
CONVEX CXbatch V2.1 Installation Procedure



Document No. 710-007930-006

First Edition
October 1991

CONVEX
CXbatch Installation Procedure

Document No. 710-007930-006

Copyright 1989, 1990, 1991 CONVEX Computer Corporation
All rights reserved.

This document is copyrighted. All rights reserved. This document may not in whole or part, be copied, duplicated, reproduced, translated, electronically stored, or reduced to machine readable form without prior written consent from CONVEX Computer Corporation.

CONVEX and the CONVEX logo ("C") are registered trademarks of CONVEX Computer Corporation

Printed in the United States of America.

Installing the CXbatch V2.1 Release

1

This document contains instructions for installing CONVEX CXbatch V2.1. The distribution media for this software package is a 6250-bpi installsw format magnetic tape. Installation of this software should only take a few minutes. Please refer to the CONVEX CXbatch V2.1 Release Notice for more information about this software release.

Installing this Release

The installation procedure displays informative messages about the progress of the installation. If the procedure encounters a problem and cannot continue, you are notified with an error message (usually punctuated by a terminal bell). If it is obvious how to correct the problem (e.g., you are not logged in as root), make the correction and restart the installation procedure. Otherwise, contact the CONVEX Technical Assistance Center (TAC) for further information. Refer to the Contact Appendix of any CONVEX CXbatch document for information on how to contact the TAC.

Installation Modes

The installation procedure prompts you for the installation mode. Respond by entering

- local
- remote, or
- abort

Remote mode is intended for machines that do not have a tape drive. If the machine you are installing CXbatch on has a tape drive, perform the install in local mode.

For either a remote or local install, the machine on which CXbatch is being installed may be left in multi-user mode during the installation. You do not have to bring the machine down to single-user mode to install CXbatch.

To perform a remote install, the local and remote machines must be able to communicate with each other over a network connection. Be sure that networking is configured and enabled on both machines before starting the install.

The default login shell for root on the remote machine must be `/bin/csh`.

Preparation for an Installation

There are a number of steps which must be taken before attempting an installation on a local or remote system. Execute all these steps on the system on which CXbatch is being installed.

1. Login as root on the system on which CXbatch is being installed, either on the console or a hard-wired terminal or remotely using `rlogin(1C)` or `telnet(1C)`.
2. If the Share Scheduler is installed on your system, you must create entries in `/etc/passwd` for each queue to be created and assign shares for these entries. This is normally done using the `nu(8)` utility. These entries must remain in `/etc/passwd` for as long as the corresponding queues exist or until the Share Scheduler is de-installed from the system. Otherwise, CXbatch will cease to function. This must be done for the default batch queues **BEFORE** you install the default configuration from the installsw tape. This release of CXbatch allows more flexibility in configuring CXbatch to run with the Share Scheduler. See the appropriate sections of the *CONVEX Share Scheduler System Managers Guide* and *CXbatch System Managers Guide*.
3. Verify that you have sufficient free space and inodes in the `/usr` file system. The `df(1)` command can be used to obtain this information. CXbatch V2.1 requires 7500 kbytes (6.5 megabytes) of disk space and at least 2500 free inodes. If you are upgrading from a previous installation of CXbatch, the old executables will be removed before checking the free disk space. This is done to allow an upgrade to be performed without having to use twice the actual required disk space. The only adverse effect of this procedure is that if there is still insufficient disk space after removing the old executables, the installation will abort and there will be no CXbatch executables left on the system.

For an upgrade, it is recommended that you have at least 1000k (2 megabytes) of free disk space in the `/usr` partition.

4. If you are presently running CXbatch, shut it down with the following command.

```
% /usr/convex/qmgr shutdown 0
CXbatch manager[TCML_COMPLETE]: Transaction complete...
```

5. If this is the first time CXbatch has ever been installed on your system, it may be necessary to add the required network services to the services database. On most systems, this is the file `/etc/services`. If you are running Yellow Pages, this file may reside in another, possibly remote, location and additional steps may be necessary to add new services. If this is the case, refer this step to your Yellow Pages administrator or refer to the *NFS System Manager's Guide*.

The required network service entries are:

```
nqs      607/tcp      # nqs batch (tcp)
nqs      607/udp      # nqs batch (udp)
```

6. CXbatch executables and data files are now owned by group batch, group number 24. Before installation, an entry for this group must be added to the `/etc/group` file.

The required group entry is:

```
batch:*:24:
```

7. The install procedure should be executed in multi-user mode.

Now continue with the either **Performing a Local Installation** or **Performing a Remote Installation**, depending on which type of installation you are doing.

Performing a Local Installation

To begin a local installation, perform the steps listed below.

