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 COSC1284/2010

Tutorial 4



Online Instructions (Microsoft Teams)

- To interact with your fellow students and your tutor you will need the following:
 - Microsoft Teams installed (Web browser version is available)
 - Make sure, that you have signed into the correct tutorial i.e. the same tutorial that you attend on campus.
 - Once the tutorial has started, you will have the ability to interact with your fellow students and your tutor via the written chat.
 - Joining Teams YouTube video:
<https://support.office.com/en-us/article/join-a-teams-meeting-078e9868-f1aa-4414-8bb9-ee88e9236ee4>

Microsoft Teams



Quick Start Guide

New to Microsoft Teams? Use this guide to learn the basics.

Move around Teams
Use these buttons to switch between Activity Feed, Chat, your Teams, Calendar & Files.

View and organize teams
Click to see your teams. In the teams list, drag a team name to reorder it.

Find personal apps
Click to find and manage your personal apps.

Add apps
Launch Apps to browse or search apps you can add to Teams.

Every team has channels
Click one to see the files and conversations about that topic, department, or project.

Start a new chat
Launch a one-on-one or small group conversation.

Add tabs
Highlight apps, services, and files at the top of a channel.

Use the command box
Search for specific items or people, take quick actions, and launch apps.

Manage profile settings
Change app settings, change your pic, or download the mobile app.

Manage your team
Add or remove members, create a new channel, or get a link to the team.

Add files
Let people view a file or work on it together.

Reply
Your message is attached to a specific conversation.

Compose a message
Type and format it here. Add a file, emoji, GIF, or sticker to liven it up!

Join or create a team
Find the team you're looking for, join with a code, or make one of your own.

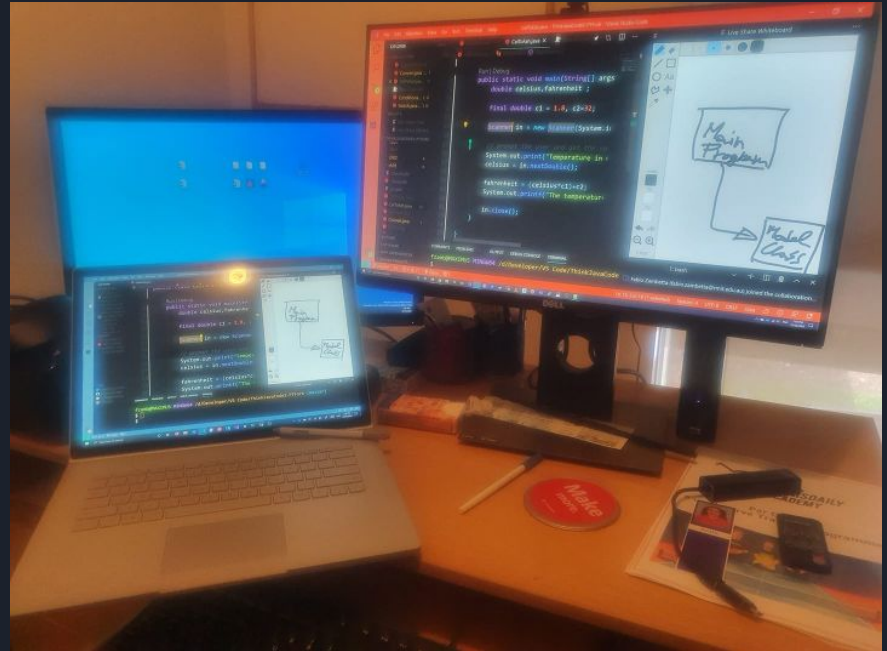


Online Instructions (VS Code)

