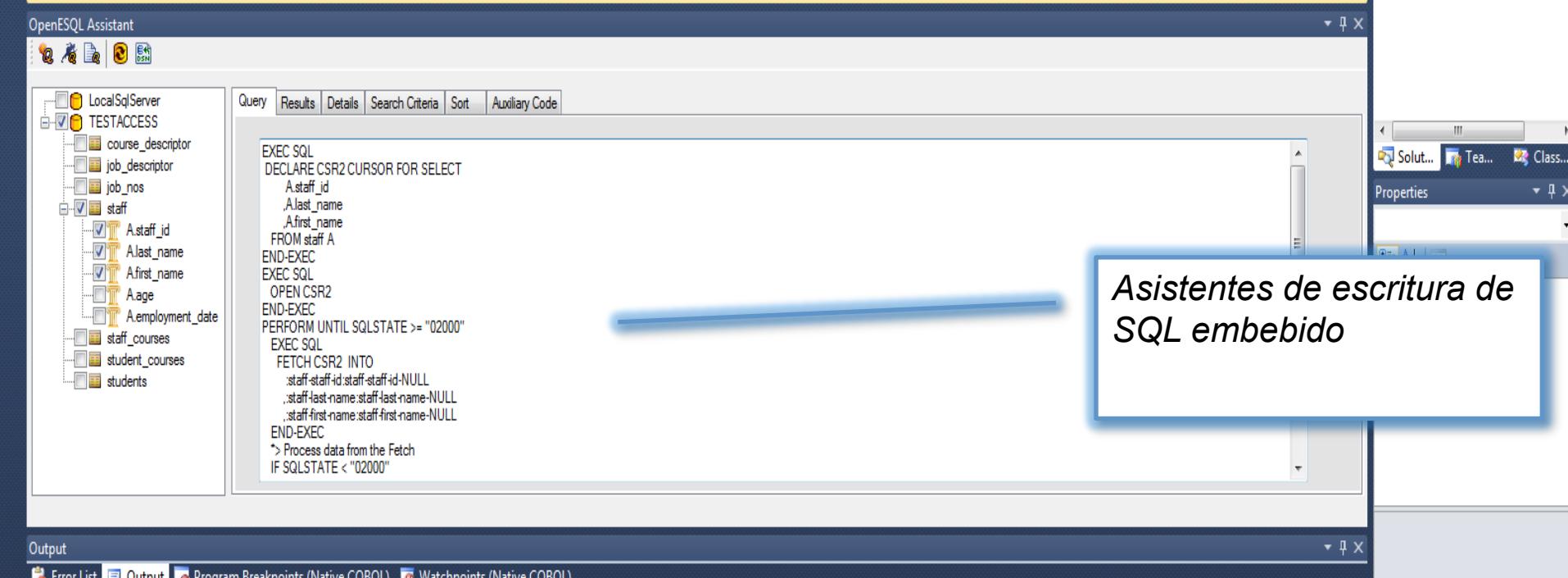
CBL Twitter2010  
 Properties  
 References  
 App.xaml  
 App.xaml.cbl  
 Images  
 twitter2.jpg  
 Window1.xaml  
 Window1.xaml.cbl

Solutio... Team... Class V...
 properties  
 COBOL File Properties  
 General  
 Dependencies  
 Managed code true  
 Path C:\Users\Public\Do  
 Program Window1.xaml.cbl  
 Project Twitter2010

*Uso de herramientas  
standard para generar  
interfaces WPF*



*Asistentes de conexión y configuración del acceso a base de datos*



```
EXEC SQL
DECLARE CSR2 CURSOR FOR SELECT
    A.staff_id
    ,A.last_name
    ,A.first_name
    ,A.age
    ,A.employment_date
FROM staff A
END-EXEC
EXEC SQL
OPEN CSR2
END-EXEC
PERFORM UNTIL SQLSTATE >= "02000"
EXEC SQL
    FETCH CSR2 INTO
        :staff-staff_id:staff-staff_id-NULL
        ,:staff-last_name:staff-last_name-NULL
        ,:staff-first_name:staff-first-name-NULL
    END-EXEC
    >> Process data from the Fetch
    IF SQLSTATE < "02000"
```

