

云存储应用技术

实验三：文件托管服务

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搭建实验环境

安装及使用 Syncthing

- ❖ 启用 VirtualBox 虚拟网卡
- ❖ 从开始菜单或桌面 Docker QuickStart Terminal 图标启动 Docker Toolbox
- ❖ 启动 Docker Container: `docker run -dti -p 22 -p 8384 ubuntu-sshd:18.04`
- ❖ 查询 SSH 端口: `docker ps -a`
- ❖ 通过 SSH 连接到 Container: `ssh -p <22> admin@192.168.99.100`
- ❖ 密码: screencast

搭建实验环境

安装及使用 Syncthing

- ❖ Syncthing
- ❖ <https://syncthing.net/>
- ❖ 完全开源，源代码: <https://github.com/syncthing/syncthing/>
- ❖ Syncthing 是一个开源的文件同步客户端与服务端软件，采用 Go 语言编写
- ❖ 它可以在本地网络上的设备之间或通过 Internet 在远程设备之间同步文件
- ❖ 内核使用了其独有的对等自由块交换协议

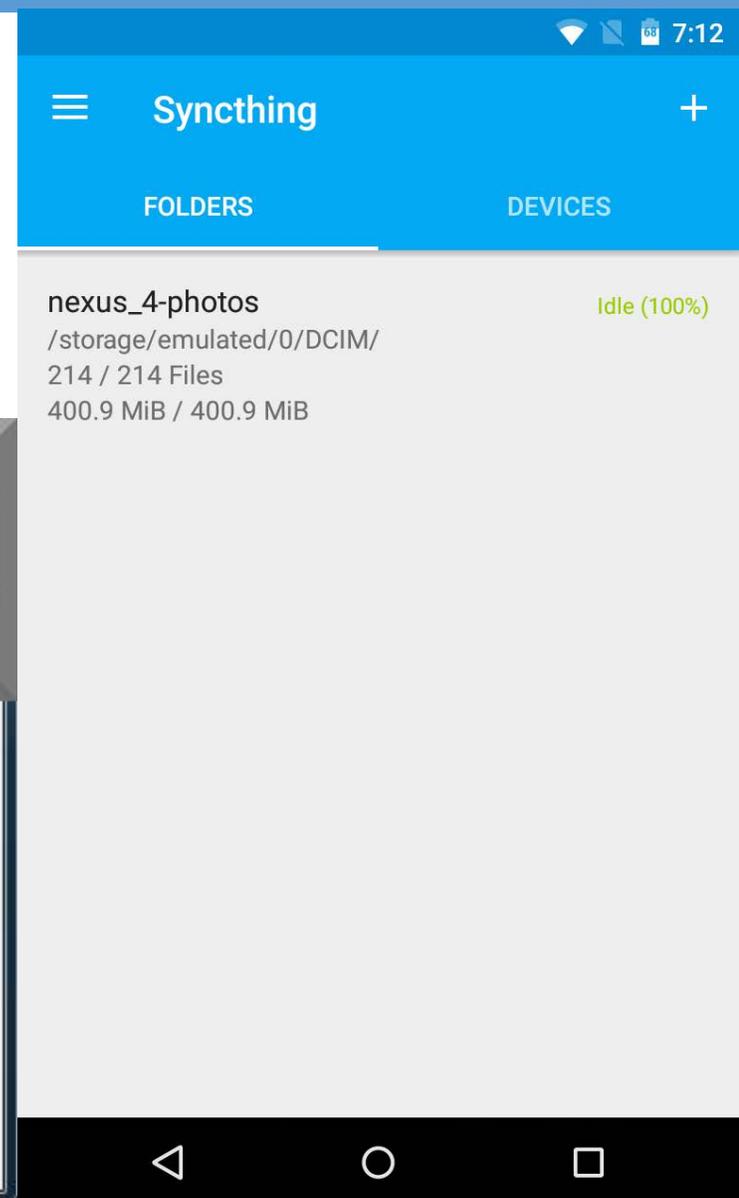
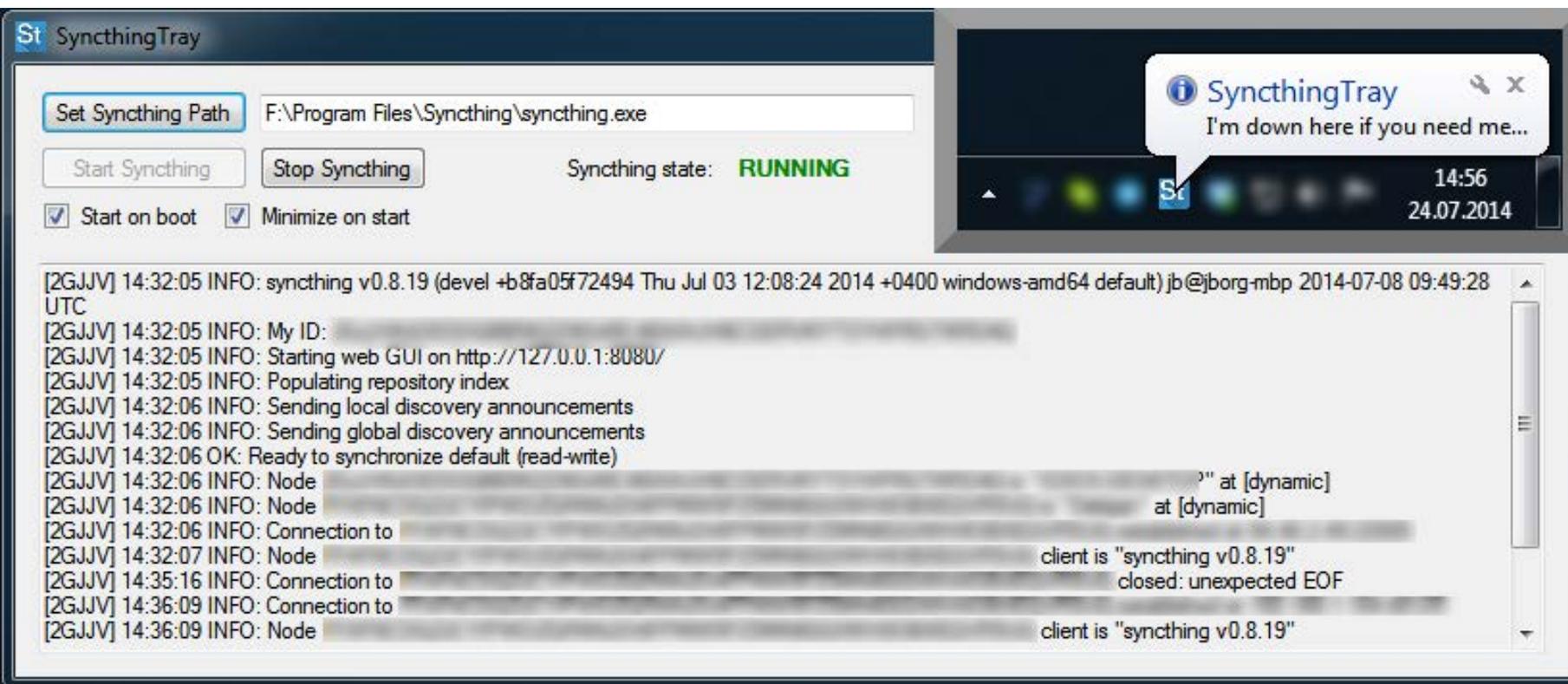


