

# IETF Hackathon

**IETF 111**  
**19-23 July 2021**  
**Online**



# Welcome!

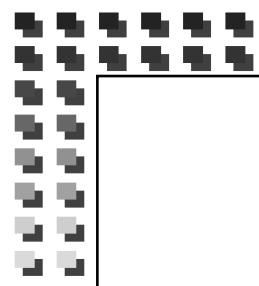


Gather  
password:  
notewell



# Why Are We Here

- Advance pace and relevance of IETF standards
  - Bring speed and collaborative spirit of open source community into IETF
  - Flush out ideas, feed into working group sessions
  - Produce sample code, reference implementations, utilities
- Attract developers, new people to IETF
  - Match new, skillful developers with IETF veterans
  - University engagement around hackathon projects



# Note Well

This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

As a reminder:

- By participating in the IETF, you agree to follow IETF processes and policies.
- If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.
- As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.
- Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.
- As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (<https://www.ietf.org/contact/ombudsteam/>) if you have questions or concerns about this.

Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- <https://www.ietf.org/privacy-policy/> (Privacy Policy)



# IPR and Code Contribution Guidelines

- Participants can work on any code
- Rules regarding code are per participant's organization and the code's license
- The code itself is NOT an IETF contribution
- Discussions, presentations, and demos in Hackathon are IETF contributions. In this context, Hackathon is like a working group, and the usual IETF copyright and IPR disclosure rules apply

The screenshot shows a GitHub repository page for 'p4-ipv6-switch-ml'. The repository has 3 stars, 5 forks, and 2 open issues. The 'Code' tab is selected, showing the 'LICENSE' file. The file content is the Apache License 2.0, which is a permissive license. It states that the code is licensed under the Apache License 2.0 and lists various permissions and limitations. The permissions include commercial use, modification, distribution, patent use, and private use. The limitations include trademark use, liability, and warranty. The conditions section notes that the license is for state changes. Below the file content, it says 'This is not legal advice. Learn more about repository licenses.'

```
Apache License  
Version 2.0, January 2004  
http://www.apache.org/licenses/  
  
TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION  
  
1. Definitions.  
  
"License" shall mean the terms and conditions for use, reproduction,  
and distribution as defined by Sections 1 through 9 of this document.
```

# Inclusive Language

- Contributions to the IETF, including Internet-Drafts and RFCs, are most understandable and effective when they use terminology that is clear, precise, and widely accessible to readers from varying backgrounds and cultures.
- The IESG hence encourages IETF participants to use the guidance in [NISTIR8366] when making contributions to the IETF. Although developed for use within the US National Institute of Standards and Technology (NIST), the IETF community expressed strong support for the sentiment that the guidance on inclusive language in [NISTIR8366] is suitable for the IETF as well [1,2]. Using the same terminology as other standards organizations and industry initiatives also contributes to overall coherence in the industry.
- <https://www.ietf.org/about/groups/iesg/statements/on-inclusive-language/>

# Projects

- On the [Hackathon wiki](#)
- Not sure which project to join?

The screenshot shows a web browser window with the title "111hackathon - Meeting Wiki". The URL is <https://trac.ietf.org/trac/ietf/meeting/wiki/111hackathon>. The page content is titled "Projects included in Hackathon (add your project using the template provided at end of project list)".

**ANIMA**

- Champion(s)
  - Michael Richardson <mcr+ietf at sandelman.ca>
- Project(s)
  - Constrained Voucher onboarding, please see: ↗ [https://docs.google.com/document/d/1T8Rtfk1zia\\_p05\\_6eb\\_WQa2Mmid-eP1-cAgnwdpF9Xk/edit?usp=sharing](https://docs.google.com/document/d/1T8Rtfk1zia_p05_6eb_WQa2Mmid-eP1-cAgnwdpF9Xk/edit?usp=sharing)