*Asistentes de escritura de SQL embebido*



# Modernizando COBOL



De:

```
REPOSITORY.  
CLASS CLASS-STRING AS "System.String"  
CLASS CLASS-FONT AS "System.Drawing.Font"  
ENUM ENUM-FONTCODE AS "System.Drawing.FontStyle"  
PROP-FONT AS "Font"  
  
...  
WORKING-STORAGE SECTION.  
01 Font-String OBJECT REFERENCE CLASS-STRING.  
01 Font-Size COMP-1.  
01 Font-Style OBJECT REFERENCE ENUM-FONTCODE.  
  
...  
SET Font-String TO N"Tahoma"  
MOVE 14 TO Font-Size  
SET Font-Style  
TO FUNCTION ENUM-OR (Bold OF ENUM-FONTCODE  
Italic OF ENUM-FONTCODE)  
SET PROP-FONT OF textBox1  
TO CLASS-FONT::"NEW"(Font-String, Font-Size, Font-  
Style)
```

A:

```
set textBox1::Font to new Font ("Tahoma", 14, type  
FontStyle::Bold B-OR type FontStyle::Italic)
```

Tradicional	Visual COBOL	Otros lenguajes...
SET PROP-FONT OF TEXT-BOX TO VALUE	set text-box::font to value	text-box.font = value;

# Interacción con otros Lenguajes



The diagram illustrates the interaction between a C# WinForm application, a COBOL program, and Microsoft Visual Studio.

**Visual Studio Environment:**

- Left Window:** Shows the code for the `buttonNext_Click` event handler in `Form1.cs`. It includes logic to call the `Book.BookLegacy` method, which is highlighted in yellow.
- Right Window:** Shows the `main()` routine of the COBOL program `bookcbf`. The code handles various events like `add-record`, `delete-record`, `next-record`, and `read-record`.

**WinForm Application:**

- A central window titled "C# WinForm Book Demo" displays book details: Stock Number (1111), Title (LORD OF THE RINGS), Author (TOLKEN), Type (FANTASY). Below these are status fields: Price (15.00), On Hand (4000), Sold (3444), and Stock Value (60000).
- Buttons at the bottom include Read, Add, Delete, Next, and Quit.

**Arrows:** Blue arrows indicate the flow of interaction: one arrow points from the WinForm application down to the Visual Studio environment, and another arrow points from the COBOL code up to the WinForm application.

```
/// <param name="sender"></param>
/// <param name="e"></param>
private void buttonNext_Click(object sender, EventArgs e)
{
    Details.Stockno = textBoxStockNo.Text;
    try
    {
        Book.BookLegacy(nextRecord, Details, Status);
        PopulateForm(Details);
    }
    catch (SystemException exception)
    {
        DisplayException(exception);
    }
}
```

```
when add-record
    perform do-add-record

when delete-record
    perform do-delete-record

when next-record
    perform do-next-record

end-evaluate
exit program
stop run

.
do-read-record section.
```

# Modernización del Interface de Usuario



ACCOUNTS DETAILS OF ACCOUNT NUMBER 10037  
 SURNAME : BANGER (18 CHRS) TITLE : (4 CHRS OPTIONAL)  
 FIRST NAME : TEX (12 CHRS) MIDDLE INIT: A (1 CHR OPTIONAL)  
 TELEPHONE : 4567890123 (10 DIGS)  
 ADDRESS LINE1: 1000 BALLPARK WAY (24 CHRS)  
 LINE2: ARLINGTON, TX (24 CHRS)  
 LINE3: 76011 (24 CHRS OPTIONAL)  
 CARDS ISSUED : 1 (1 TO 9) CARD CODE : I (1 CHR)  
 DATE ISSUED : 07 07 07 (MM DD YY) REASON CODE: S (N,L,S,R)  
 APPROVED BY : REH (3 CHRS)  
 UPTO 4 OTHERS WHO MAY CHARGE (EACH 32 CHRS OPTIONAL)  
 01: BIG TEX 02:  
 03: 04:  
 SPECIAL CODE1: CODE2: CODE3: (EACH 1 CHR OPTIONAL)  
 NO HISTORY AVAILABLE AT THIS TIME CHARGE LIMIT 1000.00 STATUS N  
 NOTE:- DETAILS IN BRACKETS SHOW MAXIMUM NO. CHARACTERS ALLOWED AND IF OPTIONAL  
 PRESS "CLEAR" OR "ENTER" TO RETURN TO THE MENU WHEN FINISHED



