A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green. They are positioned diagonally, with the blue one partially covering the green one.

Programming Techniques COSC1284/2050

Tutorial 1



About Myself

- My name is Justin Perrie
- Point of Contact: **On the discussion board**
- Currently studying a PhD (On leave) in Computer Science at RMIT
- Studied at RMIT and Curtin Universities
- Starting teaching at Code Camp, second year teaching, but my second time teaching PT.
- Worked on a game called Cards of Kanji and currently working on a web RTS.



Agenda

- Housekeeping
 - PT Canvas
 - Setup your laptop for Visual Studio Code for Java Programming
- Tutorial/Lab
 - Read chapters 1 & 2 from the text book
 - Discuss the concepts with your tutor and fellow classmates
 - Complete chapter 1 - Exercises 1 - 3
 - Read the assignment specification.



Exercise 1.1

- Computer scientists have the annoying habit of using common English words to mean something other than their common English meaning. For example, in English, statements and comments are the same thing, but in programs they are different.
 1. In computer jargon, what's the difference between a statement and a comment?
 2. What does it mean to say that a program is portable?
 3. In common English, what does the word compile mean?
 4. What is an executable? Why is that word used as a noun?



Exercise 1.2

- Before you do anything else, find out how to compile and run a Java program.
- Open Visual Studio Code and create a new file.
 - Create and then open folder where you intend to store your programming work, this folder name be anything, but make it meaningful like 'Java'
 - You can save the file straight away or do it after writing the code, though would recommend saving the file as soon as possible.

1. Type in the hello world program, then compile and run it.

2. Add a print statement that displays a second message after the "Hello, World!". Say something witty like, "How are you?" Compile and run the program again.

3. Add a comment to the program (anywhere), recompile, and run it again. The new comment should not affect the result.



Exercise 1.3

- It is a good idea to commit as many errors as you can think of, so that you see what error messages the compiler produces. Sometimes the compiler tells you exactly what is wrong, and all you have to do is fix it. But sometimes the error messages are misleading. Over time you will develop a sense for when you can trust the compiler and when you have to figure things out yourself.
- Starting with the hello world program, try out each of the following errors. After you make each change, compile the program, read the error message (if there is one), and then fix the error.



Exercise 1.3 (cont.)

1. Remove one of the open curly braces.
2. Remove one of the close curly braces.
3. Instead of main, write mian.
4. Remove the word static.
5. Remove the word public.
6. Remove the word System.
7. Replace println with Println.
8. Replace println with print.
9. Delete one of the parentheses.
10. Add an extra parenthesis.

Practical Discussion



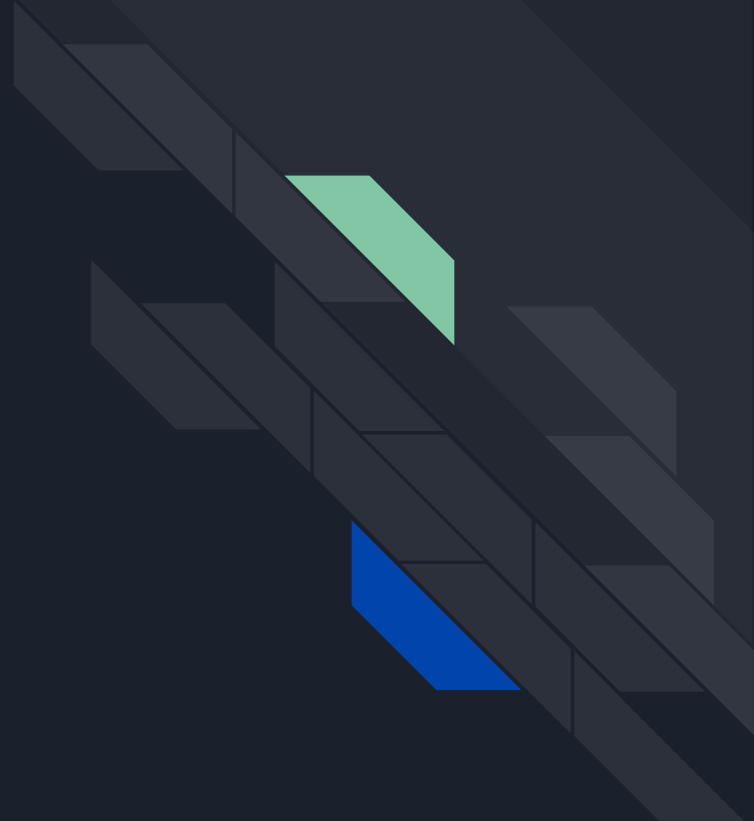


Conclusion

- Write your own example program to demonstrate the concepts you have learned.
(Must practice your craft to get good at it!)
- Read the assignment specification.
 - 21st August, 2020 (Friday) 11:59 pm AEST i.e. end of week 5

Additionally instructions
for setting up VS Code,
while online.

