z/TPF Learning Platform

2022 TPF Users Group Conference
March 27-30, Dallas, TX

Application Development Subcommittee

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Kathleen Chalas

IBM Z

IBM

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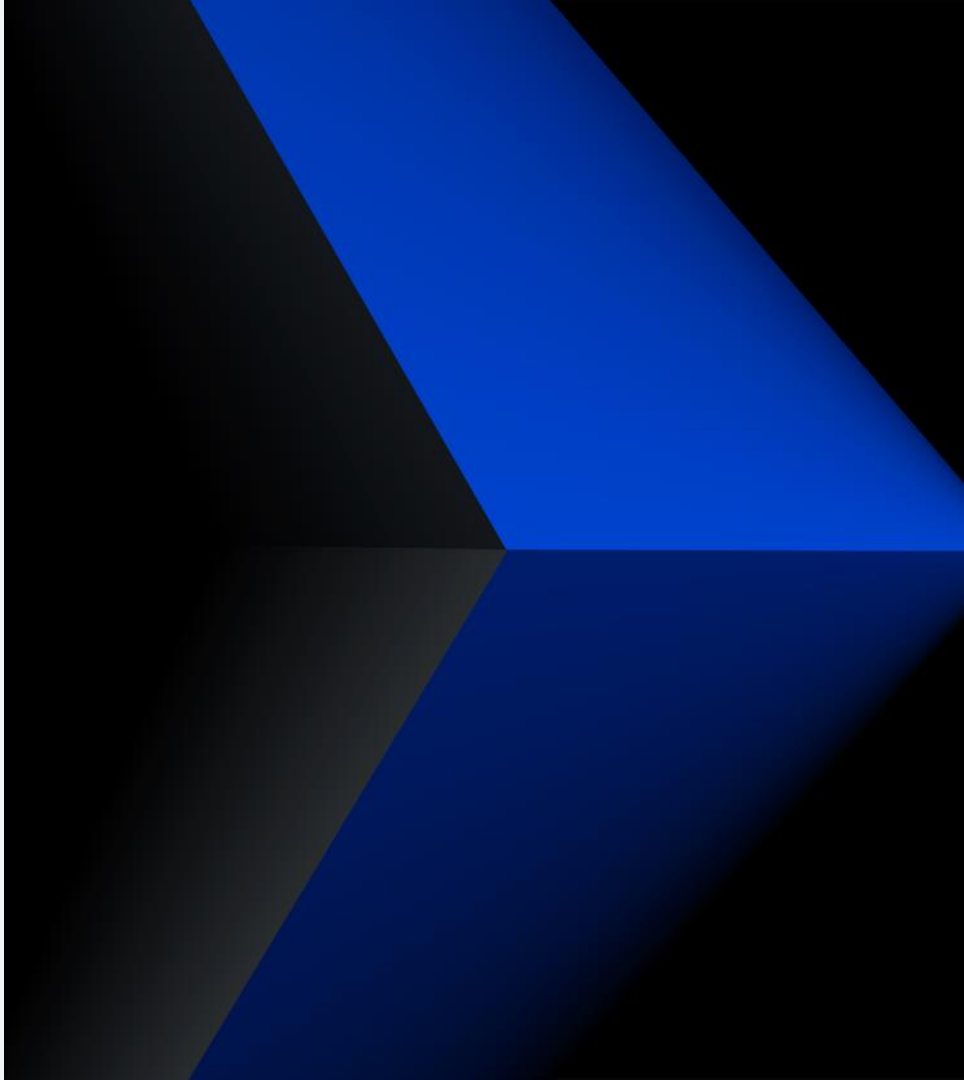

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Problem Statements

There are limited classes to learn basic z/TPF skills.

Learning and developing skills through hands-on experiences is very effective, but it is difficult for some customers to gain access to environments that contain new z/TPF features and tools.

Users

Zach
application developer

Sophie
system programmer

Andrew
new hire application developer

Pain Points / Needs

- IBM-provided tutorials put the onus for necessary environment setup on the user.
  - Matching up tool versions, test systems, build procedures can be difficult and time-consuming
- IBM-provided webinars about z/TPF at fixed times do not allow users to work on learning activities at a self-paced, convenient time.
- When working on learning activities, need to have a place to ask questions when you run into problems.

Value Statement

A z/TPF Developer can learn the function, value, and components of the z/TPF System at their own pace *through interactive challenges.*

As-Is User Story

How do you learn today?

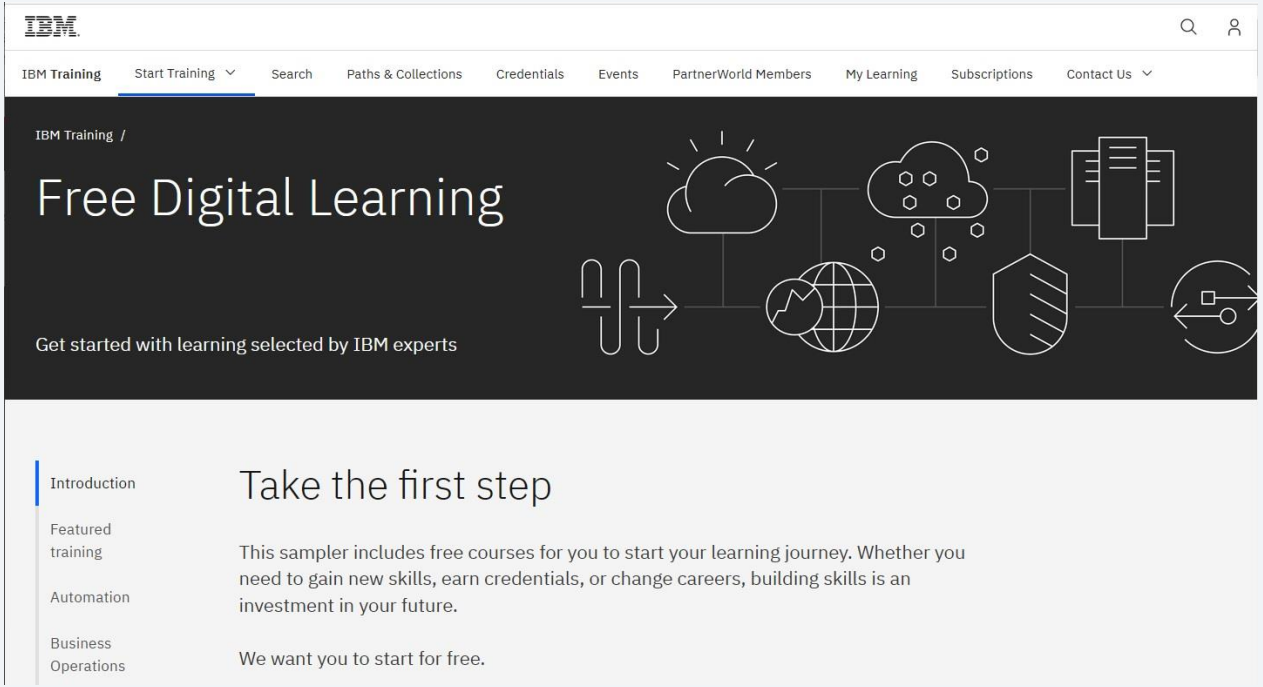
- Read IBM docs
- Ask a colleague
- Create your own sandbox
- Osmosis