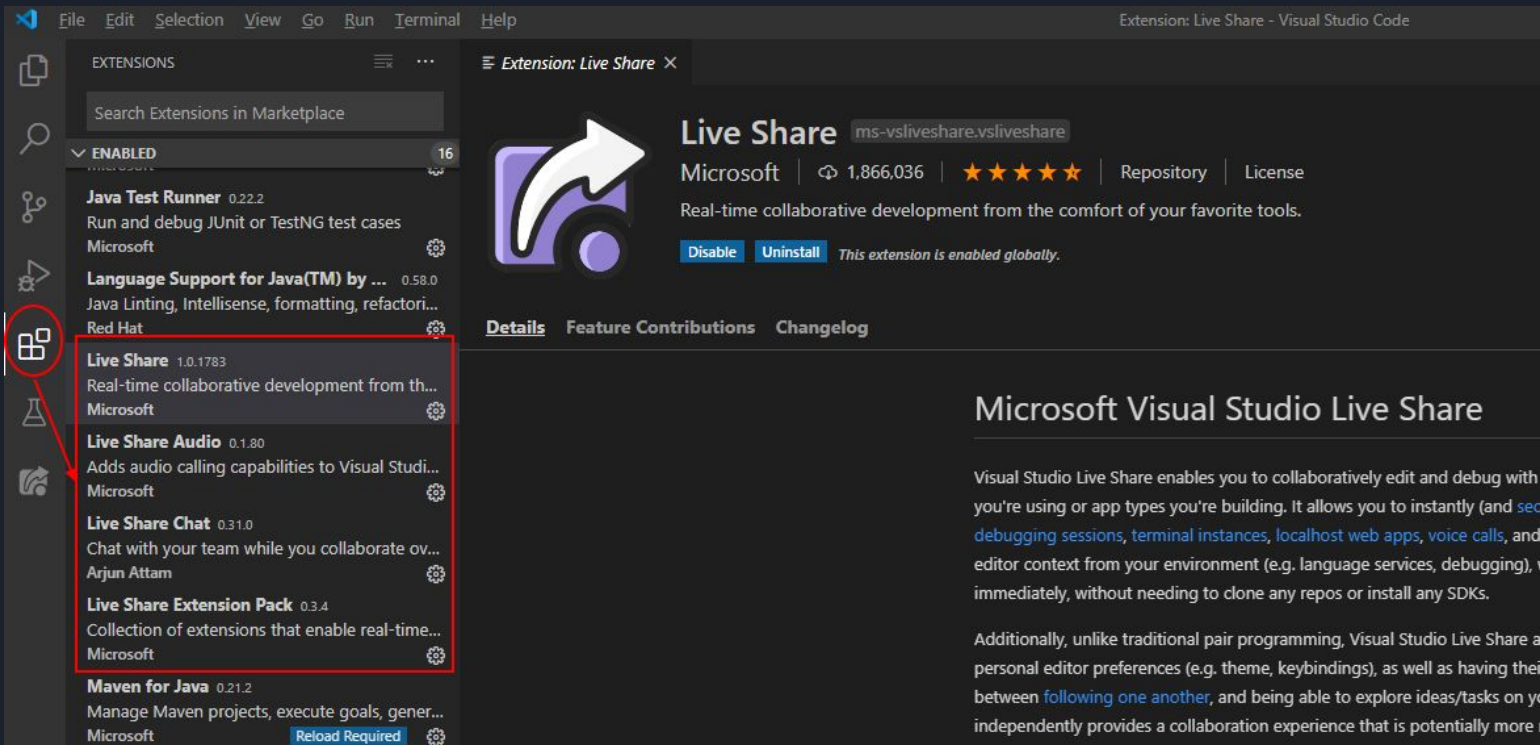
- Assistance to programming will be provided by your tutor via VS Code Live Share
 - Three extensions are needed for VS Code Online Interaction
 - Live Share (1.01783)
 - Live Share Audio (0.1.80)
 - Live Share Chat (0.31.0)
 - Can be installed via the Live Share Extension Pack (0.3.4) or installed individually.
 - 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). All four are by Microsoft. A red circle highlights the 'Extensions' icon in the sidebar, with a red arrow pointing to the highlighted group. The main editor area shows the details for the 'Live Share' extension (ms-vsiveshare.vsliveshare) by Microsoft, which has 1,866,036 downloads and a 5-star rating. It includes buttons for 'Disable', 'Uninstall', and a note that the extension is enabled globally. Below the extension details, there are tabs for 'Details', 'Feature Contributions', and 'Changelog'. On the right side of the interface, there is a section titled 'Microsoft Visual Studio Live Share' with a description of the technology and its capabilities.

