

## IUS Client Usage Guide



As of September 24, 2015, [ius.io](http://ius.io) has replaced this website. This site will stay up for about 30 days for archive purposes then redirect to the new site. The old site code be still be available at the [sphinx\\_iuscommunity Github repo](#).

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## Summary

This document outlines the basic client side usage of IUS. For common questions regarding IUS please see the [FAQs](#).

## End User Agreement

- <https://dl.iuscommunity.org/pub/ius/IUS-COMMUNITY-EUA>

## Information on IUS Packages

The following explains a little bit behind how IUS packages are organized.

## Package Categories

The packaging model of IUS is broken up into two package categories:

### Primary Packages:

The packages represent our purpose in maintaining these repositories. All primary packages will be maintained inline with upstream stable sources. In short, these are the packages that we focus our time on most, and have the highest priority. Almost always, with little exception, these packages explicitly replace a package that already exists in RHEL. For example: mysql50 and mysql51 both explicitly replace mysql as shipped with RHEL.

### Secondary Supporting Packages:

Supporting packages are those that have been added to enhance the usability and appeal of the Primary Packages. These will most often be additional libraries such as PECL for PHP, or libraries for Python.

Supporting Packages might not replace anything in RHEL, but sometimes do. It should be noted that IUS is not focused on adding extra packages for RHEL. If we want to package something additional for stock RHEL we will do so through [Fedora EPEL](#). Supporting Packages might not follow upstream stable sources in the fashion that the Primary Packages do. If it's stable, and works... we may not update these packages for a long time (or until an update is requested).

## Package Types

IUS Packages will be one of two types: Conflicting or Parallel.

### Conflict Replace Packages:

Almost all IUS packages will be conflicting. This means, the packages that they replace must first be uninstalled before the IUS version is installed. For example: mysql50 and mysql51 both conflict with mysql. They provide 'mysql' but they do not obsolete mysql, therefore simply subscribing to the IUS Yum Repositories will not upgrade anything automatically. If you attempt to install mysql5X packages from IUS you will get Yum errors. That said, once you remove the original packages (mysql, mysql-server, mysql-devel, etc) and install the IUS counterparts everything will function the same.

### Parallel Install Packages:

In some cases it makes sense to maintain Parallel Packages, meaning packages that you can install side-by-side with their stock counterparts. A perfect example of this would be Python, or in IUS python26. On RHEL and most other linux distributions python is a critical piece that the system relies on. Upgrading Python on RHEL can cause major problems including break the update management system. Yes, there

are ways around it... but they are all messy and not recommended. By parallel installing Python 2.6 alongside the stock Python 2.4 the system remains intact and you can access both versions of Python.

Unfortunately this layout leads to confusion, as there is nothing to signify which packages are conflicting/replacement packages and which can be installed side-by-side. Maybe one day we'll figure out a better schema.

## Configuration

Client configuration can be automatically setup by installing the ius-release package, which also requires the epel-release package. Both packages can be found within the respective repo for your OS:

- <https://dl.iuscommunity.org/pub/ius/stable>

The following is an example, please note you may need to adjust the URLs for your system:

```
root@linuxbox ~]# wget https://dl.iuscommunity.org/pub/
root@linuxbox ~]# wget https://dl.iuscommunity.org/pub/
root@linuxbox ~]# rpm -Uvh ius-release*.rpm epel-releas
```