To-Be User Story

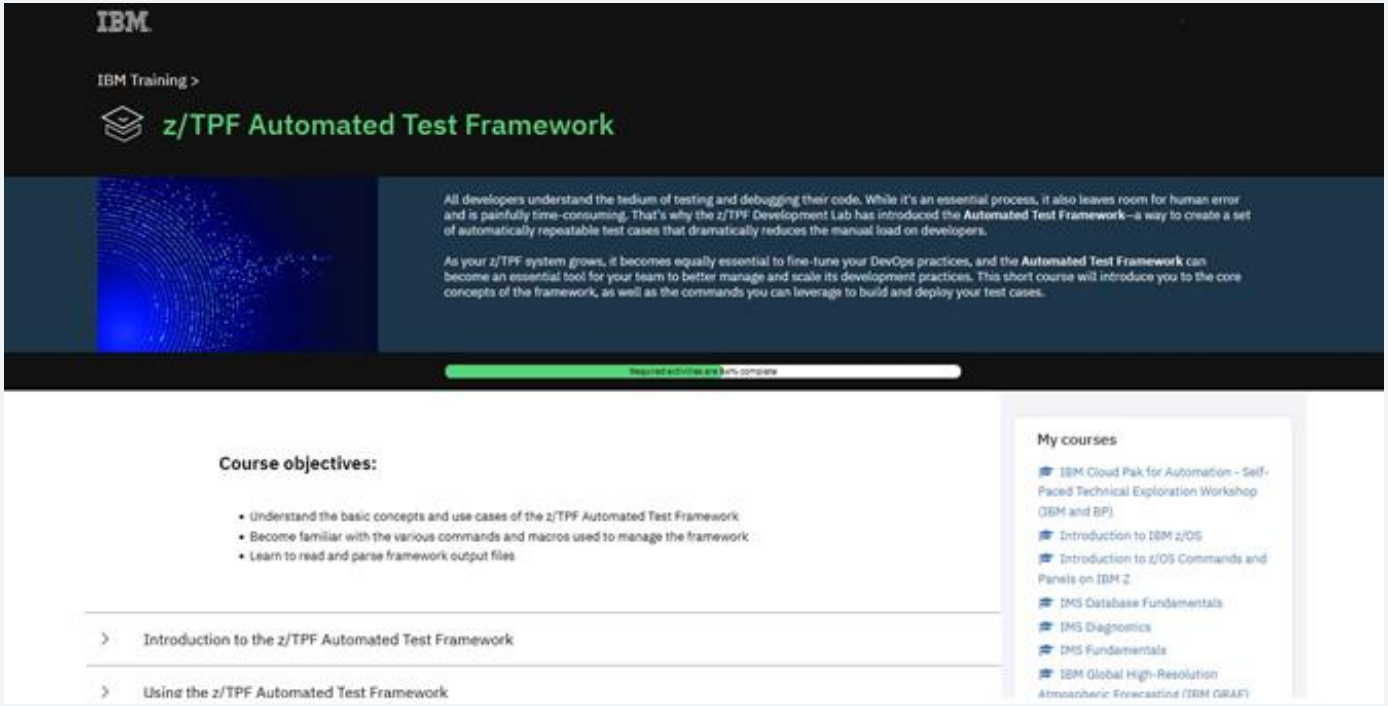
- A z/TPF user starts their learning journey on **IBM Training website** for education and quizzes to test their knowledge.
- For hands-on, interactive activities wherein user-written code is run on a real z/TPF test system provided by IBM, the user signs up to access z/TPF Challenges through the **IBM Z Xplore Learning Platform** (IBM Z Xplore)
  - A learning platform that enhances Master the Mainframe, providing hands-on experience for the development of valuable skills without requiring prior knowledge.
  - User can track their progress and utilize discussion forums.

IBM Training

IBM will offer free learning modules for z/TPF on IBM Training , which you can access by logging on with your IBM ID.



IBM Training

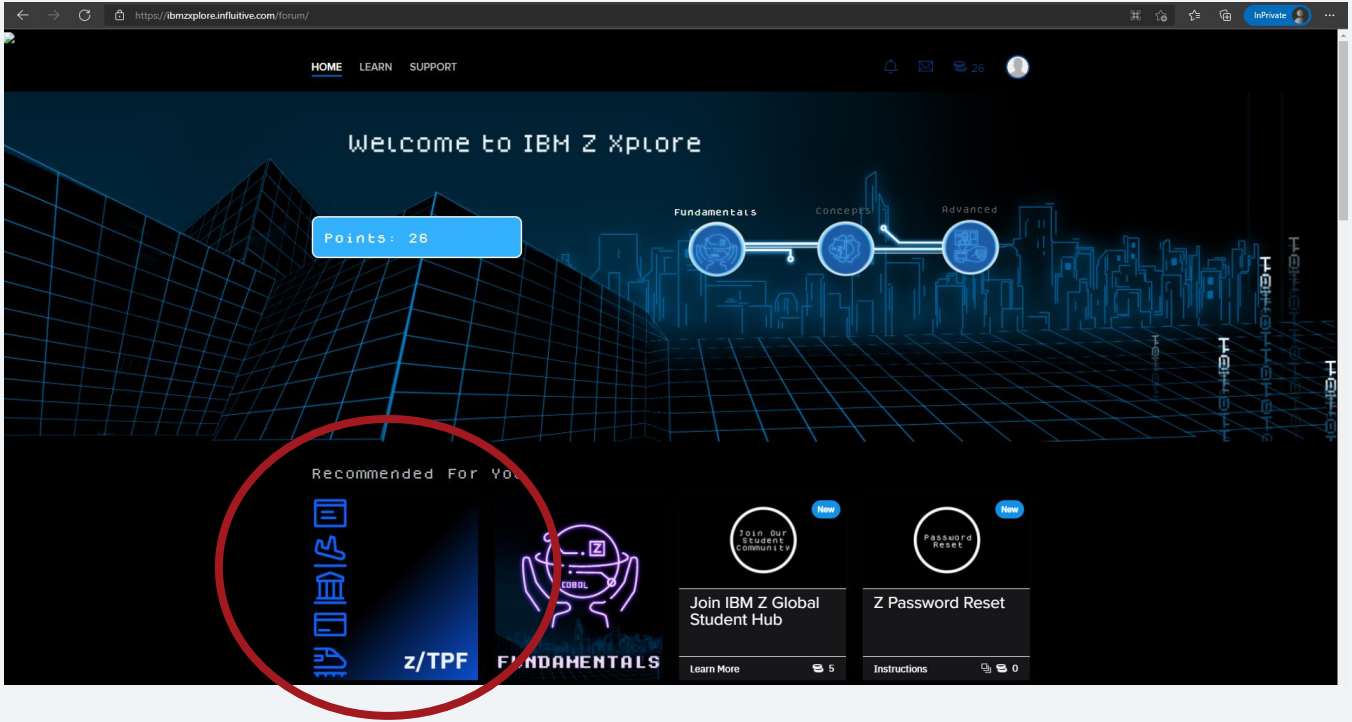


IBM Training will provide modules that give background, detailed education, and checks for understanding on z/TPF functions and features, along with a link to hands-on content in Z Xplore.

