macOS - Set up a "2nd volume" and use OS 10 Catalina.

A recommendation for experienced Mac users.

Back up a Mac
It is recommended to make a backup of your Mac first.
https://support.apple.com/en-gb/HT201250

See a detailed guide from apple on how to create a new volume here:
https://support.apple.com/en-us/HT208891 .

Example of the step-by-step approach for Tactical Sailing

(You may have to adjust some links "/de" from German to your local language (e.g. English "/en-us" or "en-gb") to read text and screenshot in your language.)

Set up the 2nd volume

Install macOS on a separate **APFS** volume
"APFS makes switching between macOS versions easier than ever.
If you install macOS on an additional volume of the startup disk, you can switch between that macOS and the macOS on your other volume as if each were on a separate disk. And because space is shared across APFS volumes, you don't need to reserve space for the new volume, e.g. **Macintosh HD - OS X TWO**. Its size automatically adapts to your content."
https://support.apple.com/en-gb/guide/system-information/sysp560a2952/mac

Requirements*

"Your Mac must be using a startup disk formatted with **APFS.** You don't need to reserve space for the new volume, but macOS requires up to 20 GB of free space to install, depending on the version. If you don't have enough disk space, the installer will let you know." It is recommended not to migrate user data and programs at first, but only to install macOS X and then selectively transfer the desired content, programs, and data later.

With the "Disk Program": **Add Macintosh HD - OS X TWO** to the container.

Set up the 2nd macOS

Tactical Sailing (TS) does NOT run on Big Sur and Monterey, **TS requires "Catalina"** or earlier OS X versions! You can continue to use Tactical Sailing on "Catalina" if you:
- have **upgraded** to "Big Sur" or "Monterey" on your actual Mac - or want to do so,
- bought a **new Mac** with "Big Sur" or "Monterey".

You have the option to setup a **2nd macOS.**

From the Apple Store you can download, install and use **the 2nd OS X** into the new, **2nd volume** "Macintosh HD - OS X TWO", e.g., "Big Sur" or "Monterey" or "Catalina", see the macOS requirements** in the attachment.
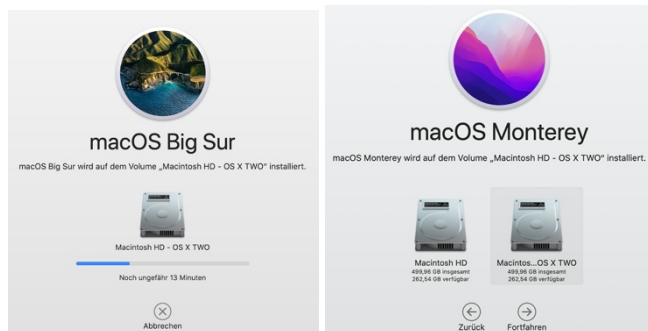- OS X 11 Big Sur https://apps.apple.com/de/app/macos-big-sur/id1526878132
- OS X 12 Monterey https://apps.apple.com/de/app/macos-monterey/id1576738294
- OS X 10 Catalina https://apps.apple.com/de/app/macos-catalina/id1466841314
(You may have to adjust the above links "/de" from German to your local language (e.g. English "/en-us" or "en-gb"))
Use OS X 10 Catalina to use Tactical Sailing!

It is recommended not to migrate user data and programs at first, but only to install the macOS X and then later selectively transfer the desired content, programs anddata, otherwise data and programs may be duplicated, namely on both volumes.

Install Tactical Sailing on the volume

Depending on your Mac situation, either you **upgrade** or have a **new Mac,** then you can now install Tactical Sailing as follows:

Upgrade: You can leave Tactical Sailing on the previous volume with OS X 10 Catalina and install the upgrade to OS X 11 Big Sur or 12 Monterey on the second volume "OS X TWO".
New Mac: OS X 11 Big Sur or 12 Monterey is already installed, then you can install OS X 10 Catalina on the new, second volume "OS X TWO" and then Tactical Sailing there.
Tactical Sailing: See our current notes 1. 2. and 3. on **installing Tactical Sailing on Mac OS X 10 Catalina** of TS Webseite. Pay special attention to setting up the Java 6 Service Module. See: https://www.tacticalsailing.com/en/downloads/hints/latest-info .

Starting the Mac and selecting the OS X with Tactical Sailing

After the installation is complete, you can use startup **disk**settings or Startup **Manager** to quickly switch between macOS versions:

Startup Disk: From the Apple (🍎) menu, choose > System Preferences, Choose Startup **Disk.** Then click the lock icon and enter your administrator password. Select the volume you want to use and click Restart.

Startup Manager: Alternatively, you can hold down the "Option" key when starting. The **Option (⌥)** or alt or **option** starts the Mac so that the Startup Manager is displayed, which allows you to choose another existing startup disk.

Attachments: Requirements - Check compatibility

*** Requirements of mac hardware chip models –
"Intel Core" or "Apple M1"?**
See: https://support.apple.com/en-gb/HT211861

"Intel Core" Chip: Tactical Sailing runs on all "Intel Core" chips since 2010!

"Apple M1" chip:
macOS 10 Catalina does **NOT** run on M1 chip according to Apple! Recommendation:
Use Rosetta: Rosetta is not an app you need to open. Rosetta automatically runs in the background when you use an app designed only for Mac computers with an Intel processor. It converts the app for use with the Apple chip.
With Rosetta 2, a Mac with Apple chip **M1** can also use apps designed for a Mac with an Intel processor. Install Rosetta:
If you have a Mac with an Apple chip, https://support.apple.com/en-gb/HT211814 you'll be prompted to install Rosetta the first time you open an app for an Intel-based Mac. Click Install and enter your username and password to complete the installation.
(PS: Not yet tested for Tactical Sailing, as of 27.11.2021)

**** Requirements for macOS Catalina, Big Sur, and Monterey running Intel Core Chip
Monterey:**
macOS Monterey is compatible with the following computers:
Mac Book from 2016 or later, Mac Book Air from 2015 or newer, MacBook Pro from 2015 or later, Mac mini from 2014 or later, iMac from Late 2015 or later, iMac Pro from 2017 or later, Mac Pro from 2013 or later.
If your Mac isn't compatible, you may be able to install an old version of macOS https://support.apple.com/en-gb/HT211683 instead.

(Tested with Tactical Sailing and Catalina on 2nd volume on Mac Book Pro 2019)

Big Sur:
See a full list here: https://support.apple.com/en-gb/HT211238
If you're upgrading from macOS Sierra or later, macOS Big Sur will require 35.5 GB of available space to upgrade. To upgrade from an older version, macOS Big Sur requires up to 44.5 GB of available space.
(Tactical Sailing and Catalina tested on 2nd volume on iMac (Retina 5K, 27", ultimo 2014)

Catalina:
If you're using one of these computers running OS X Mavericks https://support.apple.com/en-gb/HT201260 or later, you can install macOS Catalina. Your Mac also needs at least 4 GB of memory and 12.5 GB of available space, https://support.apple.com/en-gb/HT206996 or up to 18.5 GB of storage if you're upgrading from OS X Yosemite or earlier. Learn how to upgrade to macOS Catalina. https://support.apple.com/en-gb/HT211683
Tactical Sailing and Catalina on 2nd volume are tested on:
- iMac (Retina 5K, 27", ultimo 2014
- Mac Book Pro 2019