- ❖ Syncthing
- ❖ <https://syncthing.net/>
- ❖ 完全开源，源代码：<https://github.com/syncthing/syncthing/>
- ❖ Windows: <https://github.com/canton7/SyncTrayzor/releases/latest>
- ❖ macOS: <https://github.com/syncthing/syncthing-macos/releases/latest>
- ❖ Linux: <https://github.com/syncthing/syncthing/releases/latest>
- ❖ Android: <https://f-droid.org/packages/com.nutomic.syncthingandroid/>
- ❖ 暂时不支持 iOS

搭建私有文件托管服务系统

安装 Syncthing

- ❖ 在 Windows、Android 上安装 Syncthing
- ❖ 下载安装包，运行安装程序即可
- ❖ 成功启动后，任务栏中会出现 Syncthing 的图标

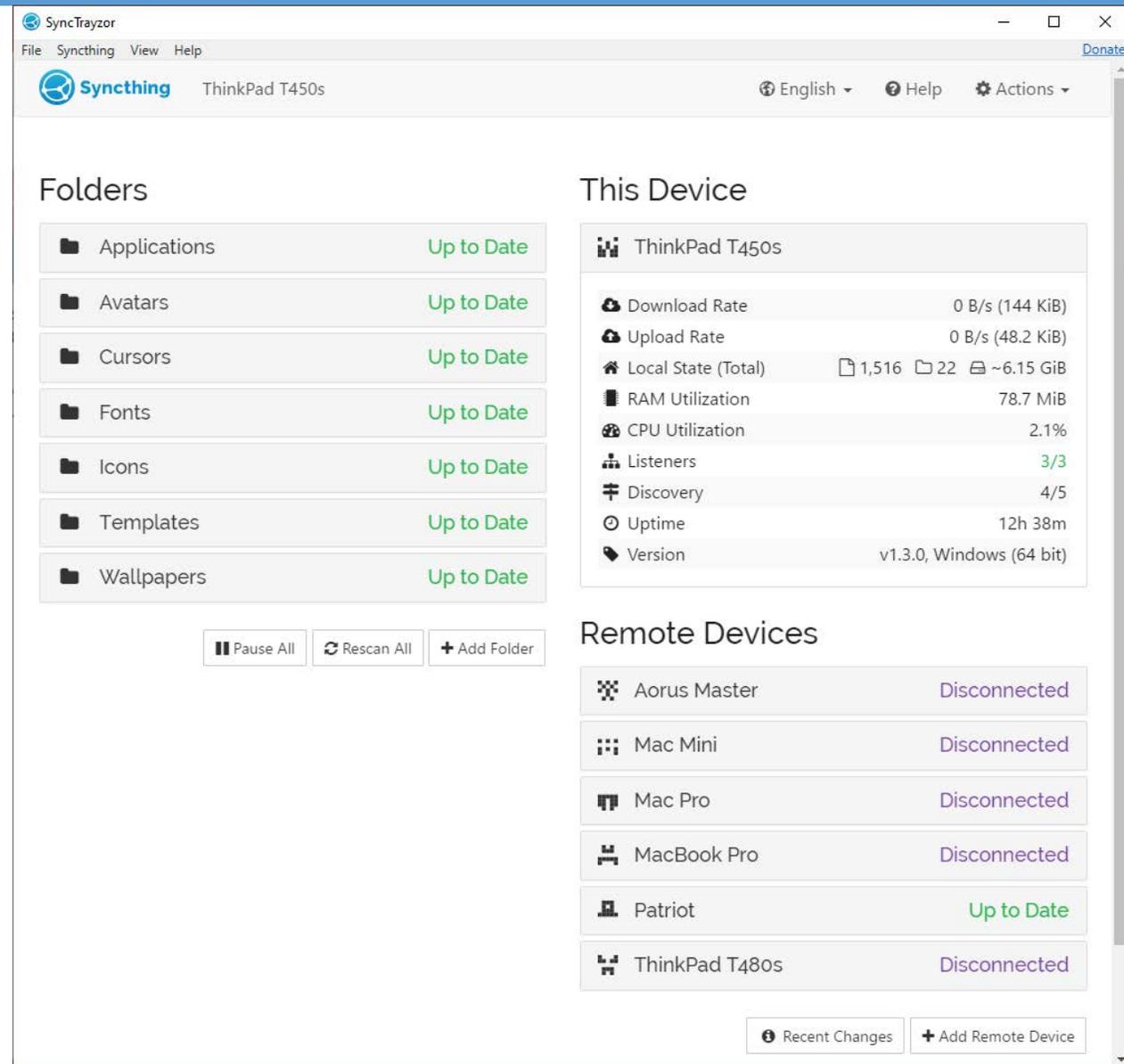


- ❖ 在 Linux (Ubuntu) 上安装 Syncthing
- ❖ <https://docs.syncthing.net/intro/getting-started.html>
- ❖ `sudo apt update`
- ❖ `sudo apt install screen syncthing`
- ❖ `screen`
- ❖ `syncthing`
- ❖ 如需退出 screen, 请按下: `Ctrl+A,D`