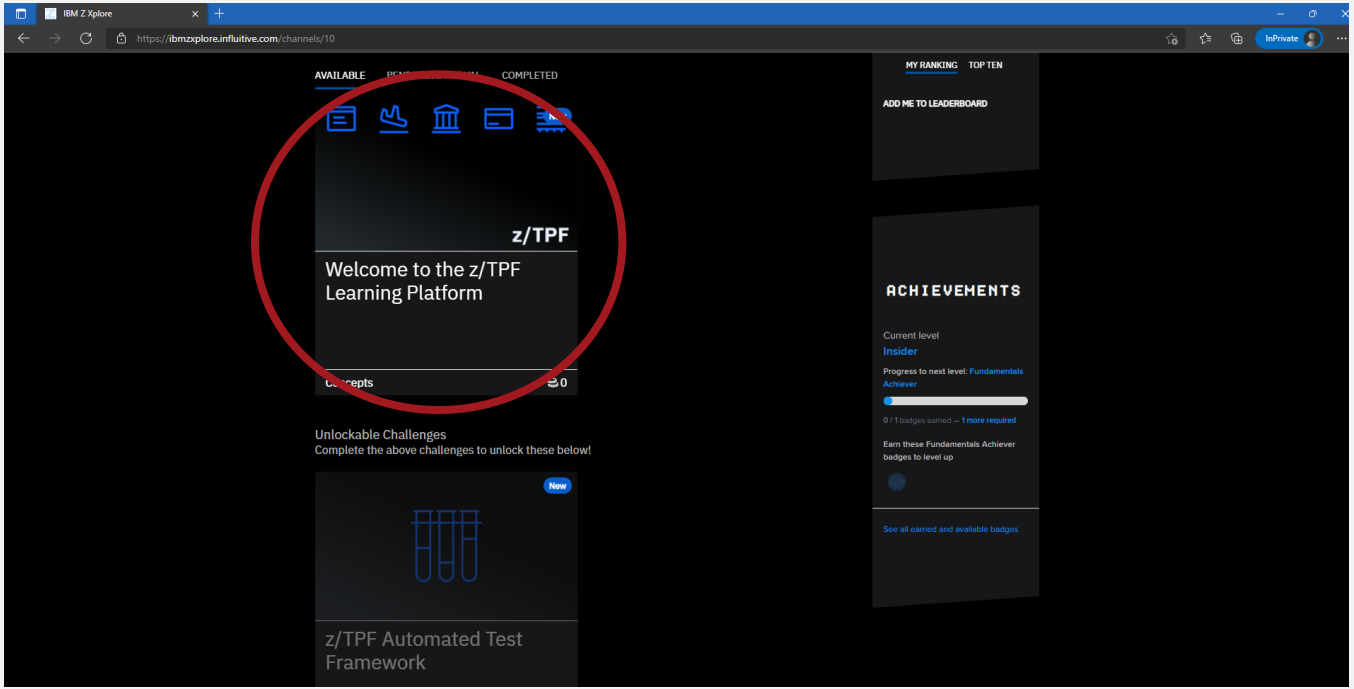
z/TPF Channel in Z Xplore

IBM will provide the URL to sign up for Z Xplore, which will give you access to the z/TPF Channel.

There is no cost to signing up for Z Xplore.



One-Time Setup



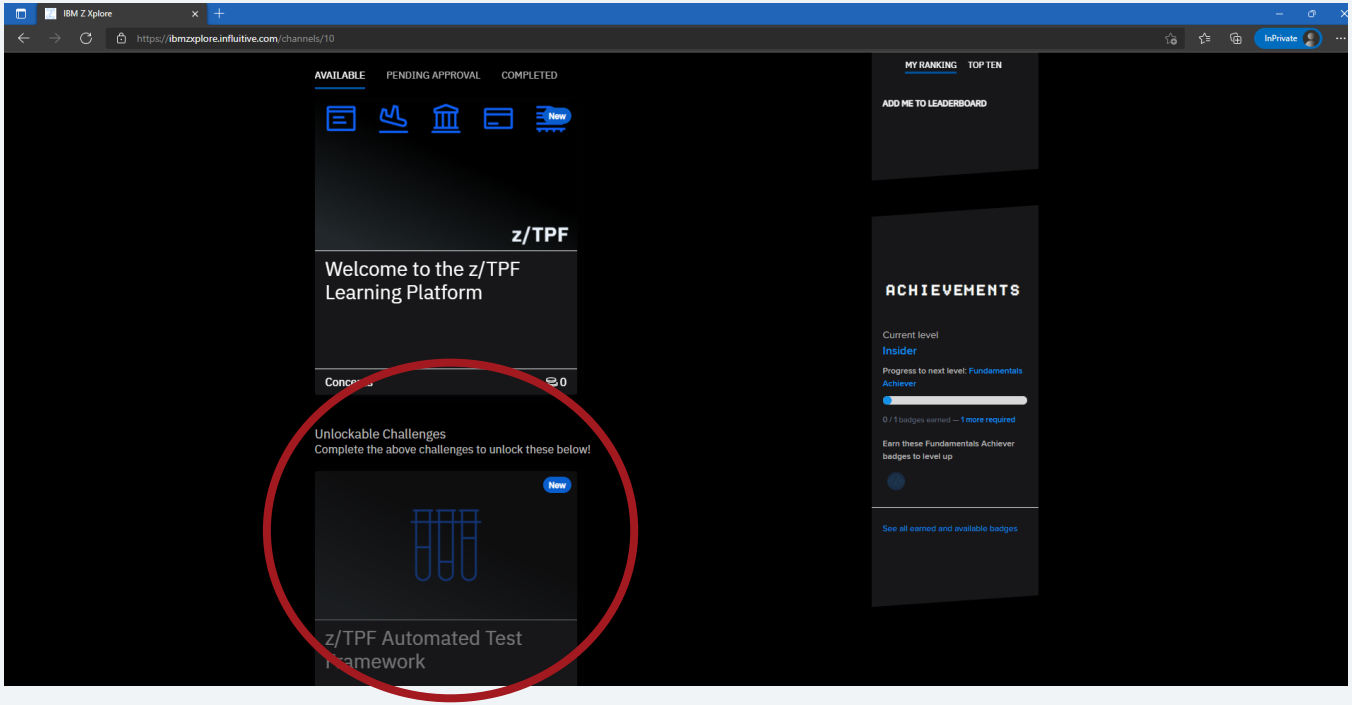
Perform first challenge – setting up your environment by downloading Visual Studio Code (VSCode) and the z/TPF extension to the platform, just like you would if participating in the z/OS challenges on Z Xplore.

Unlocking Challenges

By completing the setup, a user unlocks the other z/TPF challenges.