## See What Packages Are Available

You can easily see what software is available to you by doing a 'yum search' or by going to the [IUS Community Repo](#) directly. Keep in mind that packages will be added to IUS regularly so check back often:

```
[root@el5-i386 ~]# yum list | grep -w \.ius\.
```

mod_python26-debuginfo.i386	3.3.1-10.ius.el5
mysql50.i386	5.0.83-2.ius.el5
mysql50-bench.i386	5.0.83-2.ius.el5
mysql50-debuginfo.i386	5.0.83-2.ius.el5
mysql50-devel.i386	5.0.83-2.ius.el5
mysql50-server.i386	5.0.83-2.ius.el5
mysql51.i386	5.1.36-2.ius.el5
mysql51-bench.i386	5.1.36-2.ius.el5
mysql51-debuginfo.i386	5.1.36-2.ius.el5
mysql51-devel.i386	5.1.36-2.ius.el5
mysql51-plugins-archive.i386	5.1.36-2.ius.el5
mysql51-plugins-blackhole.i386	5.1.36-2.ius.el5
mysql51-plugins-example.i386	5.1.36-2.ius.el5
mysql51-plugins-federated.i386	5.1.36-2.ius.el5
mysql51-server.i386	5.1.36-2.ius.el5
php52.i386	5.2.10-1.2.ius.el5
php52-cli.i386	5.2.10-1.2.ius.el5
php52-common.i386	5.2.10-1.2.ius.el5
php52-gd.i386	5.2.10-1.2.ius.el5
php52-imap.i386	5.2.10-1.2.ius.el5
php52-ldap.i386	5.2.10-1.2.ius.el5
php52-mbstring.i386	5.2.10-1.2.ius.el5
php52-mysql.i386	5.2.10-1.2.ius.el5
php52-odbc.i386	5.2.10-1.2.ius.el5
php52-pdo.i386	5.2.10-1.2.ius.el5
php52-xml.i386	5.2.10-1.2.ius.el5
php52-bcmath.i386	5.2.10-1.2.ius.el5
php52-dba.i386	5.2.10-1.2.ius.el5
php52-debuginfo.i386	5.2.10-1.2.ius.el5
php52-devel.i386	5.2.10-1.2.ius.el5
php52-mcrypt.i386	5.2.10-1.2.ius.el5
php52-mssql.i386	5.2.10-1.2.ius.el5
php52-ncurses.i386	5.2.10-1.2.ius.el5
php52-pgsql.i386	5.2.10-1.2.ius.el5
php52-snmp.i386	5.2.10-1.2.ius.el5
php52-soap.i386	5.2.10-1.2.ius.el5
php52-tidy.i386	5.2.10-1.2.ius.el5
php52-xmlrpc.i386	5.2.10-1.2.ius.el5
php53.i386	5.3.0-1.ius.el5
php53-bcmath.i386	5.3.0-1.ius.el5
php53-cli.i386	5.3.0-1.ius.el5
php53-common.i386	5.3.0-1.ius.el5
php53-dba.i386	5.3.0-1.ius.el5
php53-debuginfo.i386	5.3.0-1.ius.el5
php53-devel.i386	5.3.0-1.ius.el5

php53-gd.i386	5.3.0-1.ius.el5
php53-imap.i386	5.3.0-1.ius.el5
php53-ldap.i386	5.3.0-1.ius.el5
php53-mbstring.i386	5.3.0-1.ius.el5
php53-mcrypt.i386	5.3.0-1.ius.el5
php53-mssql.i386	5.3.0-1.ius.el5
php53-mysql.i386	5.3.0-1.ius.el5
php53-odbc.i386	5.3.0-1.ius.el5
php53-pdo.i386	5.3.0-1.ius.el5
php53-pgsql.i386	5.3.0-1.ius.el5
php53-snmp.i386	5.3.0-1.ius.el5
php53-soap.i386	5.3.0-1.ius.el5
php53-tidy.i386	5.3.0-1.ius.el5
php53-xml.i386	5.3.0-1.ius.el5
php53-xmlrpc.i386	5.3.0-1.ius.el5
python26-debuginfo.i386	2.6-4.5.ius.el5
python26-devel.i386	2.6-4.5.ius.el5
python26-libs.i386	2.6-4.5.ius.el5
python26-setuptools.noarch	0.6c9-1.1.ius.el5
python26-test.i386	2.6-4.5.ius.el5
python26-tools.i386	2.6-4.5.ius.el5

## Upgrading Stock RHEL Packages to IUS Packages

The IUS repository has a package called ‘yum-plugin-replace’ . This package is *not* required by the ‘ius-release’ package, but can be installed via:

```
$ sudo yum install yum-plugin-replace
```

The replace plugin was written specifically for IUS to assist in upgrading from stock packages to IUS packageXY style packages.