**Network Telemetry with BMP and YANG Push**

- Champion(s)
  - Thomas Graf (thomas.graf at swisscom.com), Paolo Luente (paolo at ntt.net), Pierre Francois (pierre.francois at insa-lyon.fr)
- YANG Push RFC and Draft(s)
  - UDP-based Transport for Configured Subscriptions (↗ <https://tools.ietf.org/html/draft-ietf-netconf-udp-notif>)
  - Subscription to Distributed Notifications (↗ <https://tools.ietf.org/html/draft-ietf-netconf-distributed-notif>)
  - Subscription to Distributed Notifications (↗ <https://tools.ietf.org/html/draft-ietf-netconf-distributed-notif>)
  - An HTTPS-based Transport for YANG Notifications (↗ <https://tools.ietf.org/html/draft-ietf-netconf-https-notif>)
- YANG Project(s)
  - Development of an open-source example YANG push UDP and HTTPS publisher.
  - Development of an open-source YANG push UDP and HTTPS receiver.
  - Perform interoperability tests.
- BMP RFC and Draft(s)
  - [RFC 7854](#) (↗ <https://tools.ietf.org/html/rfc7854>)
  - [RFC 8671](#) (↗ <https://tools.ietf.org/html/rfc8671>)
  - Support for Local RIB (↗ <https://tools.ietf.org/html/draft-ietf-grow-bmp-local-rib>)
  - TLV support for BMP Route Monitoring and Peer Down Messages (↗ <https://tools.ietf.org/html/draft-luente-bmp-tlv>)
  - BMP Extension for Path Marking TLV (↗ <https://tools.ietf.org/html/draft-cppy-grow-bmp-path-marking-tlv>)
  - BGP Route Policy and Attribute Trace (↗ <https://tools.ietf.org/html/draft-xu-grow-bmp-route-policy-attr-trace>)
- BMP Project(s)
  - Perform performance tests. Measure impact on BGP propagation delay and BMP metric loss.
  - Visualize BGP routing and peering topology with BMP and forwarding impact of topology changes with IPFIX metrics.

**BMWG - YANG model and implementation of Network Interconnect Tester**

- Champion(s)
  - Vladimir Vassilev (vladimir at lightside-instruments.com)
- Project(s)
  - Model and implementation of YANG/NETCONF managed [RFC2544](#) capable Network Interconnect Tester
- Specifications:
  - ↗ <https://tools.ietf.org/html/draft-vassilev-bmwg-network-interconnect-tester>
- Repositories
  - Scripting - ↗ [YANG/NETCONF benchmark orchestration code](#)
  - Software - ↗ [YANG/NETCONF device side code](#)
  - Firmware - ↗ [HDL](#)

<https://tools.ietf.org/html/rfc7854> ↗ [board design](#)

# Projects

- On the [Hackathon wiki](#)
  - Not sure which project to join?
  - Check the [Lost & Found](#)

111hackathon/lost&found - Meet X +



I E T F®

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wiki: 111hackathon / lost&found

Up | Start Page | Index | History

## Hackathon Lost & Found

Are you a hackathon participant looking for a team to join?  
Are you championing a hackathon project and in need of some specific expertise?  
If you answered yes to either of these, you have come to the right place.

Participants looking for a team are encouraged to add themselves to the "Skills to Offer" table, providing some information about their skills and interests. This will help others with matching needs and/or interests find you.

Champions wanting help on their projects are encouraged to add themselves to the "Skills Needed" table, providing some information about the skills they seek.

---

### Skills to Offer

Name	Email Address	Skills and/or interests you have to offer

---

### Skills Needed

Name	Email Address	Skills your team needs

---

To edit the wiki, log in using your IETF datatracker login credentials. If you don't yet have an IETF datatracker account, you may get one by going here <https://datatracker.ietf.org/accounts/create/> and requesting a new account.