(Doesn't need to complete by
week 1, but should be, by the week
of assignment 1 due date.)



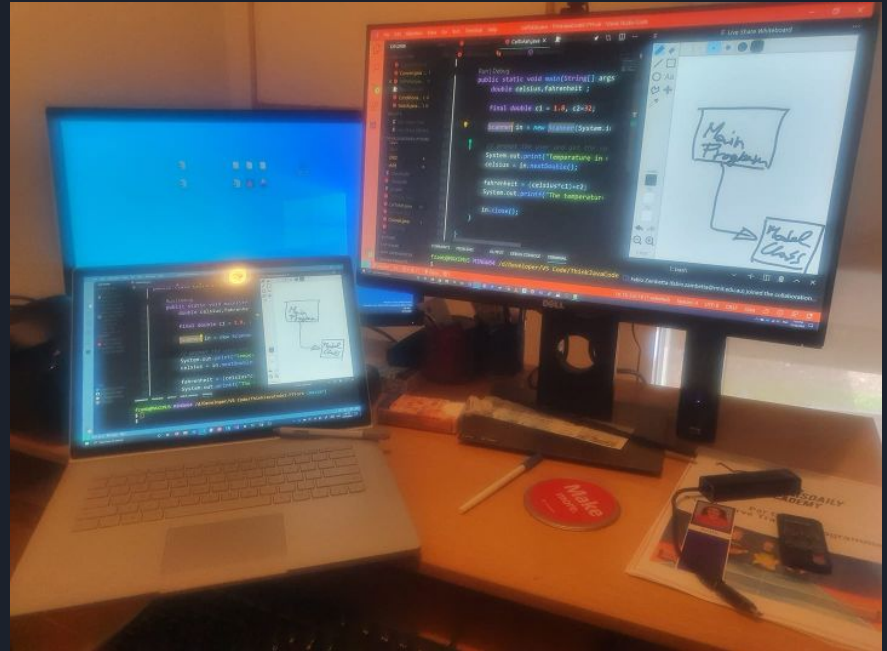


Online Instructions (VS Code)