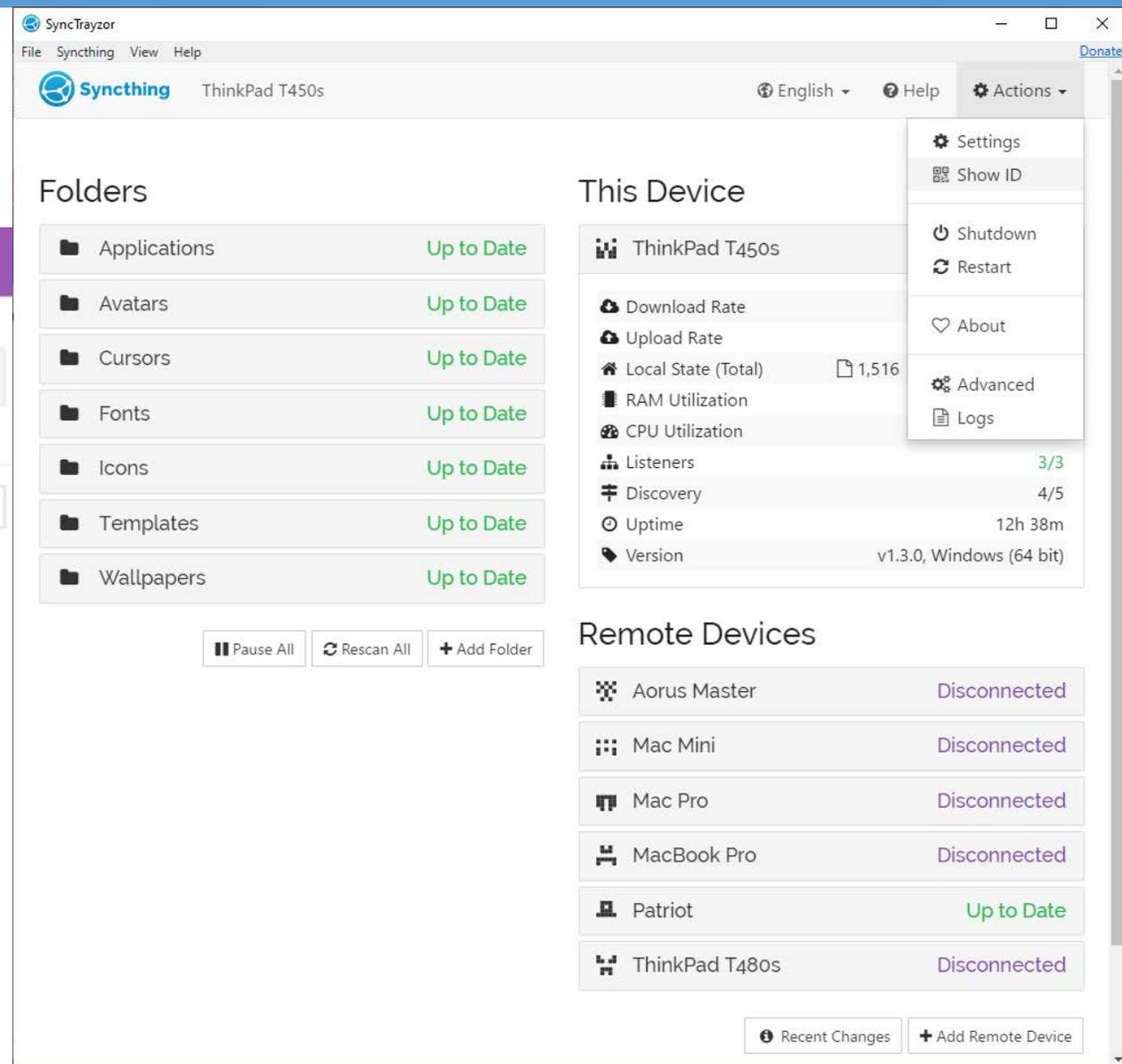
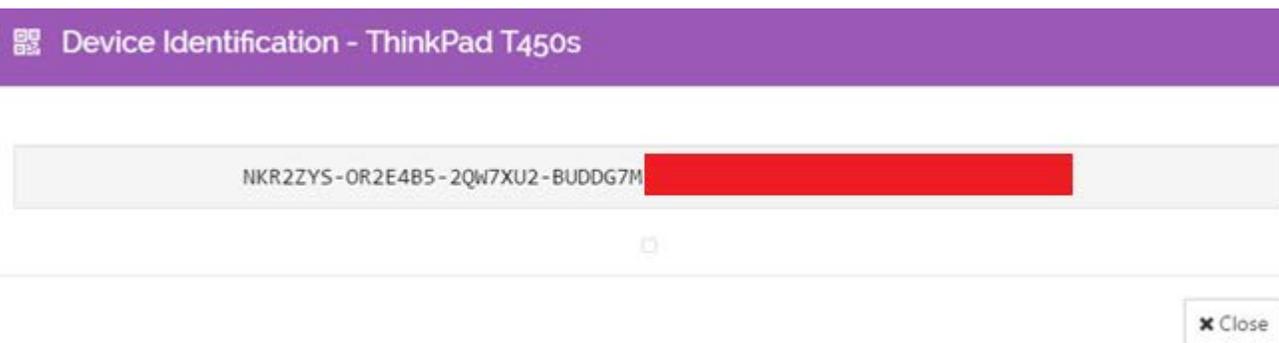
- ❖ 在 macOS 上安装 Syncthing
- ❖ <https://docs.syncthing.net/intro/getting-started.html>
- ❖ `brew install syncthing`
- ❖ `screen`
- ❖ `syncthing`
- ❖ 如需退出 screen, 请按下: `Ctrl+A,D`

