Module 1: Setting up the libraries and creating the basic layout of a dashboard in R

contributed by

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Introduction

This module focuses on setting up the libraries for creating a dashboard in R using the 'flexdashboard' package through Rmarkdown. Using a combination of flexdashboard and Shiny, we can create interactive and dynamic dashboards that respond to user inputs and automatically update them on the go.

Installing Packages

Step 1: Make sure that you have RMarkdown installed on your computer. If not done, then install the two packages named "flexdashboard", and "shiny". To install, click on Install Packages under the Tool tab on the menu bar.
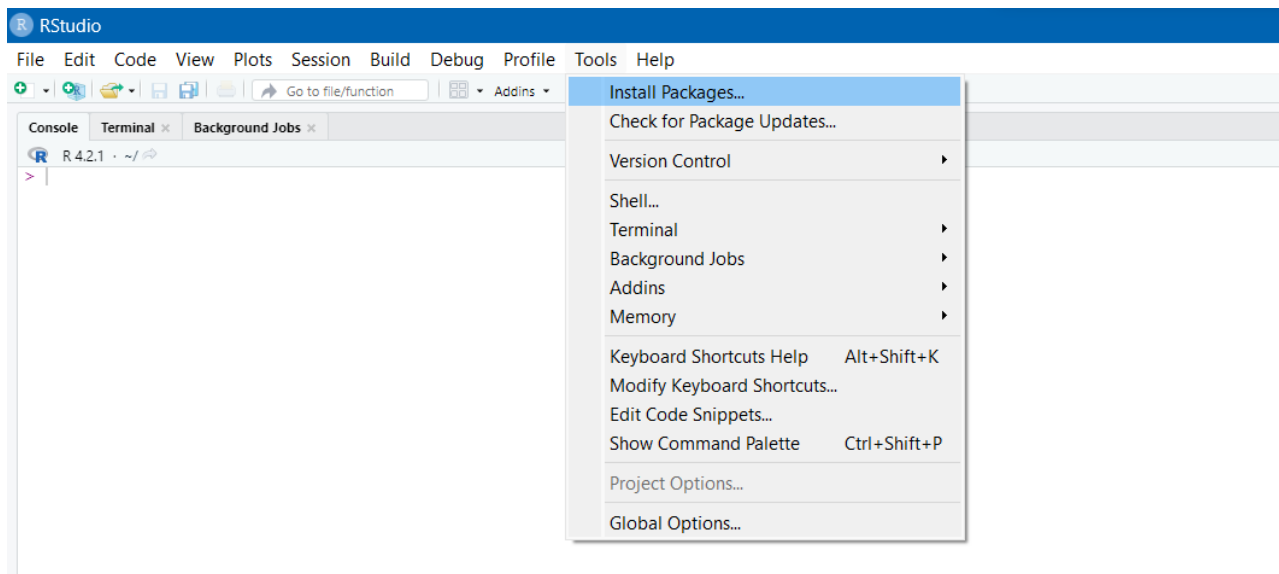
Figure 1: Tools dropdown menu.

Step 2: In the Install Packages window, type "flexdashboard", and "shiny" with a space in between and click on Install.
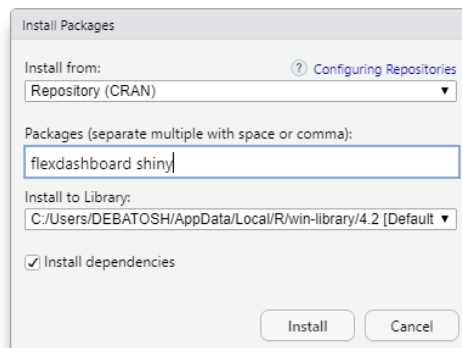
Figure 2: Install Packages window.

This will install the basic packages required for the dashboard creation.

