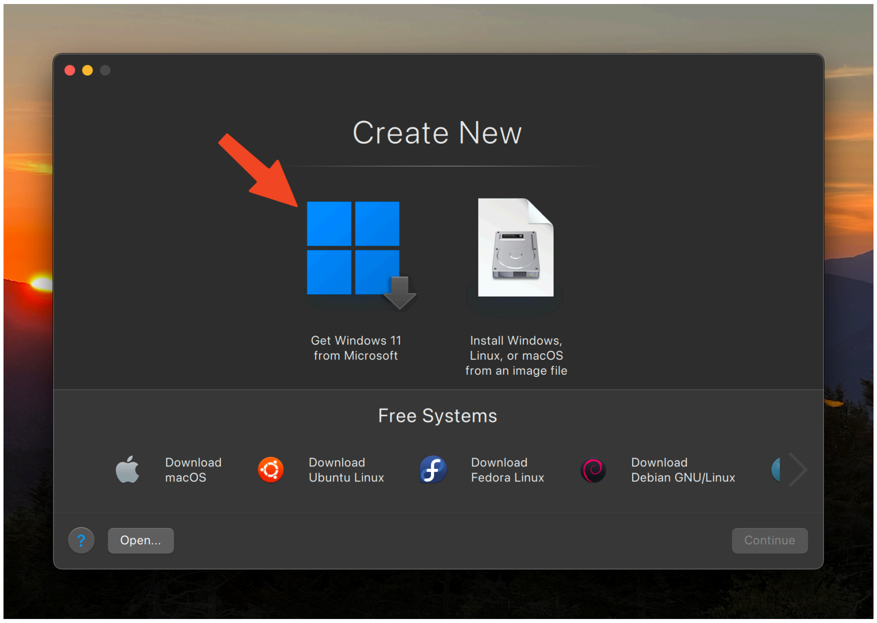
Using CodeWarrior 11.1 with an M-Series Mac

CodeWarrior is an x86 application, but it's possible to run on a Mac with an M-series processor (also known as Apple Silicon) using a virtual machine and the emulation layer built into Windows 11 for ARM. The IDE will run and build your project, but you will not be able to directly load your program onto the board. Instead, you'll run the JLink Remote Server on your Mac, and the IDE will connect to it. In order to do this, you'll need either the JLink EDU or JLink Mini EDU off-chip debugger. You will not be able to use the OSBDM/PE Micro interface, as there are currently no ARM drivers available.

1. Install Parallels on your Mac, and use its helper to Install Windows 11 for ARM


Create New
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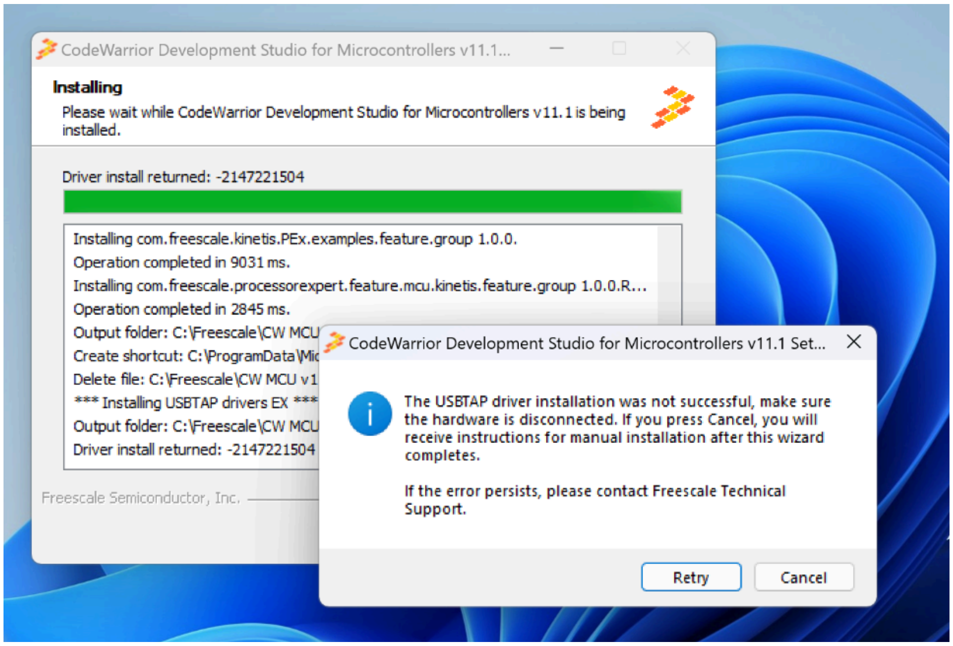
2. Download and install **on your Mac** the J-Link software for Mac ARM64
https://www.segger.com/downloads/jlink/#J-LinkSoftwareAndDocumentationPack