- ❖ 修改 Syncthing 监听地址
- ❖ 默认情况下，Syncthing 仅监听本机 localhost (127.0.0.1)
- ❖ 如果需要从其他地址访问（例如，使用了 Docker），则需要修改监听地址
- ❖ 首先通过 Ctrl+C 停止 Syncthing 进程
- ❖ 然后修改 Syncthing 配置文件：`vim ~/.config/syncthing/config.xml`
- ❖ 找到：`<gui enabled="true" tls="false" debugging="false"></gui>`
- ❖ 将其中的 `<address>127.0.0.1:8384</address>` 改为：
- ❖ `<address>0.0.0.0:8384</address>`
- ❖ 修改完毕后再次启动 Syncthing 即可
- ❖ 如不会用 Vim 请参考上一堂讲义《02 - 网络存储》pp. 20

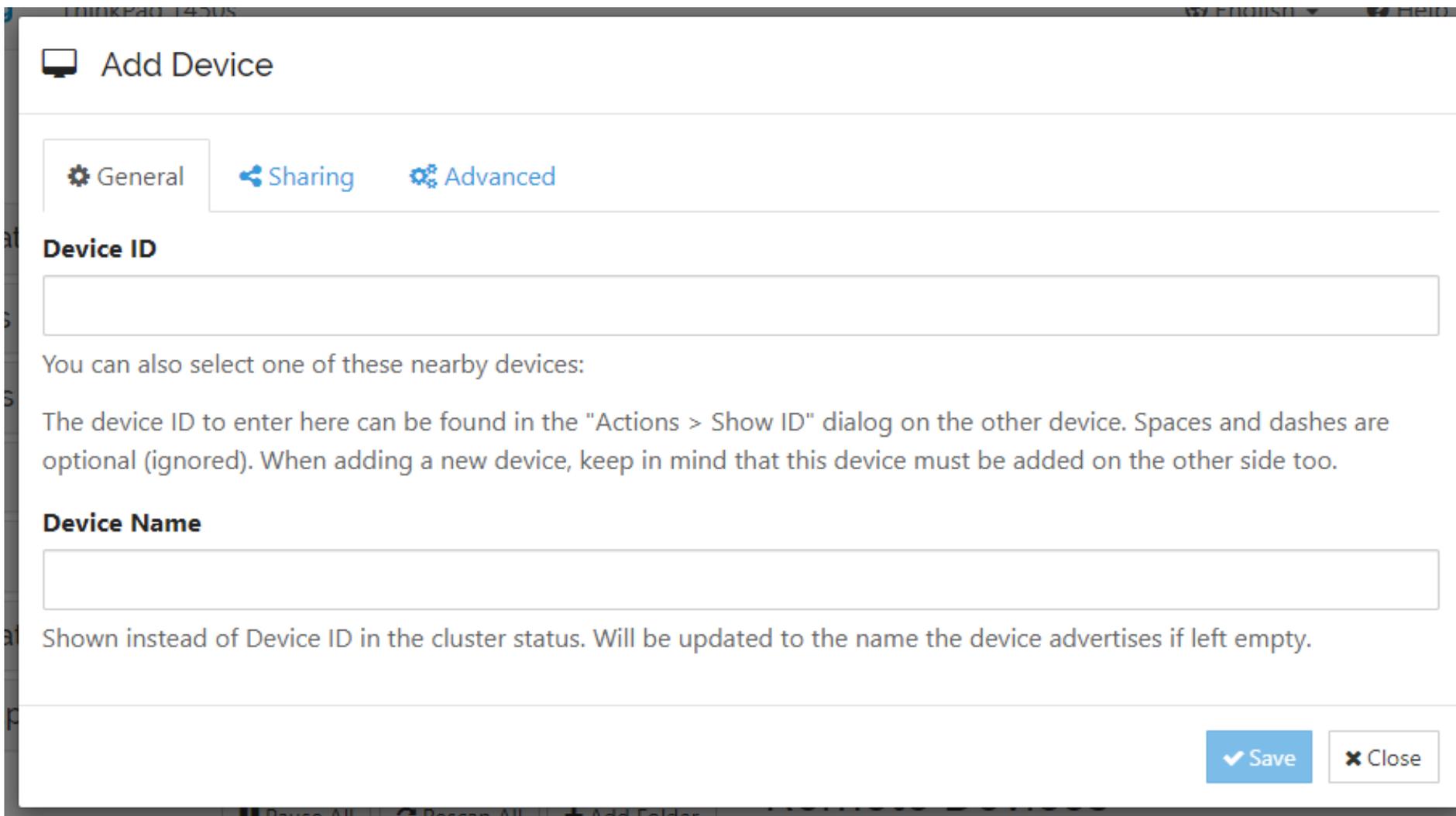
- ❖ 安装完毕并成功启动 Syncthing 后，可以访问 Syncthing 的控制台：
- ❖ `http://192.168.99.100:<8384>`
- ❖ **注意：**8384 是默认端口，如果使用了 Docker 且 8384 被占用，请仔细查阅 Docker Container 的映射端口（通常来说是 32769）