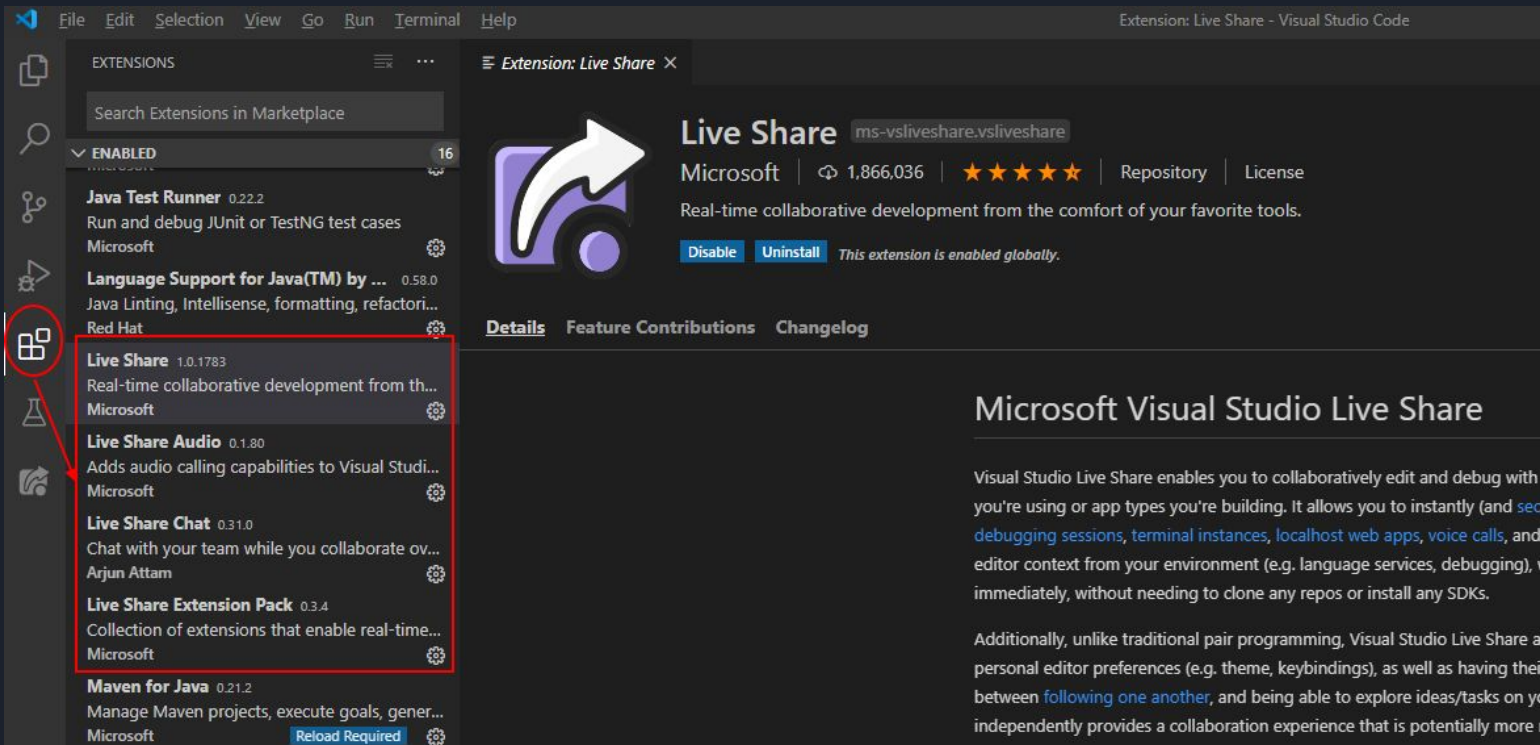
- Assistance to programming will be provided by your tutor via VS Code Live Share
 - Three extensions are needed for VS Code Online Interaction
 - Live Share
 - Live Share Audio
 - Live Share Chat
 - Can be installed via the Live Share Extension Pack or installed individually.
 - Once all extensions are installed, you must restart VS Code to get everything to work.
 - Remember, you need to open the folder where you are storing your code, this true for Live Share too.

Other Useful Extensions for VS Code

- Peacock: Subtly change the color of your Visual Studio Code workspace, comes with Live Share Extension Pack.
- Live Share Whiteboard: All participants can collaboratively draw on the whiteboard, and see each others changes in real-time, installed as separate extension.



VS Code Live Share Extensions



The screenshot shows the Visual Studio Code interface. On the left, the 'EXTENSIONS' sidebar is open, displaying a list of installed and available extensions. A red rectangular box highlights a group of extensions: 'Live Share' (1.0.1783), 'Live Share Audio' (0.1.80), 'Live Share Chat' (0.31.0), and 'Live Share Extension Pack' (0.3.4). A red circle highlights the 'Extensions' icon in the sidebar, with a red arrow pointing from it to the highlighted group of extensions. The main editor area displays the details for the 'Live Share' extension by Microsoft. The extension is marked as 'ENABLED' and 'This extension is enabled globally'. The details page includes tabs for 'Details', 'Feature Contributions', and 'Changelog'. The 'Details' tab is active, showing the extension's icon, name, publisher, version, and a description: 'Real-time collaborative development from the comfort of your favorite tools.' Below the description, there are buttons for 'Disable' and 'Uninstall'. The right sidebar contains the text 'Microsoft Visual Studio Live Share' and a paragraph describing the extension's capabilities: 'Visual Studio Live Share enables you to collaboratively edit and debug with... you're using or app types you're building. It allows you to instantly (and [see debugging sessions](#), [terminal instances](#), [localhost web apps](#), [voice calls](#), and editor context from your environment (e.g. language services, debugging), v immediately, without needing to clone any repos or install any SDKs. Additionally, unlike traditional pair programming, Visual Studio Live Share al personal editor preferences (e.g. theme, keybindings), as well as having their between [following one another](#), and being able to explore ideas/tasks on yc independently provides a collaboration experience that is potentially more r

