



Generando desde R reportes profesionales con excel

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Librerías

```
library('openxlsx')
```

```
library('data.table')
```

```
library('magrittr')
```

```
library('dplyr')
```

```
library('lubridate')
```

```
library('tidyverse')
```

Leer datos

```
rpt_porPais <- data.table(read.xlsx('Data/Pais.xlsx'))  
dt_UnitedKingdom <- data.table(read.xlsx('Data/UnitedKingdom.xlsx'))  
dt_porProducto <- data.table(read.xlsx('Data/Producto.xlsx'))
```

Crear fórmulas

```
dt_porProducto[,':='(VarDic= pasteo("IFERROR( (C",  
    (1:nrow(dt_porProducto))+5,  
    "-D",  
    (1:nrow(dt_porProducto))+5,  
    ')/D',  
    (1:nrow(dt_porProducto))+5,  
    ",o")))]
```

Crear fórmulas

```
dt_porProducto[,':='(VarProm2011= pasteo("IFERROR( (C",  
      (1:nrow(dt_porProducto))+5,  
      "-E",  
      (1:nrow(dt_porProducto))+5,  
      ')/E',  
      (1:nrow(dt_porProducto))+5,  
      ",o)")))]
```

Crear formatos

```
hs <- createStyle(fontSize=15, fontColour = "#ffffff",  
  fgFill = "#4F8oBD", halign = "center",  
  valign = "center", textDecoration = "Bold",  
  border = "TopBottomLeftRight",wrapText=T)
```

```
hs2 <- createStyle(fontSize=11, fontColour = "#ffffff",  
  fgFill = "#4F8oBD", halign = "center",  
  valign = "center", textDecoration = "Bold",  
  wrapText=T)
```

```
sty_perc <- createStyle(numFmt="#,#o%")
```

```
sty_curr <- createStyle(numFmt="$ #,#o.o")
```

Crear formatos

```
sty_pos <- createStyle(fontSize=11, fontColour = "#008000")
```

```
sty_neg <- createStyle(fontSize=11, fontColour = "#ff0000")
```

```
sty_pos2 <- createStyle(fontSize=11, bgFill = "#C6EFCE")
```

```
sty_neg2 <- createStyle(fontSize=11, bgFill = "#FFC7CE")
```

```
hs_unlock <- createStyle(fontSize=11, wrapText=T,  
                          numFmt="#,#0", fgFill = "#FFFF66", locked = FALSE)
```

```
ht1 <- createStyle(fontSize=11, border = "Top")
```

```
ht2 <- createStyle(fontSize=11, fontColour = "#ffffff")
```

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Cambiar formatos

```
options("openxlsx.numFmt" = "#,##0")
```

```
class(dt_porProducto$VarDic)<- "formula"
```

```
class(dt_porProducto$VarProm2011)<- "formula"
```

```
class(dt_porProducto$Dic_2011)<- "CURRENCY"
```

Crear Workbook

```
wb1 <- createWorkbook()
```

Añadir hojas

```
addWorksheet(wb1, 'Reporte1', zoom = 80, gridLines = F,  
             tabColour = colours()[sample(1:length(colours()),1)])  
addWorksheet(wb1, 'Reporte2', zoom = 80, gridLines = F,  
             tabColour = colours()[sample(1:length(colours()),1)])  
addWorksheet(wb1, 'Reporte3', zoom = 80, gridLines = F,  
             tabColour = colours()[sample(1:length(colours()),1)])
```

Insertar imagen

```
insertImage(wb1, 1, "Data/TOP.png", startRow = 1, startCol = 1,  
            height = 1.02, width = 26, units = "cm")
```

```
insertImage(wb1, 2, "Data/TOP.png", startRow = 1, startCol = 1,  
            height = 1.02, width = 26, units = "cm")
```

```
insertImage(wb1, 3, "Data/TOP.png", startRow = 1, startCol = 1,  
            height = 1.02, width = 26, units = "cm")
```

Insertar datos

```
writeData(wb = wb1, sheet = 1, x = "Reporte de los países",  
          withFilter=FALSE, xy = c("A", 3),colNames=FALSE)  
writeData(wb = wb1, sheet = 2, x = 'Reporte de Reino Unido',  
          withFilter=FALSE,xy = c("A", 3),colNames=FALSE)  
writeData(wb = wb1, sheet = 3, x = 'Reporte por producto',  
          withFilter=FALSE,xy = c("A", 3),colNames=FALSE)
```

Insertar tablas

```
writeData(wb1, 1, rpt_porPais, withFilter = T,
```

```
  xy = c("A", 5), headerStyle = hs2)
```

```
writeDataTable(wb1, 2, dt_UnitedKingdom, withFilter=TRUE, xy = c("A", 5),
```

```
  tableName = 'Reporte2', firstColumn = T, bandedRows = T,
```

```
  tableStyle = "TableStyleMedium2", lastColumn = FALSE)
```

```
writeDataTable(wb1, 3, dt_porProducto, withFilter=TRUE, xy = c("A", 5),
```

```
  tableName = 'Reporte3', firstColumn = T, bandedRows = F, bandedCols = T,
```

```
  headerStyle = hs2, lastColumn = TRUE)
```

Congelar paneles

```
freezePane(wb = wb1, sheet = 1, firstActiveRow = 6, firstActiveCol = 3)
```

```
freezePane(wb = wb1, sheet = 2, firstActiveRow = 6, firstActiveCol = 3)
```

```
freezePane(wb = wb1, sheet = 3, firstActiveRow = 6, firstActiveCol = 3)
```