- ❖ 主页中点击右上角的“Actions”按钮可以查看本机的 Device ID

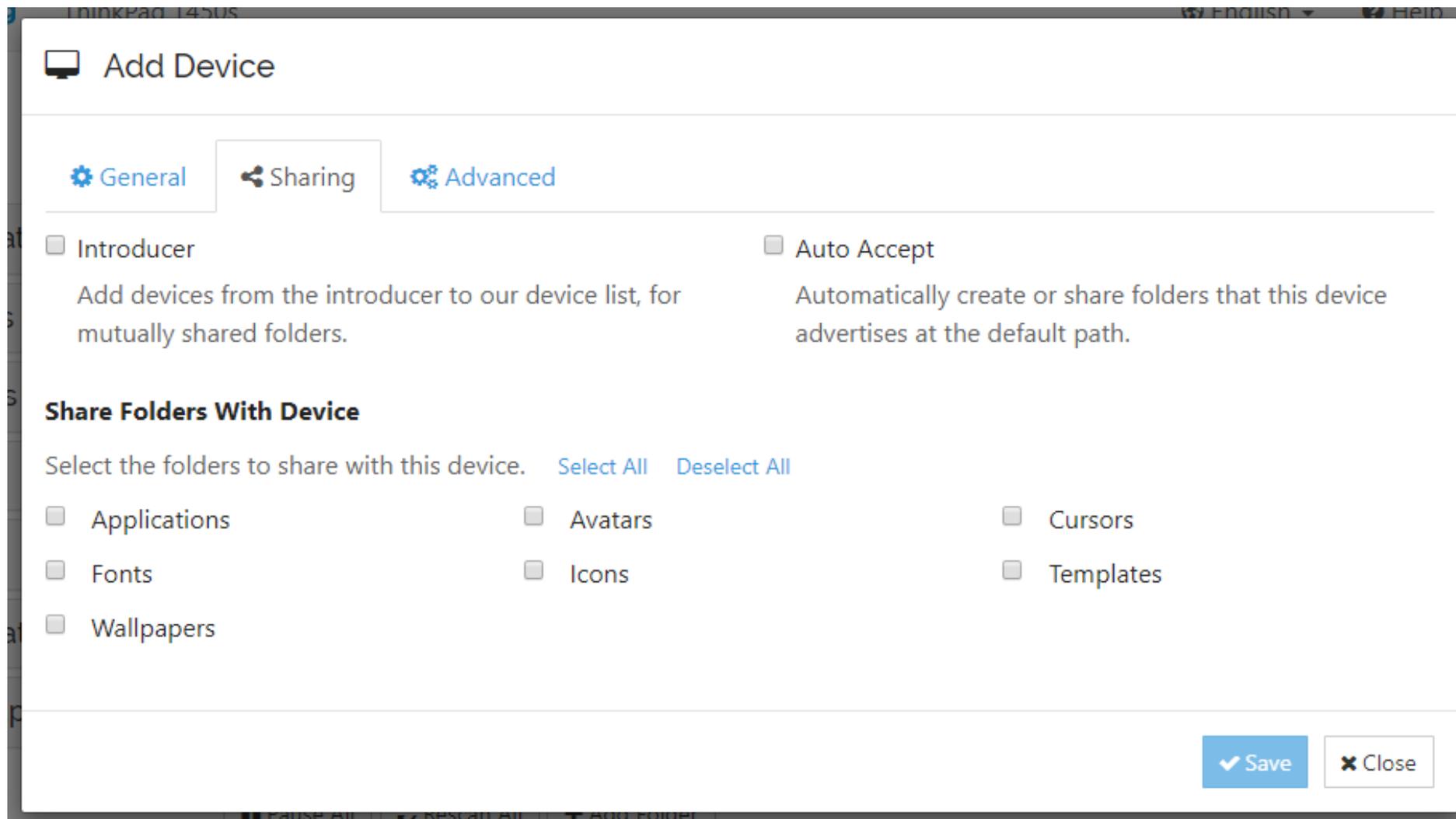


❖ 主页中点击“Add Remote Device”按钮可以新增一个同步的终端



The screenshot shows the 'Add Device' dialog box in Syncthing. It has a title bar with a laptop icon and the text 'Add Device'. Below the title bar are three tabs: 'General' (selected), 'Sharing', and 'Advanced'. The 'General' tab contains a 'Device ID' label and an empty text input field. Below this is a paragraph of text: 'You can also select one of these nearby devices: The device ID to enter here can be found in the "Actions > Show ID" dialog on the other device. Spaces and dashes are optional (ignored). When adding a new device, keep in mind that this device must be added on the other side too.' Below the text is a 'Device Name' label and another empty text input field. At the bottom of the dialog are two buttons: a blue 'Save' button with a checkmark icon and a white 'Close' button with an 'x' icon.

