Description

`net` downloads and installs additions to Stata. The additions can be obtained from the Internet or from physical media. The additions can be ado-files (new commands), help files, or even datasets. Collections of files that may be installed as a group are bound together into a *package*.

`ado` manages the packages you have installed by using `net`. The `ado` command lets you list and uninstall previously installed packages.

You can also access the `net` and `ado` features by selecting **Help > SJ and community-contributed features**; this is the recommended method to find and install additions to Stata.

Syntax

*Set current location for net*

```
net from directory_or_url
```

*Change to a different net directory*

```
net cd path_or_url
```

*Change to a different net site*

```
net link linkname
```

*Search for installed packages*

```
net search (see [R] net search)
```

*Report current net location*

```
net
```

*Describe a package*

```
net describe pkgname [, from(directory_or_url)]
```

*Set location where packages will be installed*

```
net set ado dirname
```
Set location where ancillary files will be installed

    net set other dir

Report net ‘from’, ‘ado’, and ‘other’ settings

    net query

Install ado-files and help files from a package

    net install pkgname [ , all replace force from(directory_or_url) ]

Install ancillary files from a package

    net get pkgname [ , all replace force from(directory_or_url) ]

Shortcut to access Stata Journal (SJ) net site

    net sj vol-issue [ insert ]

Shortcut to access Stata Technical Bulletin (STB) net site

    net stb issue [ insert ]

List installed packages

    ado [ , find(string) from(dirname) ]

    ado dir [ pkgid ] [ , find(string) from(dirname) ]

Describe installed packages

    ado describe [ pkgid ] [ , find(string) from(dirname) ]

Update installed packages

    ado update

           (see [R] ado update)

Uninstall an installed package

    ado uninstall pkgid [ , from(dirname) ]

where

pkgname is name of a package
pkgid is name of a package
or a number in square brackets: [#]
dirname is a directory name
or PLUS (default)
or PERSONAL
or SITE
Options

all is used with net install and net get. Typing it with either one makes the command equivalent to typing net install followed by net get.

replace is for use with net install and net get. It specifies that the downloaded files replace existing files if any of the files already exists.

force specifies that the downloaded files replace existing files if any of the files already exists, even if Stata thinks all the files are the same. force implies replace.

find(string) is for use with ado, ado dir, and ado describe. It specifies that the descriptions of the packages installed on your computer be searched, and that the package descriptions containing string be listed.

from(dirname), when used with ado, specifies where the packages are installed. The default is from(PLUS). PLUS is a code word that Stata understands to correspond to a particular directory on your computer that was set at installation time. On Windows computers, PLUS probably means the directory c:\ado\plus, but it might mean something else. You can find out what it means by typing sysdir, but doing so is irrelevant if you use the defaults.

from(directory_or_url), when used with net, specifies the directory or URL where installable packages may be found. The directory or URL is the same as the one that would have been specified with net from.

Remarks and examples

For an introduction to using net and ado, see [U] 29 Using the Internet to keep up to date. The purpose of this documentation is

• to briefly, but accurately, describe net and ado and all their features and
• to provide documentation to those who wish to set up their own sites to distribute additions to Stata.

Remarks are presented under the following headings:

Definition of a package
The purpose of the net and ado commands
Content pages
Package-description pages
Where packages are installed
A summary of the net command
A summary of the ado command
Relationship of net and ado to the point-and-click interface
Creating your own site
Format of content and package-description files
Example 1
Example 2
Additional package directives
SMCL in content and package-description files
Error-free file delivery
Definition of a package

A package is a collection of files—typically, .ado and .sthlp files—that together provide a new feature in Stata. Packages contain additions that you wish had been part of Stata at the outset. For instance, the package named zz49 might add the xyz command to Stata. At a minimum, such a package would contain xyz.ado, the code to implement the new command, and xyz.sthlp, the system help to describe it. We write such additions, and so do other users.

One source of these additions is the Stata Journal, a printed and electronic journal with corresponding software. If you want the journal, you must subscribe, but the software is available for free from our website.