EXTENSIONS

Search Extensions in Marketplace

ENABLED 16

- Java Test Runner** 0.22.2
Run and debug JUnit or TestNG test cases
Microsoft
- Language Support for Java(TM) by ...** 0.58.0
Java Linting, Intellisense, formatting, refactori...
Red Hat
- 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
- Maven for Java** 0.21.2
Manage Maven projects, execute goals, gener...
Microsoft

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](#)

Microsoft Visual Studio Live Share

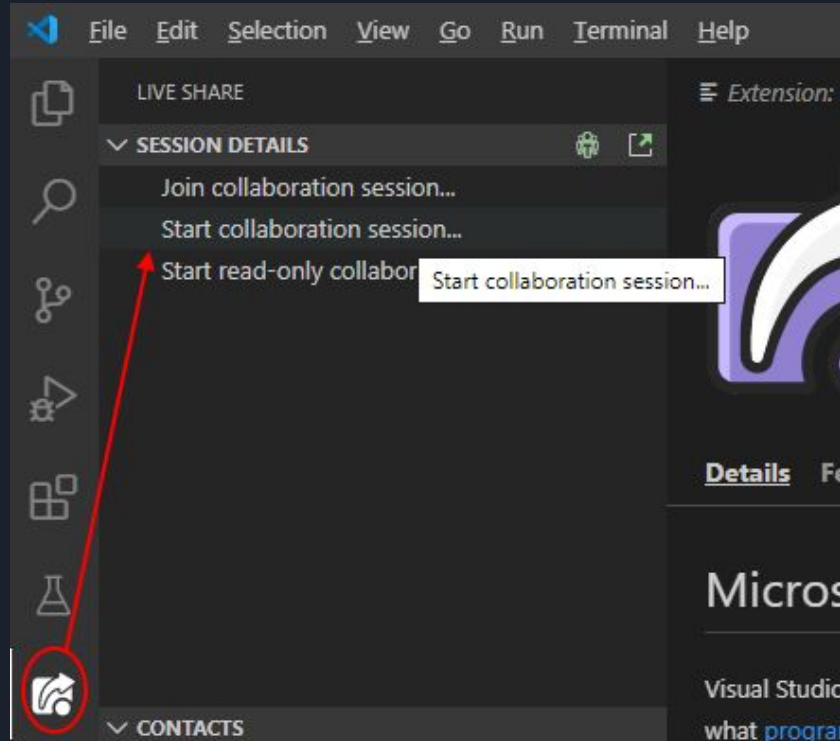
Visual Studio Live Share enables you to collaboratively edit and debug with others on your machine or on a remote machine. It allows you to instantly (and securely) share your code, debuggers, and other tools. It supports a wide range of IDEs and languages, including Java, JavaScript, Python, and more. It also supports a wide range of features, including live debugging, live chat, and live audio. This makes it a powerful tool for collaborative development, allowing you to work together on a project in real-time, without needing to clone any repos or install any SDKs.

Additionally, unlike traditional pair programming, Visual Studio Live Share also allows you to share your personal editor preferences (e.g. theme, keybindings), as well as having their own. This makes it a powerful tool for collaborative development, allowing you to work together on a project in real-time, without needing to clone any repos or install any SDKs.