Alternatively, you can type "install.packages(c("flexdashboard", "shiny"))" on your console to perform the same operation.
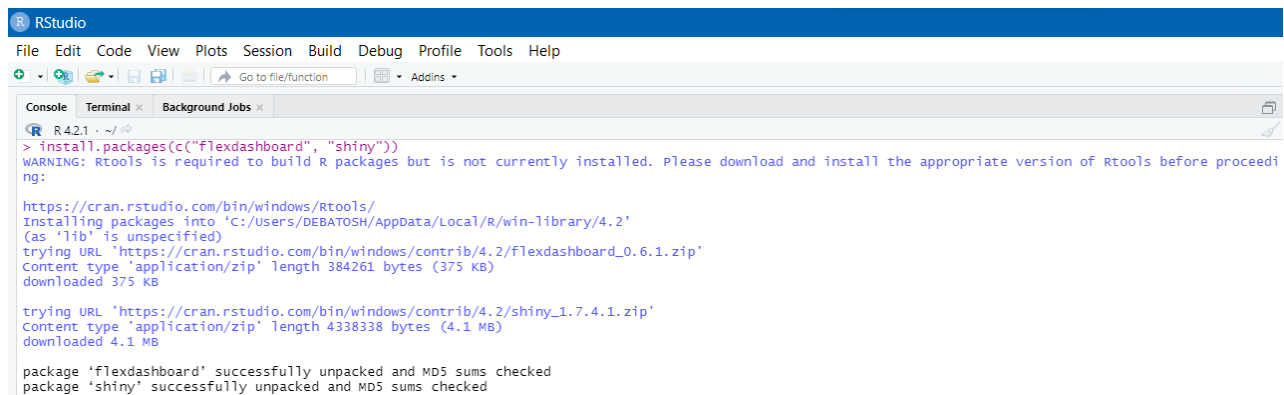

Figure 3: Installing Packages through console

Creating the basic layout of the Dashboard

To create the dashboard, you have to first create a Rmarkdown document and a flexdashboard file. Then by specifying the runtime as shiny, we can create a shiny dashboard.

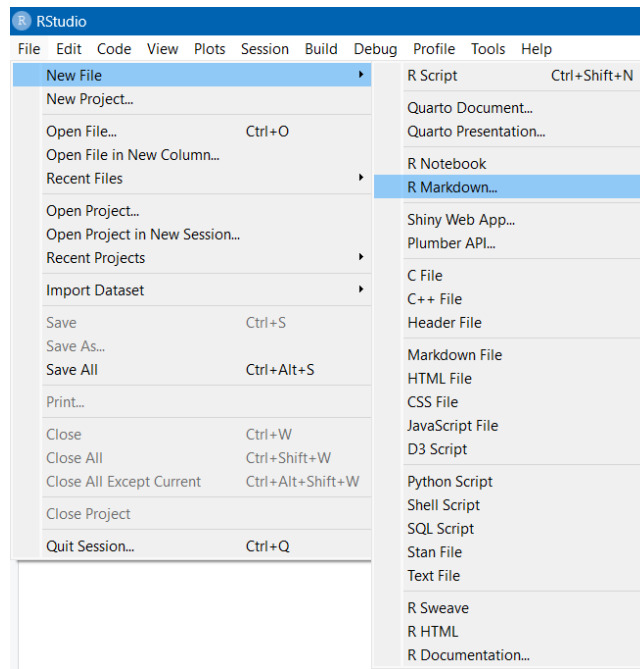**Step 1.** Click on the File tab on the menu bar. Hovering on the New File option, click on RMarkdown.

