Installing Agent on CentOS, RHE and Fedora

1. Installing Agent Using YUM | 2. Install Agent Manually (Using RPM) | 3. Install CDP Linux Device Driver

1. Installing Agent Using YUM

1.1 Configure YUM Repository

YUM is the easiest way to keep programs up-to-date on RedHat-compatible distributions. It downloads and installs the latest version of a program. You should configure the YUM repository to manage install and upgrades of CDP Agent.

First, create a YUM `.repo` file with the R1Soft repository information. Save the file in the `yum.repos.d` directory which is typically located in `/etc/`.

1. Open the new file with a text editor such as vi or nano:

```
# cd /etc/yum.repos.d
# vi r1soft.repo
```

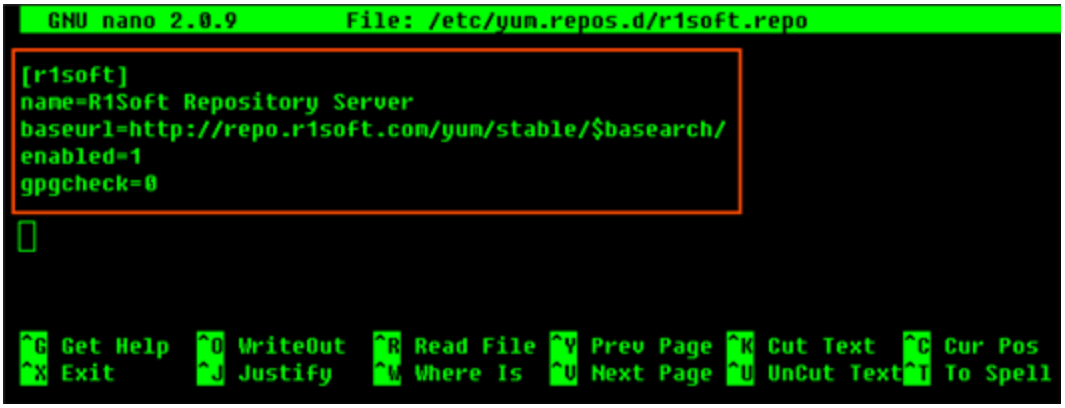
or

```
# nano -w /etc/yum.repos.d/r1soft.repo
```



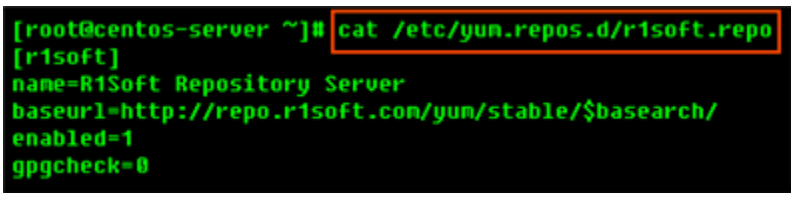
2. Insert the following text into the file and save the file:

```
[r1soft]
name=R1Soft Repository Server
baseurl=http://repo.r1soft.com/yum/stable/$basearch/
enabled=1
gpgcheck=0
```