DO NOT INSTALL THE J-LINK SOFTWARE ON YOUR WINDOWS VIRTUAL MACHINE.

3. Download the CodeWarrior software version as indicated on the course web site, and run the installer on your Windows 11 for ARM VM.

Important: because x86 drivers will NOT work on an ARM system, the installer will give you an error about being unable to install the USBTAP drivers. Click "Cancel," and the install **will** complete. You do not need the USBTAP drivers to use CodeWarrior in this class.



CodeWarrior Development Studio for Microcontrollers v11.1...

Installing

Please wait while CodeWarrior Development Studio for Microcontrollers v11.1 is being installed.

Driver install returned: -2147221504

```
Installing com.freescale.kinetis.PEx.examples.feature.group 1.0.0.
Operation completed in 9031 ms.
Installing com.freescale.processorexpert.feature.mcu.kinetis.feature.group 1.0.0.R...
Operation completed in 2845 ms.
Output folder: C:\Freescale\CW MCU
Create shortcut: C:\ProgramData\Mic
Delete file: C:\Freescale\CW MCU v1
*** Installing USBTAP drivers EX ***
Output folder: C:\Freescale\CW MCU
Driver install returned: -2147221504
```

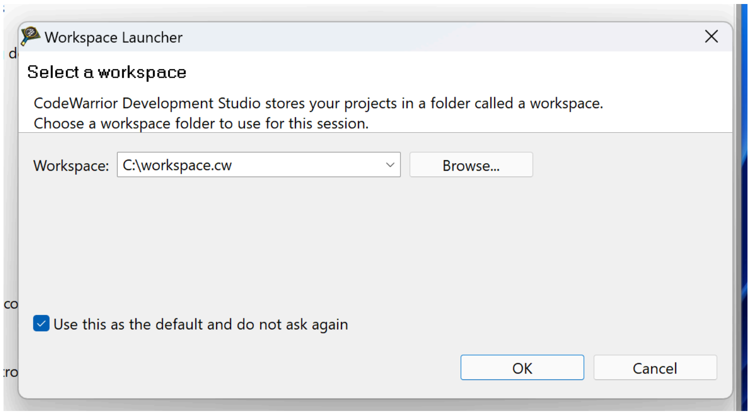
Freescale Semiconductor, Inc.

CodeWarrior Development Studio for Microcontrollers v11.1 Set...

The USBTAP driver installation was not successful, make sure the hardware is disconnected. If you press Cancel, you will receive instructions for manual installation after this wizard completes.

If the error persists, please contact Freescale Technical Support.

4. When opening CodeWarrior for the first time, you **must** change the workspace to a new folder, such as c:\workspace.cw. Parallels hosts user home directories on your Mac and uses a network share to make it available to Windows. Some of the toolchain doesn't understand these UNC paths. You can also turn this feature off in Parallels, but it is useful to be able to share files between your Mac and Windows environments.



Workspace Launcher

Select a workspace

CodeWarrior Development Studio stores your projects in a folder called a workspace.
Choose a workspace folder to use for this session.