Mobile



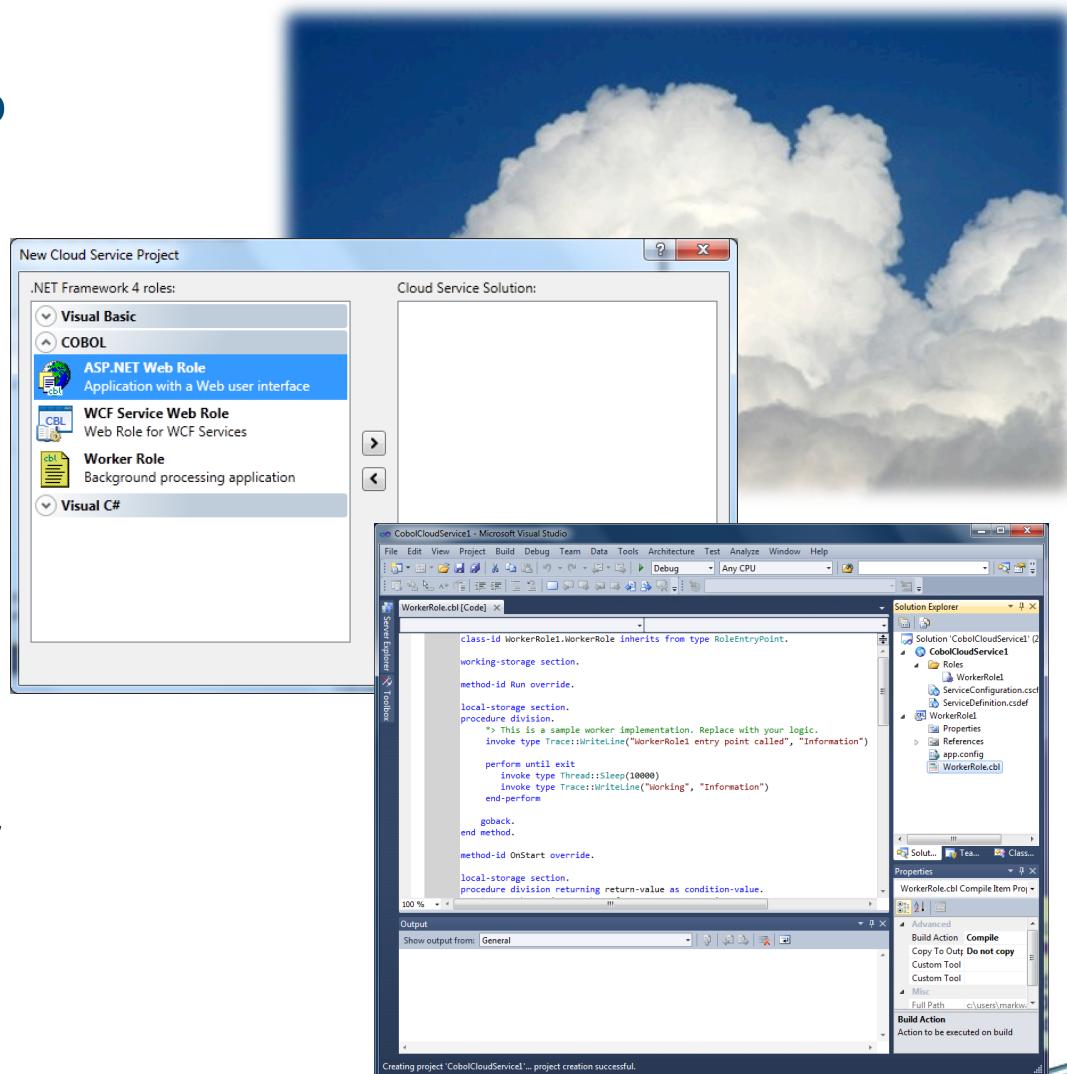
## Tablets



# Visual COBOL for Windows Azure



- Integración con Visual Studio
- Despliegue COBOL en Azure
- COBOL ‘web roles’ y ‘worker roles’
- Plantillas de proyecto específicas
- Integración con las herramientas de desarrollo y despliegue de Azure de Microsoft