Extension: Live Share - Visual Studio Code

EXTENSIONS

Search Extensions in Marketplace

ENABLED 16

Live Share 1.0.1783
Real-time collaborative development from th...
Microsoft

Live Share Audio 0.1.80
Adds audio calling capabilities to Visual Studi...
Microsoft

Live Share Chat 0.31.0
Chat with your team while you collaborate ov...
Arjun Attam

Live Share Extension Pack 0.3.4
Collection of extensions that enable real-time...
Microsoft

Live Share ms-vsliveshare.vsliveshare
Microsoft | 1,866,036 | ★★★★★ | Repository | License
Real-time collaborative development from the comfort of your favorite tools.
Disable Uninstall This extension is enabled globally.

Details Feature Contributions Changelog

Microsoft Visual Studio Live Share

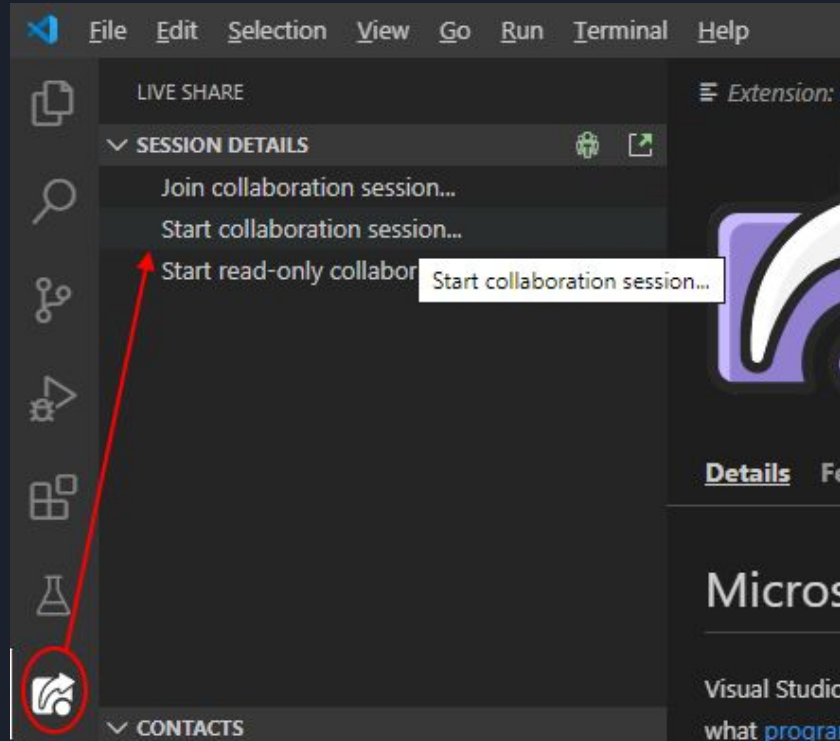
Visual Studio Live Share enables you to collaboratively edit and debug with... you're using or app types you're building. It allows you to instantly (and [see debugging sessions](#), [terminal instances](#), [localhost web apps](#), [voice calls](#), and editor context from your environment (e.g. language services, debugging), v immediately, without needing to clone any repos or install any SDKs.