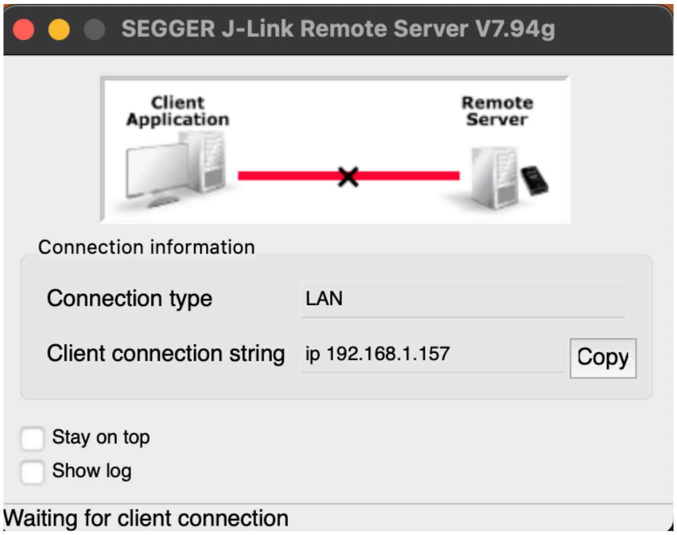
Workspace: C:\workspace.cw

☑ Use this as the default and do not ask again

5. On the course web site, follow the instructions in the document linked from "Follow these directions on how to build a new project using CodeWarrior."

6. When you're ready to run a project on your board, connect the JLink USB device. Parallels may prompt you to ask where to connect the device, **connect it to your Mac**!

7. Launch the JLink Remote Server on your Mac, and make note of the reported IP (below it's 192.168.1.157):



SEGGER J-Link Remote Server V7.94g

Connection information

Connection type: LAN

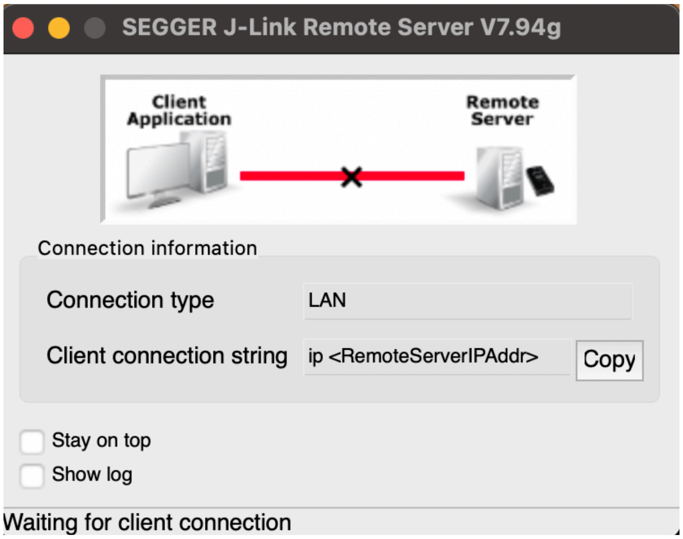
Client connection string ip 192.168.1.157

□ Stay on top

□ Show log

Waiting for client connection

If your J-Link Remote Server application doesn't show an IP address, like the below:



SEGGER J-Link Remote Server V7.94g

Connection information

Connection type: LAN

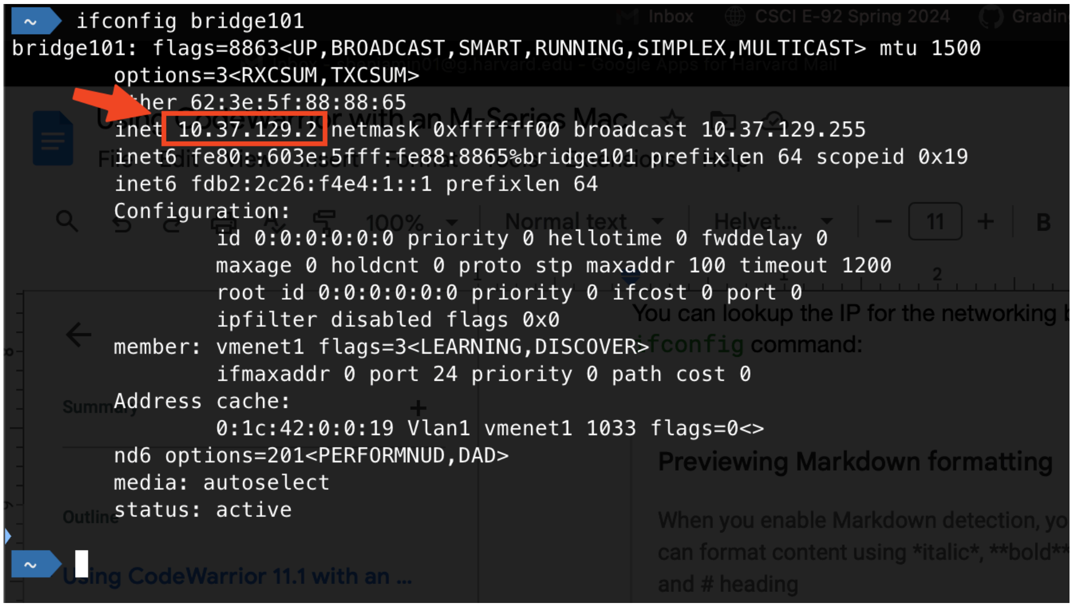
Client connection string ip <RemoteServerIPAddr>

□ Stay on top

□ Show log

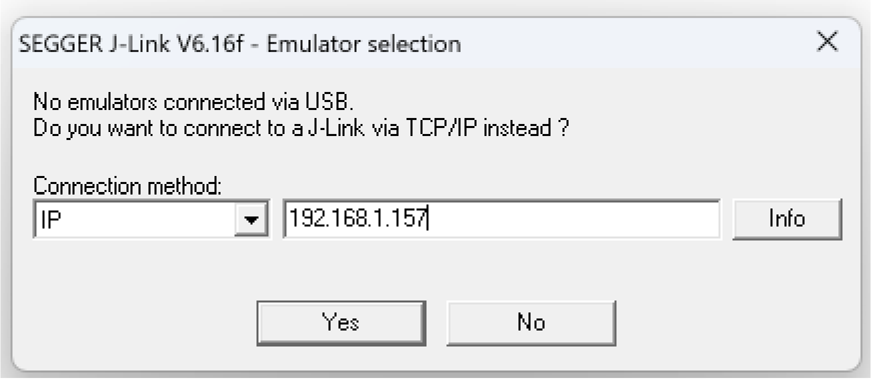
Waiting for client connection

You can lookup the IP for the networking bridge that Parallels uses on your Mac, by using the `ifconfig` command from a terminal window **on your Mac**:



```
~ ifconfig bridge101
bridge101: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
        options=3<RXCSUM,TXCSUM>
        ether 62:3e:5f:88:88:65
        inet 10.37.129.2 netmask 0xffffff00 broadcast 10.37.129.255
        inet6 fe80::603e:5fff:fe88:8865%bridge101 prefixlen 64 scopeid 0x19
        inet6 fdb2:2c26:f4e4:1::1 prefixlen 64
        Configuration:
                id 0:0:0:0:0:0 priority 0 hellotime 0 fwddelay 0
                maxage 0 holdcnt 0 proto stp maxaddr 100 timeout 1200
                root id 0:0:0:0:0:0 priority 0 ifcost 0 port 0
                ipfilter disabled flags 0x0
        member: vmenet1 flags=3<LEARNING,DISCOVER>
                ifmaxaddr 0 port 24 priority 0 path cost 0
        Address cache:
                0:1c:42:0:0:19 Vlan1 vmenet1 1033 flags=0<>
        nd6 options=201<PERFORMNUD,DAD>
        media: autoselect
        status: active
~
```

8. In CodeWarrior, launch the “RAM Segger J-Link Trace” debugger. It will inform you that there is no J-Link USB device connected, and offer an IP connection instead. Enter the IP shown by the Remote Server from step 7.