Figure 4: File dropdown menu to create R Markdown document

Step 2. In the New R Markdown window, click on the 'From Template' tab and select 'Flex Dashboard'. Then click on 'OK'. This will open a pre-structured template of a dashboard, we can edit as per our requirements.
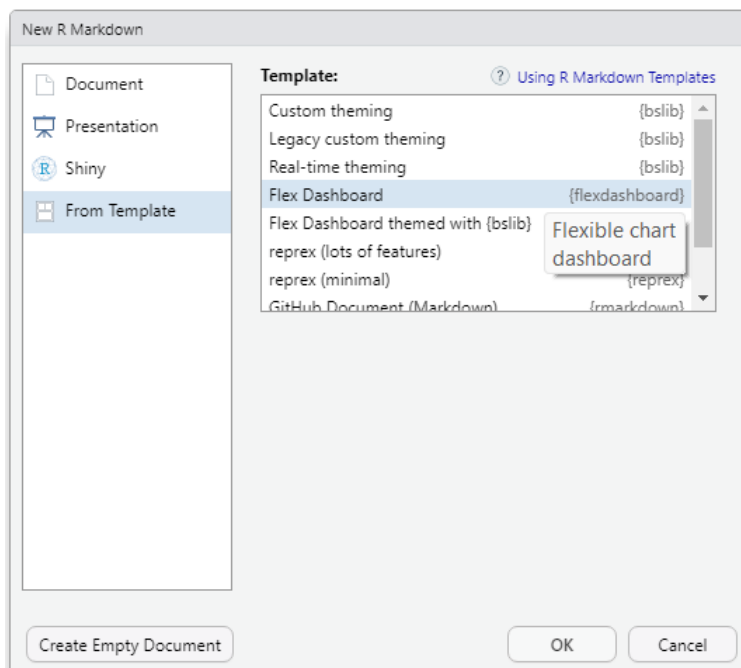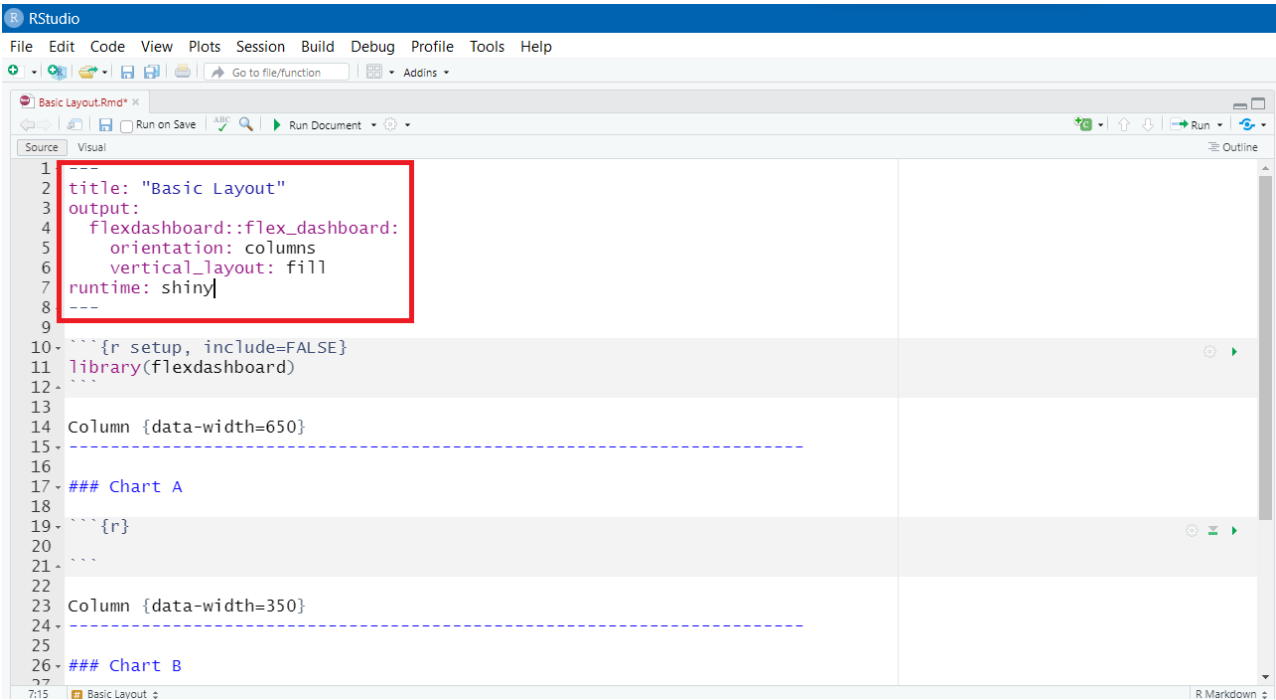

Figure 5: Creating Flex Dashboard file from R Markdown template

Step 3. On the YAML (Yet Another Markup Language) header at the top of the document, change the title and add the command "**runtime: shiny**" at the end without any indentation.

