

Operate and Extend Hyperledger Besu Workshop

Note: If you are interested in additional workshops focused on Hyperledger Besu, [fill out this short form to share your ideas with us about what content we should cover](#).

How to Operate and Extend the Hyperledger Besu Ethereum Client

Time:

- Thursday, July 14, 2022 from 8 AM to noon Pacific / 11 AM to 3 PM Eastern

Slides and Recording:

- [Video of the workshop](#)
- [Slides from part one](#)
- [Slides from part two](#)

Workshop description:

Antoine Toulme, Senior Engineering Manager at Splunk and a Hyperledger Besu maintainer, leads this technical workshop about how to operate and extend the Hyperledger Besu Ethereum client.

This workshop will contain two separate sessions -- one for operators and one for developers. You are welcome to stay for the whole event or just dial-in and stay for the content you're interested in.

Operation session (8AM to 10AM Pacific).

- 30 minutes intro to Besu - what it does, how it works
- 30 minutes on Besu configuration - environment variables, toml file, cli flags, hidden flags. Docker vs binary installation.
- 60 minutes on running a Besu network
 - 15 minutes on Besu in dev mode, curl, easy first steps.
 - 15 minutes on Genesis block generation
 - 30 minutes on consortium creation, with monitoring and health report, with a Docker compose.

Developer session (10AM to Noon Pacific).

- 20 minutes on Besu and Github - source (3 repos), issues, PRs, code checkout, CI.
- 20 minutes on setting up with an IDE. Run and compile with Gradle. Checks and validations in place with spotless and errorprone.
- 20 minutes on the main repository content, describing types of tests in place, showing the tree of dependencies between Gradle modules.
- 30 minutes on adding an opcode to the EVM: show how to add a new opcode, add to the next hard fork revision, how to test it.
- 30 minutes on how to add a new JSON-RPC method, add tests and docs.

Preparation:

Participants must meet the following prerequisites ([Hyperledger Besu Training Workshop Prerequisites](#) in structions):

- Have Linux running
- Install docker, curl, Java 11 and Git
- Download repos
- Sign up for access to the Hyperledger Besu [#besu-workshop Discord channel](#).
 - This channel will be used for tech support before and during the scheduled training.

Repo:

<https://github.com/atoulme/besu-workshop>

Learning Resources

If you'd like to prepare for this workshop by learning more about Besu and Ethereum, Hyperledger has tutorials that you can find at:

- [Hyperledger Besu Essentials: Creating a Private Blockchain Network edX course](#)
- [Besu documentation](#)
- [Besu Developer Quickstart](#)

And all **workshop attendees will receive a discount coupon** to use on any of the Linux Foundation's [paid training courses and certifications for Hyperledger](#).

Getting Involved

And if you'd like to get involved with the Besu community, you are welcome to do so. Everything the Besu project does is open to anyone who is interested. More details about connecting with Besu community members are below.

- [Besu Wiki](#)
- [Besu Mailing List](#)
- [Besu Chat](#)
- [Besu Meetings](#)