

# Kick the Old IDE Habit



## *With Code for i*

Presented by

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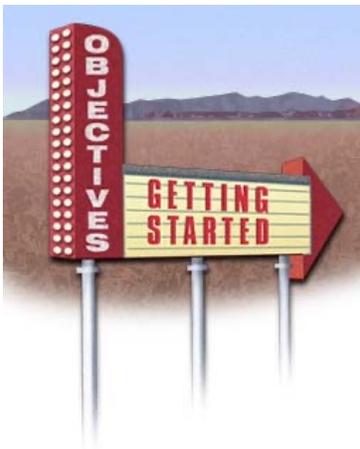
*If only Bill Gates had a nickel for every time I've had to  
reboot Windows...*

*Oh wait... he does.*

## *The Agenda*



*Agenda for this session:*



1. Why not SEU?
2. Your options.
3. Why Code for i?
4. How Tos

# Do you still use SEU?



- IBM stopped adding new RPG features in *March 2008!!*
- Hurts productivity.
- Scares off new / young talent.
- SEU is simply no longer viable.
  
- Excuses:
  - I don't have time to learn RDi! (Yes you do, it'll save you time!)
  - Boss won't pay for RDi (Then use MiWorkplace or VS Code)
  - I'm a consultant – I can't get clients to pay for RDi licensing.
  - *VS Code is free – no excuses!*

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# Options



- SEU/PDM – Quick and easy. No support for new features after March 2008.
- Code/400 – discontinued long ago.
- WDSC – discontinued long ago
- RDi – based on Eclipse, joint development by IBM and Fortra.
- MiWorkplace – Remain software
- VSCode – Purely open source (though IBM developers are working on it.)

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# *RDi*



- Based on open source Eclipse platform
- But has proprietary IBM add ons
- The developers struggle to keep it up-to-date with the OSS Eclipse.

My opinion:

- Still buggy, even after all these years
- Does not respond well
- Difficult to learn
- Looks/feels dated.
- Although it supports many languages and environments, they aren't the same feel, and most of the people in those environments don't use RDi or eclipse for day-to-date work.

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# *RDi*



Common complaints:

- Expensive; Boss won't pay.
- People who work with/support many clients struggle to get reasonable licensing.
- Co-workers won't jump on the bandwagon because of the high-learning curve.
- Complicated to set up secure remote access without a VPN
- Finding the right spot for configuration, et al, is difficult.
- The way it downloads code, member lists, etc can be very slow.

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# MiWorkplace



## MiWorkplace

- Sells for a lower price than RDi
- Provides the same features as RDi
- Also based on Eclipse
- Has full commercial support from Remain Software

My exposure and expertise with MiWorkplace is limited. Please see Remain Software's booth for details on this product.