If for some reason these processes and the yum-plugin-replace do not work correctly, you can also try [Upgrading the Old Way](#).

Using ‘php’ as an example, we are going to show how to upgrade

from stock RHEL packages to the IUS counterparts:

```
[root@linuxbox ~]# rpm -qa | grep php
php-pear-1.4.9-6.el5
php-common-5.1.6-27.el5
php-cli-5.1.6-27.el5
php-devel-5.1.6-27.el5
php-5.1.6-27.el5

[root@linuxbox ~]# yum replace php --replace-with php53
Loaded plugins: replace
Excluding Packages in global exclude list
Finished
Replacing packages takes time, please be patient...

WARNING: Unable to resolve all providers: ['config/php-
This may be normal depending on the package.  Continue?

Removed:
  php.x86_64 0:5.1.6-27.el5          php-cli.x86_64 0:5.1.
  php-devel.x86_64 0:5.1.6-27.el5  php-pear.noarch 1:1.

Installed:
  php53.x86_64 0:5.3.2-6.ius.el5          php5
  php53-common.x86_64 0:5.3.2-6.ius.el5    php5
  php53-pear.noarch 1:1.8.1-4.ius.el5      php5

Complete!
```

As you can see there is a WARNING that the ‘replace’ operation was unable to resolve all providers. This means that the ‘php53’ package doesn’t provide everything that the ‘php’ packages did. This is normal, and should be expected when upgrading major versions of software. At times this will also be because of something missing in the newer packages. For example, dbase was removed from php53 core ... however ‘config/php-common)’ should likely be added to the php53 packages and is simply just an rpm spec change that needs to happen. The yum-plugin-replace is new, and

therefore small issues like this will be resolved in the near future as they are discovered.

You will notice that the ‘replace’ plugin determines all the required sub packages that are required to resolve the deps provided by the stock versions package set. Additionally, the plugin will attempt to install any external packages that might need to be replaced as well. For example, the ‘php-pear’ package is not part of the ‘php’ package set. Therefore, it needs to be replaced by ‘php53-pear’ ... another example would be with any PECL sub packages that might be installed (assuming the php53-pecl-xxxxxx package is available in IUS).

The following is the full output from the command:

```
[root@linuxbox ~]# yum replace php --replace-with php53
Loaded plugins: replace
Excluding Packages in global exclude list
Finished
Replacing packages takes time, please be patient...
```

```
WARNING: Unable to resolve all providers: ['config/php-
```

```
This may be normal depending on the package.  Continue?
Resolving Dependencies
```

```
--> Running transaction check
---> Package php.x86_64 0:5.1.6-27.el5 set to be erased
---> Package php-cli.x86_64 0:5.1.6-27.el5 set to be erased
---> Package php-common.x86_64 0:5.1.6-27.el5 set to be erased
---> Package php-devel.x86_64 0:5.1.6-27.el5 set to be erased
---> Package php-pear.noarch 1:1.4.9-6.el5 set to be erased
---> Package php53.x86_64 0:5.3.2-6.ius.el5 set to be installed
---> Package php53-cli.x86_64 0:5.3.2-6.ius.el5 set to be installed
---> Package php53-common.x86_64 0:5.3.2-6.ius.el5 set to be installed
---> Package php53-devel.x86_64 0:5.3.2-6.ius.el5 set to be installed
---> Package php53-pear.noarch 1:1.8.1-4.ius.el5 set to be installed
---> Package php53-pspell.x86_64 0:5.3.2-6.ius.el5 set to be installed
--> Finished Dependency Resolution
```

```
Dependencies Resolved
```

```
=====
```



