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```
library (shiny)
library (ggplot2)
library (dplyr)
library (shinydashboard)
library (viridis)

dataset <- data.frame (
    hour = rep (0:23, each = 5)
    route = rep (paste ("Route", 1:5), times = 24),
    riders = sample (50:500, 120, replace = TRUE),
    occupancy = runif (120, 0.3, 1),
    weather = sample (c ("Sunny", "Rainy", "Cloudy",
                  120, replace = TRUE)

)
#UI
ui <- dashboardPage (
    dashboardHeader (title = "DataVille Transport
                                    Insights"),

    dashboardSidebar (
        selectInput ("route", "Select Route:", choices
                    = unique (dataset$route), selected
                    = "Route 1"),
        sliderInput ("time", "Select Hour:", min = 0,
                    max = 23, value = c (6, 18))
    ),
dashboardBody (
    fluidRow (
        box (plotOutput ("heatmap"), width = 6),
        box (plotOutput ("occupancy_chart"), width = 6)
    ),
    fluidRow (
        box (plotOutput ("weather_vs_satisfaction"), width
                                                    = 6),
        box (plotOutput ("trip_duration"), width = 6)
    )
```

```
# Server
server <- function(input, output) {
  filtered_data <- reactive({
    dataset %>% filter(route == input$route,
    hour >= input$time[1], hour <= input$time
                                        [2])
  })
output$heatmap <- renderPlot({
  ggplot(filtered_data(), aes(x = hour, y = route,
         fill = riders)) +
    geom_tile() +
    scale_fill_viridis(option = "magma") +
    labs(title = "Bus Riders per hour", x = "hour",
         y = "Route")
})

output$occupancy_chart <- renderPlot({
  ggplot(filtered_data(), aes(x = route, y = occupan
         fill = route)) +
    geom_bar(stat = "identity") +
    labs(title = "Route Occupancy Levels", x = "Route
         y = "Occupancy")
})

output$weather_vs_satisfaction <- renderplot({
  ggplot(filtered_data(), aes(x = weather, y =
         satisfaction, color = weather)) +
    geom_boxplot() +
    labs(title = "Weather vs Rider Satisfaction", x =
      "Weather", y = "satisfaction Score")
})

shinyApp(ui, server)
```