❖ 在“Sharing”选项卡中可以指定哪些目录需要同步



- ❖ 主页中点击“Add Folder”按钮可以新增一个需要同步的目录

Add Folder

General | Sharing | File Versioning | Ignore Patterns | Advanced

Folder Label

Fun

Optional descriptive label for the folder. Can be different on each device.

Folder ID

3dwg2-eunhu

Required identifier for the folder. Must be the same on all cluster devices. When adding a new folder, keep in mind that the Folder ID is used to tie folders together between devices. They are case sensitive and must match exactly between all devices.

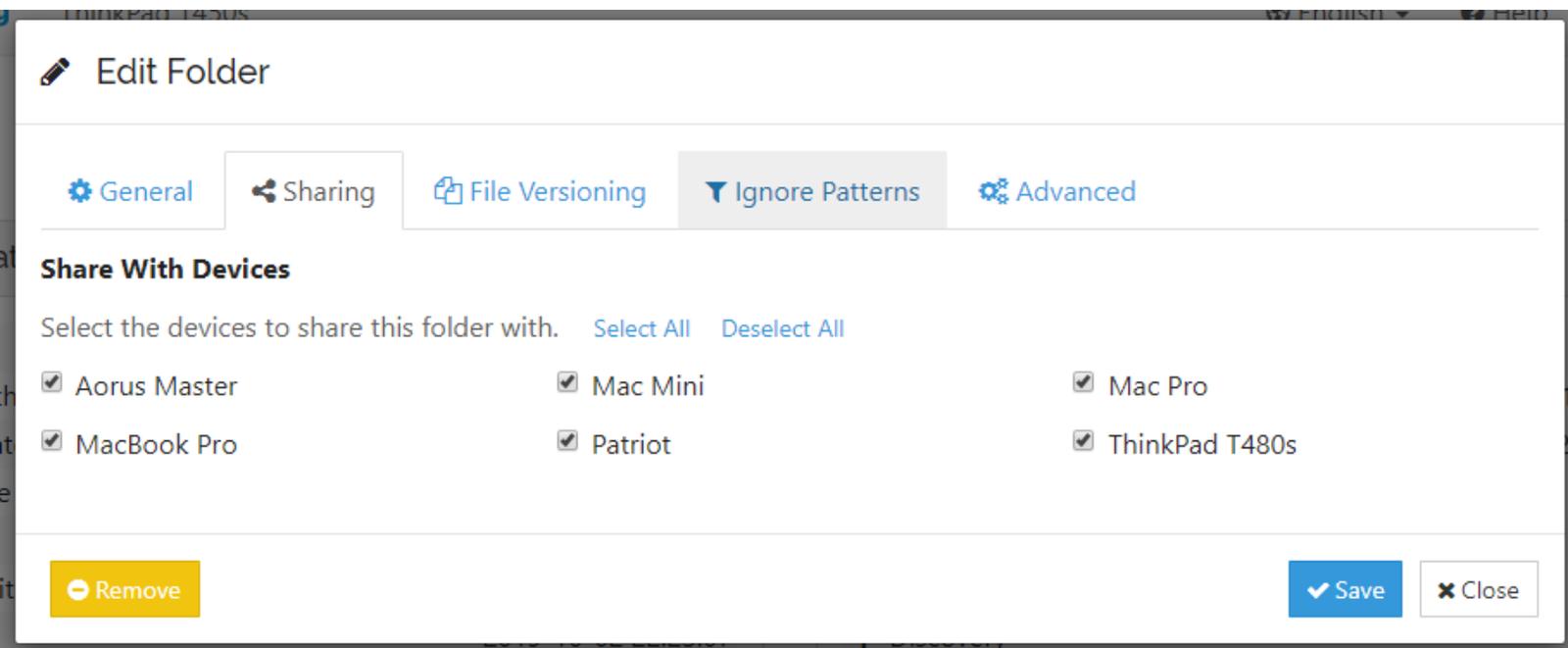
Folder Path

C:\Users\Valency\Fun

Path to the folder on the local computer. Will be created if it does not exist. The tilde character (~) can be used as a shortcut for C:\Users\Valency.