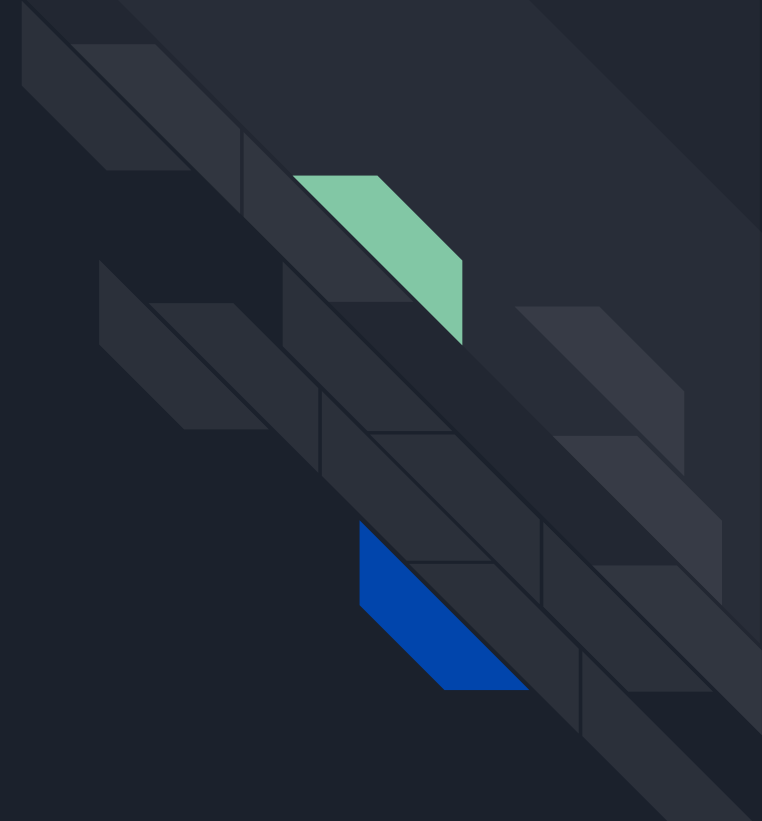
- Restart VS Code and once open,
- then open your code folder.
- You have to open the code that you are already working on, before sharing!



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

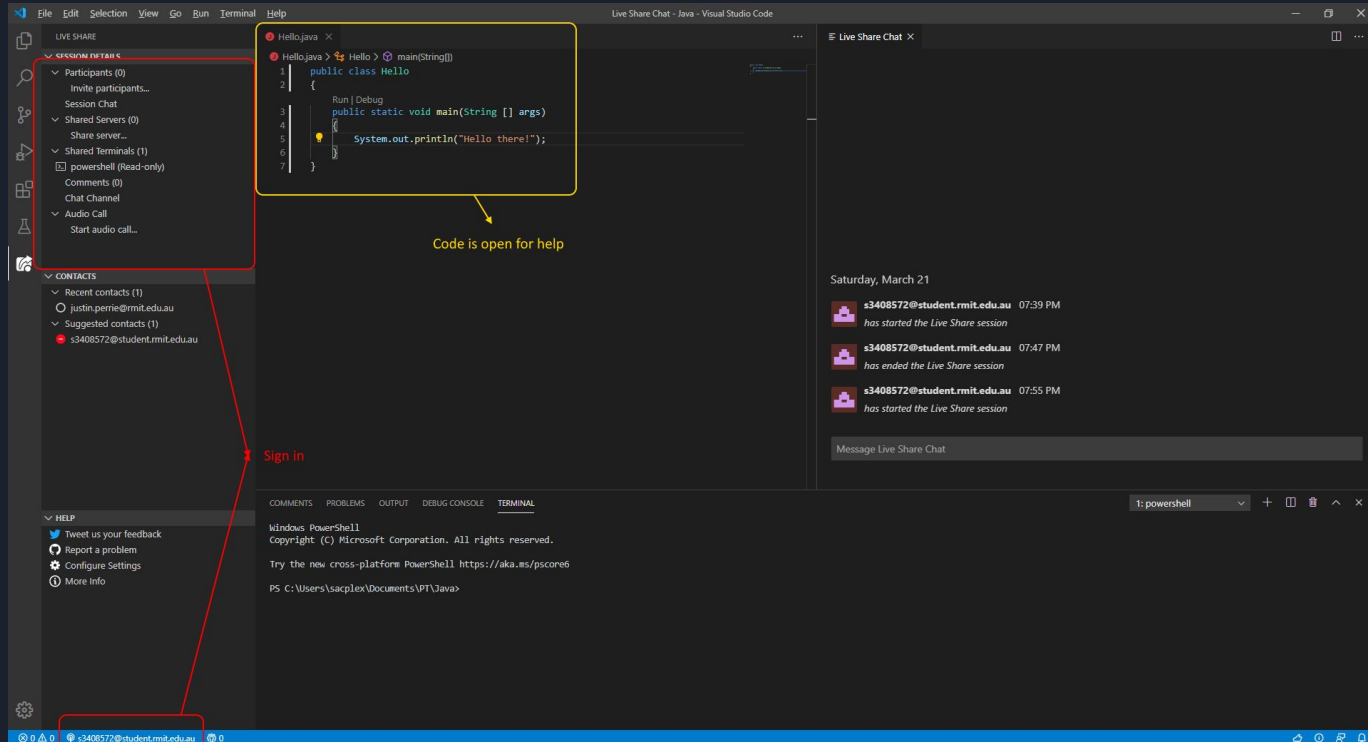
Open Visual Studio Code?