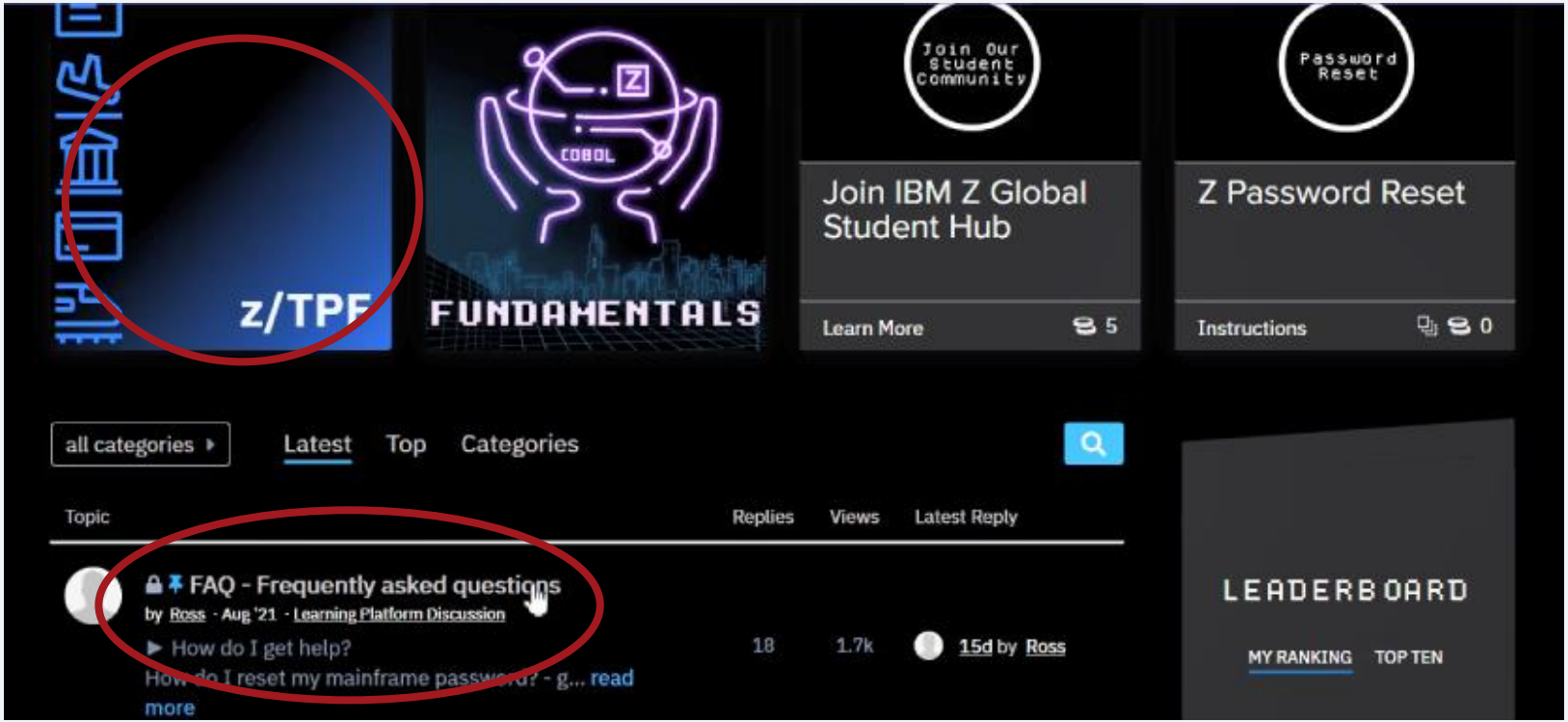
Successful setup :

- VSCode installed
- z/TPF extension added to VSCode
- Extension connects to the z/TPF build environment

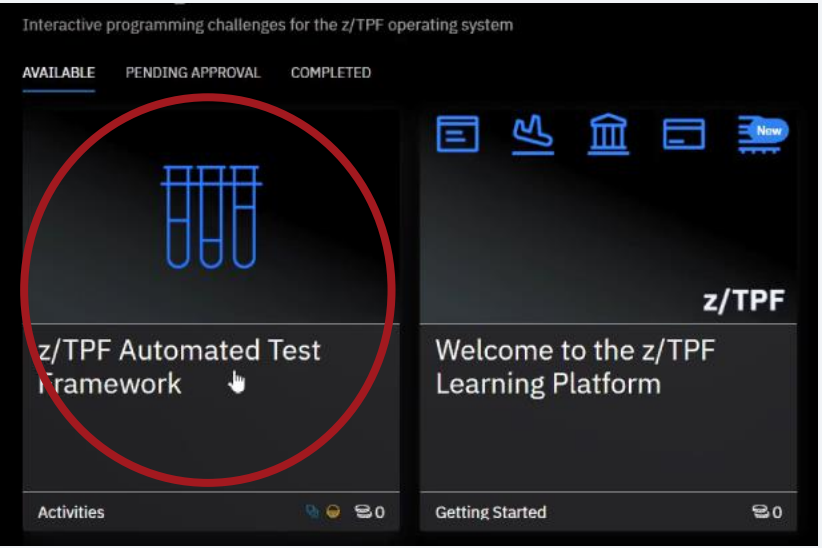


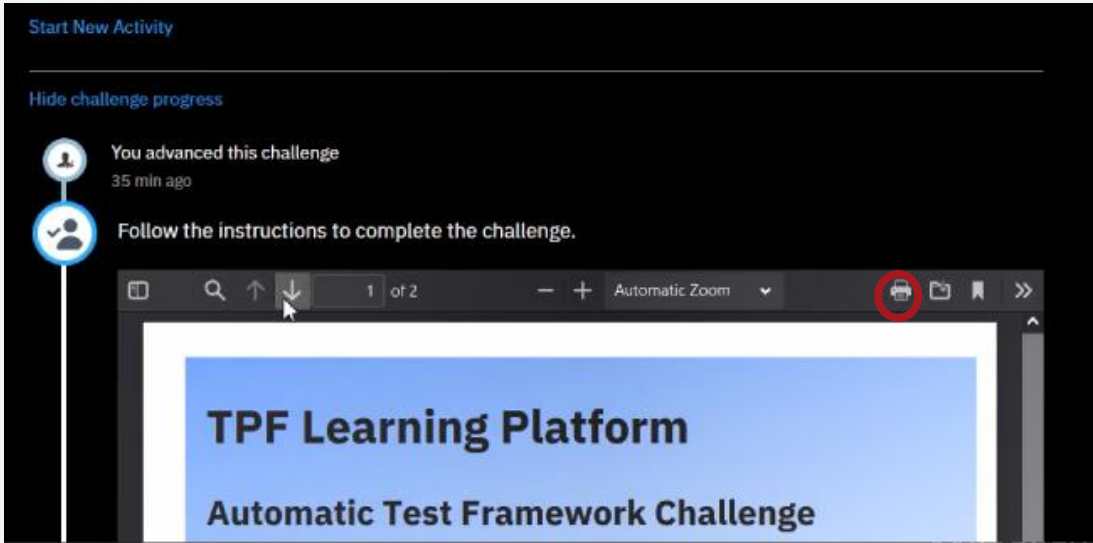
Automated Test Framework Challenge Example