3. To verify what is written to the file, use the following command:

```
# cat /etc/yum/yum.repos.d/r1soft.repo
```



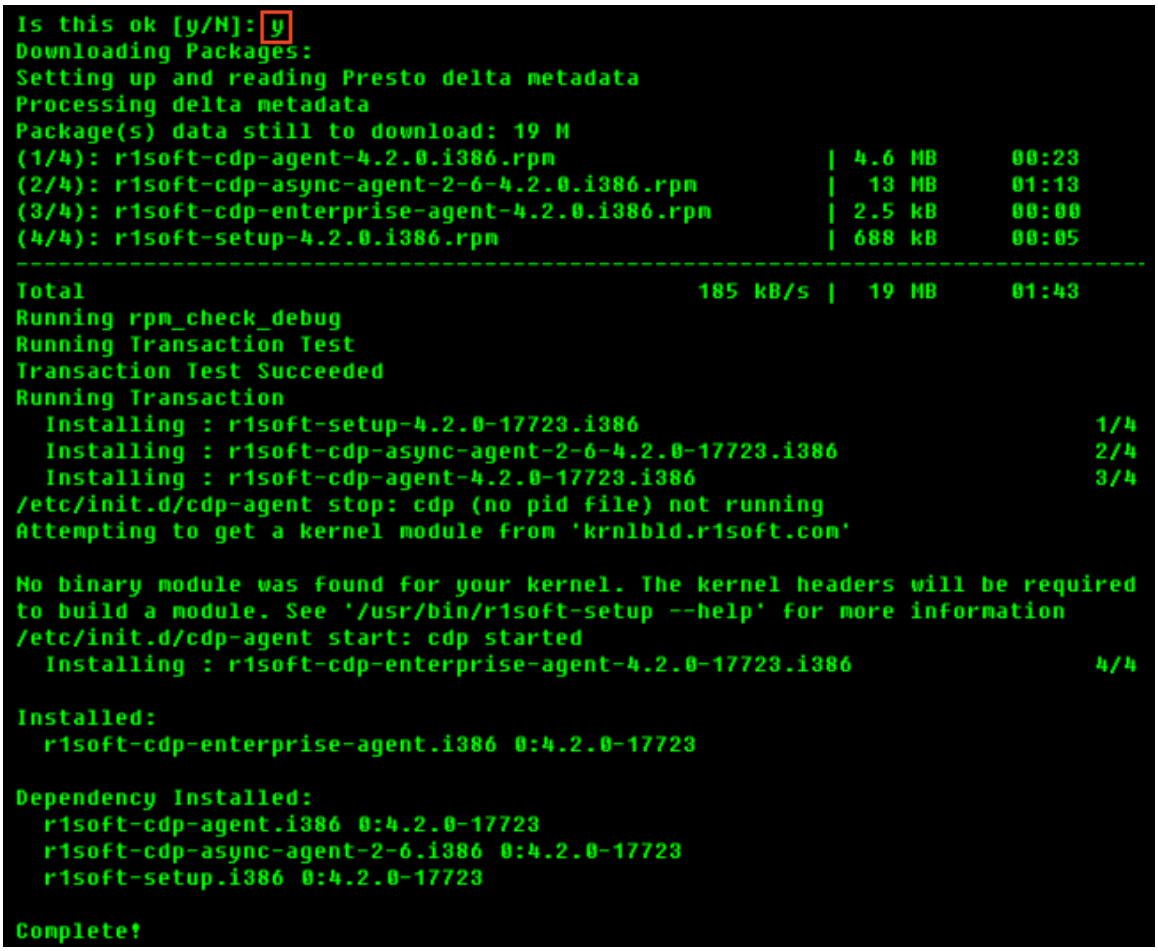
1.2 Install the Package

Once you have configured the YUM repository, you can use the following command to install CDP Agent:

```
# yum install r1soft-cdp-enterprise-agent
```

```
[root@centos-server cdp]# yum install r1soft-cdp-enterprise-agent
Loaded plugins: fastestmirror, presto
Loading mirror speeds from cached hostfile
 * base: centos.itt-consulting.com
 * extras: centos.itt-consulting.com
 * updates: centos.itt-consulting.com
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package r1soft-cdp-enterprise-agent.i386 0:4.2.0-17723 will be installed
--> Processing Dependency: r1soft-cdp-agent >= 4.2.0 for package: r1soft-cdp-ent
erprise-agent-4.2.0-17723.i386
--> Processing Dependency: r1soft-setup >= 4.2.0 for package: r1soft-cdp-enterpr
ise-agent-4.2.0-17723.i386
--> Running transaction check
---> Package r1soft-cdp-agent.i386 0:4.2.0-17723 will be installed
--> Processing Dependency: r1soft-cdp-async-agent-2-6 >= 4.2.0 for package: r1so
ft-cdp-agent-4.2.0-17723.i386
---> Package r1soft-setup.i386 0:4.2.0-17723 will be installed
--> Running transaction check
---> Package r1soft-cdp-async-agent-2-6.i386 0:4.2.0-17723 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package                        Arch      Version           Repository   Size
================================================================================
Installing:
 r1soft-cdp-enterprise-agent    i386      4.2.0-17723       r1soft      2.5 k
Installing for dependencies:
 r1soft-cdp-agent               i386      4.2.0-17723       r1soft      4.6 M
 r1soft-cdp-async-agent-2-6     i386      4.2.0-17723       r1soft       13 M
 r1soft-setup                   i386      4.2.0-17723       r1soft      688 k

Transaction Summary
================================================================================
Install       4 Package(s)

Total download size: 19 M
Installed size: 52 M
Is this ok [y/N]: y
```

Then, enter "y" to install all the dependencies of the package.



---

2. Install Agent Manually (Using RPM)

2.1 Download CDP Agent

See Obtaining Linux CDP Enterprise Agent.

