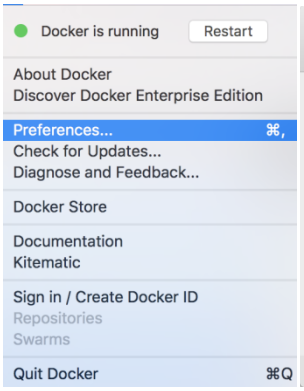
ElixirConf 2017 Nerves Training Prep Checklists

MAC CHECKLIST	
☐	Install Xcode (from the App Store) if you haven't already
☐	Set up the Xcode command-line tools: `xcode-select --install`
☐	Install Homebrew from https://brew.sh/
☐	Install several tools you'll need: `brew install coreutils automake autoconf openssl libyaml readline libtool fwup squashfs qemu`
☐	Install a terminal emulator program like *picocom* or *screen*: `brew install picocom`
☐	Install Docker for Mac from https://www.docker.com/docker-mac.
☐	Start Docker and click the Docker icon ( ) in the top menu bar, then click **Preferences** > **Advanced** and allow Docker to use all of your CPUs and as much RAM as you think is reasonable for your machine. The more resources it has access to, the faster you can compile a custom Nerves system.  
☐	Complete the General Checklist on the next page

LINUX CHECKLIST	
☐	Install a terminal emulator program like *picocom* or *screen* `sudo apt install picocom`

☐	Install some other tools
	`sudo apt install ssh-askpass squashfs-tools git g++ libssl-dev libncurses5-dev \`
	`bc m4 make unzip cmake python qemu-system-arm`

☐	Complete the General Checklist below

WINDOWS CHECKLIST	
☐	Is it possible to dual-boot into Linux? If yes, please do that and follow the Linux checklist. Windows issues may be difficult to support in class.
☐	Use Virtual Box or VMWare and create a Linux VM with Ubuntu 16.04. The Windows Subsystem for Linux is not supported yet.
☐	Verify that USB devices are available to the Linux VM by plugging in a USB flash drive and checking that you can access it.
☐	Follow the Linux checklist.

GENERAL CHECKLIST	
☐	Verify that any corporate virus protection software doesn't prevent you from writing to or reading from Flash drives connected via USB ports. Please bring a different laptop if this is the case.

☐	We recommend using **asdf** to manage Erlang and Elixir installations. The reason is that Nerves requires the Erlang version running on your laptop to be compatible with the Erlang version on the embedded target. There are many ways of accomplishing this so if you have an equivalent way that doesn't use **asdf**, that's fine.
	However, if not, install **asdf**: (more details at https://github.com/asdf-vm/asdf/blob/master/README.md#setup)
	`git clone https://github.com/asdf-vm/asdf.git ~/.asdf --branch v0.3.0`
	`# The following steps are for Bash, which is usually the default shell`
	`# If you're using something else, you probably know the equivalent thing you need to do`
	`echo -e '\n. $HOME/.asdf/asdf.sh' >> ~/.bash_profile`
	`echo -e '\n. $HOME/.asdf/completions/asdf.bash' >> ~/.bash_profile`
	`source ~/.bash_profile`

☐	Configure **asdf** to use Erlang 20 and Elixir 1.4:
	(Learn more about **asdf** at: http://embedded-elixir.com/post/2017-05-23-using-asdf-vm/)
	`asdf plugin-add erlang https://github.com/asdf-vm/asdf-erlang.git`
	`asdf plugin-add elixir https://github.com/asdf-vm/asdf-elixir.git`
	`asdf install erlang 20.0 # This takes a while`
	`asdf install elixir 1.4.5`
	`asdf global erlang 20.0`
	`asdf global elixir 1.4.5`

☐	Make sure that the *rebar* and *hex* archives are up-to-date.
	`mix local.hex`
	`mix local.rebar`

☐	Install the Nerves archive.
	`mix archive.install https://github.com/nerves-project/archives/raw/master/nerves_bootstrap.ez`
	If you've used Nerves before and already have it installed, run this instead:
	`mix local.nerves`

☐	Install the phoenix_new archive
	`mix archive.install https://github.com/phoenixframework/archives/raw/master/phx_new.ez`
	Or if you've used Phoenix before, update the archive by running:
	`mix local.phx`

☐	The class has quite a few hands-on coding tutorials so make sure the laptop that you're bringing has a decent text editor on it that works well with Elixir code. If you're borrowing a laptop or using a work loaner, please double check the editor and any plugins that you want to use.
☐	Join the #nerves_training channel on the Elixir Slack. You may also want to join the #nerves channel for general Nerves support after training. Go to https://elixir-slackin.herokuapp.com if you're not already on the Elixir Slack.

THINGS TO BRING	
☐	A #1 Phillips head screwdriver. Any small Phillips head screwdriver should do. We'll be using it with 4-40 and 2-56 machine screws (M2.5 and M2-sized screws for metric system people). I'll have a few screwdrivers on hand if yours ends up not working well.
☐	A MicroSD to SDCard adapter if your laptop has an SDCard slot. If your laptop doesn't have an SDCard slot, bring a USB multicard reader. Examples: https://www.adafruit.com/product/939 or http://a.co/cUW6btA, but any brand should work.
☐	A USB dongle or hub if your laptop requires one to plug in USB type A cables (the normal USB kind). This should only apply to new laptops that only have USB type C connectors. Having two available USB ports is ideal for the class.

If you have any questions, please contact me on the Elixir Slack (I'm @fhunleth) or email me at fhunleth@troodon-software.com.