Step 1 : See Q&A, Challenges, and…

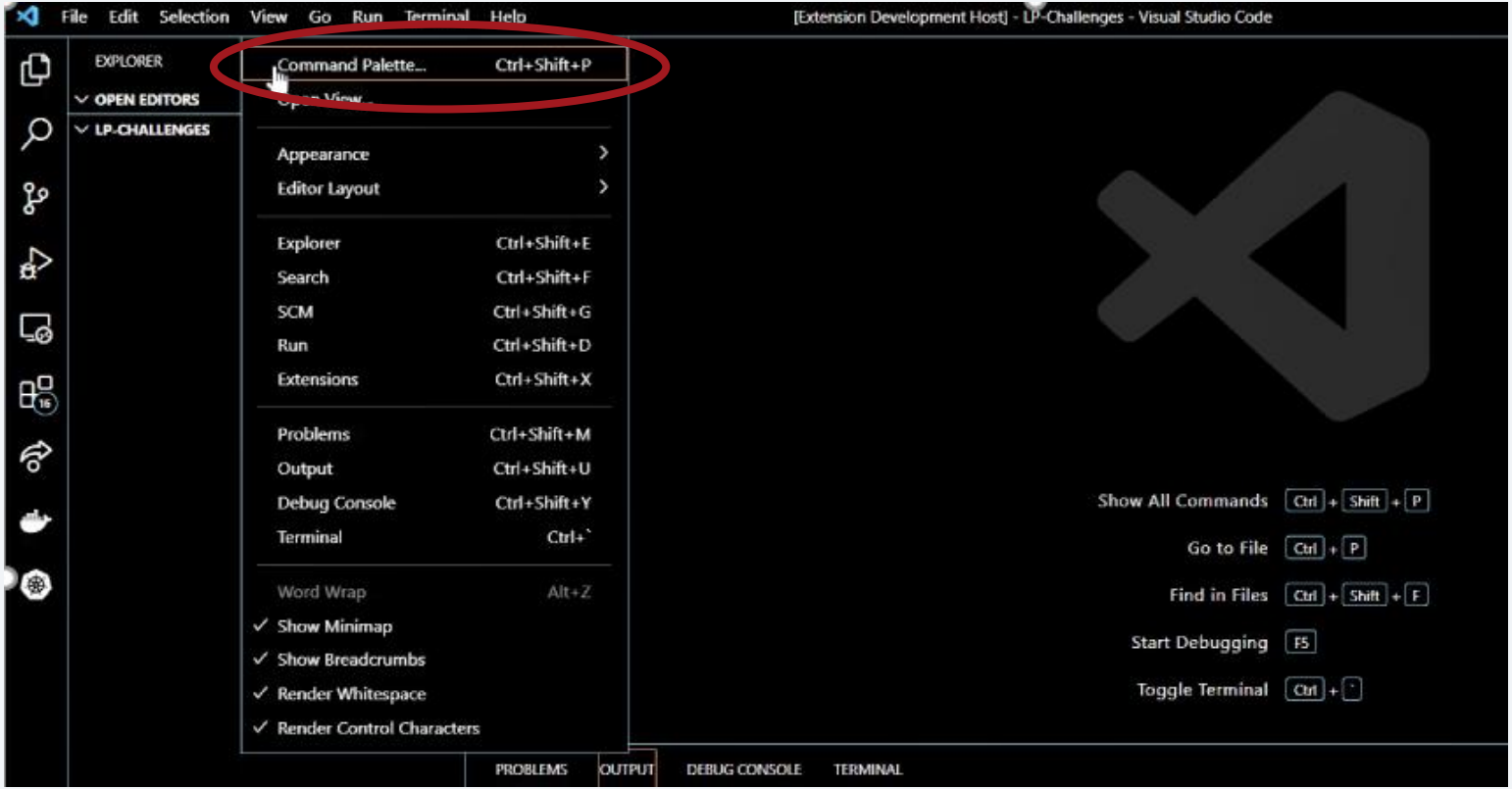


Step 1:See instructions on Z Xplore.





Step 2 : In your VSCode environment, open a folder and issue command to get challenge source.



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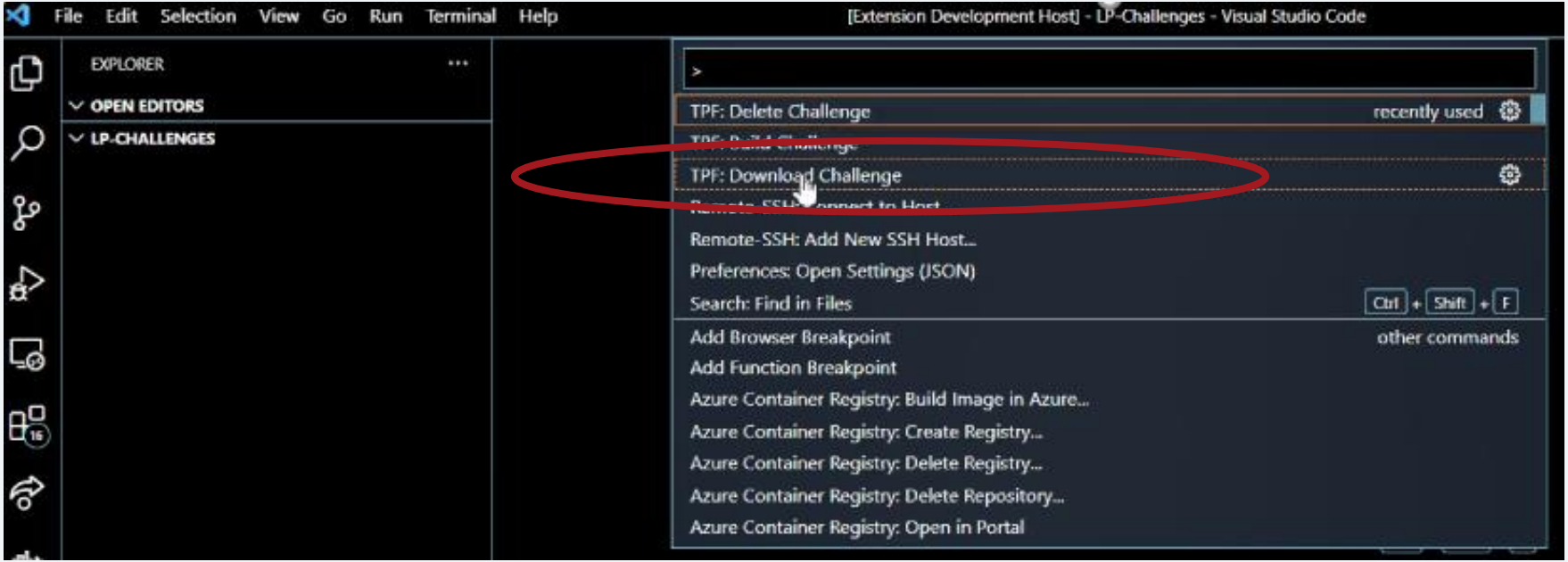

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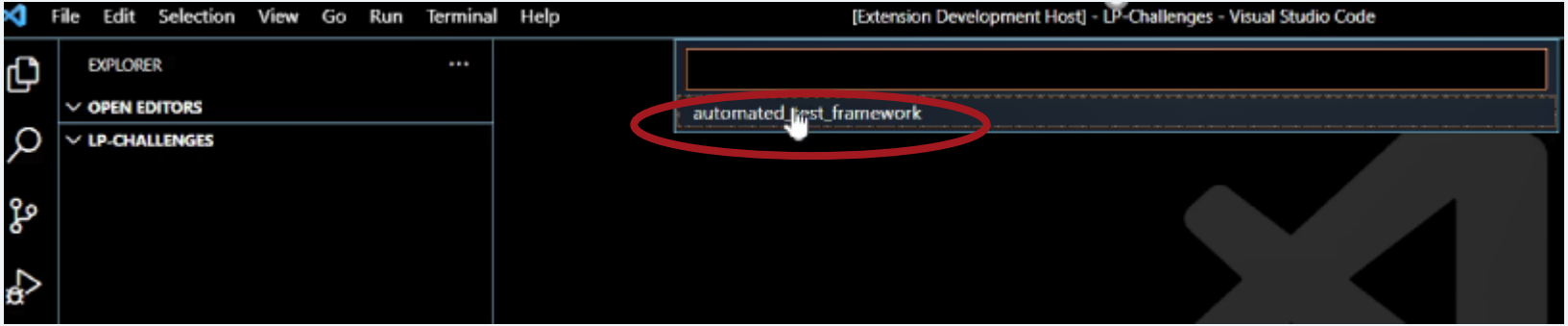