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# VS Code

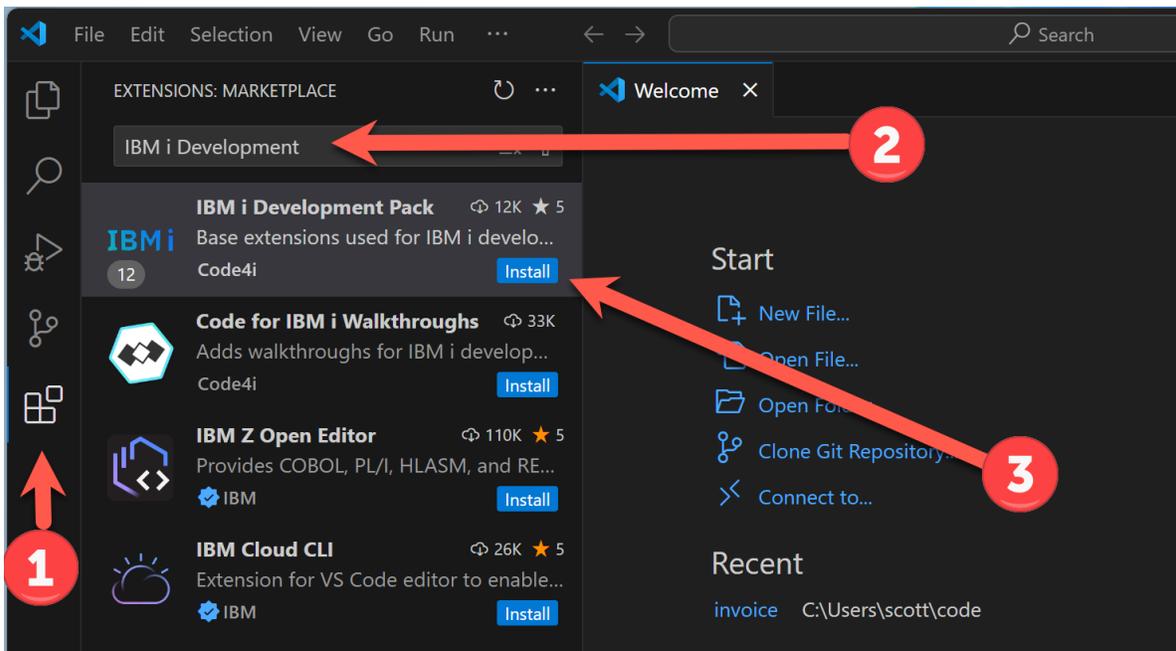
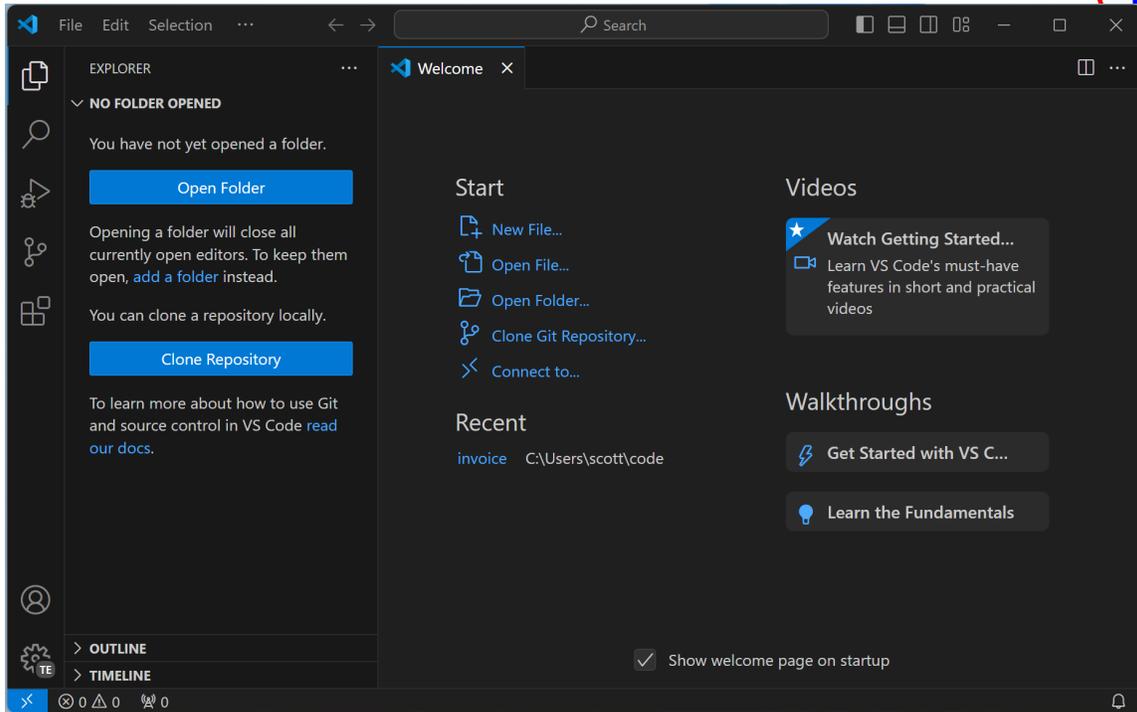


## Visual Studio Code

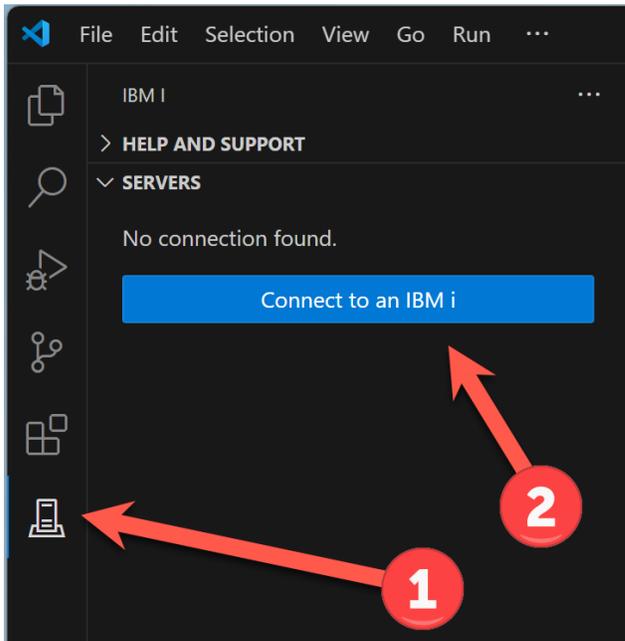
- Open Source project hosted by Microsoft
- Supports virtually all programming languages
- Supports visually all platforms (runs on Windows, MacOS, Linux, and many more.)
- According to surveys by Stack Overflow 74 % of coders use VS Code, making it (by far) the #1 IDE.
  