2.2 Make Sure You Can Unzip the Download

Most Linux distributions come with the unzip utility pre-installed. To determine if you have the unzip utility, run:

```
# which unzip
```

This should return an output similar to the following:

```
# which unzip
/usr/bin/unzip
```

```
[root@centos-server ~]# which unzip
/usr/bin/unzip
```

If it returns the following output, you need to install the unzip utility first:

```
unzip: Command not found.
```

To install unzip on RHE, CentOS, and Fedora:

```
# yum install unzip
```

```
[root@centos-server ~]# yum install unzip
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: centos.itt-consulting.com
 * extras: centos.itt-consulting.com
 * updates: centos.itt-consulting.com
base                                                     | 3.7 kB     00:00
extras                                                   | 3.5 kB     00:00
extras/primary_db                                        | 6.3 kB     00:00
updates                                                  | 3.5 kB     00:00
updates/primary_db                                       | 1.1 MB     00:00
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package unzip.x86_64 0:6.0-1.el6 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package          Arch              Version                Repository       Size
================================================================================
Installing:
 unzip            x86_64            6.0-1.el6              base            149 k

Transaction Summary
================================================================================
Install       1 Package(s)
Upgrade       0 Package(s)

Total download size: 149 k
Installed size: 313 k
Is this ok [y/N]: y
Downloading Packages:
unzip-6.0-1.el6.x86_64.rpm                               | 149 kB     00:00
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing     : unzip-6.0-1.el6.x86_64                                  1/1

Installed:
  unzip.x86_64 0:6.0-1.el6

Complete!
```

2.3 Extract the ZIP File

We recommend creating a temporary directory to which you can extract the contents of the ZIP file.

1. Use the `mkdir` command to create a temporary directory (in our case, `cdp-agent`).

```
# mkdir cdp-agent
```

2. Use the `mv` command to move the archive to that directory. Note that Linux file names are case sensitive. Make sure you type the name correctly (in our case, "r1soft-enterprise-agent-linux64-4.2.0.zip").

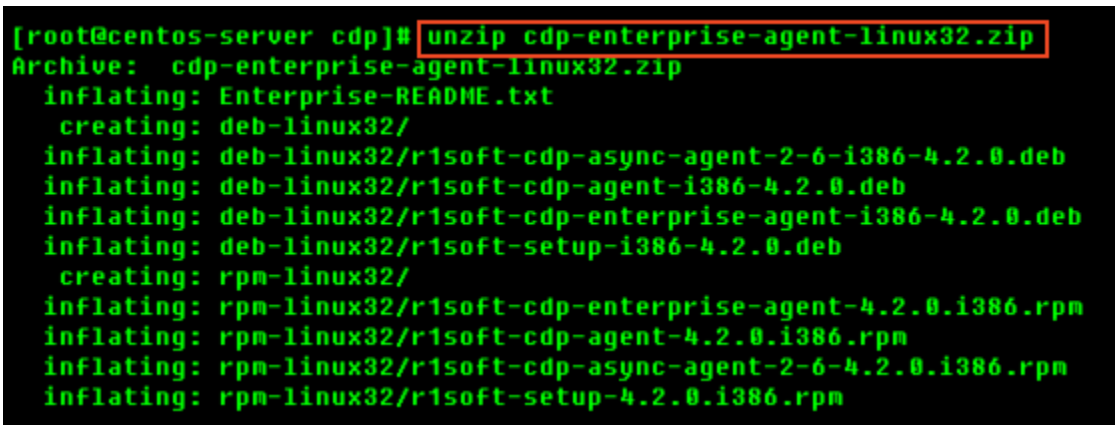
```
# mv r1soft-enterprise-agent-linux64-4.2.0.zip cdp-agent
```

3. Use the `cd` command to go to that directory.

```
# cd cdp-agent
```

4. Use the `unzip` command to extract the files.

```
# unzip r1soft-enterprise-agent-linux64-4.2.0.zip
```



2.4 Install the Package

> **Notice**
> You must be a Linux root user to install CDP Agent.

The archive you have extracted contains two folders: one with `.deb` packages (in our case, "deb-linux64") and one with `.rpm` packages ("rpm-linux64"). On RedHat and CentOS, select the

`.rpm` package.