*Figure 6: Making changes on the YAML header.*

Step 4: On the '**r setup**' code chunk, add the command "**library(shiny)**" to initialize the shiny library. This will make sure the dashboard is a shiny web application.
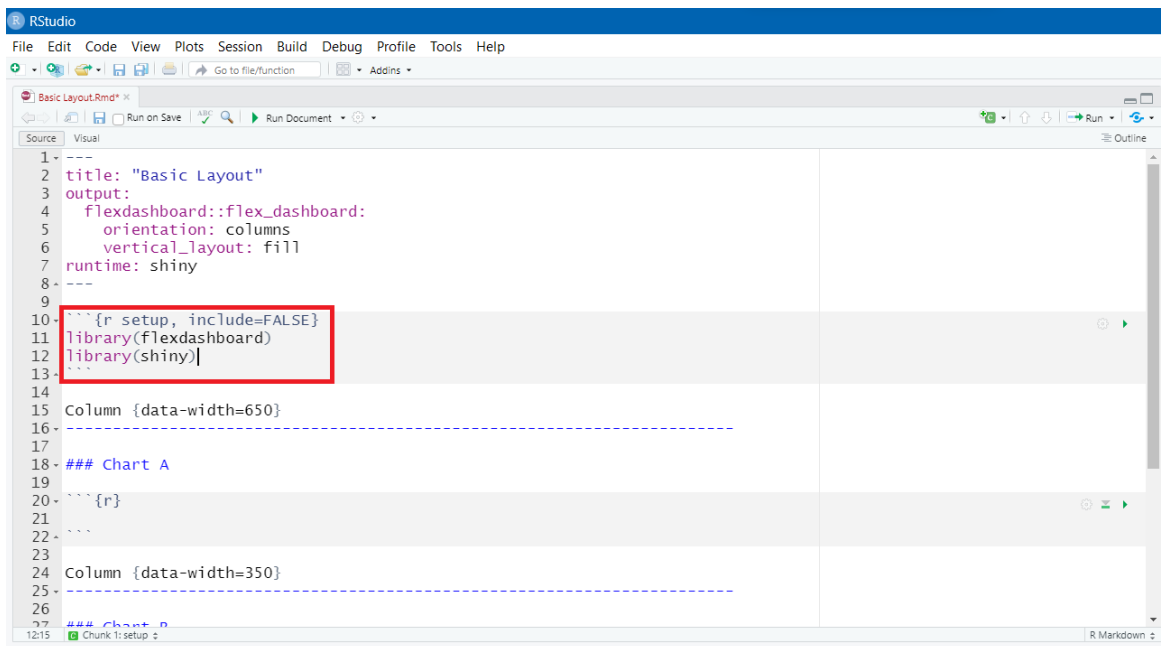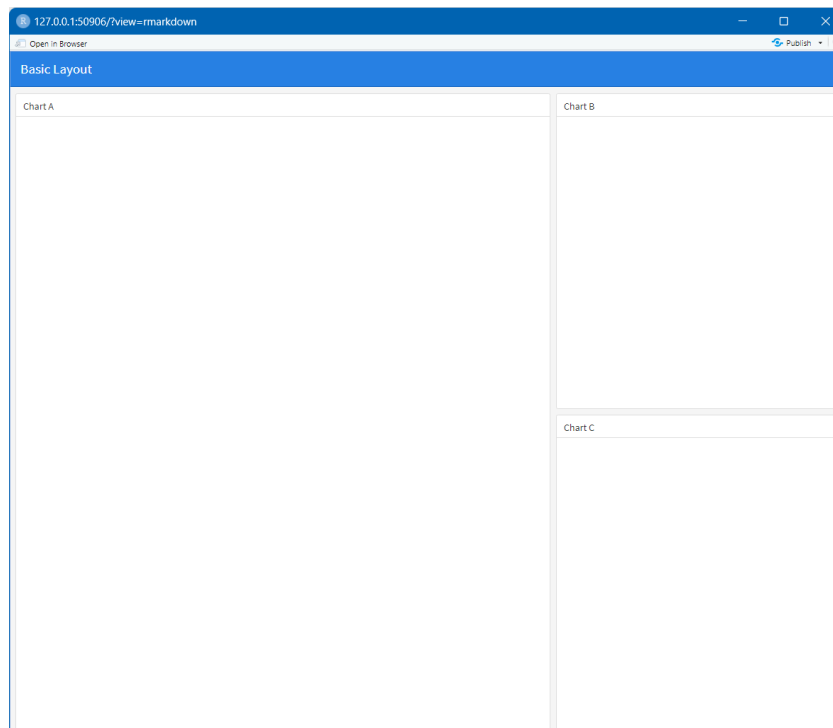