# Integración con Productos de Terceros

## Eclipse Marketplace

The screenshot shows the Eclipse Marketplace website. At the top, it displays a banner stating "856,892 solutions installed directly from Eclipse!" with a "Drag To Install Now Available for Eclipse Marketplace Client!" button. Below this, there's a search bar and a "Spotlight" section featuring "Eclipse Communications Framework - ECF" and "JBoss Tools (Indigo)". The main content area lists "Top MPC Downloads" and "New and Updated Solutions". Solutions like "AgileReview 0.7" and "EGit - Git Team Provider 1.1.0" are highlighted. On the left, there are sections for "Markets", "Top MPC Downloads", "Top Favorites", and "Explore Others Favorites".

## Visual Studio Gallery

The screenshot shows the Visual Studio Gallery website. It features a header with the Microsoft Visual Studio logo and a search bar. The main content is divided into sections: "Products and Extensions for Visual Studio", "RECENTLY ADDED", "MOST POPULAR", and "HIGHEST RATED". Under "RECENTLY ADDED", there are entries for "Bootstrap Project Template" and "Ticket printing, bill printing, label printing, document printing, barcode print". Under "MOST POPULAR", there are entries for "NuGet Package Manager" and "Productivity Power Tools". Under "HIGHEST RATED", there are entries for "VS10x Code Map v2" and "Visual Assist X". The footer includes copyright information and links to "Term of Use | Trademarks | Privacy Statement | Site Feedback".



OBOL

**COBOL - BookApp/book.cbl - Eclipse**

File Edit Navigate Search Project Run Window Help

Navigator X book.cbl X booktest.cbl

```
----- *A-1-B ----- 2 ----- 3 ----- 4 ----- 5 -----  
          88 next-record      value "4".  
01 lnk-file-status  pic xx.  
copy "book-rec.cpy" replacing ==(prefix)== by ==lnk-b==.  
  
procedure division using lnk-function  
                      lnk-b-details  
                      lnk-file-status.  
  
main section.  
  
call "CBL_TOUPPER" using lnk-b-text-details  
      by value length lnk-b-text-details  
      returning ls-call-status
```

Outline X Prc

book  
  Data Division  
    File Section  
    Working-ST  
    Linkage Section  
      lnk-function PIC X  
      lnk-file-status PIC X  
  Procedure Division  
    main  
    do-read-record  
    do-next-record  
    do-add-record  
    do-delete-record

Ink-b-text-details - 7 references in book.cbl

Linea	Referencia
8:	03 lnk-b-text-details.
46:	call "CBL_TOUPPER" using lnk-b-text-details
47:	by value length lnk-b-text-details
72:	move all '*' to lnk-b-text-details
106:	move all '*' to lnk-b-text-details
115:	move all '*' to lnk-b-text-details
125:	by value length lnk-b-text-details