Package	Arch	Version
=====		
Installing:		
php53	x86_64	5.3.2-6.ius.
php53-cli	x86_64	5.3.2-6.ius.
php53-common	x86_64	5.3.2-6.ius.
php53-devel	x86_64	5.3.2-6.ius.
php53-pear	noarch	1:1.8.1-4.iu
php53-pspell	x86_64	5.3.2-6.ius.
Removing:		
php	x86_64	5.1.6-27.el5
php-cli	x86_64	5.1.6-27.el5
php-common	x86_64	5.1.6-27.el5
php-devel	x86_64	5.1.6-27.el5
php-pear	noarch	1:1.4.9-6.el

### Transaction Summary

```
=====
Install      6 Package(s)
Upgrade      0 Package(s)
Remove       5 Package(s)
Reinstall    0 Package(s)
Downgrade    0 Package(s)
```

Total download size: 6.6 M

Is this ok [y/N]: y

Downloading Packages:

```
(1/6): php53-pspell-5.3.2-6.ius.el5.x86_64.rpm
(2/6): php53-pear-1.8.1-4.ius.el5.noarch.rpm
(3/6): php53-common-5.3.2-6.ius.el5.x86_64.rpm
(4/6): php53-devel-5.3.2-6.ius.el5.x86_64.rpm
(5/6): php53-5.3.2-6.ius.el5.x86_64.rpm
(6/6): php53-cli-5.3.2-6.ius.el5.x86_64.rpm
```

-----  
Total

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

```
Installing      : php53-cli
Installing      : php53-common
Installing      : php53
Installing      : php53-devel
Installing      : php53-pspell
```

```
Installing      : php53-pear
Erasing         : php-common
Erasing         : php-cli
Erasing         : php
Erasing         : php-devel
Erasing         : php-pear
```

Removed:

```
php.x86_64 0:5.1.6-27.el5      php-cli.x86_64 0:5.1
php-devel.x86_64 0:5.1.6-27.el5  php-pear.noarch 1:1.
```

Installed:

```
php53.x86_64 0:5.3.2-6.ius.el5      php5
php53-common.x86_64 0:5.3.2-6.ius.el5  php5
php53-pear.noarch 1:1.8.1-4.ius.el5    php5
```

Complete!

And now, you should have a working install of PHP 5.3 on RHEL5:

```
[root@linuxbox ~]# php -v
PHP 5.3.2 (cli) (built: Jun 24 2010 17:22:02)
Copyright (c) 1997-2010 The PHP Group
Zend Engine v2.3.0, Copyright (c) 1998-2010 Zend Techno
```

But don't forget to check and restart Apache:

```
[root@el5-i386 ~]# httpd -t
Syntax OK

[root@el5-i386 ~]# /etc/init.d/httpd restart
Stopping httpd:
Starting httpd:
```

As the plugin suggest one piece of software is being replaced by another, for example you can not replace mysql with mysql55 if mysql is not initially installed:

```
# yum replace mysql --replace-with mysql55
Loaded plugins: fastestmirror, replace
Loading mirror speeds from cached hostfile
* base: centos-distro.cavecreek.net
* epel: fedora-epel.mirror.lstn.net
* extras: centos.mirror.lstn.net
* ius: pancks.sothatswhy.org.uk
* updates: mirror.raystedman.net
Replacing packages takes time, please be patient...
Error: Package 'mysql' is not installed.
```

One of the main reasons you may run in to this is with Enterprise Linux 6.