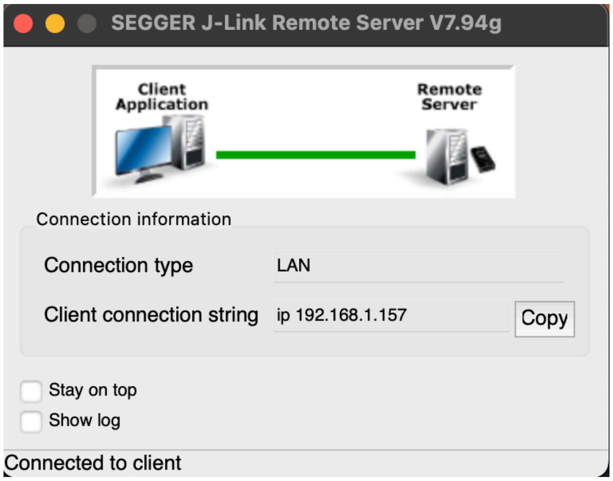


SEGGER J-Link V6.16f - Emulator selection

No emulators connected via USB.
Do you want to connect to a J-Link via TCP/IP instead ?

Connection method: IP 192.168.1.157

The Remote Server window will turn green:



SEGGER J-Link Remote Server V7.94g

Connection information

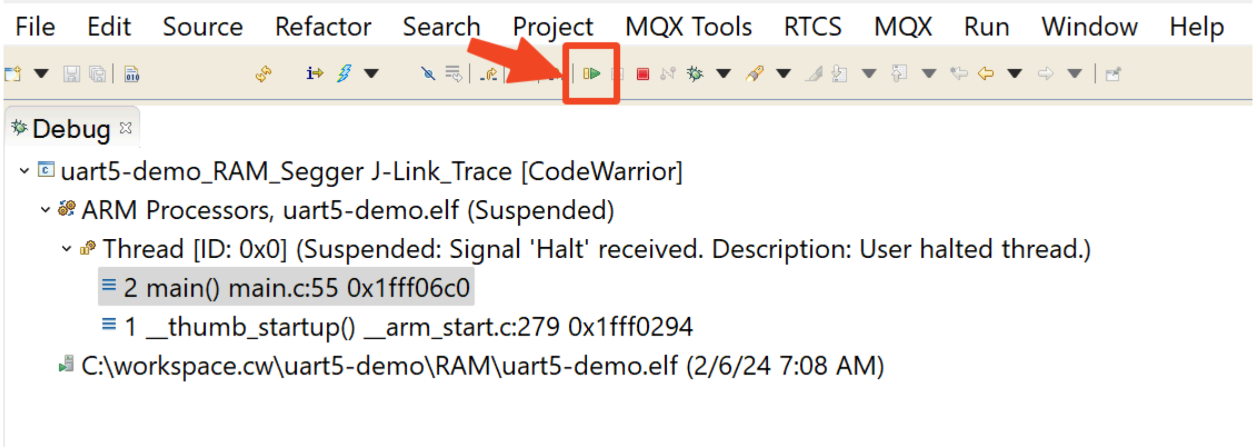
Connection type LAN

Client connection string ip 192.168.1.157

□ Stay on top
□ Show log

Connected to client

The debugger will connect, and you'll be able to run your application by clicking the green triangle "play" button in the toolbar.



uart5-demo_RAM_Segger J-Link_Trace [CodeWarrior]

ARM Processors, uart5-demo.elf (Suspended)

Thread [ID: 0x0] (Suspended: Signal 'Halt' received. Description: User halted thread.)

2 main() main.c:55 0x1fff06c0

1 __thumb_startup() __arm_start.c:279 0x1fff0294

C:\workspace.cw\uart5-demo\RAM\uart5-demo.elf (2/6/24 7:08 AM)