The purpose of the net and ado commands

The net command makes it easy to distribute and install packages. The goal is to get you quickly to a package-description page that summarizes the addition, for example,

```
. net describe rte_stat, from(http://www.wemakeitupaswego.edu/faculty/sgazer/)
```

```
package rte_stat from http://www.wemakeitupaswego.edu/faculty/sgazer/
```

```
TITLE
rte_stat. The robust-to-everything statistic; update.
```

```
DESCRIPTION/AUTHOR(S)
S. Gazer, Dept. of Applied Theoretical Mathematics, WMIUAWG Univ.
Aleph-0 100% confidence intervals proved too conservative for some
applications; Aleph-1 confidence intervals have been substituted.
The new robust-to-everything supplants the previous robust-to-
everything-conceivable statistic. See "Inference in the absence
of data" (forthcoming). After installation, see help rte.
```

```
INSTALLATION FILES
   (type net install rte_stat)
rte.ado
rte.sthlp
nullset.ado
random.ado
```

If you decide that the addition might prove useful, net makes the installation easy:

```
. net install rte_stat
checking rte_stat consistency and verifying not already installed...
installing into c:\ado\plus\ ...
installation complete.
```

The ado command helps you manage packages installed with net. Perhaps you remember that you installed a package that calculates the robust-to-everything statistic, but you cannot remember the command’s name. You could use ado to search what you have previously installed for the rte command,

```
. ado
   STB-56 sg145. Scalar measures of fit for regression models.
   (output omitted)
   rte_stat. The robust-to-everything statistic; update.
   (output omitted)
   SJ7-1 st0119. Rasch analysis
```
or you might type

```
. ado, find(“robust-to-everything”)  
rte_stat. The robust-to-everything statistic; update.
```

Perhaps you decide that rte, despite the author’s claims, is not worth the disk space it occupies. You can use ado to erase it:

```
. ado uninstall rte_stat  
package rte_stat from http://www.wemakeitupaswego.edu/faculty/sgazer  
rte_stat. The robust-to-everything statistic; update.  
(package uninstalled)
```

`ado uninstall` is easier than erasing the files by hand because `ado uninstall` erases every file associated with the package, and, moreover, `ado` knows where on your computer `rte_stat` is installed; you would have to hunt for these files.

### Content pages

There are two types of pages displayed by `net`: content pages and package-description pages. When you type `net from`, `net cd`, `net link`, or `net` without arguments, Stata goes to the specified place and displays the content page:

```
. net from https://www.stata.com
```

```
https://www.stata.com/
StataCorp
```

Welcome to StataCorp.  
Below we provide links to sites providing additions to Stata, including  
the Stata Journal, STB, and Statalist. These are NOT THE OFFICIAL UPDATES;  
you fetch and install the official updates by typing `-update-`.  
PLACES you could `-net link-` to:  
sj  
The Stata Journal  
DIRECTORIES you could `-net cd-` to:  
  stb  
  materials published in the Stata Technical Bulletin  
  users  
  materials written by various people, including StataCorp employees  
  meetings  
  software packages from Stata Users Group meetings  
  links  
  links to other locations providing additions to Stata
```

A content page tells you about other content pages and package-description pages. The example above lists other content pages only. Below, we follow one of the links for the *Stata Journal*:
. net link sj

https://www.stata-journal.com/
The Stata Journal

The Stata Journal is a refereed, quarterly journal containing articles
of interest to Stata users. For more details and subscription information,
visit the Stata Journal website at https://www.stata-journal.com.

PLACES you could -net link- to:
  stata     StataCorp website

DIRECTORIES you could -net cd- to:
  production Files for authors of the Stata Journal
  software   Software associated with Stata Journal articles

. net cd software

https://www.stata-journal.com/software/
The Stata Journal

PLACES you could -net link- to:
  stata     StataCorp website
  stb       Stata Technical Bulletin (STB) software archive

DIRECTORIES you could -net cd- to:
  sj7-1     volume 7, issue 1
  sj1-1     volume 1, issue 1

. net cd sj7-1

https://www.stata-journal.com/software/sj7-1/
Stata Journal volume 7, issue 1

DIRECTORIES you could -net cd- to:
  ..      Other Stata Journals

PACKAGES you could -net describe-:
  dm0027     File filtering in Stata: handling complex data
             formats and navigating log files efficiently
  st0119     Rasch analysis
  st0120     Multivariable regression spline models
  st0121     mhbounds — Sensitivity Analysis for Average
             Treatment Effects

dm0027, st0119, ..., st0121 are links to package-description pages.

1. When you type net from, you follow that with a location to display the location’s content page.

   a. The location could be a URL, such as https://www.stata.com. The content page at that
      location would then be listed.

   b. The location could be e: on a Windows computer or a mounted volume on a Mac
      computer. The content page on that source would be listed. That would work if you had
      special media obtained from StataCorp or special media prepared by another user.

   c. The location could even be a directory on your computer, but that would work only if
      that directory contained the right kind of files.
2. Once you have specified a location, typing `net cd` will take you into subdirectories of that location, if there are any. Typing