Edit this page Attach file

Last modified 3 months ago

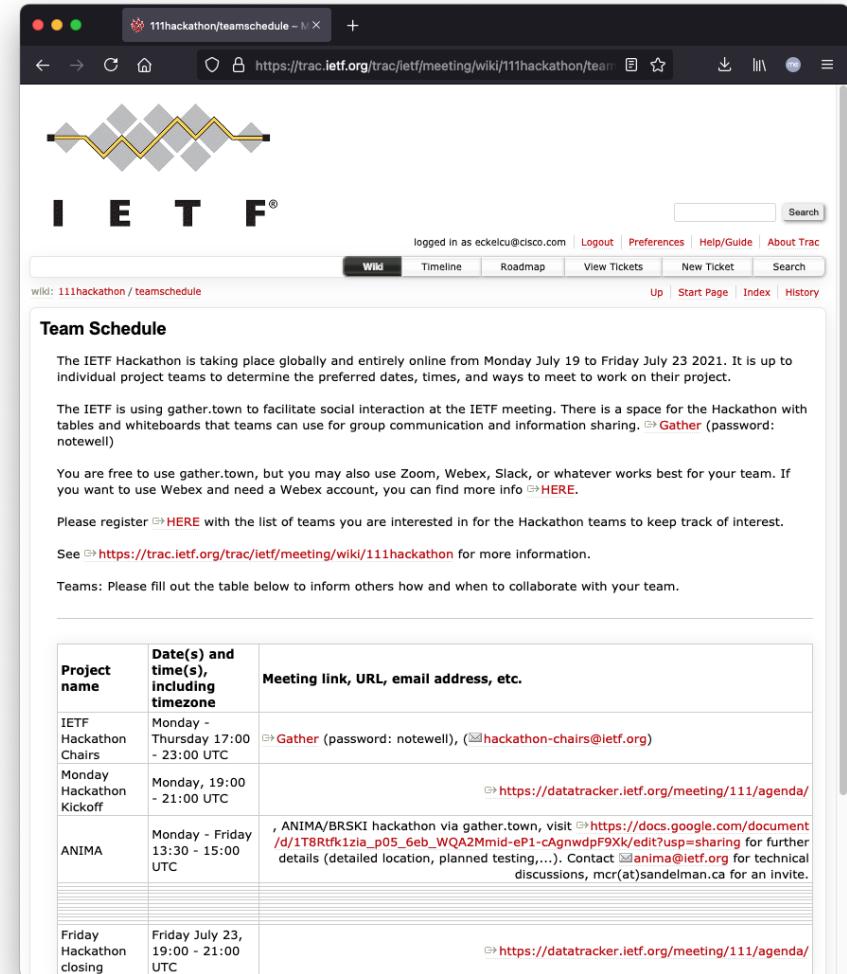
Download in other formats:  
Plain Text

Powered by Trac 1.0.10  
By Edgewall Software.

Visit the Trac open source project at  
<http://trac.edgewall.org>

# Agenda

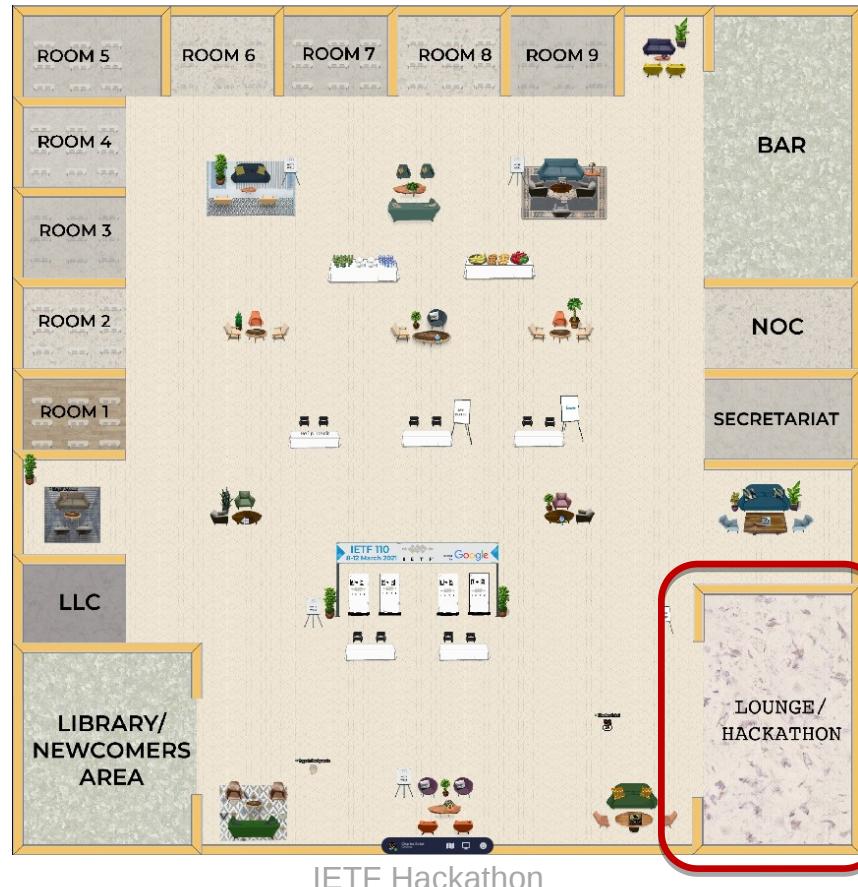
- Monday, 19 July 2021
  - Hackathon Kickoff - 12:00 - 14:00 PDT (19:00 - 21:00 UTC) [Meetecho](#)
- Monday, 19 July - Friday, 23 July
  - Teams work on projects, see [Team Schedule](#)
- Friday, 23 July 2021
  - Hackathon Kickoff - 12:00 - 14:00 PDT (19:00 - 21:00 UTC) [Meetecho](#)



