

M41 - Morning-forecaster.R

LearningSpoonsR

2018-07-14

0. Setup Environment

```
# 0. setup environment  
source("../..//LSR.R")  
activate(c("dplyr", "tidyverse", "jsonlite"))
```

1. Setup API

```
# 1. setup API
svc_key <- paste0(
  "uEID6no5W0eFLEu%2FYZpdjKHQVrE2HtFEig4lJ7iHWiE5wGS1L3RvmusPMDkumoj",
  "8f%2BSffvPYW0%2B5xXu%2FrQ%2Bvzg%3D%3D")
today    <- gsub("-", "", Sys.Date())
url      <- paste0(
  "http://newsky2.kma.go.kr/service/SecndSrtpdFrcstInfoService2",
  "/ForecastSpaceData")
```

2. Get maxPage

```
# 2. get maxPage
fields  <- c("ServiceKey", "base_date", "base_time", "nx", "ny" , "_type")
values  <- c(svc_key      , today      , "0800"      , "60", "127", "json")
request <- paste(fields, values, sep = "=") %>% paste(collapse="&")
query   <- paste0(url, "?", request)
raw      <- readLines(query, warn = "F", encoding = "UTF-8") %>% fromJSON()
maxPage <- ceiling(raw$response$body$totalCount/raw$response$body$numOfRows)
```

3. collect all pages

```
# 3. collect all pages
fields <- c("ServiceKey", "base_date", "base_time", "nx", "ny" , "_type", "pageNo")
dataset <- data.frame()
for (i in 1:maxPage) {
  values_i <- c(svc_key , today , "0800" , "60", "127", "json" , i)
  request_i <- paste(fields, values_i, sep = "=") %>% paste(collapse="&")
  query_i <- paste0(url, "?", request_i)
  raw_i <- readLines(query_i, warn = "F", encoding = "UTF-8") %>% fromJSON()
  dataset_i <- raw_i$response$body$items$item
  dataset <- rbind(dataset, dataset_i)
}
```

4. Relevant infos

```
# 4. deliver output
# print(dataset)

# 4. Relevant infos
sapply(dataset[,1:5], unique)
title <- paste("Good Morning", dataset[1,1])
dataset <- dataset %>%
  filter(category %in% c("PTY", "POP", "T3H")) %>%
  filter(fcstTime %in% c(1500, 2100)) %>%
  select(fcstDate, fcstTime, category, fcstValue)
dataset <- dataset %>%
  spread(key = category, value = fcstValue) %>%
  mutate(PTYword = ifelse(PTY==0, "No rain",
                        ifelse(PTY==1, "Rainy",
                              ifelse(PTY==2, "Rain_Snow", "Snowy")))) %>%
  rename(Date = fcstDate, Time = fcstTime, Temp = T3H,
         PrecipPCT = POP, SKY = PTYword) %>%
  select(Date, Time, Temp, PrecipPCT, SKY)
```

5. mailR

```
# 5. mailR
activate("mailR", "htmlTable")
quote  <- rndQuote()
weather <- htmlTable(dataset, rnames = FALSE)

email <- send.mail(
  from = "LearningSpoonsR@gmail.com",
  to   = "LearningSpoonsR@gmail.com",
  subject = title,
  body = paste0(quote, weather),
  smtp = list(host.name = "smtp.gmail.com", port = 465,
              user.name = "learningspoonsr",
              passwd = readLines(".././gmail_password.txt"),
              ssl = TRUE),
  authenticate = TRUE,
  html = TRUE,
  send = TRUE)
```

6. Task Scheduler

```
# 6. Task Scheduler  
# activate("taskscheduleR")  
# Addins - Schedule R scripts on Windows
```