Save Close

- ❖ 主页中的目录列表可以查看目录的详情
- ❖ 点击“Edit”按钮可以修改与哪些终端共享

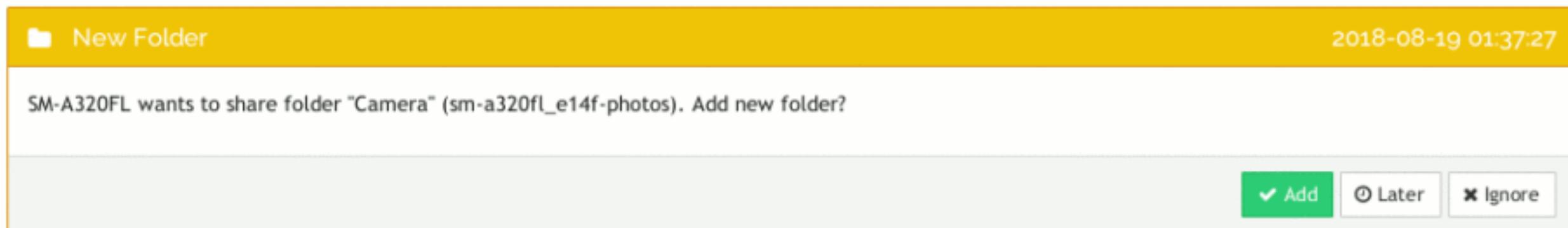


Folders

Applications	Up to Date
Folder ID	or9dw-q4q76
Folder Path	D:\Cloud Files\Valency\Syncthing\Applications
Global State	📁 23 📁 0 🗑 ~165 MiB
Local State	📁 23 📁 0 🗑 ~165 MiB
Rescans	🕒 1h 👁 Enabled
Shared With	Aorus Master, Mac Mini, Mac Pro, MacBook Pro, Patri...
Last Scan	2019-10-02 22:23:07
Latest Change	Deleted Shadowsocks v4.1.1.zip
Pause Rescan Edit	
Avatars	Up to Date
Cursors	Up to Date
Fonts	Up to Date
Icons	Up to Date
Templates	Up to Date
Wallpapers	Up to Date

[Pause All](#) [Rescan All](#) [+ Add Folder](#)

- ❖ 终端收到共享请求后，会弹出确认框确认
- ❖ 只有终端同意共享请求后，Syncthing 才会开始同步文件



- 1) 在实验室的 Docker 虚拟机环境或任意 Linux / macOS 环境下安装 Syncthing
- 2) 使用另一个 Windows / Linux / macOS 环境通过 Syncthing 同步步骤一环境中的一个目录
- 3) 将步骤一的全部安装、部署流程记录下来作为“实验过程”
- 4) 将步骤二完成同步的 Syncthing 控制台截图（需包含至少一个目录详情）保存下来作为“实验结果”

❖ 有关步骤二，可以使用：

- ❖ 本机另一个 Docker Container
- ❖ 本机的 Windows 环境
- ❖ 另一台实验室的电脑中的 Docker Container 或 Windows 环境
- ❖ 自己的电脑
- ❖ Android 的客户端

Folders

Applications Up to Date

Folder ID	or9dw-q4q76
Folder Path	D:\Cloud Files\Valency\Syncting\Applications
Global State	📄 23 📁 0 🗂 ~165 MiB
Local State	📄 23 📁 0 🗂 ~165 MiB
Rescans	🕒 1h 👁 Enabled
Shared With	Aorus Master, Mac Mini, Mac Pro, MacBook Pro, Patri...
Last Scan	2019-10-03 16:39:55
Latest Change	Deleted Shadowsocks v4.1.1.zip

Open Folder Pause Rescan Edit

Avatars Up to Date

Cursors Up to Date

Fonts Up to Date

This Device

ThinkPad T450s

Download Rate	0 B/s (36 KiB)
Upload Rate	0 B/s (14.9 KiB)
Local State (Total)	📄 1,516 📁 22 🗂 ~6.15 GiB
RAM Utilization	75.7 MiB
CPU Utilization	0.35%
Listeners	3/3
Discovery	4/5
Uptime	5h 57m
Version	v1.3.0, Windows (64 bit)

Remote Devices

Aorus Master Up to Date

Mac Mini Disconnected

- ❖ 提交作业:
- ❖ 下载并完成本实验课对应实验报告，重命名为 “<student-id>.docx” ，例如：
20174110001.docx
- ❖ 发送实验报告到: dingye@dgut.edu.cn
- ❖ 标题请注明: 046039 Assignment 3
- ❖ 正文请注明姓名和学号
- ❖ 不要发送其他任何文件，只需要发送一个 .docx 文件即可

Thanks!