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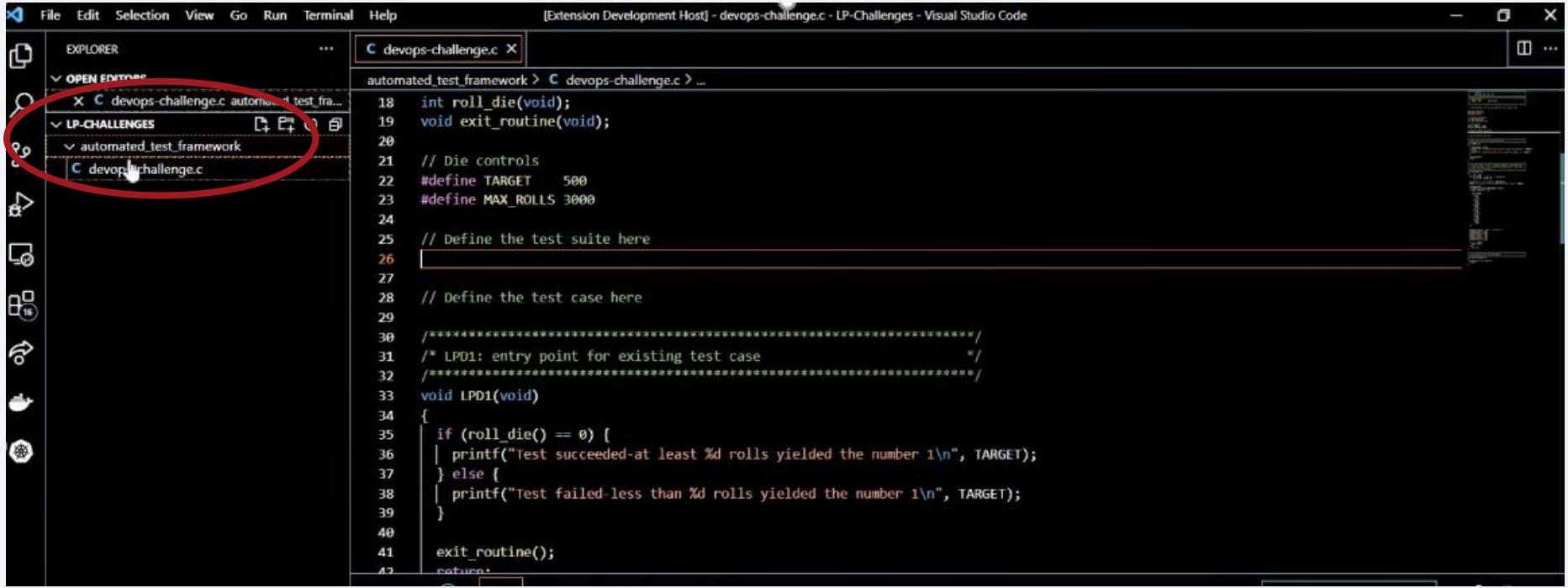


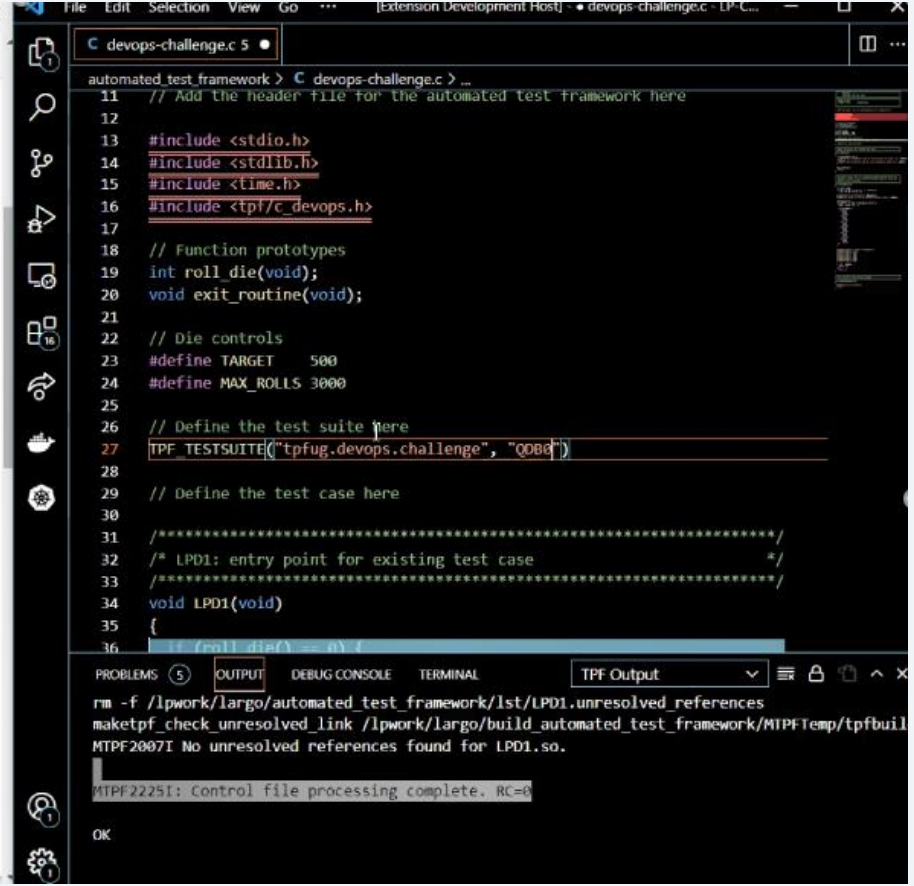
Step 3 : Make your updates according to the instructions.

automated-test-framework.pdf

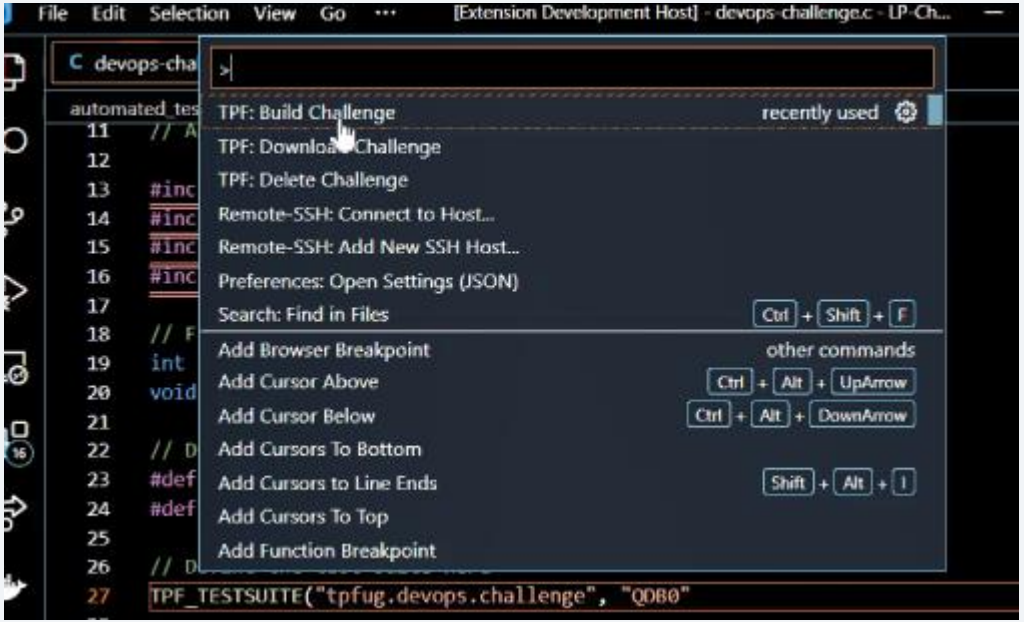
1 of 2

the challenge source files. A notification dialog will appear to inform you if the download was successful or not.

