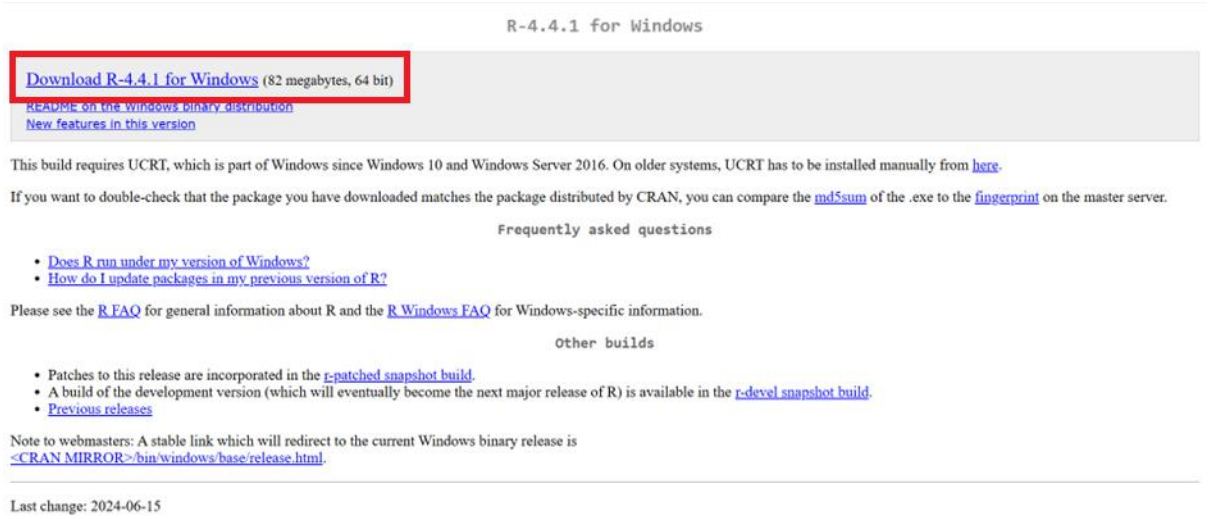
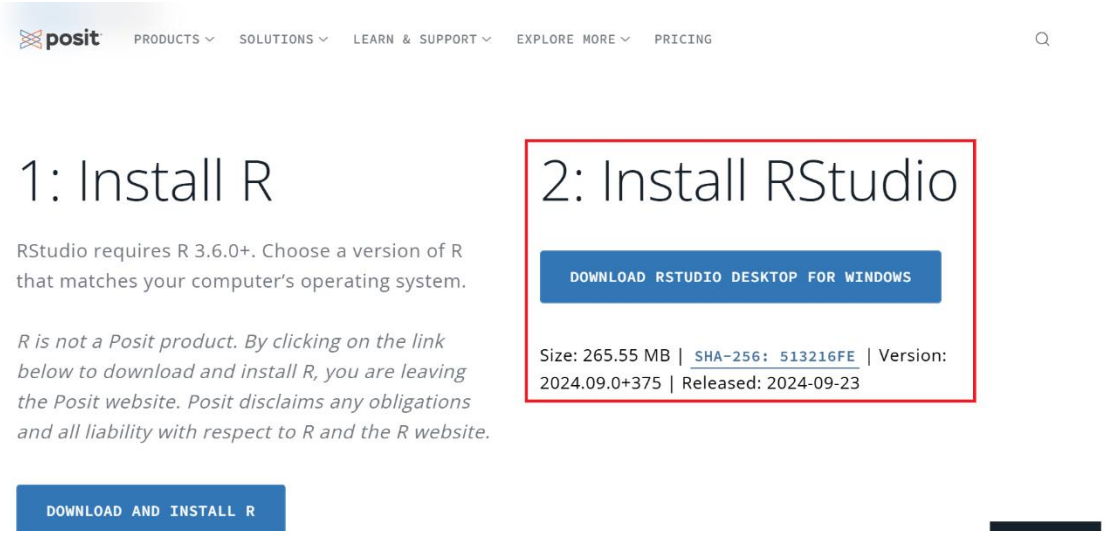
Cara Instalasi R, RStudio, dan Package R