```
.net from https://www.stata-journal.com
.net cd software
```

is equivalent to typing

```
.net from https://www.stata-journal.com/software
```

Typing `net cd` displays the content page from that location.

3. Typing `net` without arguments redisplays the current content page, which is the content page last displayed.

4. `net link` is similar to `net cd` in that the result is to change the location, but rather than changing to subdirectories of the current location, `net link` jumps to another location:

```
.net from https://www.stata-journal.com
```

The Stata Journal is a refereed, quarterly journal containing articles of interest to Stata users. For more details and subscription information, visit the Stata Journal website at [https://www.stata-journal.com](https://www.stata-journal.com).

**PLACES you could **`net link`** to:**

<table>
<thead>
<tr>
<th>Place</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>stata</td>
<td>StataCorp website</td>
</tr>
</tbody>
</table>

**DIRECTORIES you could **`net cd`** to:**

<table>
<thead>
<tr>
<th>Directory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>production</td>
<td>Files for authors of the Stata Journal</td>
</tr>
<tr>
<td>software</td>
<td>Software associated with Stata Journal articles</td>
</tr>
</tbody>
</table>

Typing `net link stata` would jump to [https://www.stata.com](https://www.stata.com):

```
.net link stata
```

[https://www.stata.com/](https://www.stata.com/)

**Welcome to StataCorp.**

*(output omitted)*
Package-description pages

Package-description pages describe what could be installed:

```
. net from https://www.stata-journal.com/software/sj7-1
https://www.stata-journal.com/software/sj7-1/
(package description omitted)
. net describe st0119
package st0119 from https://www.stata-journal.com/software/sj7-1
```

**TITLE**
SJ7-1 st0119. Rasch analysis

**DESCRIPTION/AUTHOR(S)**
Rasch analysis
by Jean-Benoit Hardouin, University of Nantes, France
Support: jean-benoit.hardouin@univ-nantes.fr
After installation, type help gammasym, gausshermite, geekel2d, raschtest, and raschtestv7

**INSTALLATION FILES**
(type net install st0119)

- st0119/raschtest.ado
- st0119/raschtest.hlp
- st0119/raschtestv7.ado
- st0119/raschtestv7.hlp
- st0119/gammasym.ado
- st0119/gammasym.hlp
- st0119/gausshermite.ado
- st0119/gausshermite.hlp
- st0119/geekel2d.ado
- st0119/geekel2d.hlp

**ANCILLARY FILES**
(type net get st0119)

- st0119/data.dta
- st0119/outrasch.do

A package-description page describes the package and tells you how to install the component files. Package-description pages potentially describe two types of files:

1. Installation files: files that you type `net install` to install and that are required to make the addition work.

2. Ancillary files: additional files that you might want to install—you type `net get` to install them—but that you can ignore. Ancillary files are typically datasets that are useful for demonstration purposes. Ancillary files are not really installed in the sense of being copied to an official place for use by Stata itself. They are merely copied into the current directory so that you may use them if you wish.

You install the official files by typing `net install` followed by the package name. For example, to install st0119, you would type

```
. net install st0119
checking st0119 consistency and verifying not already installed...
installing into c:\ado\plus\...
installation complete.
```

You get the ancillary files—if there are any and if you want them—by typing `net get` followed by the package name:
Most users ignore the ancillary files.

Once you have installed a package—by typing `net install`—use `ado` to redisplay the package-description page whenever you wish:

```
. ado describe st0119
```

---

**[1] package** `st0119` **from https://www.stata-journal.com/software/sj7-1**

**TITLE**

SJ7-1 st0119. Rasch analysis

**DESCRIPTION/AUTHOR(S)**

Rasch analysis

by Jean-Benoit Hardouin, University of Nantes, France

Support: jean-benoit.hardouin@univ-nantes.fr

After installation, type help `gammasym`, `gaussshermite`,
`geekel2d`, `raschtest`, and `raschtestv7`

**INSTALLATION FILES**

`r/raschtest.ado`
`r/raschtest.hlp`
`r/raschtestv7.ado`
`r/raschtestv7.hlp`
`g/gammasym.ado`
`g/gammasym.hlp`
`g/gaussshermite.ado`
`g/gaussshermite.hlp`
`g/geekel2d.ado`
`g/geekel2d.hlp`

**INSTALLED ON**

24 Feb 2021

---

The package-description page shown by `ado` includes the location from which we got the package and when we installed it. It does not mention the ancillary files that were originally part of this package because they are not tracked by `ado`.

### Where packages are installed

Packages should be installed in PLUS or SITE, which are code words that Stata understands and that correspond to some real directories on your computer. Typing `sysdir` will tell you where these are, if you care.

```
. sysdir
```

```
STATA: C:\Program Files\Stata17\  BASE: C:\Program Files\Stata17\ado\base\  SITE: C:\Program Files\Stata17\ado\site\  PLUS: c:\ado\plus\  PERSONAL: c:\ado\personal\  OLDPLACE: c:\ado\
```

If you type `sysdir`, you may obtain different results.
By default, `net` installs in the PLUS directory, and `ado` tells you about what is installed there. If you are on a multiple-user system, you may wish to install some packages in the SITE directory. This way, they will be available to other Stata users. To do that, before using `net install`, type

```
. net set ado SITE
```

and when reviewing what is installed or removing packages, redirect `ado` to that directory:

```
. ado ..., from(SITE)
```

In both cases, you type SITE because Stata will understand that SITE means the site ado-directory as defined by `sysdir`. To install into SITE, you must have write access to that directory.

If you reset where `net` installs and then, in the same session, wish to install into your private ado-directory, type

```
. net set ado PLUS
```

That is how things were originally. If you are confused as to where you are, type `net query`.

**A summary of the net command**

The `net` command displays content pages and package-description pages. Such pages are provided over the Internet, and most users get them there. We recommend that you start at [https://www.stata.com](https://www.stata.com) and work out from there. We also recommend using `net search` to find packages of interest to you; see [R] `net search`.

`net from` moves you to a location and displays the content page.

`net cd` and `net link` change from your current location to other locations. `net cd` enters subdirectories of the original location. `net link` jumps from one location to another, depending on the code on the content page.

`net describe` lists a package-description page. Packages are named, and you type `net describe pkgname`.

`net install` installs a package into your copy of Stata. `net get` copies any additional files (ancillary files) to your current directory.

`net sj` and `net stb` simplify loading files from the *Stata Journal* and its predecessor, the *Stata Technical Bulletin*.

`net sj vol-issue` is a synonym for typing

```
net from https://www.stata-journal.com/software/sjvol-issue
```

whereas

`net sj vol-issue insert` is a synonym for typing

```
net from https://www.stata-journal.com/software/sjvol-issue
net describe insert
```

`net set` controls where `net` installs files. By default, `net` installs in the PLUS directory; see [P] `sysdir`. `net set ado SITE` would cause subsequent `net` commands to install in the SITE directory. `net set other` sets where ancillary files, such as `.dta` files, are installed. The default is the current directory.

`net query` displays the current `net from`, `net set ado`, and `net set other` settings.
A summary of the ado command

The ado command lists the package descriptions of previously installed packages.

Typing ado without arguments is the same as typing ado dir. Both list the names and titles of the packages you have installed.

ado describe lists full package-description pages.

ado uninstall removes packages from your computer.

Because you can install packages from a variety of sources, the package names may not always be unique. Thus the packages installed on your computer are numbered sequentially, and you may refer to them by name or by number. For instance, say that you wanted to get rid of the robust-to-everything statistic command you installed. Type

```
. ado, find("robust-to-everything")
tpe_stat. The robust-to-everything statistic; update.
```

You could then type