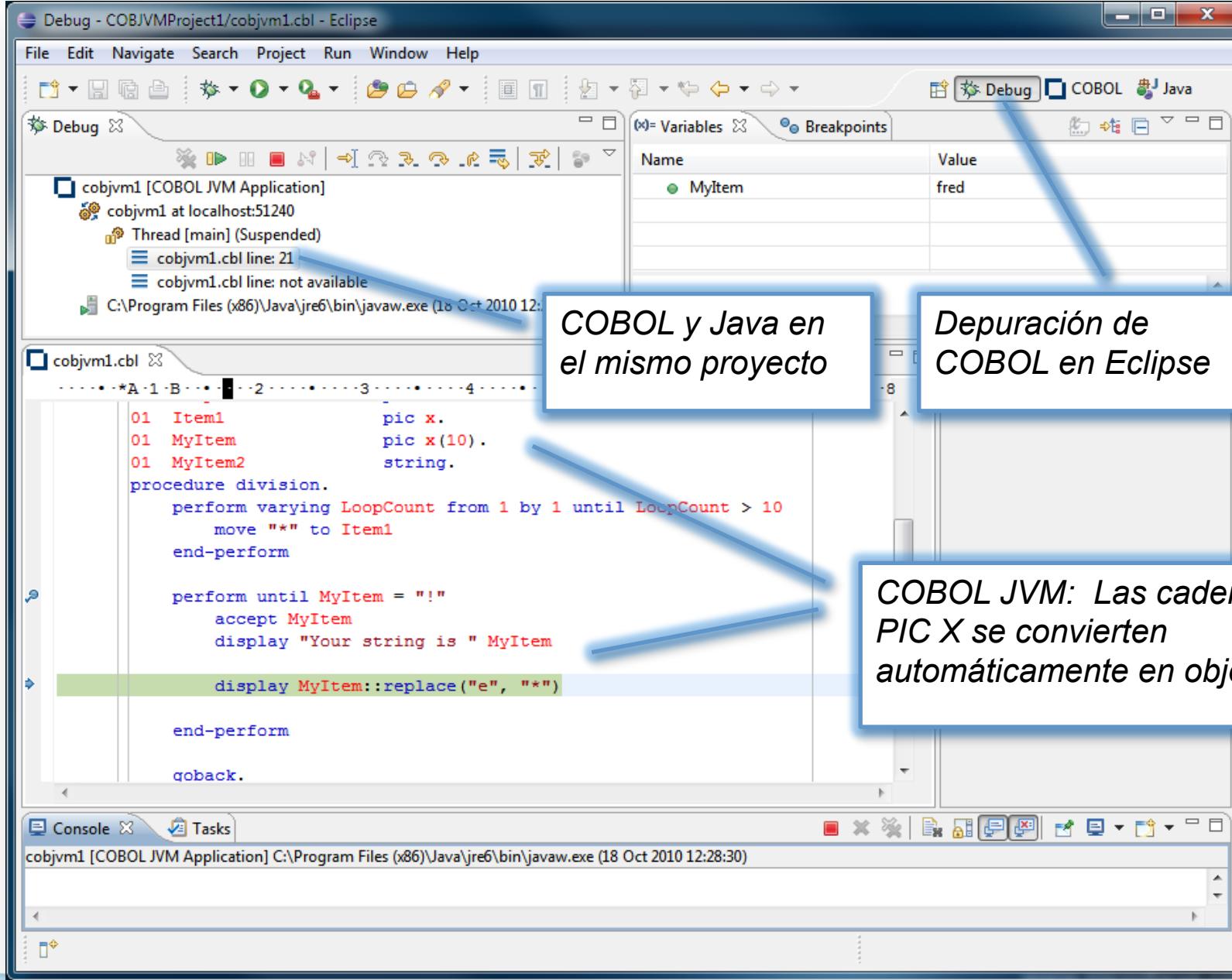
COBOL Java

**Sintaxis y márgenes COBOL**

**Perspectiva COBOL, ventana 'outline view' para entender la estructura**

**Busqueda de referencias para entender el flujo y análisis de impacto**

**SUAL COBOL**



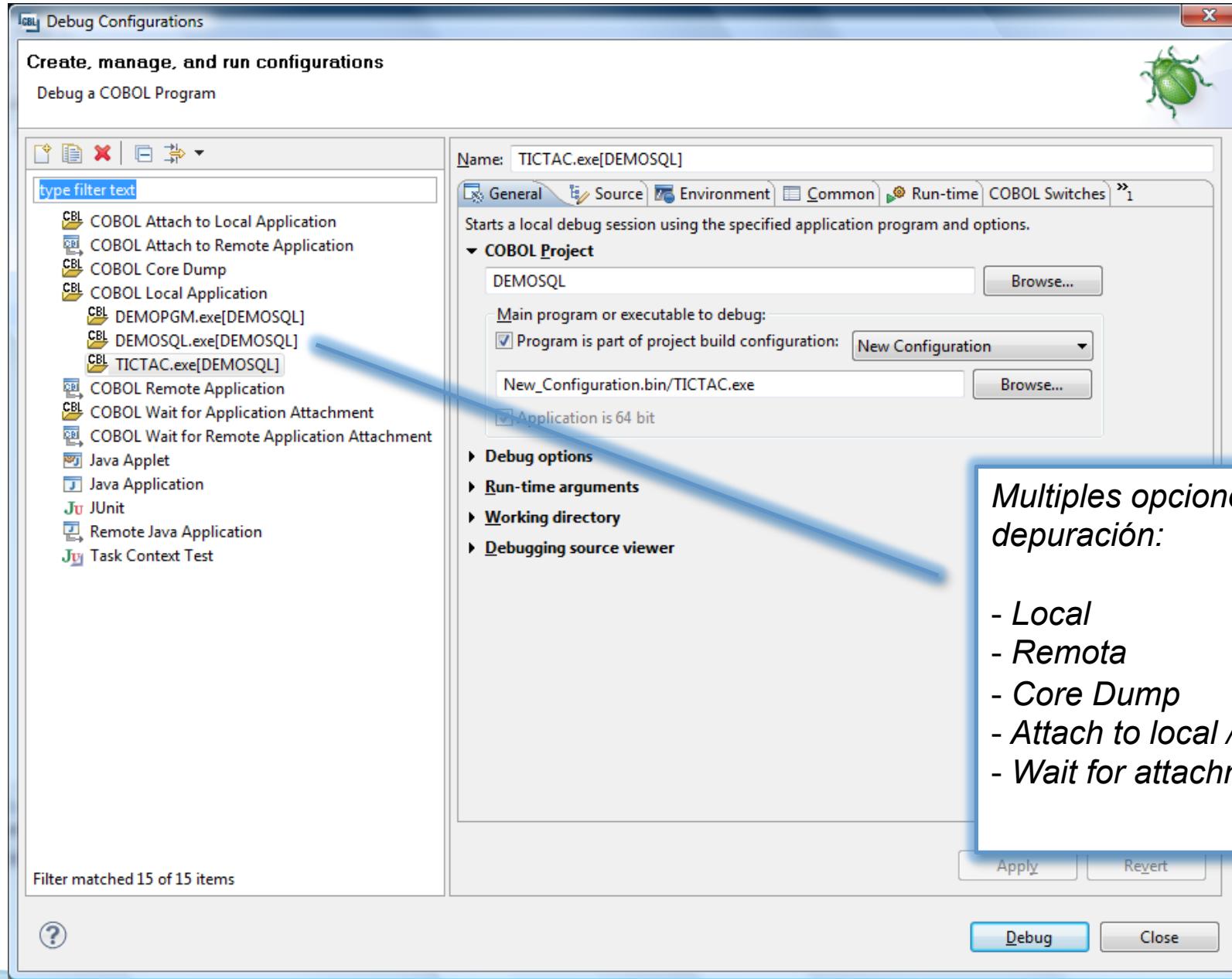
*COBOL y Java en el mismo proyecto*

*Depuración de COBOL en Eclipse*

*COBOL JVM: Las cadenas PIC X se convierten automáticamente en objetos*

MICRO  
FOCUS

UAL COBOL



## Properties for DEMOSQL

type filter text

- Resource
- Builders
- Micro Focus COBOL
  - Build Configurations
  - Build Precedence
  - Copybook Paths
  - Project Language Settings
    - COBOL
    - Embedded SQL**
  - Run-time Configuration
  - Project References
  - Refactoring History
  - Run/Debug Settings
  - Task Repository
  - Task Tags
  - Validation
  - WikiText

**Embedded SQL**

ESQL Preprocessor:

DB2

## All Directives:

- DB**
- FORMAT
- QUALIFIER
- PASS

Add...

Remove

## Directive Details:

Directive:

DB

Value:

EMPRE

## Description:

Specifies the name of the database that the program accesses. If DB is specified without a parameter, the database specified in the environment variable DB2DBDFT is used.

**Asistentes de conexión y configuración del acceso a base de datos**

Restore Defaults

Apply

OK

Cancel



# Desarrollo Remoto para UNIX



## Desarrolladores



The screenshot shows the Eclipse IDE interface with a COBOL project named "BookApp". The code editor displays a COBOL procedure division with various sections like "procedure division", "main section", and "when read-record". The terminal window below shows the build process, which failed due to a linker error: "LINK : fatal error LNK1104: cannot open file 'booktest.exe'".



