

Interview Guideline

Questions **in red** are for organizational self-hosters.

1 Introduction

Hello. Thank you for your interest in participating in our study! My name is \$NAME\$ and I am a researcher at \$INSTITUTE\$. If you have any questions about me or the study, we can talk about them first, then I'll ask your consent to start the recording and we'll start. First, let's quickly go over how today's study is going to work. I'm going to ask you questions about your experiences with self-hosting in general and Nextcloud in particular. I expect that our conversation will take approximately one hour. You can feel free to let me know if you don't want to answer a question, and we'll move on to the next question or we can stop the study, just let me know. Are you ok to start the recording? I would like to begin with a few baseline questions about your reasons and contexts you use Nextcloud.

2 Domains and Reasons for Adoption

1. I'd like to get to know you a bit to get started. Please tell me about your educational and professional background.
2. How did you get into self-hosting?
 - a. [if privacy mentioned] What does privacy mean to you?
 - b. **[✓ answer] Is this a requirement for your company?**
3. Which other products are you using simultaneously?
4. What needs to happen to make you switch to Nextcloud entirely?
5. Please tell me in which contexts you use Nextcloud.
 - (a) For which purposes are you using it?
 - (b) Who else is using your Nextcloud instance?
 - (c) **Who are the clients?**
 - (d) **How many clients?**
 - (e) **Do the clients have special requirements towards you?**
 - (f) **Can you characterize your users/clients? (demography)**
6. Who hosts the Nextcloud instance you are using?
7. **Do you host a redundant Nextcloud for testing?**
 - (a) *If self-hosted:*
 - (a) Are you the only one maintaining it?
 - (b) Please tell me about your set-up.

- i. Which kind of server is Nextcloud running on?
 - ii. Which operating system are you using?
 - iii. Are you using any kind of virtualization to run Nextcloud (VMs, Docker)?
 - iv. How is your Nextcloud reachable to its users?
 - (c) How did you end up with this specific set-up?
 - i. Did you encounter problems with:
 - a) Hardware, b) Operating System, c) Virtualization, d) Software, e) Network?
 - 8. Are you hosting any other services yourself?
 - (a) Please tell me about them.
 - (b) On which infrastructure does _____ run?
- Thank you very much. Next up, I'd like to talk about how you first set-up your instance and any issues you might have encountered.

3 Roadblocks of (Secure) Self-Hosting

Setting-Up the System

1. Please describe your journey with Nextcloud. When did you first set-up Nextcloud? How often did you do new installations? When was the last time you did a full installation of Nextcloud?
2. Which issues did you face when first setting-up Nextcloud?
 - (a) How did you proceed to fix those? (for each)
 - (b) Where the issues Nextcloud specific, or caused by your set-up?
3. What could be done to make the process of first setting-up the system easier?

Maintaining the System

1. How/What do you do to maintain Nextcloud/your set-up?
2. Which issues did you face while maintaining/working with Nextcloud?
 - (a) How did you fix those?
 - (b) Did you adapt any strategies to prevent something like that from happening again?
 - i. Please tell me about those.
 - (c) Do you believe the security of your system was at risk at any point?
 - i. Which steps did you take to maintain the security of your system?
3. How could maintenance of Nextcloud be made easier for you?

4 Attacks and Threat Models

Awesome. Next up, I'd like to talk about security.

1. Which security/privacy breaches or issues did you encounter with your self-hosted system?
 - (a) Who was the attacker?

- (b) How was the attack executed?
- (c) Which damage was done to your system?
- (d) How did you respond to the breach?
- (e) How are you planning to prevent such an attack from happening in the future?
- (f) In how far would switching to a commercial solution prevent such an attack from happening?
 - i. Why did(n't) you change back to a commercial solution?
- 2. Who is responsible for securing your Nextcloud instance?
- 3. What is your approach to keeping your Nextcloud instance secure?
- 4. What are your requirements and guidelines for security?
- 5. Do you believe you came up with a secure set-up of your self-hosted system?
 - (a) Which security mechanisms did you deploy?
 - i. How is (security mechanism) protecting your instance?
- 6. Who are you protecting from?
- 7. Why would someone be interested in attacking your self-hosted system?
- 8. What else could you do to enforce security?
 - (a) Why didn't you do this?
- 9. At which point could your system be vulnerable? (software, hardware, network, user)
 - (a) How could the vulnerability be used to attack your system?
 - (b) Which measures are you currently taking to prevent such an attack from happening?
- 10. What could be done to help you secure your self-hosted system?
- 11. Which factors or constraints are currently preventing you from keeping your self-hosted system secure?
- 12. Did any security feature ever cause breakage? (for Nextcloud or any other self-hosted service)

5 Demography

- 1. How old are you?
- 2. What is your gender?
- 3. What is the highest level of school you have completed or the highest degree you have received?
- 4. What is your occupation?
- 5. Do you have a technical background? Please specify.
- 6. Do you have any background in security? Please specify.
- 7. Size of your company
- 8. Sector of operation
- 9. Size security team
- 10. Size operations team