Each folder contains a set of CDP components:

- `r1soft-setup`
- `r1soft-cdp-enterprise-agent`
- `r1soft-cdp-agent`
- `r1soft-cdp-async-agent-2-6`

You will need to install all of them in one step. Use the `cd` command to go to the folder with the packages (in our case, `rpm-linux64`) and run the following command:

RPM 32-bit (x86) / RPM 64-bit (x86_64)

```
rpm -i *.rpm
```

```
[root@centos-server rpm-linux64]# rpm -i *.rpm
/etc/init.d/cdp-agent stop: cdp (no pid file) not running
Attempting to get a kernel module from 'krnlbld.r1soft.com'

No binary module was found for your kernel. The kernel headers will be required
to build a module. See '/usr/bin/r1soft-setup --help' for more information
/etc/init.d/cdp-agent start: cdp started
```

---

3. Install CDP Linux Device Driver

CDP Device Driver is a proprietary, loadable Linux kernel module distributed by R1Soft. It is loadable at run-time without restarting Linux, and you do not need to recompile your Linux kernel to use it. R1Soft does not provide prebuilt modules for the popular kernels anymore, so you will have to compile the module from source.

> ⚠ Notice
> You need to have loadable modules enabled as a feature in your kernel, and this is standard on all popular Linux distributions.

3.1 Compiling CDP Kernel Module Against Kernel Headers or Kernel Source Tree

Using a pre-built binary module package is not possible anymore. You will have to compile this module against kernel headers or a kernel source tree. We are not always able to compile kernel modules from kernel-devel packages supplied by most major Linux distributions. In some cases, packages are missing header files (broken), or the packages have been stripped of information

that any device driver would need to compile a kernel module. In these cases, we can build using your installed kernel-devel package on your Linux server, as r1soft-setup will obtain the missing information it needs to compile a module from your running kernel.

In order for kernel module compilation to work, you should have Internet connectivity directly from the Linux server you are installing CDP on, to TCP port HTTPS (443), on the host krnlbld.r1soft.com.

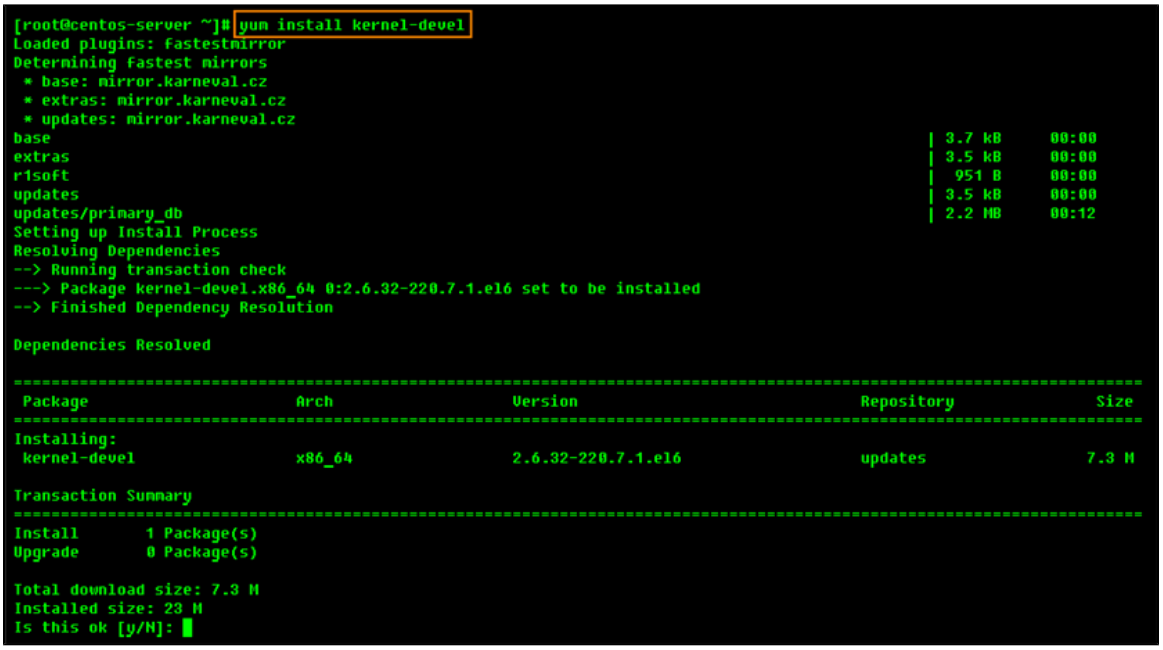
You can test connectivity with the following command (this may take a minute):

```
# r1soft-setup --test-connection
```

3.2 Install Kernel Sources

If you are using an unmodified kernel provided by CentOS installer, install the kernel-devel package:

```
# yum install kernel-devel
```