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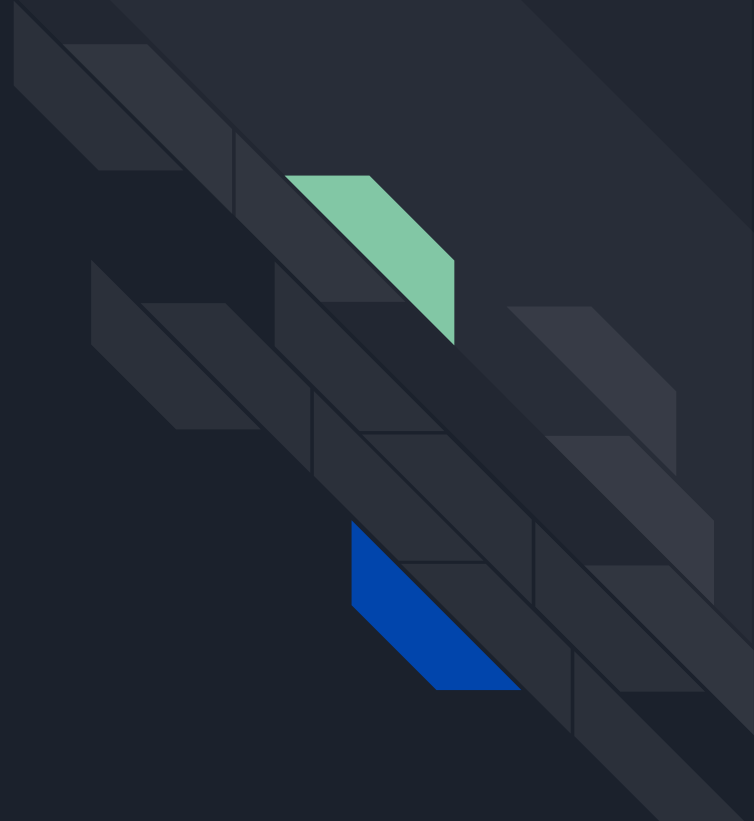
- Restart VS Code and once open,
- then open your code folder.
- You have to open the code that you are already working on, before sharing!



VS Code Live Share - Start Collaboration



You must sign in with
your student email
account.



Welcome to your Azure DevOps

CLICK

Sign in with Microsoft

Use your default browser to sign in with Microsoft

Sign in with Github

Use your default browser to sign in with Github



Pick an account



Justin Perrie
justin.perrie@rmit.edu.au
Signed in



Sign in with your RMIT student
email address



Use another account

Back

Using my student account



s3408572@student.rmit.edu.au

Are you trying to sign in to
Visual Studio Services Client?

Only continue if you downloaded the app from a
store or website that you trust.

Cancel

Continue

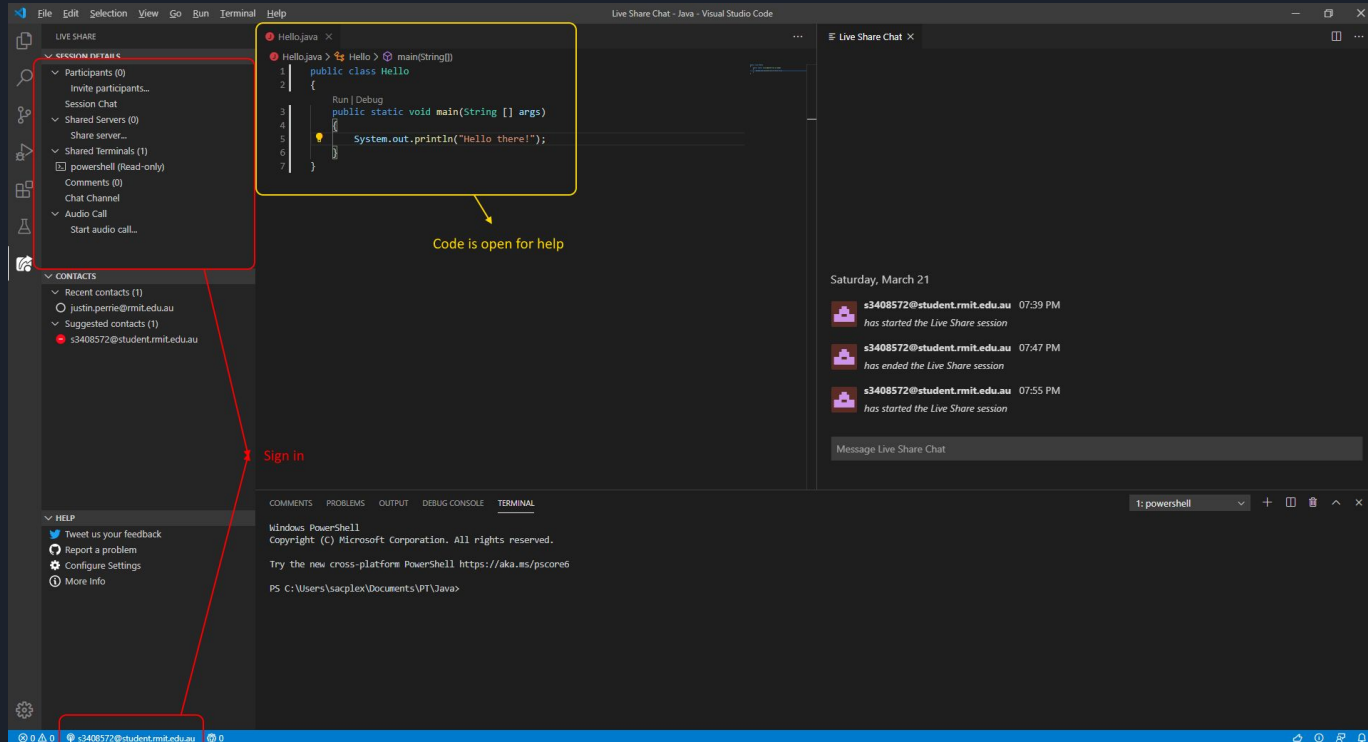
Open Visual Studio Code?