- The IBM i Development Pack extension provides support for IBM i
- There are oodles of other extensions for other things

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# VS Code



1. Click the "Extensions" tab in the left-hand navigation
2. Search for "IBM i Development Pack"
3. Click "Install"



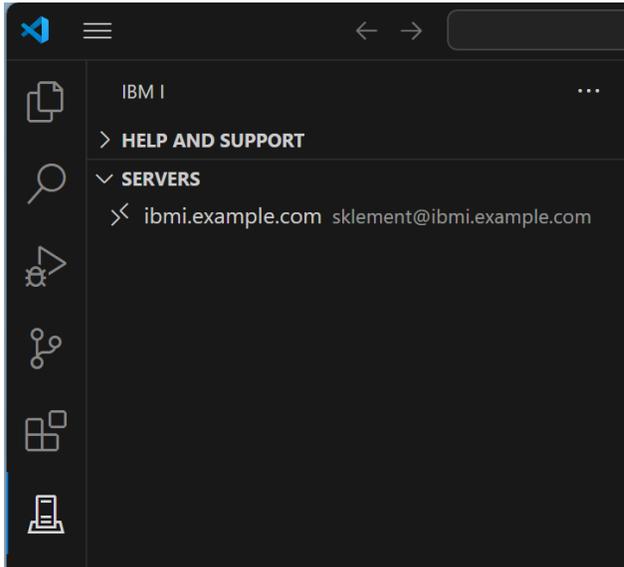
1. After it has installed, you'll have a new "IBM i" icon on the left-hand side. Click it to set up a connection.
2. Click "Connect to an IBM i"

NOTE: Once you have set up a connection, you won't have the blue "connect" button. But you can add more by mousing over the "servers" (title) and clicking +

A screenshot of the 'IBM i Login' dialog box. It has two tabs: 'Connection' and 'Temporary data'. Under the 'Connection' tab, there are four input fields: 'Connection Name' (containing 'ibmi.example.com'), 'Host or IP Address' (containing 'ibmi.example.com'), 'Port (SSH)' (containing '22'), and 'Username' (containing 'sklement').A screenshot of the authentication options dialog box. It contains the text 'Only provide either the password or a private key - not both.' Below this are two sections: 'Password' with a text input field containing dots, and 'Private Key' with a 'Choose File' button and the text 'No file chosen'. At the bottom are 'Connect' and 'Save & Exit' buttons.

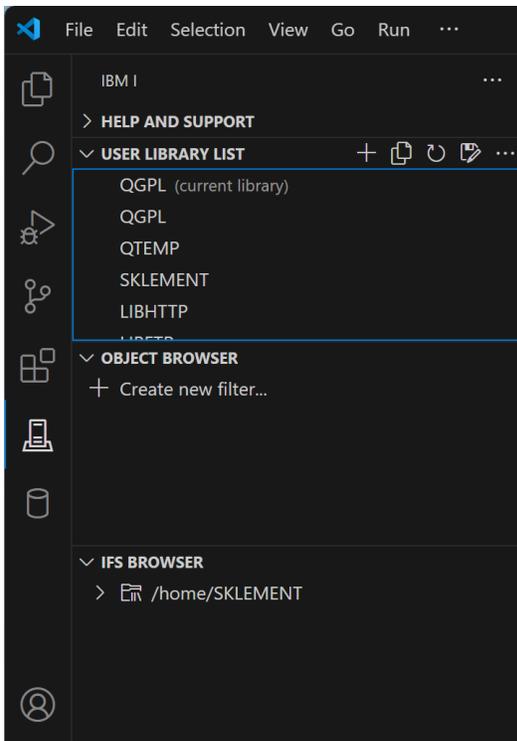
The "Code for i" extension uses the industry standard SSH protocol to connect to IBM i. It is encrypted and is very secure. Fill in the details for your IBM i system and click "Save and Exit"

# Connect to Your Server



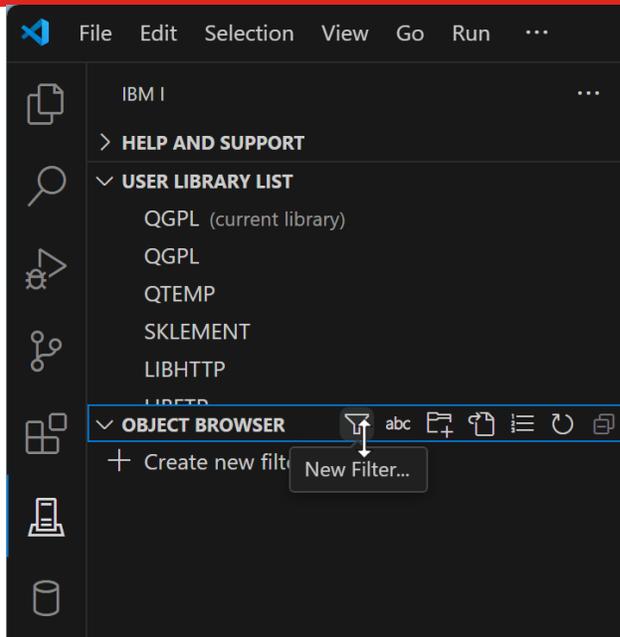
Click the server you just added to connect to it.

