Installation Guide for Workshop Participants

Welcome! This guide will help you set up everything you need for the workshop.

Step 1: Install R (Required)

Windows

1. Go to https://cran.r-project.org/bin/windows/base/

2. Click "Download R for Windows"

3. Run the installer

4. Follow the installation wizard (use default settings)

Mac

1. Go to https://cran.r-project.org/bin/macosx/

2. Download the `.pkg` file for your macOS version

3. Open the downloaded file

4. Follow the installation wizard

Linux (Ubuntu/Debian)

```bash
sudo apt update
sudo apt install r-base
```

Verify Installation:

- Open R (or R GUI on Windows)

- You should see something like: `R version 4.x.x`

Step 2: Install RStudio (Highly Recommended)

RStudio makes working with R much easier, especially for beginners.

1. Go to https://posit.co/download/rstudio-desktop/

2. Download RStudio Desktop (Free version)

3. Install using the downloaded file

4. Open RStudio (not R - look for the blue icon)

Step 3: Install Required Packages

1. Open RStudio

2. In the Console (bottom-left panel), type or paste these commands one at a time:

```r
install.packages("ggplot2")
install.packages("dplyr")
install.packages("rlang")
install.packages("scales")
install.packages("patchwork")
```

3. Press Enter after each line

4. Wait for installation to complete (you'll see red text - this is normal!)

5. You should see "DONE" when each package finishes

This may take 5-10 minutes depending on your internet connection.

Step 4: Install the datalab Package

You'll receive the datalab package file from your facilitator. It will be named something like `datalab_0.1.0.tar.gz`.

Option A: Install from File (Easiest)

1. In RStudio, go to: Tools → Install Packages

2. Change "Install from:" to "Package Archive File"

3. Click "Browse" and select the datalab file

4. Click "Install"

Option B: Install from Command Line

```r
install.packages("path/to/datalab_0.1.0.tar.gz", repos = NULL, type = "source")
```

Replace `path/to/` with the actual location of your file.

Step 5: Verify Your Setup

1. Download the `precheck.R` file (provided by facilitator)

2. In RStudio, go to: File → Open File

3. Select `precheck.R`

4. Click the "Source" button (top-right of the script panel)

5. Check the results in the Console

Expected Output:

```
=== DATALAB WORKSHOP PRE-CHECK ===

Checking R version... ✓ OK
Checking required packages... ✓ All installed
Checking datalab package... ✓ Installed
Testing plotting... ✓ OK


=== SUMMARY ===
✓ ALL CHECKS PASSED! You're ready for the workshop.
```

Troubleshooting

"Package installation failed"

Problem: One or more packages didn't install

Solution:

1. Check your internet connection

2. Try installing one package at a time

3. If a specific package fails, try:

```r
install.packages("package_name", dependencies = TRUE)
```

"Cannot find datalab package"

Problem: datalab didn't install properly

Solution:

1. Make sure you have the correct `.tar.gz` file

2. Try Option B from Step 4

3. Contact your facilitator for help

"Permission denied" or "Cannot write to library"

Problem: R doesn't have permission to install packages

Solution (Windows):

- Run RStudio as Administrator (right-click → Run as administrator)

Solution (Mac/Linux):

- Install packages to your user library when prompted

"Package 'ggplot2' is not available"

Problem: You might be using an old version of R

Solution:

- Update R to version 4.0 or newer (see Step 1)

- Try again

Pre-check shows errors

Problem: Something isn't set up correctly

Solution:

1. Read the error messages carefully

2. Follow the suggested fixes in the output

3. Run pre-check again

4. If still stuck, email your facilitator with:
   - A screenshot of the error

   - Your R version (run `R.version.string`)

   - Your operating system

Getting Help

Before the Workshop

- Email: [facilitator_email]

- Office hours: [if available]

- Bring questions to the workshop!

During the Workshop

- Raise your hand (or use virtual hand raise)

- Ask in the chat

- Your facilitator is there to help!

Quick Test

Once everything is installed, try this quick test in RStudio:

```r
library(datalab)
data(heart_data)
data <- heart_data
piechart(chest_pain_type)
```

You should see a colorful pie chart! If you do, you're all set! 🎉

System Requirements

Minimum:

- R version 3.6.0 or higher

- 2 GB RAM

- 500 MB free disk space

Recommended:

- R version 4.0.0 or higher

- 4 GB RAM

- 1 GB free disk space

- RStudio (latest version)

What to Bring to the Workshop

- ✓ Laptop with R and RStudio installed

- ✓ All packages installed (run pre-check to verify)

- ✓ Power cord

- ✓ Curiosity and willingness to learn!

- ✗ No prior R experience needed!

Optional: Bring Your Own Data

If you have a dataset you'd like to explore:

- Save it as a CSV file

- Make sure it has column headers

- Bring it on a USB drive or have it accessible on your laptop

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Questions? Don't hesitate to reach out to your facilitator. We want everyone to start the workshop ready to go!

See you at the workshop! 🚀