<https://login.microsoftonline.com> wants to open this application.

Open Visual Studio Code

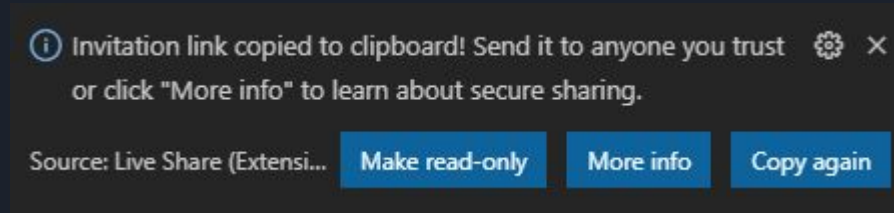
Cancel

Once signed in, should be like this!

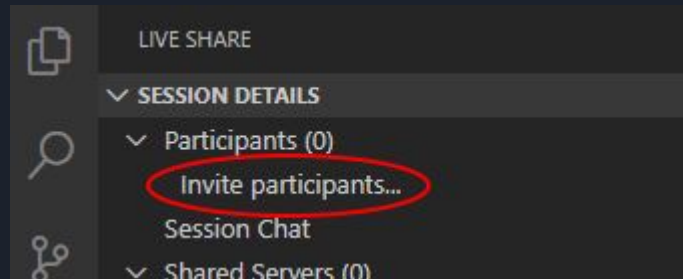


VS Code Live Share - Sending Invitation

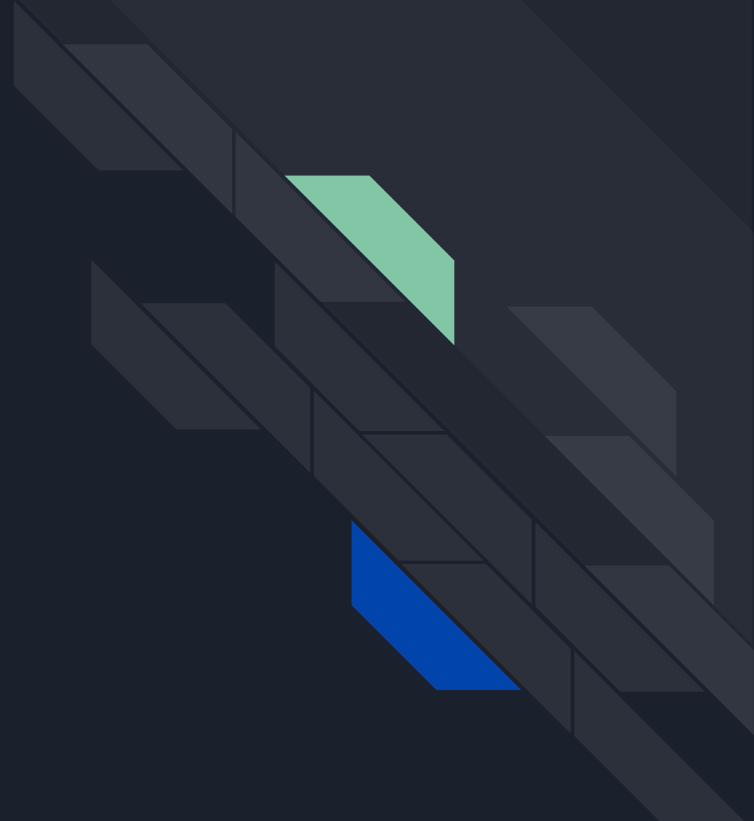
- Once connected an invitation link is already stored your computer's memory (the clipboard). You can also copy the link again with this display



- If the display disappears, click "Invite participants..." on the left




Send the invitation link
via teams to your tutor.