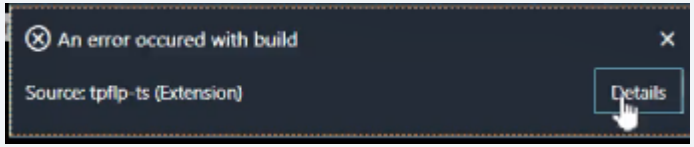
3. In the Explorer view, expand the `automated_test_framework` folder
4. Open the file `devops-challenge.c` in the editor
5. Modify the file to accomplish the following:
   - Include the header file needed to use the automated test framework macros
   - Define a test suite with the name `tpfug.devops.challenge` and a 4 character code coverage mask
   - Define a test case with the name `tpfug6` and a description of `TPFUG Challenge`
   - Copy the contents of the entry point function into the test case
   - Modify all the `printf` statements in your test cases to use both the `TPF_TC_INFO` and `TPF_TC_ERROR` macro.
     Remember that the automated test framework macros do not require the use of new line characters



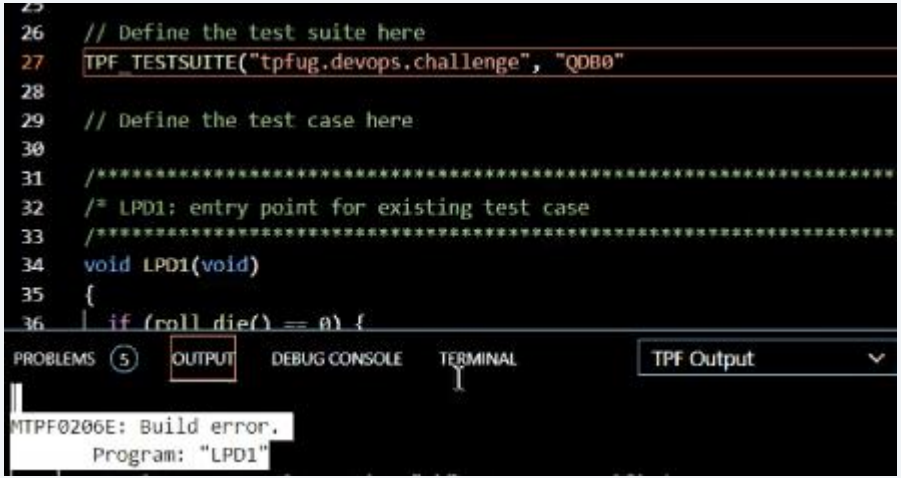
Step 4 : Issue the build command in the command palette.



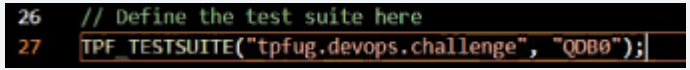
Step 5 : Update and rebuild until no errors found.