```
. ado uninstall rte_stat
```

or

```
. ado uninstall [15]
```

Typing ado uninstall rte_stat would work only if the name rte_stat were unique; otherwise, ado would refuse, and you would have to type the number.

The find() option is allowed with ado dir and ado describe. It searches the package description for the word or phrase you specify, ignoring case (alpha matches Alpha). The complete package description is searched, including the author’s name and the name of the files. Thus if rte was the name of a command that you wanted to eliminate, but you could not remember the name of the package, you could type

```
. ado, find(rte)
tpe_stat. The robust-to-everything statistic; update.
```

Relationship of net and ado to the point-and-click interface

Users may instead select Help > SJ and community-contributed features. There are advantages and disadvantages:

1. Flipping through content and package-description pages is easier; it is much like a browser. See [GS] 19 Updating and extending Stata—Internet functionality (GSM, GSU, or GSW).

2. When browsing a product-description page, note that the .sthlp files are highlighted. You may click on .sthlp files to review them before installing the package.

3. You may not redirect from where ado searches for files.
Creating your own site

Users who wish to share content with the Stata community often do so via the Statistical Software Components (SSC) archive. See [R] ssc and also see http://repec.org/bocode/s/sscsubmit.html.

The rest of this entry concerns how to create your own site to distribute additions to Stata. The idea is that you have written additions for use with Stata—say, xyz.ado and xyz.sthlp—and you wish to put them out so that coworkers or researchers at other institutions can easily install them. Or, perhaps you just have a dataset that you and others want to share.

In any case, all you need is a webpage. You place the files that you want to distribute on your webpage (or in a subdirectory), and you add two more files—a content file and a package-description file—and you are done.

Format of content and package-description files

The content file describes the content page. It must be named stata.toc:

```
begin stata.toc

OFF
* lines starting with * are comments; they are ignored
* blank lines are ignored, too
* v indicates version—specify v 3, which is the current version of .toc files
  v 3
* d lines display description text
* the first d line is the title, and the remaining ones are text
* blank d lines display a blank line
d title
d text
d text
 . . .
* l lines display links
  l word-to-show path-or-url [description]
  l word-to-show path-or-url [description]
 . . .
* t lines display other directories within the site
t path [description]
t path [description]
 . . .
* p lines display packages
  p pkgname [description]
p pkgname [description]
 . . .
end stata.toc
```

Package files describe packages and are named pkgname.pkg:
Note the Distribution-Date description line. This line is optional but recommended. Stata can look for updates to community-contributed programs with the ado update command if the package files from which those programs were installed contain a Distribution-Date description line.

Example 1

Say that we want the user to see the following:

```
.net from http://www.university.edu/~me
```

Chris Farrar, Uni University

PACKAGES you could `-net describe-':

```
xyz  interval-truncated survival
```

```
.net describe xyz
```

package `xyz' from http://www.university.edu/~me

TITLE

```
xyz.  interval-truncated survival.
```

DESCRIPTION/AUTHOR(S)

C. Farrar, Uni University.

INSTALLATION FILES

```
xyz.ado
xyz.sthlp
```

ANCILLARY FILES

```
sample.dta
```

The files needed to do this would be

```
begin stata.toc

v 3

d Chris Farrar, Uni University

p xyz interval-truncated survival
```

```
end stata.toc
```
On his homepage, Chris would place the following files:

- `stata.toc` (shown above)
- `xyz.pkg` (shown above)
- `xyz.ado` file to be delivered (for use by `net install`)
- `xyz.sthlp` file to be delivered (for use by `net install`)
- `sample.dta` file to be delivered (for use by `net get`)

Chris does nothing to distinguish ancillary files from installation files.

**Example 2**

S. Gazer wants to create a more complex site:

```plaintext
.net from http://www.wemakeitupaswego.edu/faculty/sgazer
```

http://www.wemakeitupaswego.edu/faculty/sgazer

**Data-free inference materials**

S. Gazer, Department of Applied Theoretical Mathematics

Also see my homepage for the preprint of "Irrefutable inference".

**PLACES you could `-net link-** to:
- stata StataCorp website

**DIRECTORIES you could `-net cd-** to:
- ir irrefutable inference programs (work in progress)

**PACKAGES you could `-net describe-**:
- rtec Robust-to-everything-conceivable statistic
- rte Robust-to-everything statistic
. net describe rte

package **rte** from http://www.wemakeitupaswego.edu/faculty/sgazer/

<table>
<thead>
<tr>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>rte. The robust-to-everything statistic; update.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DESCRIPTION/AUTHOR(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Gazer, Dept. of Applied Theoretical Mathematics, WMIUAWG Univ.</td>
</tr>
<tr>
<td>Aleph-0 100% confidence intervals proved too conservative for some applications; Aleph-1 confidence intervals have been substituted. The new robust-to-everything supplants the previous robust-to-everything-conceivable statistic. See &quot;Inference in the absence of data&quot; (forthcoming). After installation, see help <strong>rte</strong>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distribution-Date:</th>
<th>20190320</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support:</td>
<td>email <a href="mailto:sgazer@wemakeitupaswego.edu">sgazer@wemakeitupaswego.edu</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INSTALLATION FILES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>rte.ado</strong></td>
</tr>
<tr>
<td><strong>rte.sthlp</strong></td>
</tr>
<tr>
<td><strong>nullset.ado</strong></td>
</tr>
<tr>
<td><strong>random.ado</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANCILLARY FILES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>empty.dta</strong></td>
</tr>
</tbody>
</table>

The files needed to do this would be

```
begin stata.toc

v 3
d Data-free inference materials
d S. Gazer, Department of Applied Theoretical Mathematics
d
d Also see my homepage for the preprint of "Irrefutable inference".
l stata https://www.stata.com
t ir irrefutable inference programs (work in progress)
p rtec Robust-to-everything-conceivable statistic
p rte Robust-to-everything statistic

end stata.toc
```

```
begin rte.pkg

v 3
d rte. The robust-to-everything statistic; update.
d {bf:S. Gazer, Dept. of Applied Theoretical Mathematics, WMIUAWG Univ.} 
d Aleph-0 100% confidence intervals proved too conservative for some applications; Aleph-1 confidence intervals have been substituted.
d The new robust-to-everything supplants the previous robust-to-everything-conceivable statistic. See "Inference in the absence of data" (forthcoming). After installation, see help {bf:rte}. 
d
d Distribution-Date: 20190320
d
d Support: email sgazer@wemakeitupaswego.edu
f rte.ado
f rte.sthlp
f nullset.ado
f random.ado
f empty.dta

end rte.pkg
```
On his homepage, Mr. Gazer would place the following files:

- `stata.toc` (shown above)
- `rte.pkg` (shown above)
- `rte.ado` (file to be delivered)
- `rte.sthlp` (file to be delivered)
- `nullset.ado` (file to be delivered)
- `random.ado` (file to be delivered)
- `empty.dta` (file to be delivered)
- `rtec.pkg` the other package referred to in `stata.toc`
- `rtec.ado` the corresponding files to be delivered
- `rtec.sthlp`

If Mr. Gazer later updated the `rte` package, he could change the Distribution-Date description line in his package. Then, if someone who had previously installed the `rte` packaged wanted to obtain the latest version, that person could use the `ado update` command; see `[R] ado update`.

For complex sites, a different structure may prove more convenient:

- `stata.toc` (shown above)
- `rte.pkg` (shown above)
- `rtec.pkg` the other package referred to in `stata.toc`
- `rte/` directory containing `rte` files to be delivered:
  - `rte/rte.ado` (file to be delivered)
  - `rte/rte.sthlp` (file to be delivered)
  - `rte/nullset.ado` (file to be delivered)
  - `rte/random.ado` (file to be delivered)
  - `rte/empty.dta` (file to be delivered)
- `rtec/` directory containing `rtec` files to be delivered:
  - `rtec/...` (files to be delivered)
- `ir/stata.toc` the contents file for when the user types `net cd ir`
- `ir/...` whatever other `.pkg` files are referred to
- `ir/*/...` whatever other files are to be delivered

If you prefer this structure, it is simply a matter of changing the bottom of the `rte.pkg` from