Figure 7: Adding the shiny library

Step 5: Click on the knit button on the top or press **Ctrl+Shift+K**. This will render the R Markdown file.

This will open a popup where we will be asked to save the document.
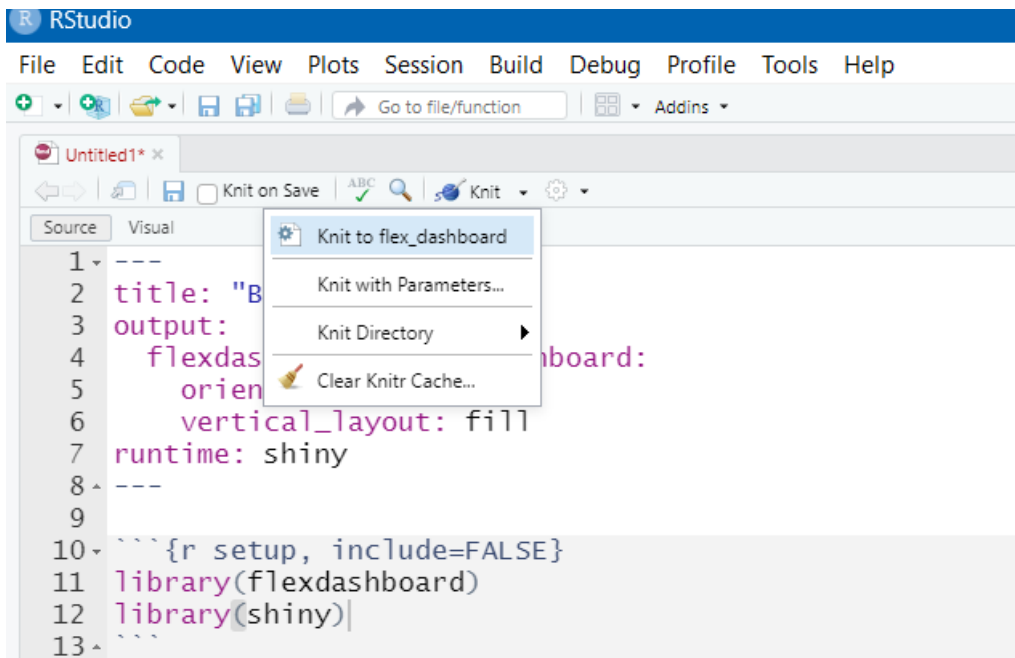
Figure 8: Knitting and saving the file.

Figure 9: A static dashboard with a basic layout.

After saving, the first dashboard of a basic layout is created. We can add elements on the dashboard and start displaying.

Note that the dashboard is static and not responsive. We have to add proper responsive elements on this dashboard to make it responsive.