Enterprise Linux 6 comes pre installed with mysql-libs as it is required by Postfix, but does not come with mysql. The simplest solution in these cases would be to first install mysql from base Redhat:

```
# yum install mysql
Loaded plugins: fastestmirror, replace
Loading mirror speeds from cached hostfile
* base: centos-distro.cavecreek.net
* epel: fedora-epel.mirror.lstn.net
* extras: centos.mirror.lstn.net
* ius: pancks.sothatswhy.org.uk
* updates: mirror.raystedman.net
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package mysql.i686 0:5.1.52-1.el6_0.1 set to be up
--> Finished Dependency Resolution
```

Dependencies Resolved

```
=====
Package                                Arch                                Version
=====
Installing:
mysql                                  i686                                5.1.52-1.el6_
```

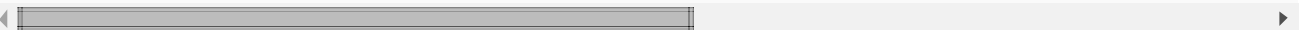
Transaction Summary

```
=====
Install          1 Package(s)
Upgrade          0 Package(s)

Total download size: 898 k
Installed size: 2.3 M
Is this ok [y/N]: y
Downloading Packages:
mysql-5.1.52-1.el6_0.1.i686.rpm
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
Warning: RPMDB altered outside of yum.
   Installing      : mysql-5.1.52-1.el6_0.1.i686

Installed:
  mysql.i686 0:5.1.52-1.el6_0.1

Complete!
```



Then replace with mysql55 from IUS:

```
# yum replace mysql --replace-with mysql55
Loaded plugins: fastestmirror, replace
Loading mirror speeds from cached hostfile
* base: centos-distro.cavecreek.net
* epel: mirror.utexas.edu
* extras: centos.mirror.lstn.net
* ius: pancks.sothatswhy.org.uk
* updates: mirror.raystedman.net
Replacing packages takes time, please be patient...

WARNING: Unable to resolve all providers: ['config(mysql
'libmysqlclient_r.so.16', 'libmysqlclient_r.so.16(libmy

This may be normal depending on the package.  Continue?
Resolving Dependencies
--> Running transaction check
---> Package mysql.i686 0:5.1.52-1.el6_0.1 set to be er
---> Package mysql-libs.i686 0:5.1.52-1.el6_0.1 set to
--> Processing Dependency: libmysqlclient.so.16 for pac
--> Processing Dependency: libmysqlclient.so.16 for pac
```

```
--> Processing Dependency: libmysqlclient.so.16(libmysc
--> Processing Dependency: libmysqlclient.so.16(libmysc
---> Package mysql55.i686 0:5.5.15-2.ius.el6 set to be
--> Processing Dependency: mysqlclient16 for package: m
---> Package mysql55-libs.i686 0:5.5.15-2.ius.el6 set t
--> Running transaction check
---> Package mysqlclient16.i686 0:5.1.56-1.ius.el6 set
---> Package perl-DBD-MySQL.i686 0:4.013-3.el6 set to k
---> Package postfix.i686 2:2.6.6-2.el6 set to be erase
--> Processing Dependency: /usr/sbin/sendmail for packa
--> Running transaction check
---> Package cronie.i686 0:1.4.4-2.el6 set to be erasesc
--> Processing Dependency: cronie = 1.4.4-2.el6 for pac
--> Running transaction check
---> Package cronie-anacron.i686 0:1.4.4-2.el6 set to k
--> Processing Dependency: /etc/cron.d for package: crc
--> Restarting Dependency Resolution with new changes.
--> Running transaction check
---> Package crontabs.noarch 0:1.10-32.1.el6 set to be
--> Finished Dependency Resolution
--> Running transaction check
---> Package cronie.i686 0:1.4.4-2.el6 set to be erasesc
---> Package cronie-anacron.i686 0:1.4.4-2.el6 set to k
---> Package crontabs.noarch 0:1.10-32.1.el6 set to be
---> Package perl-DBD-MySQL.i686 0:4.013-3.el6 set to k
---> Package postfix.i686 2:2.6.6-2.el6 set to be erase
--> Finished Dependency Resolution
```

