

# Using shinymeta

1. You (the app author) **identify the domain logic in your app code** so we can separate it from the reactive structure
2. Within that domain logic, you **identify references to reactive values and reactive expressions** that need to be replaced with static values and static code, respectively
3. At runtime, **choose which pieces** of domain logic to export, and in what order
4. **Present the code** to the user (in a window, as a downloadable script or report, etc.)

## 2. De-reference reactive values using !!

Use !! to replace some code with its value.

```
> downloads <- metaReactive2({  
+   req(input$packages)  
+   metaExpr(cranlogs::cran_downloads(input$package,  
+     from = Sys.Date() - 365, to = Sys.Date()))  
+ })
```

```
> withMetaMode(downloads())  
cranlogs::cran_downloads(input$package,  
  from = Sys.Date() - 365, to = Sys.Date())
```