The screenshot shows a web browser window for the IETF Hackathon Team Schedule. The URL is <https://trac.ietf.org/trac/ietf/meeting/wiki/111hackathon/team>. The page features a decorative header with a yellow zigzag line and grey diamonds, followed by the IETF logo. The main content area is titled "Team Schedule". It contains several paragraphs of text about the hackathon's global nature, the use of gather.town for social interaction, and instructions for teams to register their interest. Below this is a table with columns for "Project name", "Date(s) and time(s), including timezone", and "Meeting link, URL, email address, etc.". The table lists four entries: IETF Hackathon Chairs (Monday - Thursday 17:00 - 23:00 UTC, Gather password: notewell, [hackathon-chairs@ietf.org](mailto:hackathon-chairs@ietf.org)), Monday Hackathon Kickoff (Monday, 19:00 - 21:00 UTC, <https://datatracker.ietf.org/meeting/111/agenda/>), ANIMA (Monday - Friday 13:30 - 15:00 UTC, ANIMA/BRSKI hackathon via gather.town, visit [https://docs.google.com/document/d/1T8Rtfk1zia\\_p05\\_6eb\\_WQA2Mmid-eP1-c4gnwdpF9Xk/edit?usp=sharing](https://docs.google.com/document/d/1T8Rtfk1zia_p05_6eb_WQA2Mmid-eP1-c4gnwdpF9Xk/edit?usp=sharing) for further details, contact [anima@ietf.org](mailto:anima@ietf.org) for technical discussions, mcr(at)sandelman.ca for an invite), and Friday Hackathon closing (Friday July 23, 19:00 - 21:00 UTC, <https://datatracker.ietf.org/meeting/111/agenda/>).

