



# Using the RStudio Integrated Development Environment (IDE)

## 1. The Four Main Panes

Source (Top-Left): Write and save scripts.

Console (Bottom-Left): Run commands interactively.

Environment/History (Top-Right): View objects and command history.

Files/Plots/Packages/Help (Bottom-Right): Navigate files, view plots, install packages, read documentation.

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## 2. First Steps in the Console

Type directly in the Console:

```
2 + 2  
sqrt(49)
```

Key idea: The Console shows immediate output.

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## 3. Creating & Running a Script

1. File → New File → R Script

2. Paste:

```
x <- 1:5  
y <- x^2  
plot(x, y, main = "My First R Plot")
```

3. Save as demo\_script.R

4. Run using Ctrl/Cmd + Enter.

Key idea: Scripts save your work; Console runs it.

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## 4. Environment Pane

- Shows objects like x and y.
- Click objects to preview.
- Remove an object:  
`rm(x)`

## 5. Files & Working Directory

Check where RStudio saves files:

```
getwd()  
list.files()
```

Key idea: Use the Files pane to view and open files.

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## 6. Plots & Packages

- Plots  
plot(1:10)
- Use Zoom/Export buttons in the Plots pane.
- Packages
  - Search for installed packages
  - Install new ones using the Install button
  - Load/unload by checking the box

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## 7. Help Pane

Get documentation:

?mean

Key idea: Shows description, arguments, examples.

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## 8. Mini Hands-On Project

Paste into a new script:

```
library(tidyverse)

df <- tibble(
  id = 1:5,
  value = c(10, 20, 15, 30, 25)
)

df

ggplot(df, aes(id, value)) +
  geom_point() +
  geom_line()
```

Run line-by-line (Ctrl/Cmd + Enter).

You will see:

- df in the Environment
- Plot in the Plots pane

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You now know how to:

- ✓ Use the Console
- ✓ Write & run scripts
- ✓ View objects in the Environment pane
- ✓ Navigate files
- ✓ Install & load packages
- ✓ Use Help features
- ✓ Make basic plots
- ✓ Run a mini data analysis

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RStudio makes data analysis visual, organized, and reproducible. Happy coding!