1. Unduh instalasi R untuk Windows di link berikut https://cran.r-project.org/bin/windows/base/

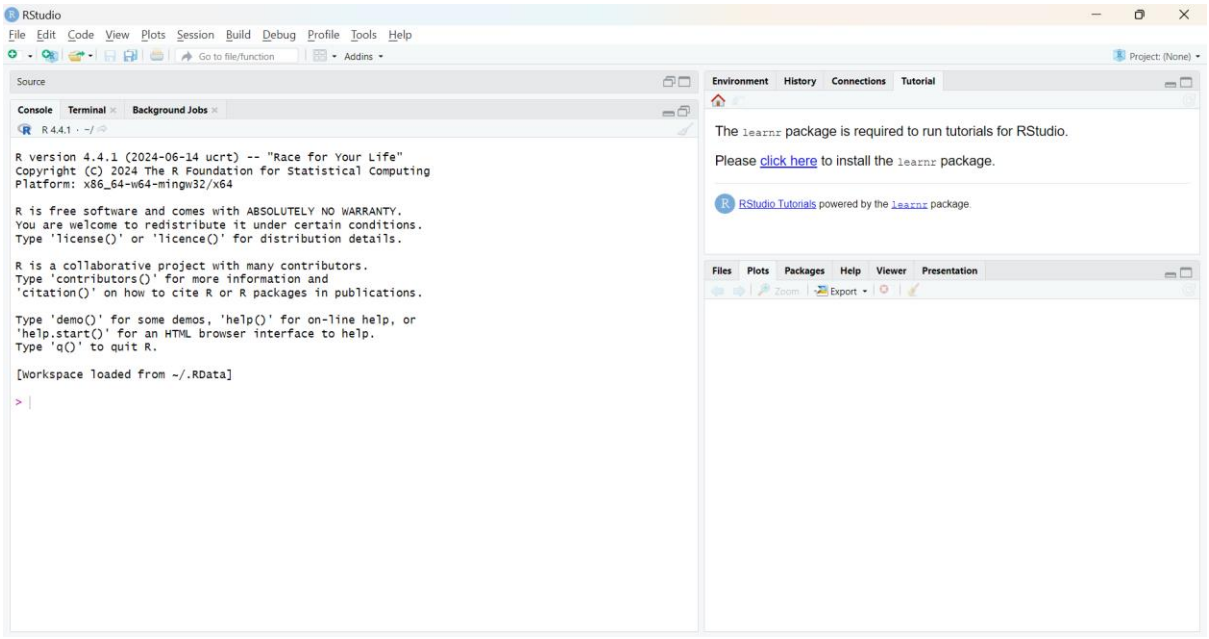


2. Buka instalasi yang telah diunduh (R-4.4.1-win.exe) dan jalankan instalasi sesuai dengan default.
3. Unduh RStudio melalui link https://posit.co/download/rstudio-desktop/ sesuai dengan OS yang digunakan. Untuk Windows dapat langsung unduh dengan klik "DOWNLOAD RSTUDIO DESKTOP FOR WINDOWS"



4. Buka aplikasi yang telah diunduh dan jalankan instalasi sesuai dengan default.
5. Jika kedua aplikasi telah di-install, jalankan buka aplikasi RStudio.
   RStudio dapat dibuka melalui *shortcut* yang ada di bagian desktop atau jika tidak ada bisa dicari di bagian aplikasi.

   RStudio yang terbuka sebagai berikut.



6. Install *packages* yang akan digunakan dengan:
    - install.packages("nama *package*") jika ingin instalasi *package* secara satu per satu.
    - install.packages(c("nama *package* 1", "nama *package* 2", dst)) jika ingin instalasi package secara bersamaan.