# Gather <https://gather.town/app/L4fNNdm1NJJa1sE2v/ietf>

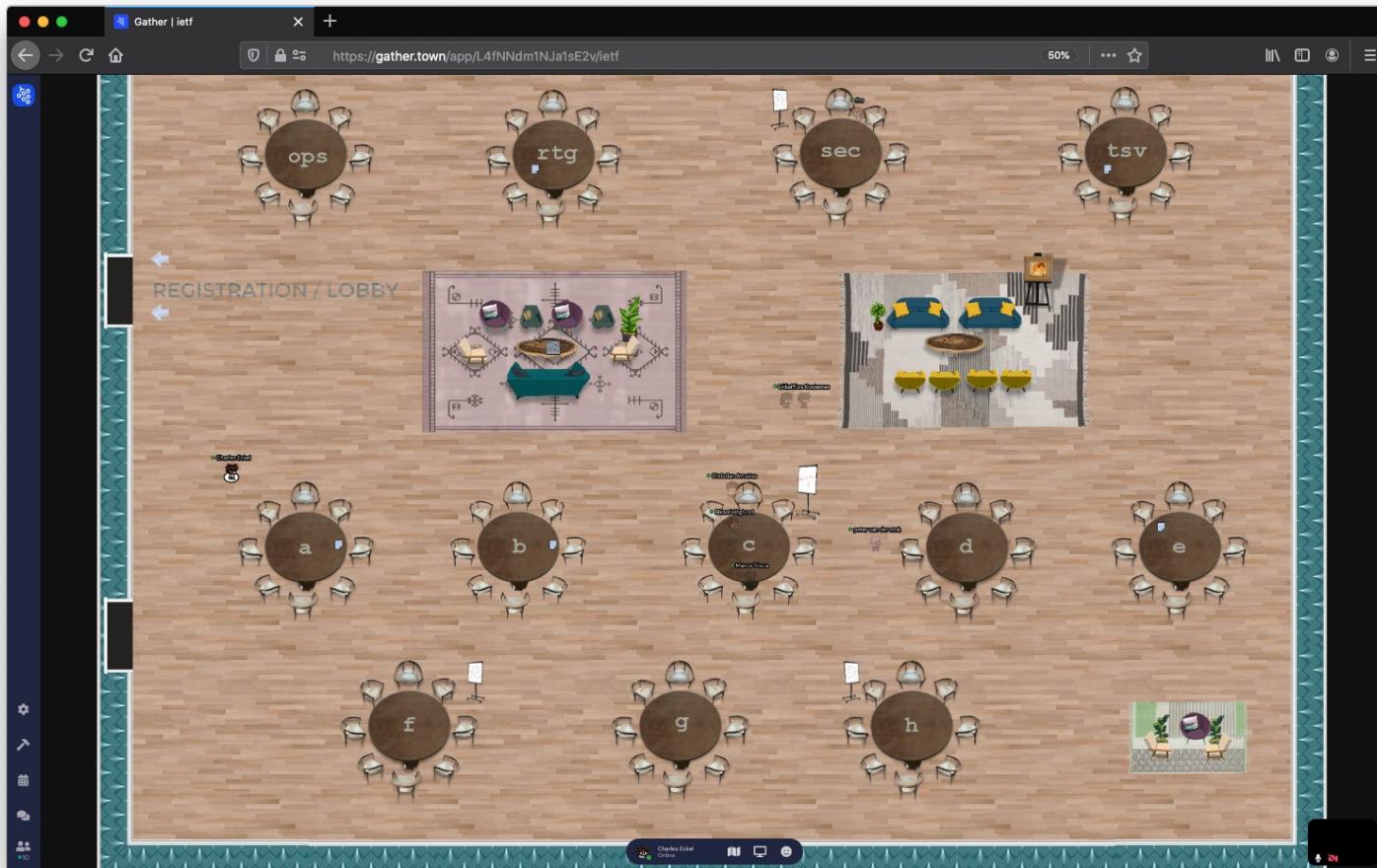
Note - Screenshot is from IETF 110, Gather space for IETF 111 is similar



# Hackathon Space



# Hackathon Tables



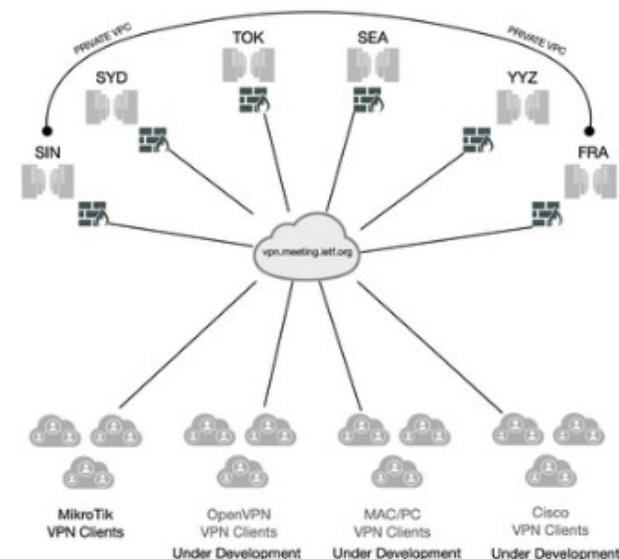
# Shared Documents via CodiMD and Whiteboards



# HackNet (<https://hacknet.meeting.ietf.org>)

- The NOC team experiment allows you to join the IETF network while attending remotely
- Version 2 is a complete rebuild of the network
  - Auto provisioning of credentials and device configuration
  - MikroTik is the only hardware that is supported
  - More device types to be added
  - Legacy Pi network is still active but will not have future development or support

HackNet VPN Diagram



# Project Presentations

1. What problem you tried to solve?

2. What you achieved?

3. Highlights

- Lessons learned
- Feedback to working group
- Open source, other SDOs

***5 minutes max***

The screenshot shows a video conference interface for the IETF 109 hackathon. On the left, there is a list of participants, including Charles Eckel (Hackathon Chair), Thomas Graf, -Divru-Dhody, Alessandro Amirante, Barry Leiba, Barry Leiba, Benson Muite, Bien Mugabarigira, Carsten Bormann, Dhruv Dhody, Dieter Sibold, Dominique Barthel, english, and Fabio Bulbarella. On the right, a slide titled "What we learned" is displayed. The slide contains two bulleted lists: "Good" and "Bad".

