



# 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)
```

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## 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!