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

Open Visual Studio Code

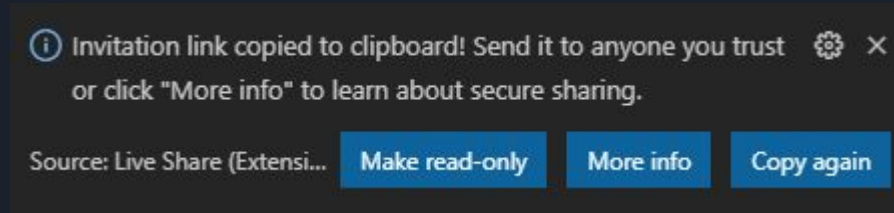
Cancel

Once signed in, should be like this!

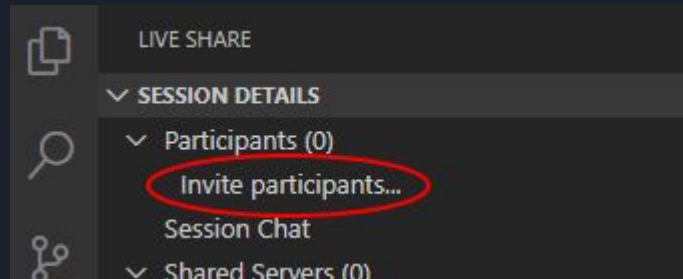


VS Code Live Share - Sending Invitation

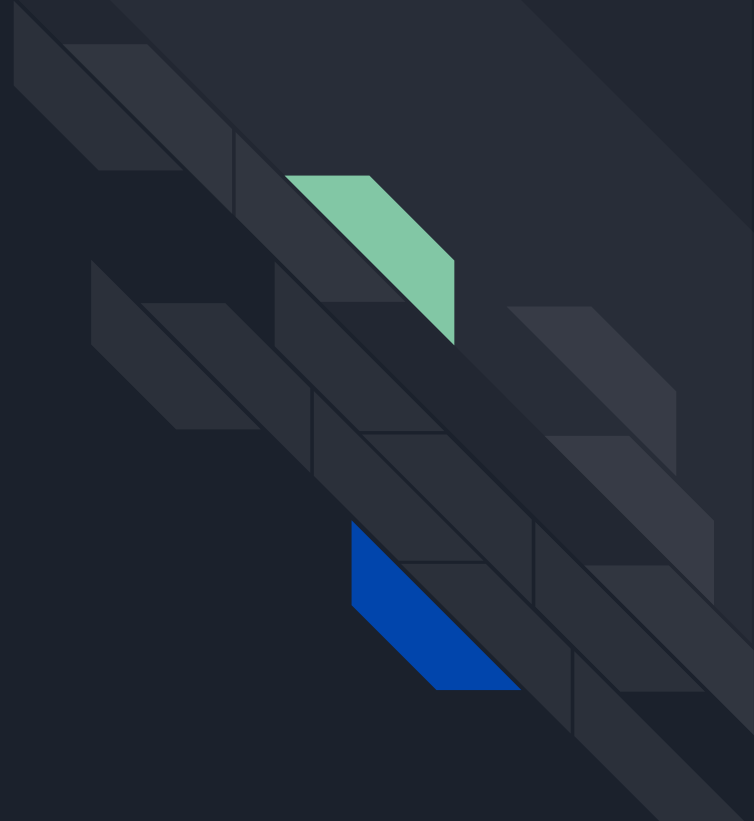
- Once connected an invitation link is already stored your computer's memory (the clipboard). You can also copy the link again with this display