Live Share Chat

Extension: Live Share



Live Share

ms-vsiveshare.vsliveshare

Microsoft | 1,866,036 | ★★★★★ | Repository | License

Real-time collaborative development from the comfort of your favorite tools.

[Disable](#) [Uninstall](#) This extension is enabled globally.

Details


Feature Contributions

Changelog

Installation

1. If needed, install [Visual Studio Code](#) for Windows (7+), macOS (Sierra+), or Linux ([details](#)).
2. Download and install the Visual Studio Live Share extension for Visual Studio Code.

If you're interested in integrated voice calling as well, then you can install the [VS Live Share Extension Pack](#), which includes both the Live Share and Live Share Audio extensions.
3. Wait for the extension to finish downloading and then reload VS Code when prompted.
4. Wait for Visual Studio Live Share to finish installing dependencies (you'll see progress updates in the status bar).
5. Once complete, you'll see Live Share appear in your status bar. You can now begin collaborating with others immediately! Check out the [quickstart](#) below for information on how to get started.



Linux users: You may see a notification about installing [missing libraries](#):


1. If you'd prefer not to run an automated script, you may [install the libraries manually](#).
2. To auto-install, click [Install](#) in the notification.
3. A terminal window will appear and run a script. Your OS will ask you to enter your admin (sudo) password for the run package install commands. While the script is in the extension for security reasons, you can review the latest script contents [here](#).
4. Restart VS Code when done.

Quickstart (Sharing)

After installing VS Live Share, it only takes a few steps to instantly share your currently open project:

Live Share Chat

Saturday, March 21




 [justin.perrie@rmit.edu.au](#) 03:05 PM



has started the Live Share session

Message Live Share Chat

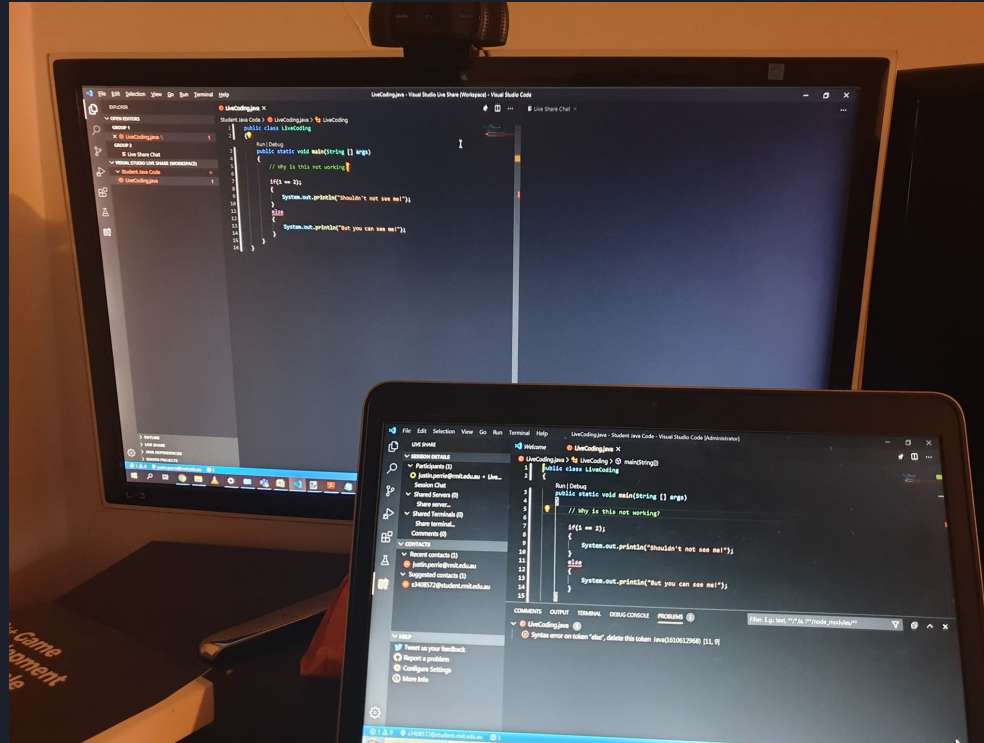


Live Share Audio

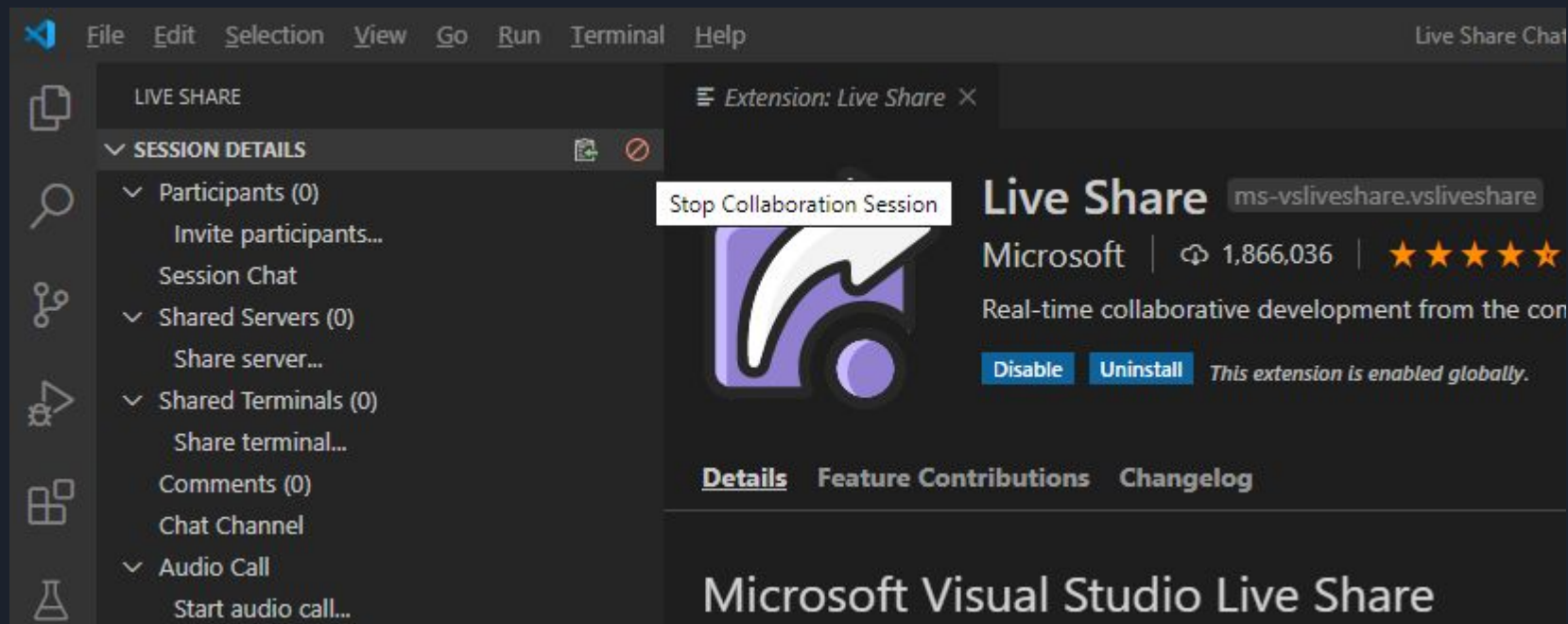
 You can now start audio calls as part of your collaboration sessions, without needing to install any other tools.  

Source: Live Share Audio (Extension)  

VS Code Live Share between Staff and Student



Stop collaboration



The screenshot shows the Visual Studio interface with the Live Share extension. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The Live Share Chat window is open on the right. The left sidebar shows the Live Share extension icon and a list of session details. A tooltip labeled 'Stop Collaboration Session' is visible over the 'Stop' button in the session details panel.

Live Share `ms-vsliveshare.vsliveshare`

Microsoft | 1,866,036 | ★★★★★

Real-time collaborative development from the company that brought you Visual Studio

[Details](#) [Feature Contributions](#) [Changelog](#)

[Disable](#) [Uninstall](#) *This extension is enabled globally.*

Microsoft Visual Studio Live Share

SESSION DETAILS

- Participants (0)
 - Invite participants...
 - Session Chat
- Shared Servers (0)
 - Share server...
- Shared Terminals (0)
 - Share terminal...
- Comments (0)
- Chat Channel
- Audio Call
 - Start audio call...