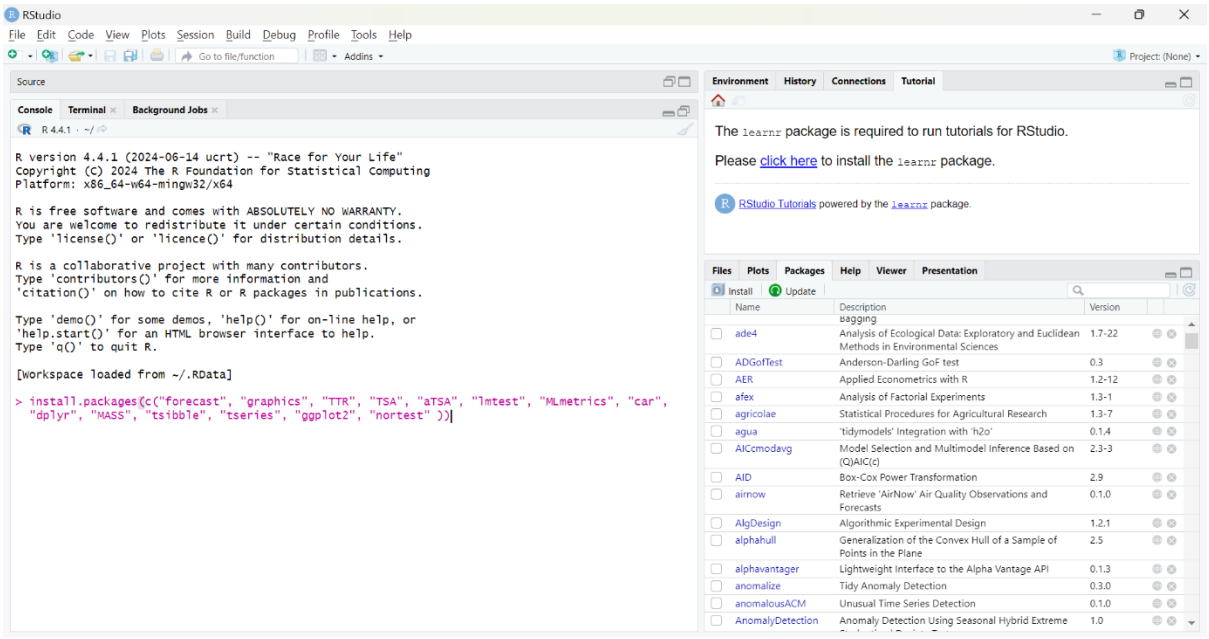
    Packages yang dibutuhkan untuk STA1341-Metode Peramalan Deret Waktu (MPDW) antara lain:

    forecast
    graphics
    TTR
    TSA
    aTSA
    lmtest
    MLmetrics
    car
    dplyr
    MASS
    tsibble
    tseries
    ggplot2
    nortest

    Untuk percepat instalasi dapat langsung gunakan:

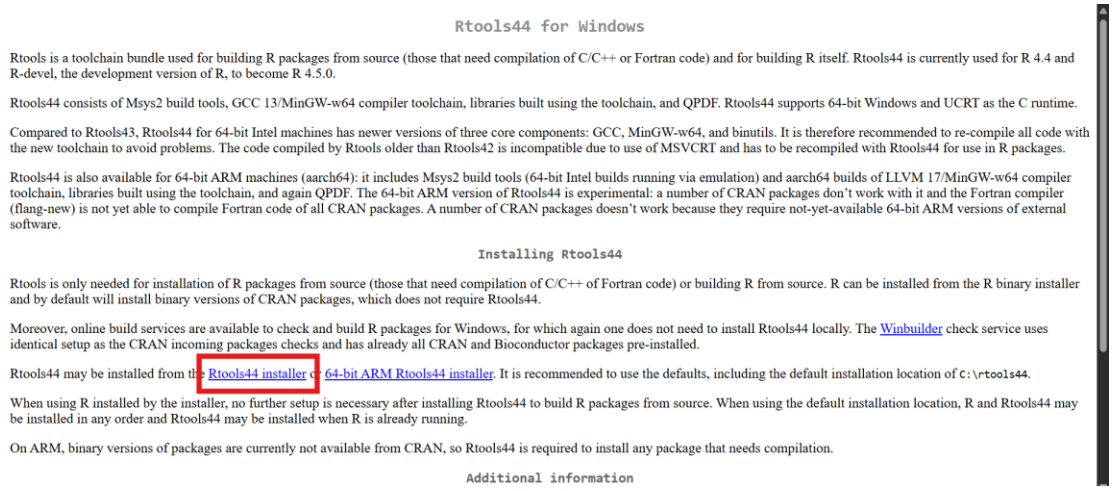
    install.packages(c("forecast", "graphics", "TTR", "TSA", "aTSA", "lmtest", "MLmetrics", "car", "dplyr", "MASS", "tsibble", "tseries", "ggplot2", "nortest"))

    Syntax di atas dapat di-*copy* & paste, serta *enter* di bagian console RStudio seperti berikut ini.



Catatan:

Apabila ada *error*, dapat dicobakan install RTools via link berikut https://cran.r-project.org/bin/windows/Rtools/rtools44/rtools.html dengan klik **Rtools44 installer.**



Rtools44 for Windows

Rtools is a toolchain bundle used for building R packages from source (those that need compilation of C/C++ or Fortran code) and for building R itself. Rtools44 is currently used for R 4.4 and R-devel, the development version of R, to become R 4.5.0.

Rtools44 consists of Msys2 build tools, GCC 13/MinGW-w64 compiler toolchain, libraries built using the toolchain, and QPDF. Rtools44 supports 64-bit Windows and UCRT as the C runtime.

Compared to Rtools43, Rtools44 for 64-bit Intel machines has newer versions of three core components: GCC, MinGW-w64, and binutils. It is therefore recommended to re-compile all code with the new toolchain to avoid problems. The code compiled by Rtools older than Rtools42 is incompatible due to use of MSVCRT and has to be recompiled with Rtools44 for use in R packages.

Rtools44 is also available for 64-bit ARM machines (aarch64): it includes Msys2 build tools (64-bit Intel builds running via emulation) and aarch64 builds of LLVM 17/MinGW-w64 compiler toolchain, libraries built using the toolchain, and again QPDF. The 64-bit ARM version of Rtools44 is experimental: a number of CRAN packages don't work with it and the Fortran compiler (flang-new) is not yet able to compile Fortran code of all CRAN packages. A number of CRAN packages doesn't work because they require not-yet-available 64-bit ARM versions of external software.

Installing Rtools44

Rtools is only needed for installation of R packages from source (those that need compilation of C/C++ of Fortran code) or building R from source. R can be installed from the R binary installer and by default will install binary versions of CRAN packages, which does not require Rtools44.

Moreover, online build services are available to check and build R packages for Windows, for which again one does not need to install Rtools44 locally. The Winbuilder check service uses identical setup as the CRAN incoming packages checks and has already all CRAN and Bioconductor packages pre-installed.

Rtools44 may be installed from the Rtools44 installer or 64-bit ARM Rtools44 installer. It is recommended to use the defaults, including the default installation location of C:\rtools44.

When using R installed by the installer, no further setup is necessary after installing Rtools44 to build R packages from source. When using the default installation location, R and Rtools44 may be installed in any order and Rtools44 may be installed when R is already running.

On ARM, binary versions of packages are currently not available from CRAN, so Rtools44 is required to install any package that needs compilation.

Additional information

Jika sudah install, dapat jalankan *syntax* untuk install *package* kembali sesuai poin 6.