- 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



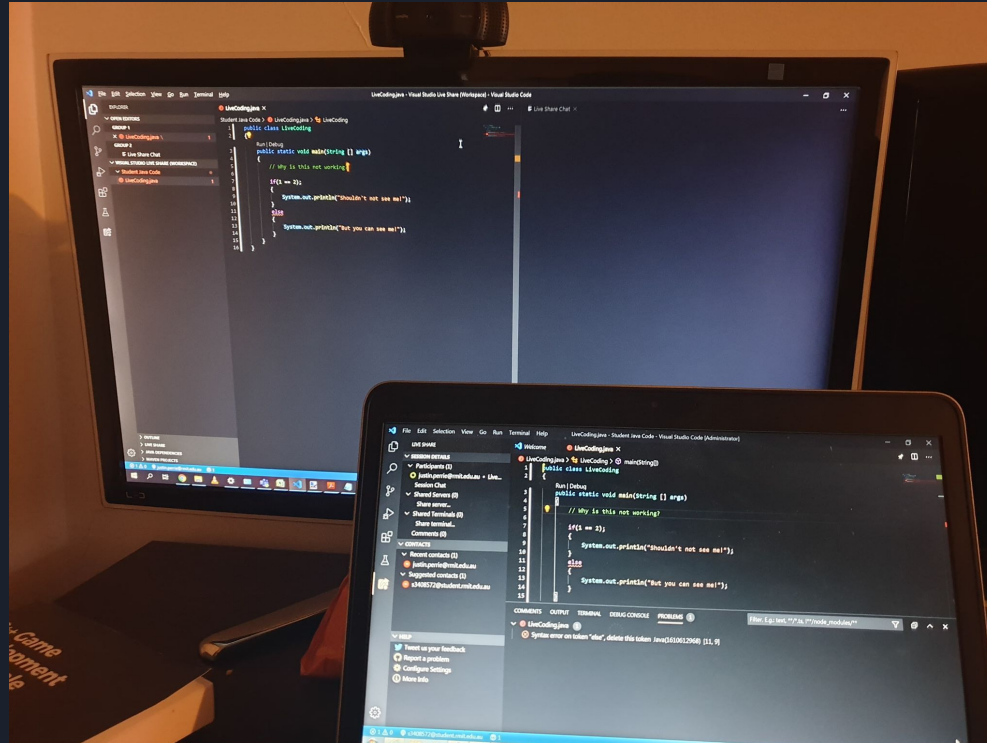
Live Share Audio

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

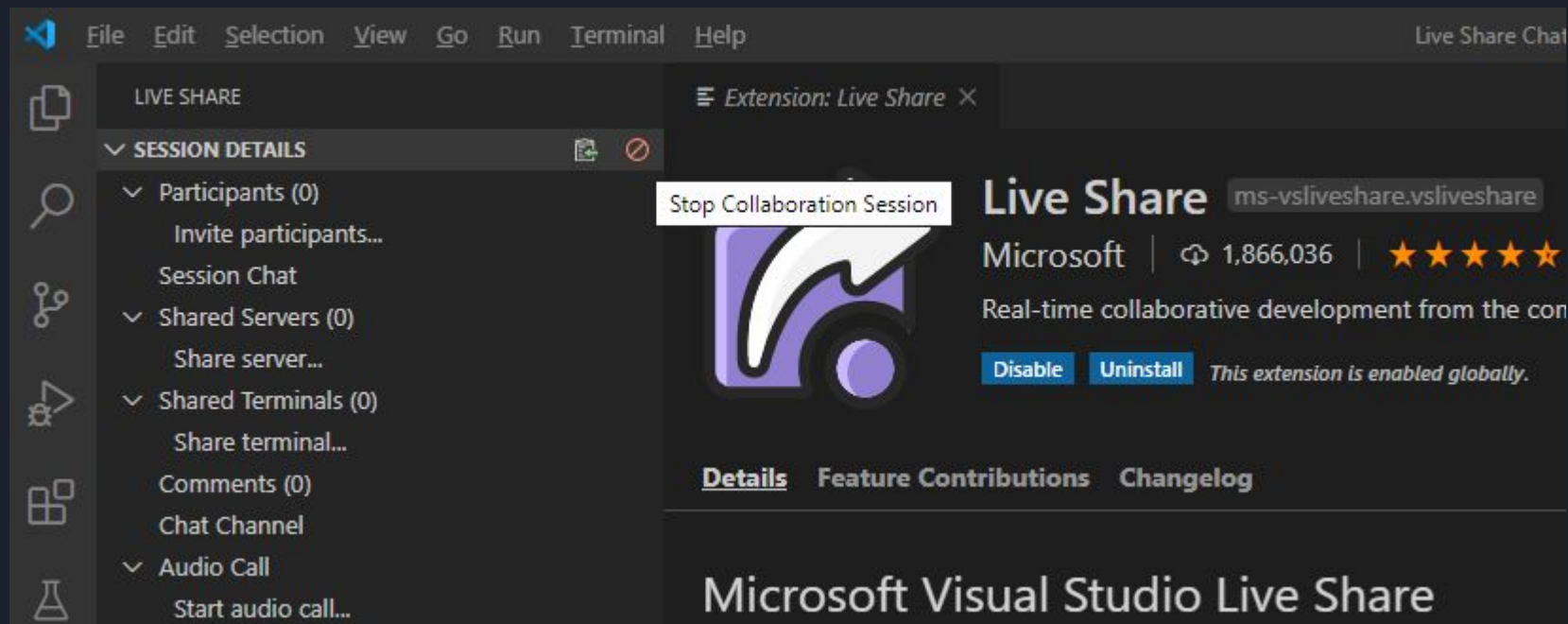
Source: Live Share Audio (Extension)