# Browsing Objects / Files



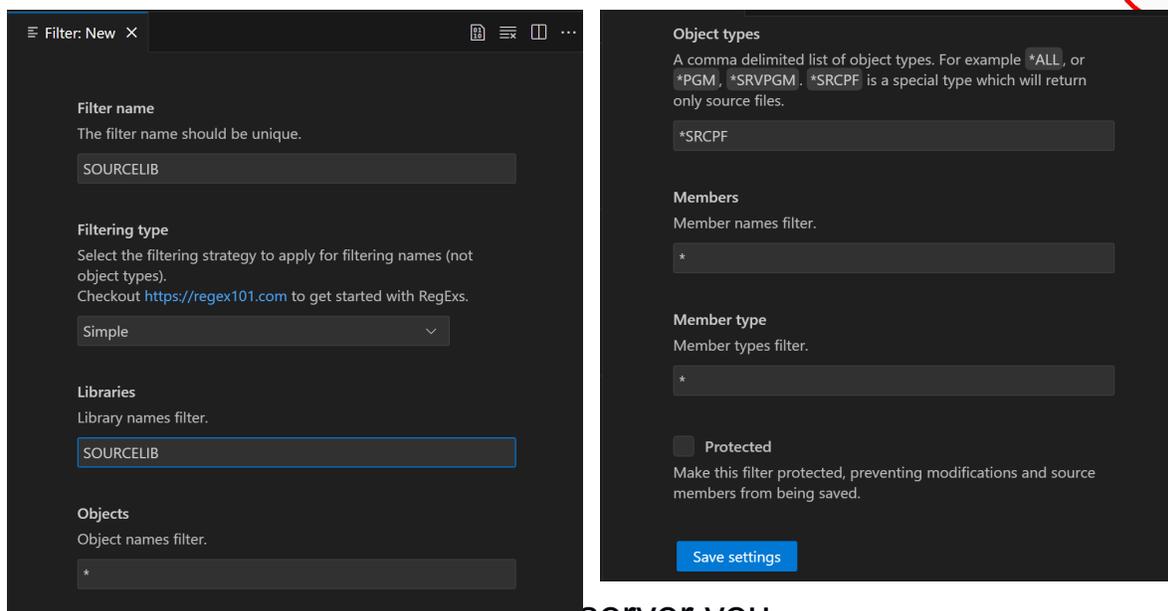
Click the server you just added to connect to it.

# Browsing Objects / Files



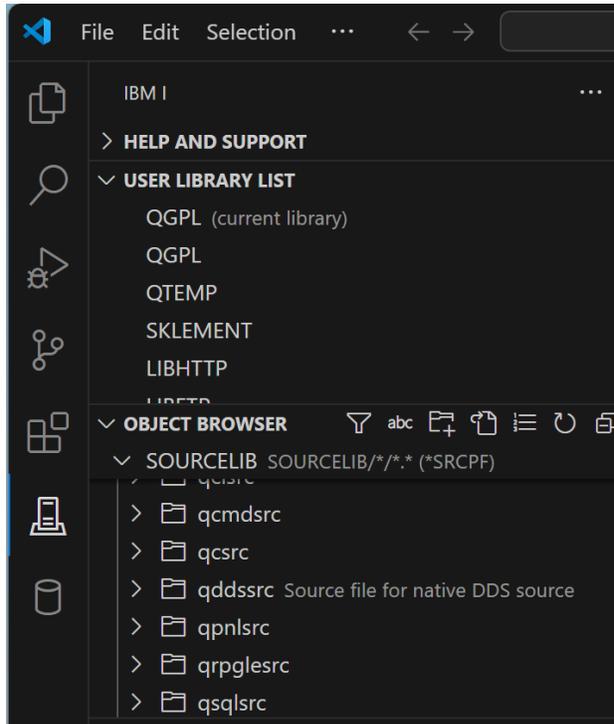
Click the server you just added to connect to it.

# Create an Object Filter



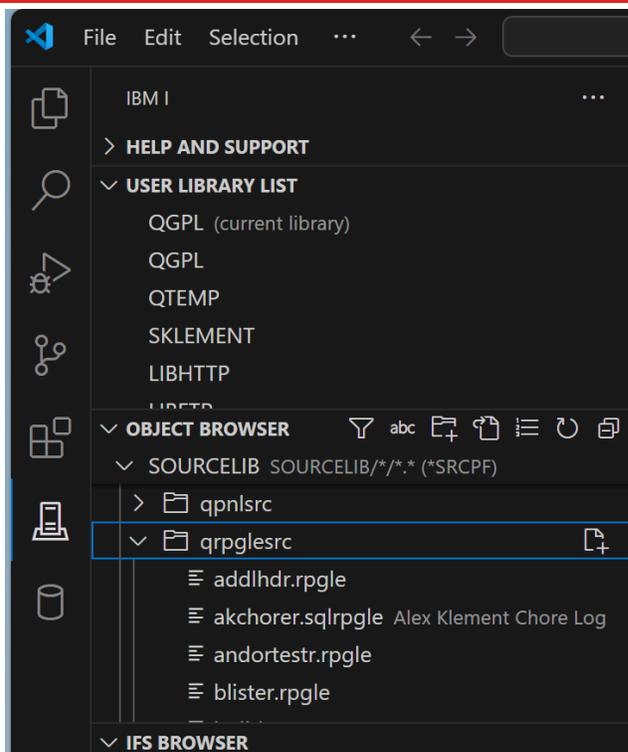
Click the server you just added to connect to it.

# Object Filter Result



Now you have a list of the \*SRCPF objects in library SOURCELIB.