1. Log in as root on the local system, if you aren't still logged in from the previous section.
2. Mount the release tape on a system tape unit. If your system is running `tpdaemon(8)`, you must use the `tpmount(1)` command to allocate the 6250-bpi, no-rewind device of the tape unit you selected. (This is not necessary if the system is in single-user mode, unless the `tpdaemon` has been started manually). In this document, `/dev/rmt20` is used; you should substitute the device you have selected where appropriate. An example of a `tpmount` command is:

```
% tpmount -d 6250 -m char +r -R
Tape device /dev/rmt20 allocated.
```

3. Start the installation procedure by entering the following command, where *device-name* is printed by `tpmount(1)`:

```
% /etc/installsw -i -d device-name
```

The installation procedure asks you what type of installation you wish to do; enter `local` or `LOCAL`.

First, the process verifies that the local system is running ConvexOS V9.1 or greater. The installation procedure attempts to determine whether this is an initial installation, an upgrade from CXbatch V2.0 or a re-installation of CXbatch V2.1. The CXbatch distribution is loaded from the tape and the `/usr/spool/nqs` directory tree is created or updated. If this is an initial installation, or if you chose to replace the previous CXbatch database, you are given the choice of having the default queue configuration installed. A message announcing the installation is appended to `/etc/motd`.

4. If you allocated the tape unit with `tpmount(1)`, you should now release it using `tpunmount(1)`. An example of `tpunmount`:

```
% tpunmount
```

Now continue with the procedures described in **Completing the Installation**.

Performing a Remote Installation

To begin a remote installation, perform the steps listed below. In this section, *local system* refers to the system to which the tape unit is attached and *remote system* refers to the target system on which CXbatch is being installed.

1. If the root's default login shell on the remote system is not `/bin/csh`, use `vipw(8)` to change the default shell to `/bin/csh`.
2. Log in as root on the local system.
3. Mount the release tape on a system tape unit. If your system is running `tpdaemon(8)`, you must use the `tpmount(1)` command to allocate the 6250-bpi, no-rewind device of the tape unit you selected. In this document, `/dev/rmt20` is used; you should substitute the device you have selected where appropriate. An example of a `tpmount` command is:

```
% tpmount -d 6250 -m char +r -R
Tape device /dev/rmt20 allocated.
```

4. Start the installation procedure by entering the following command, where *device-name* is printed by `tpmount(1)`:

```
% /etc/installsw -i -d device-name
```

The installation procedure asks you what type of installation you wish to do; enter `remote` or `REMOTE`.

CXbatch prompts you for the requirements of a remote install and asks you to enter the remote machine on which you wish to install CXbatch. After the remote host is entered, CXbatch verifies that the local machine can communicate with the remote machine. Once this is done, the install process is started.

The process verifies that the target system is running ConvexOS V9.1 or greater. The installation procedure ascertains whether this is an initial installation, an upgrade from CXbatch V2.0 or a re-installation of CXbatch V2.1. The `/usr/spool/nqs` directory tree is then created or updated. If this is an initial installation or you chose to replace the previous CXbatch database, you are given the choice of having the default queue configuration installed. A message announcing the installation is appended to `/etc/motd`.

5. If you allocated the tape unit with `tpmount(1)`, you should now release it using `tpunmount(1)`. An example of a `tpmount` command is:

```
% tpunmount
```

Now continue with the procedures described in **Completing the Installation**.

Completing the Installation

Perform the rest of the installation steps on the system on which CXbatch is being installed.

1. Log in as root on the local system.
2. The installation procedure modifies several system files, including `/etc/motd` and `/etc/rc.local`. You may want to make cosmetic changes to these files after the installation procedure is complete.

If you are running CXbatch with the Share Scheduler, the invocation of `/usr/lib/nqs/nqsdaemon` in `/etc/rc.local` should be modified to run in the daemon share group using the `slxqt(1)` command. Refer to *CONVEX Share System Manager's Guide* for more information.

3. If this is a new CXbatch installation, you need to run the `qmapmgr` utility to build the network database used by CXbatch. `qmapmgr` maintains a mapping between host names and machine IDs (mids). The mid map is required for all CXbatch configurations. If there is more than one machine in the CXbatch configuration, each machine must have a unique mid. Generally, the mids are assigned in numerical order starting at one.