## Dependencies Resolved

```
=====
Package                                Arch                                Version
=====
Installing:
mysql55                                i686                                5.5.15-2.ius.
mysql55-libs                           i686                                5.5.15-2.ius.
Removing:
mysql                                  i686                                5.1.52-1.el6_
mysql-libs                             i686                                5.1.52-1.el6_
Installing for dependencies:
mysqlclient16                          i686                                5.1.56-1.ius.
```

## Transaction Summary

```
=====
Install                                3 Package(s)
```

```
Upgrade      0 Package(s)
Remove       2 Package(s)
Reinstall    0 Package(s)
Downgrade    0 Package(s)
```

Total download size: 11 M

Is this ok [y/N]: y

Downloading Packages:

(1/3): mysql55-5.5.15-2.ius.el6.i686.rpm

(2/3): mysql55-libs-5.5.15-2.ius.el6.i686.rpm

(3/3): mysqlclient16-5.1.56-1.ius.el6.i686.rpm

-----  
Total

Running rpm\_check\_debug

Running Transaction Test

Transaction Test Succeeded

Running Transaction

Installing : mysql55-libs-5.5.15-2.ius.el6.i686

Installing : mysqlclient16-5.1.56-1.ius.el6.i686

Installing : mysql55-5.5.15-2.ius.el6.i686

Erasing : mysql-5.1.52-1.el6\_0.1.i686

Erasing : mysql-libs-5.1.52-1.el6\_0.1.i686

Removed:

mysql.i686 0:5.1.52-1.el6\_0.1

Installed:

mysql55.i686 0:5.5.15-2.ius.el6

Dependency Installed:

mysqlclient16.i686 0:5.1.56-1.ius.el6

Complete!

## Downgrading from IUS Packages to Stock RHEL Packages

Please note that downgrading using the yum ‘replace’ plugin is slightly experimental, and may not work for all package sets. If you have issues, please use the old way.

Downgrading is really the same process but backwards. The 'replace' plugin for yum also works for downgrading (but will produce many more missing providers):

```
[root@linuxbox ~]# yum replace php53 --replace-with php
Loaded plugins: replace
Excluding Packages in global exclude list
Finished
Replacing packages takes time, please be patient...

WARNING: Unable to resolve all providers: ['php53-cgi',
This may be normal depending on the package.  Continue?

Removed:
  php53.x86_64 0:5.3.2-6.ius.el5                php5
  php53-common.x86_64 0:5.3.2-6.ius.el5         php5
  php53-pear.noarch 1:1.8.1-4.ius.el5           php5

Installed:
  php.x86_64 0:5.1.6-27.el5                php-cli.x86_64 0:5.1
  php-devel.x86_64 0:5.1.6-27.el5          php-pear.noarch 1:1.

Complete!
```

And of course we once again have stock PHP for EL5:

```
[root@el5-i386 ~]# php -v
PHP 5.1.6 (cli) (built: Feb 26 2009 07:01:10)
Copyright (c) 1997-2006 The PHP Group
Zend Engine v2.1.0, Copyright (c) 1998-2006 Zend Techno
```

## Known Yum Dependency Resolution Issues

The IUS CoreDev Team is aware of an issue with the previous versions of Yum and how it resolves dependencies when installing packages.

For background on this matter please see the upstream bug reports that we have submitted:

- [LaunchPad IUS Bug #453543](#)
- [Yum Bug #296](#)
- [Red Hat Bug #529719](#)

As of Yum 3.2.26 (backported: 3.2.22-23) this is no longer a problem.

We had previously implemented an optional and temporary workaround by backporting the original patch that we submitted to a yum3 package in the IUS EL 5 repositories. If you had used this yum3 package, please revert to the stock version of yum in RHEL 5.5/6.0:

```
# yum install yum-utils  
  
# yumdownloader yum  
  
# rpm -e --nodeps yum3  
  
# rpm -Uvh yum-*.rpm
```

## Quick Links

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- [coredev@iuscommunity.org](mailto:coredev@iuscommunity.org)
- [irc.freenode.net](irc://freenode.net/iuscommunity)
- [#iuscommunity](#)