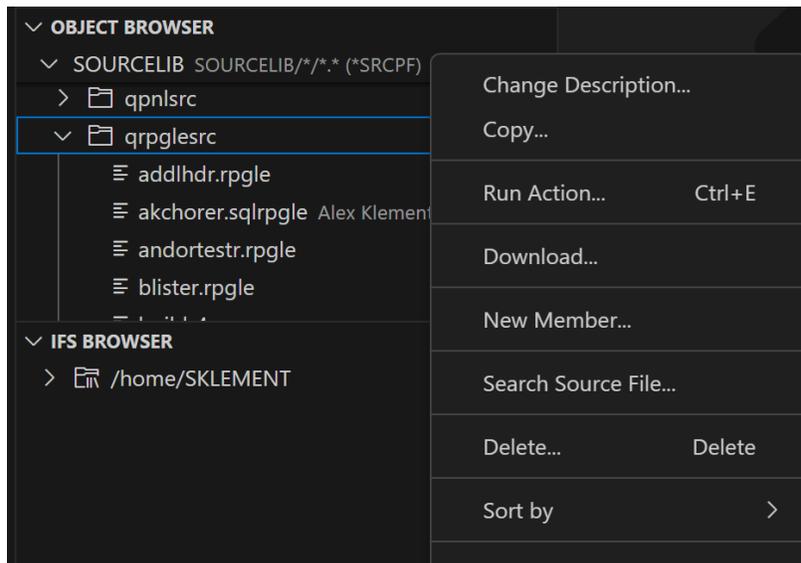
# Object Filter Result



You can expand individual files to see the members.

And click on members to open them.

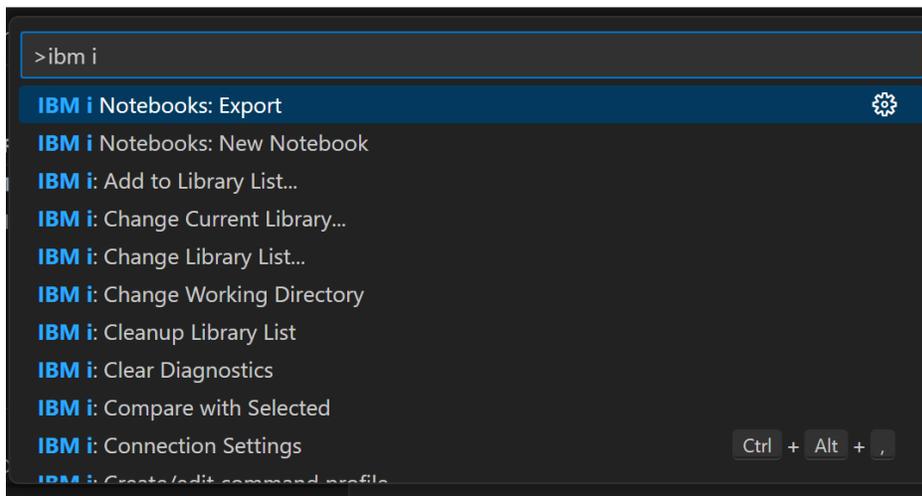
# Right-click menu



There's also a right-click menu with loads of options, depending on what you right-clicked on.

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# Top Bar Search Menu



For a lot of developers, it's easier to just type what you want to do. Or search to find the function you want. To do that, just press F1.

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# Click a Member (or IFS file) to Open



```
ADDLHDR.RPGLE X
SOURCELIB > QRPGLSRC > ADDLHDR.RPGLE > ...
1  **Free
2
3  ctl-opt dftactgrp(*no) bnddir('HTTAPI');
4
5  /copy httpapi_h
6
7  dcl-s rc int(10);
8  dcl-s response varchar(50000:4);
9  dcl-s SOAP      varchar(10000:4);
10
11
12 // This will create a log in the IFS containing information
```

Notice that it does a really nice job of colorizing the RPG code (or any other supported language) to make it easier to read.

# Opening Multiple Members



```
ADDLHDR.RPGLE X  AKCHORER.SQLRPGLE  ANDORTESTR.RPGLE
SOURCELIB > QRPGLSRC > ADDLHDR.RPGLE > ...
20 // Headers to the request.
21
22 http_xproc( HTTP_POINT_ADDL_HEADER: %paddr(AddHeaders)); The prototype
23
24
25 // Set up the SoapAction header
26
27 http_setOption('SoapAction': 'http://tempuri.org/IDMS/GetDoc'); The
28
29
30 // Build the SOAP message
31
32 SOAP = '<?xml version="1.0"?>'
33       + '<soap:Envelope '
34       + ' xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">'
35       + '<soap:Header/>'
```

You can open as many members/files as you like, each will open in a tab.

You can drag the tabs around to arrange them as works best for you.