## Servidor Unix

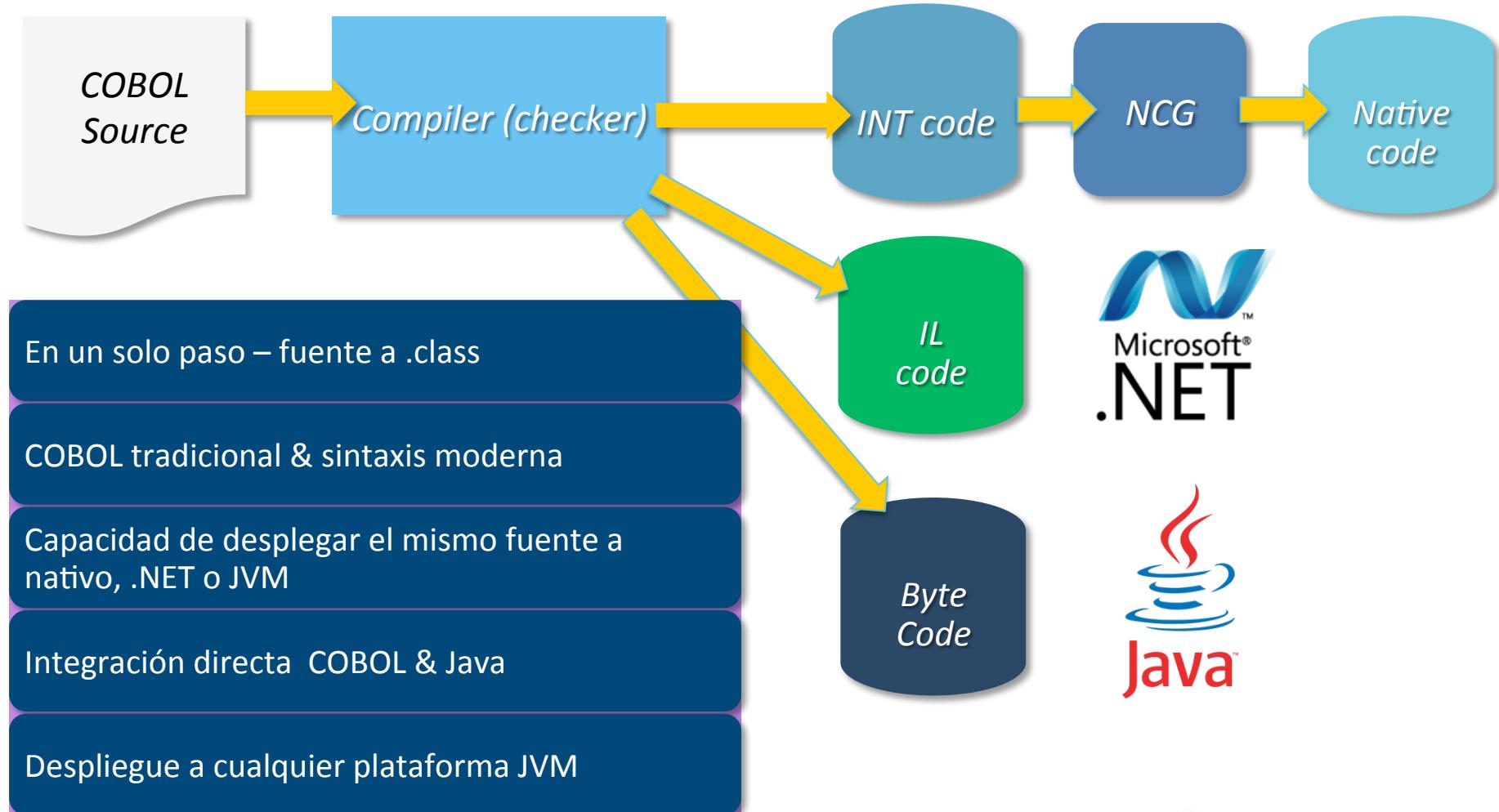


Build  
Debug  
Test

- ✓ Código fuente
- ✓ Datos Pruebas
- ✓ 3rd Party Apps
- ✓ Build
- ✓ Debug



# COBOL JVM – Completa las opciones de Despliegue



# Múltiples Posibilidades de Despliegue



Windows

UNIX / Linux

.NET

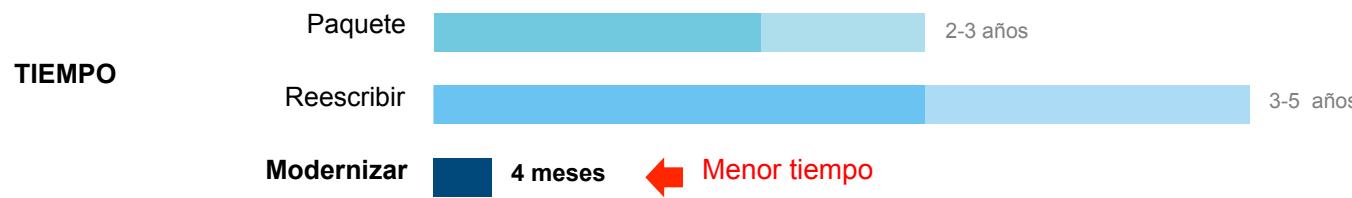
JVM

Cloud

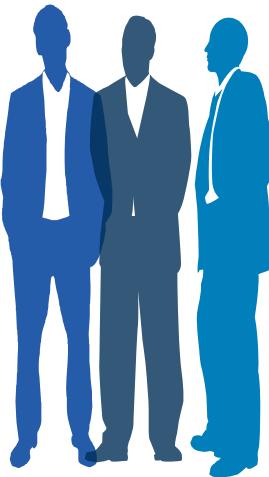
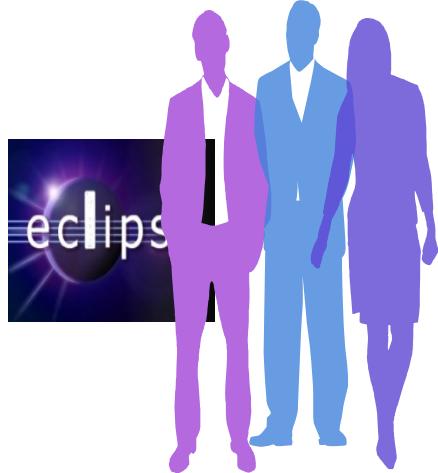
Despliegue de Aplicaciones



# Modernización: La Mejor Opción



# Los Mejores Resultados con Visual COBOL



## Ventajas

- Regeneración de las competencias de los programadores
- La productividad de los desarrolladores mejora en un 40%
- Mejora la calidad de las aplicaciones
- Llega a nuevos mercados y públicos