A. See details of build failure
B. Use build error to find error on line 27

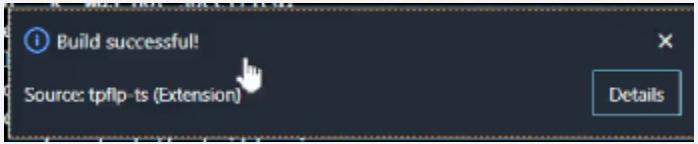


C. Fix line 27, adding parenthesis and colon

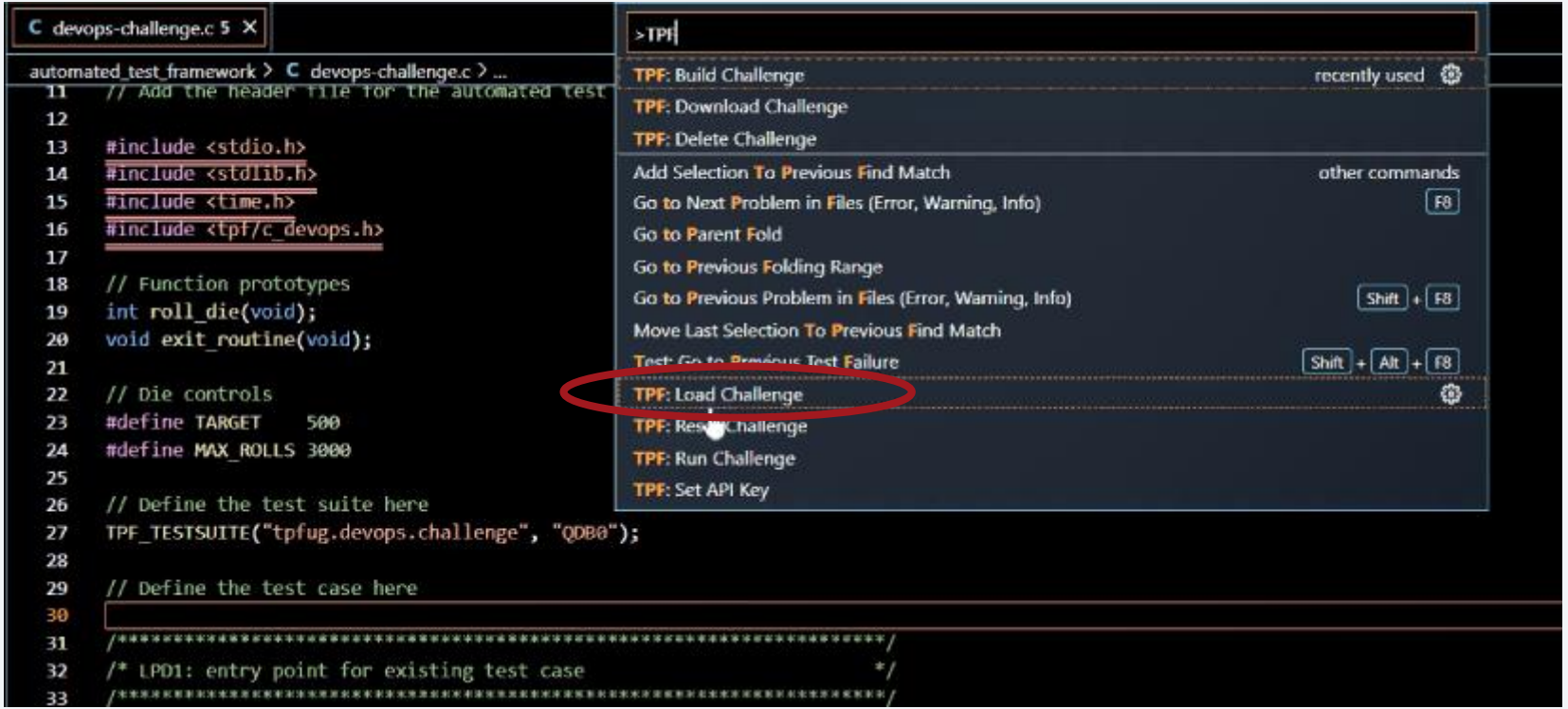


D. Select build in command palette

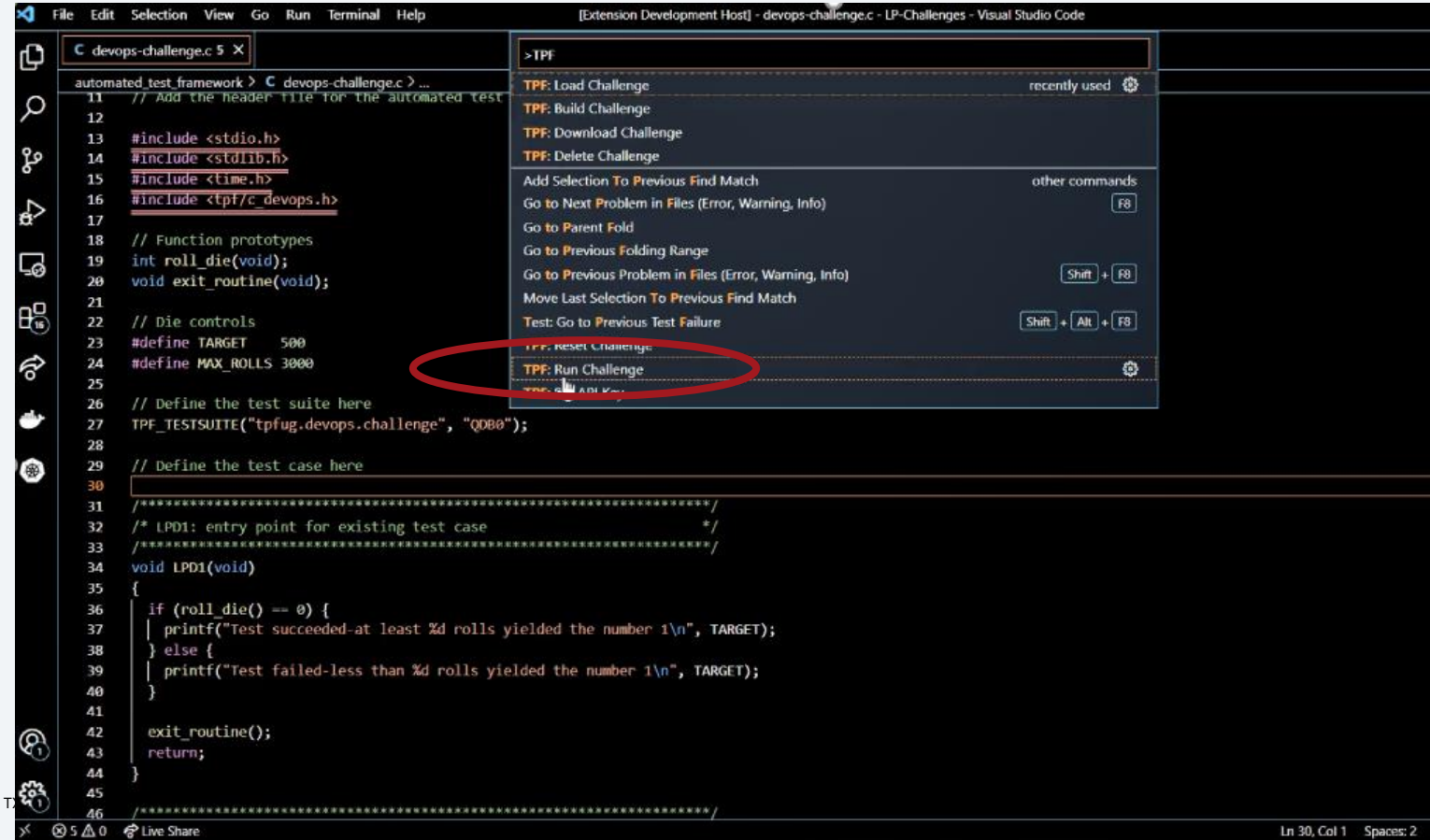
E. Build success



Step 6 : Issue the load command to real z/TPF system.



Step 7 : Issue the run command, which will run the code on a real z/TPF system.



Plan Forward

Target availability is 2H 2022 with 8 challenges.

Intent is to add challenges to the platform periodically.

Once the z/TPF Learning Platform goes live, we will provide the link via blog post.

Plan Forward

Initial challenges will cover:

- Automated test framework
- z/TPF Programming Models
- Business Events
- REST
- MongoDB
- z/TPFDF
- DFDL
- Java

Conclusion

- Interactive challenges
- Periodic new content
- No z/TPF environment setup
- Q&A discussion forum
- Means to track your progress
- Self-paced, on-demand accessibility
- Code loaded to real z/TPF system with all the necessary environment requirements available for challenges.

We want sponsor users!

Our development cycle is driven by your feedback.

We are looking for sponsor users to assist in design and implementation, targeting the following personas:

- Application Developer
- System Programmer
- New Hire Application Developer

We expect to begin engaging with the sponsor users in June 2022.

If you are interested in participating as a sponsor user, please contact:

Colette Manoni cmast@us.ibm.com

Kathleen Chalas kchalas@us.ibm.com

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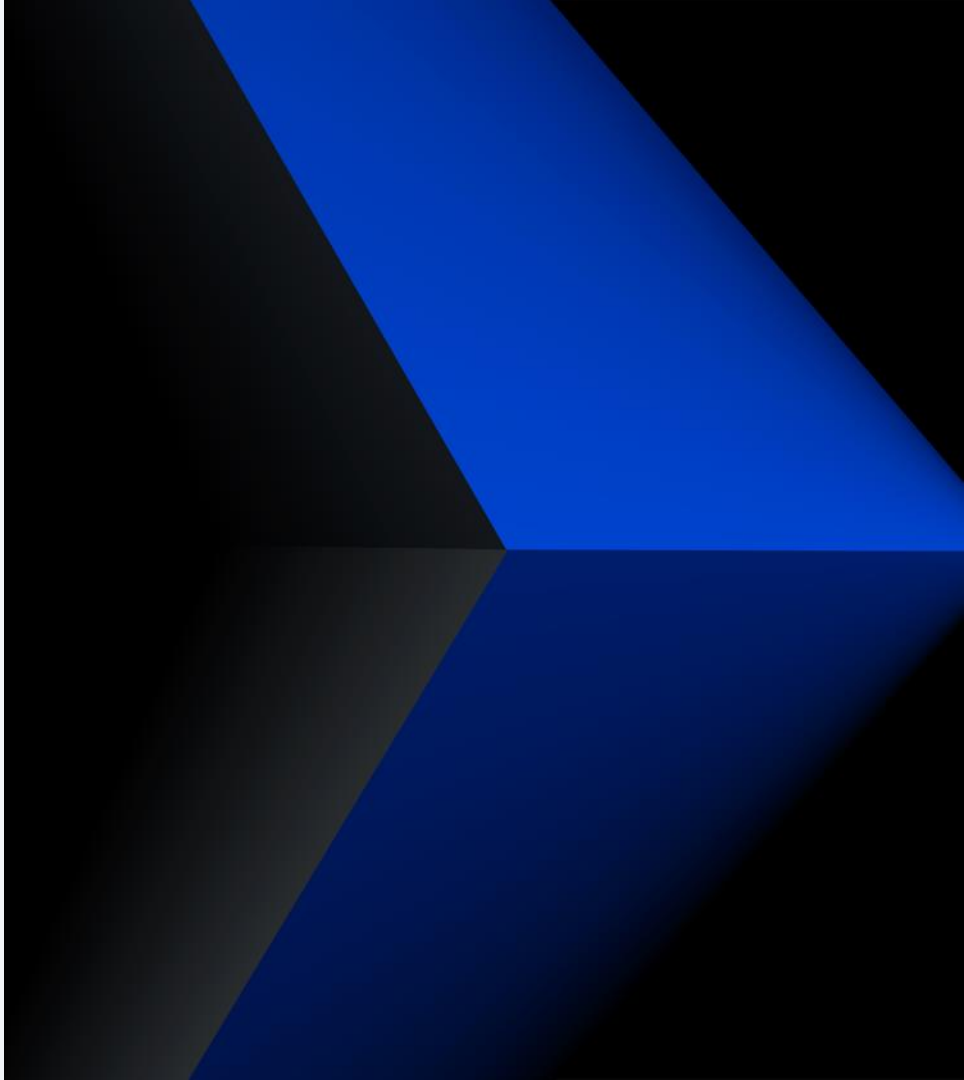

Thank you

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