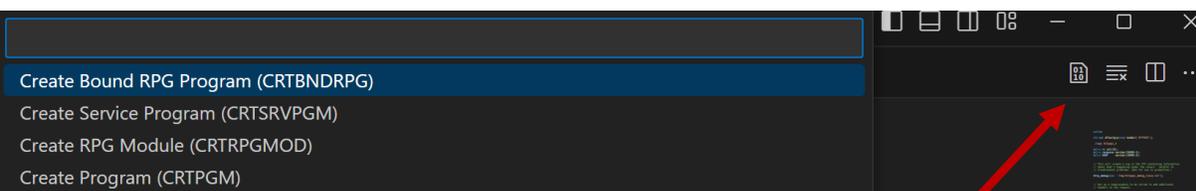
# Mini-Code



```
ADDLHDR.RPGLE X
SOURCELIB > QRPGLSRC > ADDLHDR.RPGLE > ...
1  **free
2
3  ctl-opt dftactgrp(*no) bnddir('HTTPAPI');
4
5  /copy httpapi_h
6
7  dcl-s rc int(10);
8  dcl-s response varchar(50000:4);
9  dcl-s SOAP      varchar(10000:4);
10
11
12 // This will create a log in the IFS containing information
```

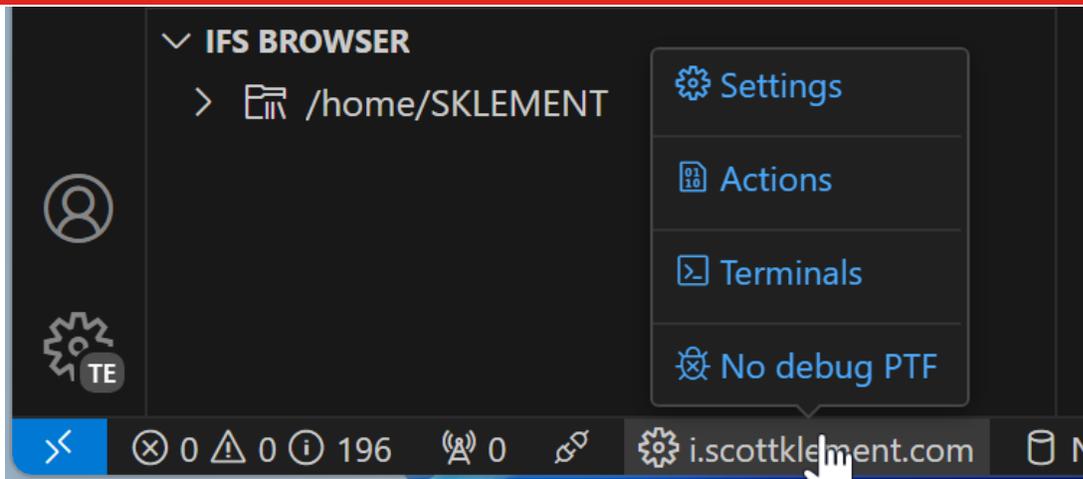
Also notice the miniature version of your source on the right – this helps you see where you are in your program code

# Compiling Your Code



In the corner of your source code is an "action" button (10101) that can be used to run an action. There are default actions included for compiling

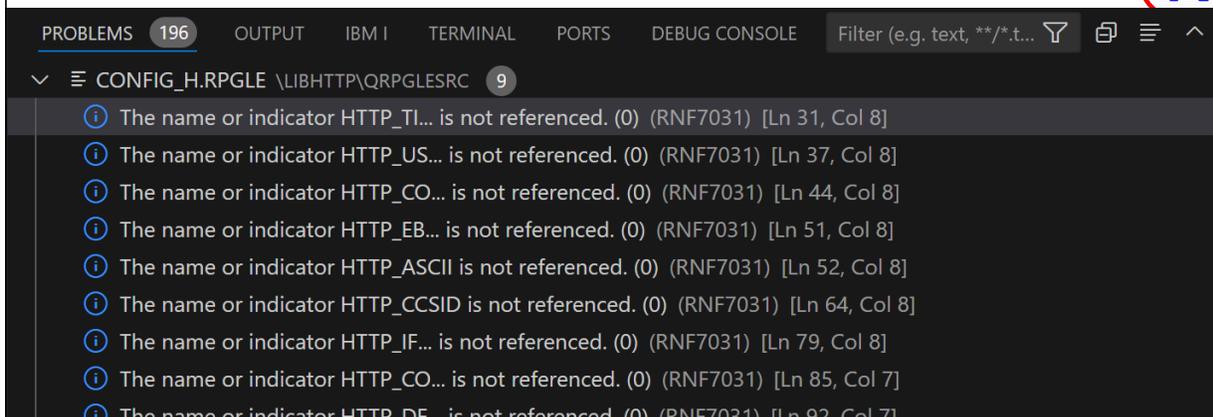
# Customizing Actions



You can click the hostname in the footer bar to access a menu where you can click "actions" to create custom actions or modify the existing ones.

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# Compile Results



If you run a compile action it will list any errors (or warnings, etc) that are found in your code in a "Problems" tab.

