R packages are a collection of R functions, complied code and sample data. They are stored under a directory called **"library"** in the R environment. By default, R installs a set of packages during installation. More packages are added later, when they are needed for some specific purpose. When we start the R console, only the default packages are available by default. Other packages which are already installed have to be loaded explicitly to be used by the R program that is going to use them.

All the packages available in R language are listed at [R Packages.](https://cran.r-project.org/web/packages/available_packages_by_name.html)

Below is a list of commands to be used to check, verify and use the R packages.

Check Available R Packages

Get library locations containing R packages

.libPaths()

When we execute the above code, it produces the following result. It may vary depending on the local settings of your pc.

[2] "C:/Program Files/R/R-3.2.2/library"

Get the list of all the packages installed

library()

When we execute the above code, it produces the following result. It may vary depending on the local settings of your pc.

Packages in library ‘C:/Program Files/R/R-3.2.2/library’:

base The R Base Package

boot Bootstrap Functions (Originally by Angelo Canty

for S)

class Functions for Classification

cluster "Finding Groups in Data": Cluster Analysis

Extended Rousseeuw et al.

codetools Code Analysis Tools for R

compiler The R Compiler Package

Get all packages currently loaded in the R environment

search()

When we execute the above code, it produces the following result. It may vary depending on the local settings of your pc.

[1] ".GlobalEnv" "package:stats" "package:graphics"

[4] "package:grDevices" "package:utils" "package:datasets"

[7] "package:methods" "Autoloads" "package:base"

Install a New Package

There are two ways to add new R packages. One is installing directly from the CRAN directory and another is downloading the package to your local system and installing it manually.

Install directly from CRAN

The following command gets the packages directly from CRAN webpage and installs the package in the R environment. You may be prompted to choose a nearest mirror. Choose the one appropriate to your location.

install.packages("Package Name")

# Install the package named "XML".

install.packages("XML")

Install package manually

Go to the link [R Packages](https://cran.r-project.org/web/packages/available_packages_by_name.html) to download the package needed. Save the package as a **.zip** file in a suitable location in the local system.

Now you can run the following command to install this package in the R environment.

install.packages(file\_name\_with\_path, repos = NULL, type = "source")

# Install the package named "XML"

install.packages("E:/XML\_3.98-1.3.zip", repos = NULL, type = "source")

Load Package to Library

Before a package can be used in the code, it must be loaded to the current R environment. You also need to load a package that is already installed previously but not available in the current environment.

A package is loaded using the following command −

library("package Name", lib.loc = "path to library")

# Load the package named "XML"

install.packages("E:/XML\_3.98-1.3.zip", repos = NULL, type = "source")