Combinar celdas

```
mergeCells(wb = wb1, sheet = 1, cols = 1:ncol(rpt_porPais), rows = 3)
```

```
mergeCells(wb = wb1, sheet = 2, cols = 1:ncol(dt_UnitedKingdom), rows = 3)
```

```
mergeCells(wb = wb1, sheet = 3, cols = 1:ncol(dt_porProducto), rows = 3)
```


Añadir estilo

```
addStyle(wb1, 1, hs, rows = 3, cols = 1:ncol(rpt_porPais), gridExpand = T)
```

```
addStyle(wb1, 2, hs, rows = 3, cols = 1:ncol(dt_UnitedKingdom), gridExpand = T)
```

```
addStyle(wb1, 3, hs, rows = 3, cols = 1:ncol(dt_porProducto), gridExpand = T)
```

Definir anchos y altos de celdas

```
setRowHeights(wb = wb1, sheet = 3, rows = 5, heights = 40)
```

```
setColWidths(wb = wb1, sheet = 1, cols = 1, 14, ignoreMergedCells = T)
```

```
setColWidths(wb = wb1, sheet = 1, cols = 4:15, 7, ignoreMergedCells = T)
```

```
setColWidths(wb = wb1, sheet = 1, cols = 3, hidden = T)
```

```
setColWidths(wb = wb1, sheet = 2, cols = 1, 'auto', ignoreMergedCells = T)
```

```
setColWidths(wb = wb1, sheet = 2, cols = 2:(ncol(dt_UnitedKingdom)), 10, ignoreMergedCells = T)
```

```
setColWidths(wb = wb1, sheet = 3, cols = 1:2, 'auto', ignoreMergedCells = T)
```

```
setColWidths(wb = wb1, sheet = 3, cols = 3:(ncol(dt_porProducto)), 10, ignoreMergedCells = T)
```

Añadir estilo

```
addStyle(wb1, 3, sty_curr, rows = (1:nrow(dt_porProducto))+5,  
         cols = which(names(dt_porProducto)=='Dic_2010'))  
addStyle(wb1, 3, sty_perc, rows = (1:nrow(dt_porProducto))+5,  
         cols = which(names(dt_porProducto)=='VarDic'))  
addStyle(wb1, 3, sty_perc, rows = (1:nrow(dt_porProducto))+5,  
         cols = which(names(dt_porProducto)=='VarProm2011'))
```

Formato desbloqueado

```
addStyle(wb1, 2, hs_unlock, rows = (1:nrow(dt_UnitedKingdom))+5,  
        cols = which(names(dt_UnitedKingdom)=='venta_usd'))
```

Formato condicional

```
conditionalFormatting(wb1,3,cols=which(names(dt_porProducto)=='VarDic'),  
                      rows=1:nrow(dt_porProducto)+5,rule='$F6<=0', style = sty_neg)
```

```
conditionalFormatting(wb1,3,cols=which(names(dt_porProducto)=='VarDic'),  
                      rows=1:nrow(dt_porProducto)+5,rule='$F6>0', style = sty_pos)
```

```
conditionalFormatting(wb1,3,cols=which(names(dt_porProducto)=='VarProm2011'),  
                      rows=1:nrow(dt_porProducto)+5,rule='$G6<=0', style = sty_neg2)
```

```
conditionalFormatting(wb1,3,cols=which(names(dt_porProducto)=='VarProm2011'),  
                      rows=1:nrow(dt_porProducto)+5,rule='$G6>0', style = sty_pos2)
```

Formato condicional

```
conditionalFormatting(wb1,1,cols=1:ncol(rpt_porPais),  
    rows=1:nrow(rpt_porPais)+5,  
    rule='$A6<>$A5', style = ht1)  
conditionalFormatting(wb1,1,cols=1, rows=1:nrow(rpt_porPais)+5,  
    rule='$A6=$A5', style = ht2)
```

Crear e insertar gráficos

```
graph1 <- dt_UnitedKingdom %>%  
  mutate(Periodo= ymd(Anio*10000+Mes*100+01)) %>%  
  pivot_longer(c("venta_usd", "n_facturas"), names_to = "Variable", values_to= "Valor") %>%  
  ggplot( aes(x= Periodo)) +  
  geom_line( aes(y= Valor)) +  
  facet_wrap( "Variable", scales = "free")  
  
print(graph1)  
insertPlot(wb1, sheet = 2, startRow = 6, startCol = ncol(dt_UnitedKingdom)+2,  
  width = 15, height = 7.5, units = 'cm')
```

Crear e insertar comentarios

```
comentario_1 <- createComment(  
  comment = 'Las columnas de las variaciones son fórmulas de Excel',  
  author = Sys.getenv("USERNAME"), visible = TRUE, width = 2, height = 2)  
  
writeComment(wb = wb1, sheet = 'Reporte3',  
  col = 9, row = 5,  
  comment = comentario_1)
```


Proteger archivos y hojas

```
protectWorkbook(wb = wb1, protect = TRUE,  
                lockStructure = TRUE, lockWindows = FALSE)
```

```
protectWorksheet(wb = wb1, sheet = 2, protect = TRUE, password = 'SEE',  
                 lockSelectingLockedCells = FALSE,  
                 lockSelectingUnlockedCells = FALSE, lockFormattingCells = TRUE,  
                 lockFormattingColumns = TRUE, lockFormattingRows = TRUE,  
                 lockInsertingColumns = TRUE, lockInsertingRows = TRUE,  
                 lockInsertingHyperlinks = TRUE, lockDeletingColumns = TRUE,  
                 lockDeletingRows = TRUE, lockSorting = TRUE,  
                 lockAutoFilter = FALSE, lockPivotTables = TRUE,  
                 lockObjects = TRUE, lockScenarios = TRUE)
```

Exportar el archivo

```
saveWorkbook(wb = wb1,  
             file = 'Exports/reporte_consolidado.xlsx',  
             overwrite = TRUE)
```

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