- Good
  - With the 4<sup>th</sup> hackathon, nice team collaboration and good spirit.
  - Slack helped to keep connected through different time zones.
- Bad
  - Yet again, missing beers and cocktails after ☺

At the bottom of the slide, the number "16" is visible. The video conference interface also shows audio input at 28 kbps and a recording button. The overall theme of the slide is positive feedback from the hackathon.

<https://github.com/ietf-hackathon>

 **IETF-Hackathon**  
Repository for sharing code, presentations, and other artifacts at IETF hackathons  
[hackathon@ietf.org](mailto:hackathon@ietf.org)

Repositories 26 Packages People 134 Teams Projects Settings

Type Language Sort Customize pins [New](#)

**ietf111-project-presentations**  
Presentations of project results at end of hackathon  
HTML 2 ⭐ 0 ⚡ 0 Updated 11 hours ago

**ietf110-project-presentations**  
Presentations of project results at end of hackathon  
HTML 5 ⭐ 3 ⚡ 1 Updated on Mar 11

**ietf109-project-presentations**  
Presentations of project results at end of hackathon  
1 ⭐ 3 ⚡ 1 Updated on Nov 19, 2020

**NSDCatZ**  
Proof of concept NSD implementation of draft-ietf-dnsop-dns-catalog-zones  
Python 0 ⭐ 2 ⚡ 0 Updated on Nov 19, 2020

Top languages

- C
- HTML
- Python
- Shell
- P4

People 134 >



Invite someone

<https://github.com/ietf-hackathon>

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Find a repository... Type Language Sort Customize pins New

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Top languages C HTML Python Shell P4

People 134 >

Invite someone



eckelcu update for IETF 111 ✓

Latest commit b1093b6 on Apr 23 ⏲ History

By 1 contributor

15 lines (9 sloc) | 1.77 KB

[Raw](#)[Blame](#)

## IETF 111 project presentations

This repo is for IETF Hackathon participants to upload their project presentations. For your convenience, presentation templates are provided in [PPTX](#) and [HTML](#) formats. Use of these templates is optional. The contents of this repo will be used as the source for all project presentations at the end of the Hackathon and remain as a reference after the Hackathon. Presenters are encouraged to run their own presentations using the screen sharing functionality in Meetecho. Alternatively, the Hackathon Chairs can share your presentation and advance slides for you. **For portability, please upload your presentation in PDF or HTML format.**

You **MUST** be a [member](#) of the [IETF-Hackathon GitHub org](#) to upload a new presentation or update/replace an existing presentation.

To be added as a member, please be sure to:

- include the [name](#) by which you are known as part of your GitHub profile
- enable two factor authentication ([2FA](#))
- send your GitHub user name to [hackathon-chairs@ietf.org](mailto:hackathon-chairs@ietf.org)

Please do this at your earliest convenience. **DO NOT WAIT** until just before project presentations start or your request may be lost in the chaos.

For more info on the Hackathon, including the complete and most up to date agenda, please see the [Hackathon Wiki](#).



eckelcu update for IETF 111 ✓

Latest commit b1093b6 on Apr 23 ⏲ History

By 1 contributor

15 lines (9 sloc) | 1.77 KB

[Raw](#)[Blame](#)

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**IETF-Hackathon / ietf111-project-presentations**

Code Issues Pull requests 1 Actions Projects Wiki Security Insights Settings

main 1 branch 0 tags Go to file Add file Code

eckelcu	Set theme jekyll-theme-cayman	bf0f3b5 yesterday	6 commits
README.md	update for IETF 111	3 months ago	
_config.yml	Set theme jekyll-theme-cayman	yesterday	
hackathon-presentation-template.pptx	update for IETF 111	3 months ago	
hackathon-presentation-template.html	update for IETF 111	3 months ago	

**About**  
Presentations of project results at end of hackathon

Readme

**Releases**  
No releases published Create a new release

**Packages**  
No packages published Publish your first package

**Environments** 1  
github-pages Active

**Languages**

**README.md**

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**THANK  
YOU!**



# Questions?



# Let's Start Coding!

