The House Analogy Guide to Quarto & GitHub

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1 Preface

Welcome to **The House Analogy Guide to Quarto & GitHub**.

This guide will teach beginners how to:

- set up Quarto
- build a book project
- connect it to GitHub
- publish it online using GitHub Pages

We will use a simple **house-building analogy** to make each step clear and easy to remember.

2 Chapter 1: The House Analogy

Before we start building our Quarto book and publishing it online, it's helpful to understand the **house analogy** that will guide us through the process.

In this analogy:

- **R** is the *hardware store* that provides building materials.
- **RStudio** is the *workshop* where you prepare materials, plan rooms and edit the blueprint.
- **Quarto** is the *civil engineer* who constructs the house (your book).
- **GitHub** (website) is the *piece of land* where you place your house so others can visit it.
- **GitHub Desktop** is the *delivery truck* that delivers materials (your updates) from the workshop to the land.
- **GitHub Pages** is the *public street* where people can find and walk through your house online.

This analogy will help you understand each step in a friendly and visual way, even if you are completely new to Quarto or GitHub.

3 Chapter 2: Setting Up Your Workshop

Before you can start building your Quarto house, you need to set up your **workshop** — the place where you will write your book, prepare your materials, and update your blueprint.

Just like a real house needs tools, we need a few digital tools too.
Here's what we will install:

- **R** – the hardware store that provides building materials and supports Quarto (not always required, but recommended)
- **RStudio** – your workshop where you write your chapters and edit the blueprint
- **Quarto** – the civil engineer who builds your house (your book) into a website
- **GitHub Desktop** - the delivery truck that transports new building materials and updated blue prints from your workshop to the land.

3.1 Step 1: Install R (the hardware store)

R provides the basic materials that Quarto can use for building your book.

Download R here:
https://cran.r-project.org/

Choose your operating system (Windows, macOS, Linux) and follow the installation instructions.

3.2 Step 2: Install RStudio (your workshop)

RStudio is where you will spend most of your time writing your chapters and managing your project.

Download RStudio here:
https://posit.co/download/rstudio-desktop/

Install it like a regular program (Next → Next → Finish).

3.3 Step 3: Install Quarto (the civil engineer)

Quarto is the expert that knows how to build your book into a real website.

Download Quarto here:
https://quarto.org/docs/get-started/

After installation, you can check if it works by opening RStudio and typing this in the Console:

If everything is installed correctly, you will see a confirmation message.

Once you have installed R, RStudio, and Quarto, your **workshop is fully set up** and you're ready to begin!

In the next chapter, we will **plan your house** (your Quarto book) and prepare the **land and delivery truck** so you can place it online for visitors to explore.

4 Chapter 3: Planning Your House and Moving It to the Land

Now that your workshop is set up and all your tools are installed, it is time to **plan the first version of your house** (your Quarto Book) and prepare the **land** (GitHub) where it will stand.

In this chapter, we will:

- look at the important parts of your workshop,
- get a **delivery truck** to move your house to the land,
- buy our **piece of land** on GitHub,
- and hire a **construction worker** to rebuild your house whenever you update your blueprint.

Let's begin!

4.1 What You Will Find in Your Workshop (RStudio)

When you create a Quarto Book project in your workshop, you will see two very important things:

- **The `_quarto.yml` file**
  This is your **blueprint**.
  It describes how your house should be built and how the rooms (chapters) should be arranged.
- **`.qmd` files**
  These are the **rooms of your house** — each `.qmd` file is one chapter or section of your book.

You will write your content inside these `.qmd` files, and adjust the blueprint in `_quarto.yml` as your house grows.

4.2 Buy the Delivery Truck (Install GitHub Desktop)

To get your blueprints and building materials **from your workshop to the land**, you need a **delivery truck**.

This truck is called **GitHub Desktop**.

It transports your updated files from RStudio (your workshop) to GitHub (your land).

Download GitHub Desktop here:
https://desktop.github.com/

Install it like a regular Windows program (Next → Next → Finish).

Once installed, your delivery truck is ready to use.

4.3 Buy the Land (Create Your GitHub Account)

Before you can place your house anywhere, you need to **own a piece of land**.

If you don't have a GitHub account yet, create one:

https://github.com/

This account is your personal land registry — your plots of land (projects) will be stored here.

4.4 Prepare a Plot of Land for Your House (Create a Repository)

A **repository** is like a **plot of land** where your house (your book project) will be built.

Once logged into GitHub:

1. Click **"+" → "New repository"**
2. Give your land a name (e.g., `my-quarto-book`)
3. Choose **Public** (so visitors can see your house)
4. Click **Create repository**

Your land now exists!

4.5 Move Your House Materials to the Land (Commit & Push)

Your workshop and your land are separate places.
The **delivery truck (GitHub Desktop)** moves your house files from the workshop → to your land.

Whenever you change your blueprint or add new rooms:

1. Open **GitHub Desktop**
2. Write a short summary of what changed
   Example: "Added Chapter 2"
3. Click **Commit to main**
4. Click **Push origin**
   (This sends the materials to the land)

Only then can the construction worker start rebuilding the house.

4.6 Hire the Construction Worker on the Land (Add publish.yml)

The last step is to hire a **construction worker** that lives on your land.

This worker automatically rebuilds your house whenever new materials arrive by truck.

This worker is a small file called: .github/workflows/publish.yml

You will add this file on GitHub once your land and workshop are connected.

This construction worker:

- watches for new deliveries,
- rebuilds your house,
- and updates the public version of your house for visitors to see.

Once your land is ready, your truck is connected, and your construction worker is hired, you will be able to **publish your house online** so anyone can visit it on the public street (GitHub Pages).

In the next chapter, we will **build your first Quarto House in the workshop** and send it to the land for the first time!