```
f rte.ado
f rte.sthlp
f nullset.ado
f random.ado
f empty.dta
```

to

```
f rte/rte.ado
f rte/rte.sthlp
f rte/nullset.ado
f rte/random.ado
f rte/empty.dta
```

In writing paths and files, the directory separator forward slash (/) is used, regardless of operating system, because this is what the Internet uses.

It does not matter whether the files you put out are in Windows, Mac, or Unix format (how lines end is recorded differently). When Stata reads the files over the Internet, it will figure out the file format on its own and will automatically translate the files to what is appropriate for the receiver.
Additional package directives

_F filename_ is similar to _f filename_, except that, when the file is installed, it will always be copied to the system directories (and not the current directory).

With _f filename_, the file is installed into a directory according to the file’s suffix. For instance, _xyz.ado_ would be installed in the system directories, whereas _xyz.dta_ would be installed in the current directory.

Coding _F xyz.ado_ would have the same result as coding _f xyz.ado_.

Coding _F xyz.dta_, however, would state that _xyz.dta_ is to be installed in the system directories.

_g platformname filename_ is also a variation on _f filename_. It specifies that the file be installed only if the user’s operating system is of type _platformname_; otherwise, the file is ignored. The platform names are _WIN64_ (64-bit x86-64) for Windows; _MACARM64_ (Apple Silicon, GUI) and _OSX.ARM64_ (Apple Silicon, console), _MACINTEL64_ (64-bit Intel, GUI) and _OSX.X8664_ (64-bit Intel, console) for Mac; and _LINUX64_ (64-bit x86-64) and _LINUX64P_ (64-bit x86-64, libpng v1.6) for Linux. For _LINUX64P_, the _LINUX64_—specific version of a file will be installed if no _LINUX64P_—specific one exists. _LINUX64_ will not install a _LINUX64P_—specific version of a file because of possible changes in system libraries.

_G platformname filename_ is a variation on _F filename_. The file, if not ignored, is to be installed in the system directories.

_g platformname filename1 filename2_ is a more detailed version of _g platformname filename_. In this case, _filename1_ is the name of the file on the server (the file to be copied), and _filename2_ is to be the name of the file on the user’s system; for example, you might code

```
   g WIN64 mydll.forwin mydll.plugin
   g LINUX64 mydll.forlinux mydll.plugin
```

When you specify one _filename_, the result is the same as specifying two identical _filenames_.

_G platformname filename1 filename2_ is the install-in-system-directories version of _g platformname filename1 filename2_.

_h filename_ asserts that _filename_ must be loaded, or this package is not to be installed; for example, you might code

```
   g WIN64 mydll.forwin mydll.plugin
   g LINUX64 mydll.forlinux mydll.plugin
   h mydll.plugin
```

if you were offering the plugin _mydll.plugin_ for Windows and Linux only.

SMCL in content and package-description files

The text listed on the second and subsequent _d_ lines in both _stata.toc_ and _pkgname.pkg_ may contain SMCL as long as you include _v 3_; see _[P] smcl_.

Thus, in _rte.pkg_, S. Gazer coded the third line as

```
   d {bf:S. Gazer, Dept. of Applied Theoretical Mathematics, WMIUAWG Univ.}
```
Error-free file delivery

Most people transport files over the Internet and never worry about the file being corrupted in the process because corruption rarely occurs. If, however, the files must be delivered perfectly or not at all, you can include checksum files in the directory.

For instance, say that `big.dta` is included in your package and that it must be sent perfectly. First, use Stata to make the checksum file for `big.dta`

```
    . checksum big.dta, save
```

That command creates a small file called `big.sum`; see `[D] checksum`. Then, copy both `big.dta` and `big.sum` to your homepage.

If you do this, be cautious. If you put `big.dta` and `big.sum` on your homepage and then later change `big.dta` without changing `big.sum`, people will think that there are transmission errors when they try to download `big.dta`.

Also see

[R] ado update — Update community-contributed packages
[R] net search — Search the Internet for installable packages
[R] netio — Control Internet connections
[R] search — Search Stata documentation and other resources
[R] sj — Stata Journal and STB installation instructions
[R] ssc — Install and uninstall packages from SSC
[R] update — Check for official updates
[D] checksum — Calculate checksum of file
[P] smcl — Stata Markup and Control Language

[GSM] 19 Updating and extending Stata—Internet functionality
[GSU] 19 Updating and extending Stata—Internet functionality
[GSW] 19 Updating and extending Stata—Internet functionality
[U] 29 Using the Internet to keep up to date