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# Compile Results

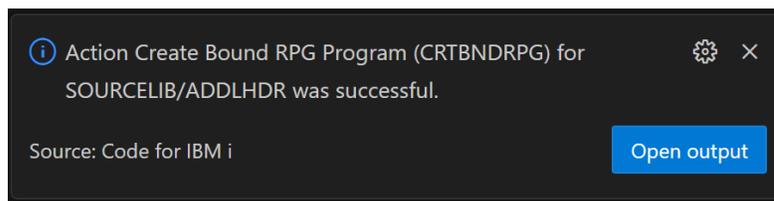


```
PROBLEMS 196 OUTPUT TERMINAL ... Create Bound RPG Program (CRTBNDRPG) + v [ ] [ ] ... ^ x

Records . . . . . : 3059
Specifications . . . . . : 799
Data records . . . . . : 0
Comments . . . . . : 1929
***** END OF FINAL SUMMARY *****
Program ADDLHDR placed in library SOURCELIB. 00 highest severity. Created on 05/21/24 at 0
1:39:51.
***** END OF COMPILATION *****

Fetching errors for SOURCELIB/ADDLHDR.
```

You can also see the compile listing (or as much as will fit) in the "Terminal" tab. If you want the full output, click "Open output" in the success/fail message



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# Diagnostic Messages In Code

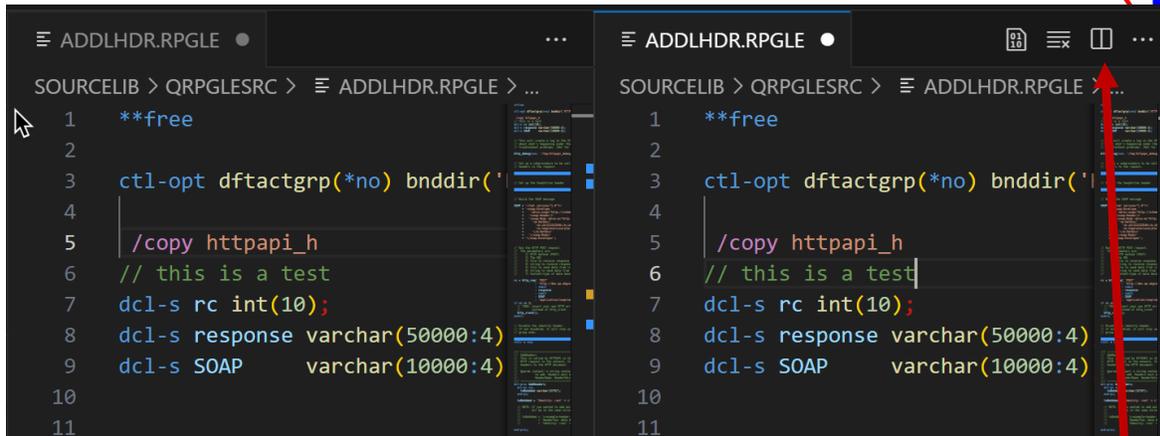


```
ADDLHDR.RPGLE
SOURCELIB > QRPGLSRC > ADDLHDR.RPGLE > ...
20 // headers to the request.
21
22 http_xproc( HTTP_POINT_ADDL_HEADER: %paddr(AddHeaders)); The prototype
23
24
25 // Set up the SoapAction header
26
27 http_setOption('SoapAction': "http://tempuri.org/IDMS/GetDoc"); The
28
29
30 // Build the SOAP message
31
32 SOAP = '<?xml version="1.0"?>'
33 + '<soap:Envelope '
34 + 'xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">'
```

It will put diagnostic messages (errors/warnings) in your code window. This can be helpful at times, at other times they get in the way. Click the "Clear Diagnostics" button to remove them.

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# Splitting the Editor



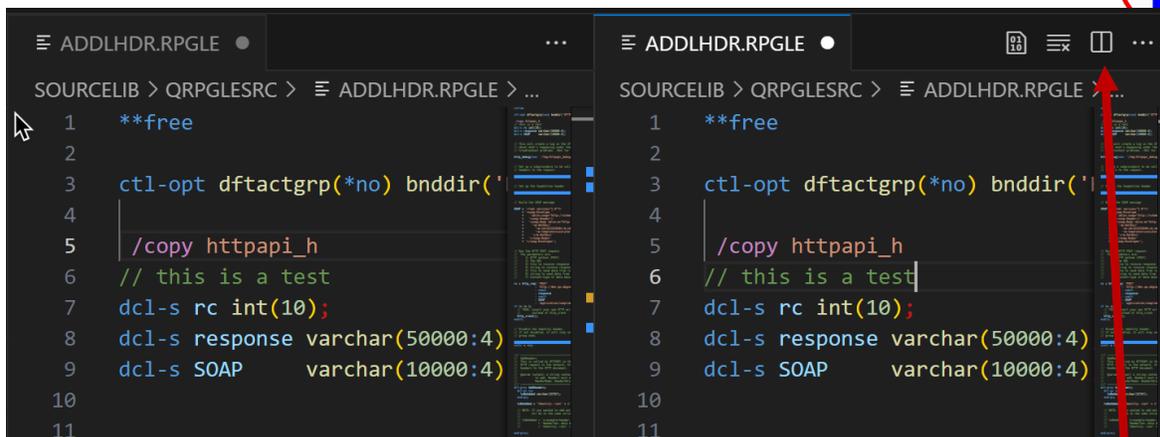
Another useful button in the corner is for splitting the source window so that you have two copies side-by-side. (Or you can drag them around to different places).

Any change made will be changed in both copies.