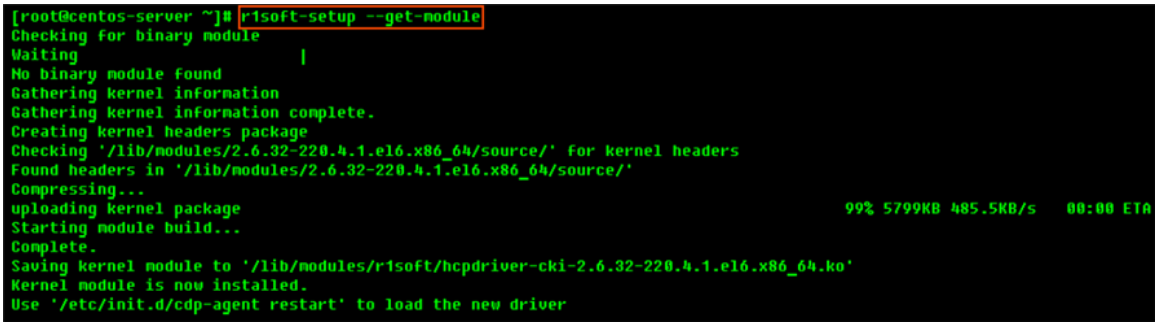
3.3 Verify that the Source Matches Your Running Kernel

Sometimes, the kernel-devel package is newer than the installed and running kernel. If the kernel-devel is too old and not found, please follow the instructions on how to setup access to older yum packages as documented here.

4.4 Build the CDP Kernel Module Online (direct Internet connection to R1Soft build server)

To attempt to build the kernel module, run the following command (this may take several minutes):

```
# r1soft-setup --get-module
```



If module has been compiled and installed successfully, you will see an output similar to the following:

```
Saving kernel module to '/lib/modules/r1soft/hcpdriver-cki-2.6.32-220.4.1.el6.x86_64.ko'
Kernel module is now installed.
Use '/etc/init.d/cdp-agent restart' to load the new driver
```

3.5 Build the CDP Kernel Module Offline (without direct Internet connection to R1Soft build server)

If there is no direct Internet connection between your CDP server and R1Soft build server, it is still possible to compile the kernel module. In this case, this will be tree-step process. First, you will have to create tarball file with the kernel headers. When you should copy this tarball file from the server to some other computer which has Internet connection to R1Soft build server. From this computer you should upload the tarball to the R1Soft build server and wait for the compilation to finish. When it is finished, you should download binary module and copy it back to the CDP server. Start with executing the following command:

```
# r1soft-setup --no-binary --kernel-dir /usr/src/kernels/YOUR_KERNEL_TREE
--tarball-only /tmp/kernel-headers-for-r1soft.tar.gz
```

After running this command, you will see:

```
# r1soft-setup --no-binary --kernel-dir /usr/src/kernels/2.6.32-220.4.1.el6.x86_64
--tarball-only /tmp/kernel-headers-for-r1soft.tar.gz
Gathering kernel information
Gathering kernel information complete.
Creating kernel headers package
Checking '/usr/src/kernels/2.6.32-220.4.1.el6.x86_64' for kernel headers
Found headers in '/usr/src/kernels/2.6.32-220.4.1.el6.x86_64'
Compressing...
Header package created '/tmp/kernel-headers-for-r1soft.tar.gz'
visit https://krnlbld.r1soft.com/ to do an offline module build
After it is complete, you will need to copy the module to /lib/modules/r1soft
```

```
[root@centos-server ~]# r1soft-setup --no-binary --kernel-dir /usr/src/kernels/2.6.32-220.4.1.el6.x86_64 --tarball-only
/tmp/kernel-headers-for-r1soft.tar.gz
Gathering kernel information
Gathering kernel information complete.
Creating kernel headers package
Checking '/usr/src/kernels/2.6.32-220.4.1.el6.x86_64' for kernel headers
Found headers in '/usr/src/kernels/2.6.32-220.4.1.el6.x86_64'
Compressing...
Header package created '/tmp/kernel-headers-for-r1soft.tar.gz'
visit https://krnlbld.r1soft.com/ to do an offline module build
After it is complete, you will need to copy the module to /lib/modules/r1soft
```

Last Step

- Copy the generated `tar.gz` file and paste it to a computer with Internet access.
- Go to https://krnlbld.r1soft.com/ and upload the `.tar.gz` file to build a kernel module.
- After the build, you will download a kernel module.
- Copy this module and paste it to your Linux Server and the folder `/lib/modules/r1soft` .
- Restart the Server (`/etc/init.d/cdp-agent restart`).