# **Readme file for “ParallelPad”**

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# General Idea of “ParallelPad”

ParallelPad is a collaborative text editor, with the twist of not letting two users edit on the same line/area. This was done as part of 512 – Advanced OS class by Dipen and Bharadwaj.

# Required Softwares

You should have the following to run this without any hassle. Needless to say, you will need multiple machines to be able to properly make use of ParallelPad.

Note: You must have a valid Oracle account to be able to download and use SQLPlus and SQL Developer.

|  |  |  |
| --- | --- | --- |
| Name | Version | Purpose |
| OpenJDK | 11 or above | So that Java files will compile and run |
| IntelliJ IDE | 2021.3 / 30 | To compile the project, and run the server |
| Oracle SQLPlus | 21.4 | Database for the project |
| Oracle SQL Developer | 2021.3 / 30 | To get a visual representation of the database |
| SQL Connector file  *(“mysql-connector-java-8.0.28.jar”)* | 8.0.28 | For the Server to be able to talk to the database |
| Source files for Server  *(“Server.java”, “Chain.java” and “ServerChild.java”)* | As included with this readme file | Files for server |
| Source files for Client  *(“ClientUI.java” and “Run.java”)* | As included with this readme file | Files for client |

# How to setup and run ParallelPad

So, at this point, you should have all the files and softwares ready to go. This section will guide you through the setup. At the end of this, you should be able to run ParallelPad.

## **Setting up the database**

We need to setup two tables. They are names “ParallelPad” and “UIData”. Below are the schemas, and you can use Oracle SQLDeveloper to create these.

* Query to “clean” the database (i.e., clear all previous data, and have it just show the welcome line)

Delete from UIData ;

Insert into UIData values(‘T1”,”Welcome to ParallelPad!”) ;

Update ParallelPad

Set TOKEN\_ID=’T1’,TOKEN\_START=301, TOKEN\_END=500

Where timestamp=(select max(timestamp) from ParallelPad) ;

## **Setting up the server files**

You need to assign a machine to be the server. For continuity in this document, we will get that be “babbage” machine in the SunLabs. This can change. Just be sure to update the client file (“Run.java”), else it will not be able to connect to the server.

Step 1: Open up a new Java project in IntelliJ.

Step 2: Link the server files “Chain.java”, “Server.java”, and “ServerChild.java” with it.

Step 3: Link the jar file (“mysql-connector-java-8.0.28.jar”) to the project via project properties

Step 4: Run the “Server.java” file. This is the only file required to run the server.

## **Setting up the client files**

For this, you need to have files “Run.java” and “ClientUI.java” in every machine that you want to run. You may or may not use IntelliJ, but the idea is to compile the files, and run “Run.java”.

IMP: you must mention the name of the server while running the client. Eg: “java Run babbage”

Step 1: copy files into every machine that you want to run.

Step 2: go to the directory and open up a terminal there.

Step 3: run commands “javac \*.java” and “java Run <serverName>”

## **UI Walkthrough and general dos and don’ts**

Great! So at this point, you have the pristine white UI open in front of you, with the text “Welcome to ParallelPad!”, like the image below:

A picture containing graphical user interface

Description automatically generated

## **So, here are the components you need to be aware of in the UI:**

* Text area: this is the white space below the ribbon where all the text goes.
* Save button: this will save the changes that you make. You must manually press it.
* Close button: once you are done using the app, you may click this to exit.

## **You need to know the following “rules” before you start using the editor:**

* You must click inside the UI, where you want to edit with the mouse. Without doing this, you will not be able to write anything. Sometimes, the mouseclick might stick, so just click again in that case.
* Once you are done editing, you must click the “Save” button. Your changes will not be saved otherwise. Note: while you are editing, the other parts of the document might change, as other users save their documents.
* While editing, you should not go beyond your “area” (e.g.: the line that you clicked on). If you try and go out of it by using a mouse click, or the arrow keys, you will be greeted with a popup. Please pay heed to all the popups that might come up!

# All about the popups!

The purpose of this section is to describe all the popups that might come up when you are using ParallelPad, why they come up, and what you can do afterwards.

|  |  |
| --- | --- |
| Popup | Why am I getting this? And what can I do now |
| Graphical user interface, text, application  Description automatically generated | This might come up after clicking on a line. As it suggests, you cannot edit over there, as someone else is working on it.  You may wait or click on another line at this point. |
| Graphical user interface  Description automatically generated | This comes up after you get a Code4 popup (the one above), and you wait till the other person saves.  You may now edit where you clicked. |
| Graphical user interface, text, application  Description automatically generated | This comes up after you get a Code4 popup (the first one in this table), and you wait till the other person saves. But unfortunately, the other person deleted all the text there.  You may wait or click on another line at this point. |
| Graphical user interface, text, application  Description automatically generated | You will get this when you click on a line, and then use the arrow keys to get away from the area you can edit in.  You may press OK to continue, and the cursor will get placed at the start of your line. |
| Graphical user interface, text, application  Description automatically generated | You will get this when you click on a line, enter some text, and then click on another line without saving.  You may press OK and continue. |
| Graphical user interface, application  Description automatically generated | This happens when you click backspace and get on the very first character of your line.  You may click OK, and continue editing, being careful to not click backspace after this popup. |
| Graphical user interface, application  Description automatically generated | You’ll get this when the server crashes. There is nothing you can do here. Pressing OK will close the app. (Don’t worry, your saved changes will come back up!) |

# Known bugs and workarounds

Not unlike any other app, we have some bugs that just refuse to die. This section will give you a heads up for that, and some pointers on how to handle them.

|  |  |
| --- | --- |
| Issue | Workaround |
| I clicked on the line yet am not able to write anything. | Click again, sometimes the click does not register. |
| The cursor disappears (E.g., After Code4 popup), but I am still able to type. | Try using the arrow keys to get out of your “area”, and after getting the popup, the cursor will reappear at the start of the line. |