Useful to prevent the need to flip between multiple parts of the program.

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# Splitting the Editor



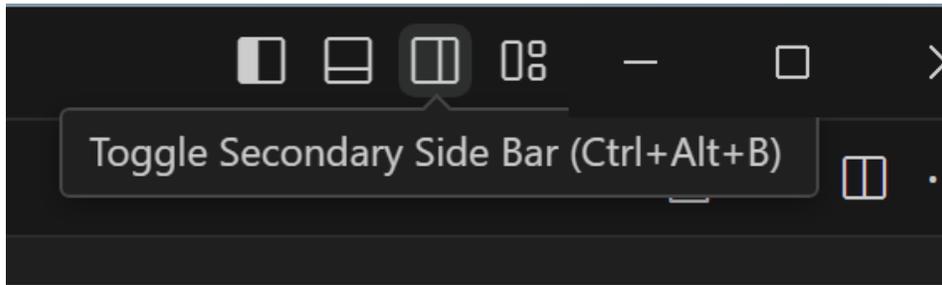
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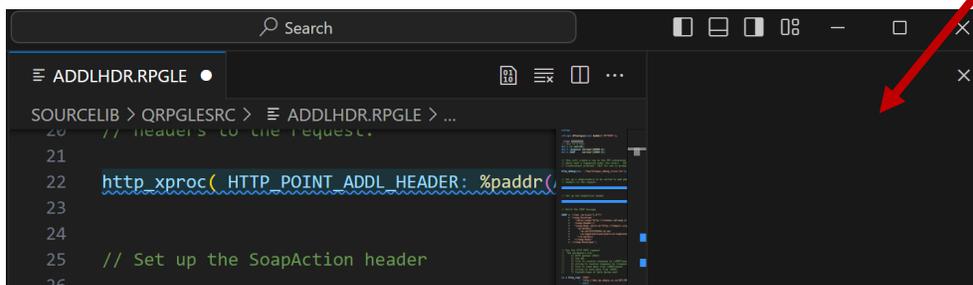
Useful to prevent the need to flip between multiple parts of the program.

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# Changing Layout/Side Bar



It opens an empty side bar on the right that you can drag any view into

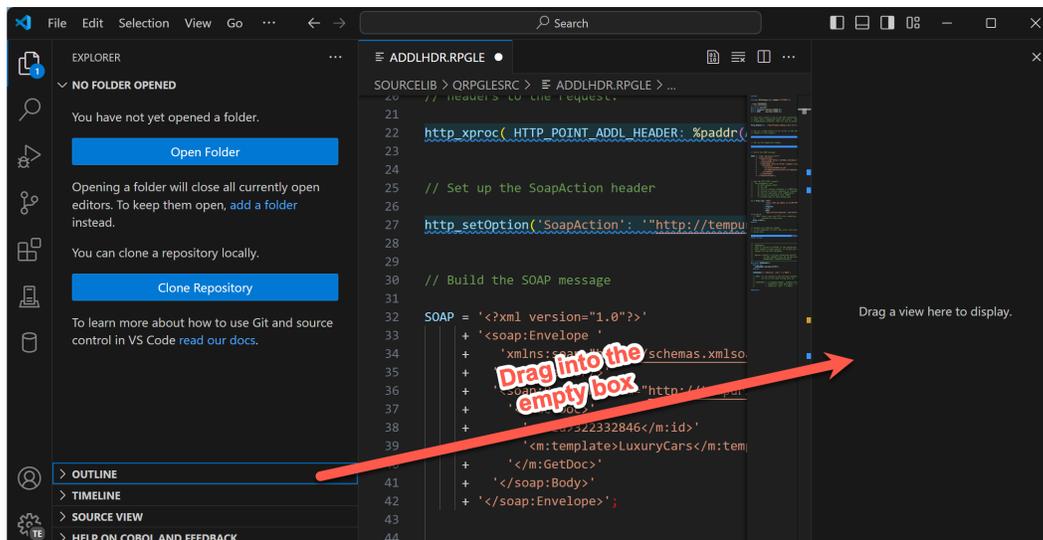


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# Changing Layout/Side Bar



For example, you might want to use the side bar for the outline view. To do that, click on the explorer tab and drag the outline into the side bar



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# Outline View in the Sidebar Result



Now when you switch back to other views (or close the left bar) you'll still see the outline view on the right. Very useful when editing your code.

The screenshot shows the Visual Studio Code interface. The main editor displays a C# code file named 'ADDLHDR.RPGLE'. The code includes comments and function calls like 'http\_xproc' and 'http\_setOption'. The right sidebar shows the 'Outline' view, which lists variables and their types: 'rc INT(10)', 'response VARCHAR(5000:4)', 'SOAP VARCHAR(10000:4)', 'AddHeaders', and 'toBeAdded VARCHAR(32767)'. The 'AddHeaders' item is expanded, showing its definition.

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# Just the Beginning



This is only scratching the surface of all of the features in VS Code. (But hopefully helps you get started.)

It is very very powerful.

Feels elegant and responds nicely.

Is very secure.

And it's free.

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# *This Presentation*



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<http://www.scottklement.com/presentations/>

# Thank you!