[Start call](#) [Always start call](#)

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.

File Edit Selection View Go Run Terminal Help Live Share Chat

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...

Stop Collaboration Session

Live Share ms-vsiveshare.vsliveshare

Microsoft | 1,866,036 | ★★★★★

Real-time collaborative development from the con

Disable Uninstall This extension is enabled globally.

Details Feature Contributions Changelog

Microsoft Visual Studio Live Share



Agenda

- Tutorial/Lab
 - Read chapter 5 from the textbook
 - Discuss the concepts with your tutor and fellow classmates
 - Complete chapter 5 - Exercises 1 - 3
 - Attempt on your own
 - Complete chapter 5 - Exercises 4 - 7



Conditionals and Logic

- In the previous examples, we have seen programs start and end with no deviation or detour through the code, this also includes methods from last week.
- In many cases, this becomes impractical as your programs cannot respond to variations of inputs and other processing.
- In today's tutorial you will practice logical statements.
 - &&, ||, ! (And, OR, Not)
- As well as if, else, else if.

Exercise 5.1

- Using the following variables, evaluate the logic expressions in the table below. Write your answers as true, false, or error.

```
boolean yes = true;
boolean no = false;
int loVal = -999;
int hiVal = 999;
double grade = 87.5;
double amount = 50.0;
String hello = "world";
```

Expression	Result
yes == no grade > amount	
amount == 40.0 50.0	
hiVal != loVal loVal < 0	
True hello.length() > 0	
hello.isEmpty() && yes	
grade <= 100 && !false	
!yes no	
grade > 75 > amount	
amount <= hiVal && amount >= loVal	
no && !no yes && !yes	

Exercise 5.2

- What is the output of the following program? Determine the answer without using a computer.

```
public static void main(String[] args) {  
    boolean flag1 = isHoopy(202);  
    boolean flag2 = isFrabjuous(202);  
    System.out.println(flag1);  
    System.out.println(flag2);  
    if (flag1 && flag2) {  
        System.out.println("ping!");  
    }  
    if (flag1 || flag2) {  
        System.out.println("pong!");  
    }  
}
```

```
public static boolean isHoopy(int x) {  
    boolean hoopyFlag;  
    if (x % 2 == 0) {  
        hoopyFlag = true;  
    } else {  
        hoopyFlag = false;  
    }  
    return hoopyFlag;  
}
```

```
public static boolean isFrabjuous(int x) {  
    boolean frabjuousFlag;  
    if (x > 0) {  
        frabjuousFlag = true;  
    } else {  
        frabjuousFlag = false;  
    }  
    return frabjuousFlag;  
}
```

The purpose of this exercise is to make sure you understand logical operators and the flow of execution through methods.



Exercise 5.3

- Rewrite the following code using a single if statement.

```
if (x > 0) {  
    if (x < 10) {  
        System.out.println("positive single digit number.");  
    }  
}
```