## Capacidad

- El entorno unificado de Visual Studio o Eclipse ayuda al desarrollo cruzado y a actualizar las competencias profesionales de forma eficaz
- El entorno de desarrollo líder del sector
- La colaboración entre desarrolladores y la mejora de las pruebas compuestas permiten depurar los errores con mayor rapidez
- Los nuevos conjuntos de funciones permiten lanzar nuevas ofertas de servicios: Web, Mobility y la Nube, entre otros.

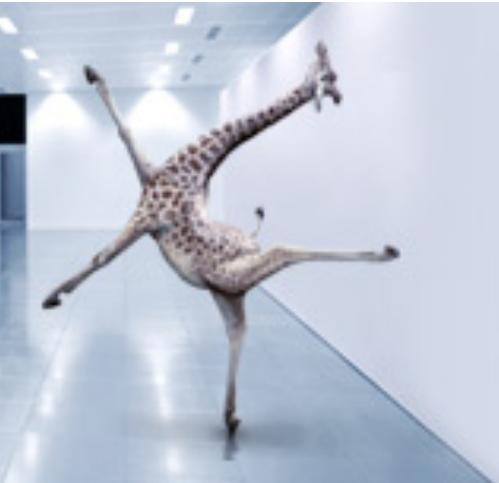


# Micro Focus Visual COBOL



## Preguntas y Respuestas

Alfredo García – [alfredo.garcia@microfocus.com](mailto:alfredo.garcia@microfocus.com)



¿Preparado para innovar?  
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