Use the `qmapmgr(8)` command `create` to create the initial database. Use `add mid` to add machine IDs to the database. Use `show` to display all machines in the database. The following is an example illustrating this procedure:

```
% /usr/convex/qmapmgr
QMAPMGR>: create
NMAP_SUCCESS: Successful completion.
QMAPMGR>: add mid 1 hostA
NMAP_SUCCESS: Successful completion.
QMAPMGR>: add mid 2 hostB
NMAP_SUCCESS: Successful completion.
QMAPMGR>: add mid 3 hostC
NMAP_SUCCESS: Successful completion.
QMAPMGR>: show
Mid 1 = hostA
Mid 2 = hostB
Mid 3 = hostC
QMAPMGR>: exit
%
```

4. You may want to configure `syslogd(8)` to log CXbatch information and errors appropriately. Refer to *CONVEX CXbatch System Manager's Guide* for more information about error logging.

5. If you are in multi-user mode, start CXbatch by entering the following command:

```
% /usr/lib/nqs/nqsdaemon > /dev/console
```

If you are running the Share Scheduler, the following command should be used instead.

```
% /usr/convex/slxqt daemon -x /usr/lib/nqs/nqsdaemon \  
> /dev/console
```

If you are in single user mode, CXbatch will be started automatically when the system is booted to multi-user mode. The installation process automatically mounts several file systems which you must unmount (using `umount(8)`) if you boot directly to multi-user from single-user mode. A reboot is the easiest way to ensure that the system comes up cleanly.

6. If you are running COVUEshell or COVUEbatch, you must change the CXbatch shell strategy from *free* to *login*. After CXbatch is started, enter the following command:

```
% /usr/convex/qmgr set shell_strategy login  
CXbatch manager[TCML_COMPLETE ]: Transaction complete ...
```

If this procedure fails and the reason for failure is not evident, contact the CONVEX Technical Assistance Center (TAC) for further instructions.

Example Local Installation

```
# tpmount -d 6250 -m char +r -R
# installsw -i -d /dev/rmt20
Tape device is /dev/rmt12
```

```
** Installsw Header File From Tape **
```

```
Copyright 1991 CONVEX Computer Corp.
All rights are reserved.
CREATED ON Thu Oct 24 08:01:33 CST 1991
710-003915-209 CONVEX CXbatch, release 2.1 3
```

Choose the type of installation you want to perform:

```
LOCAL          --> install on this machine
REMOTE         --> install on a remote machine
ABORT          --> abort installation
```

Enter your selection now --> 1

```
Setting up installation environment. Hang on...
tar: blocksize = 65536 blocking = 84
This tape contains only release 2.1 of CONVEX CXbatch.
```

```
Do you wish to install or de-install it? i
[Installing CONVEX CXbatch v2.1]
```

```
-----
--- CONVEX CXbatch V2.1 PRODUCTION Release
-----
```

```
--- You are running V9.1 of ConvexOS.
```

```
There is an existing /usr/spool/nqs directory on the system.
Would you like to replace it with the directory included on
the
distribution tape? Doing so will discard all existing queues
and requests. This is a requirement if you wish the default
queues to be installed later in this installation procedure.
DO YOU WISH TO REPLACE THE EXISTING /usr/spool/nqs DIRECTORY?
(y/n)y
```

```
--- Installing /usr/spool/nqs/directory structure.
--- This will take a few minutes.
```

```
--- Verifying installation.
```

```
A new, empty CXbatch database has been installed. Do you wish
to install the default batch configuration (y/n)? y
```

```
--- Starting CXbatch and setting up default batch
configuration.
```

--- Shutting down CXbatch.

--- Adding CXbatch installation message to /etc/motd.

Done processing install tape

Example Remote Installation

```
# tpmount -d 6250 -m char +r -R
# installsw -i -d /dev/rmt20
Tape device is /dev/rmt12
```

```
** Installsw Header File From Tape **
```

```
Copyright 1991 CONVEX Computer Corp.
All rights are reserved.
CREATED ON Thu Oct 24 08:28:04 CST 1991
710-003915-209 CONVEX CXbatch, release 2.1 3
```

Choose the type of installation you want to perform:

```
LOCAL      --> install on this machine
REMOTE     --> install on a remote machine
ABORT      --> abort installation
```

Enter your selection now --> **remote**

You have chosen to do a REMOTE installation.

Enter the name of the remote machine as you would refer to it when using networking commands (such as rlogin) from this machine.

If you wish to abort the installation, enter ABORT.

Enter the hostname now --> **remotehost**
Verifying ability to rsh to and from remotehost...

Setting up installation environment. Hang on...
This tape contains only release 2.1 of CONVEX CXbatch.

Do you wish to install or de-install it? **i**
[Installing CONVEX CXbatch v2.1]

```
-----
--- CONVEX CXbatch V2.1 PRODUCTION Release
-----
```

```
--- You are running V10.0.0.3 of ConvexOS.
```

There is an existing /usr/spool/nqs directory on the system. Would you like to replace it with the directory included on the distribution tape? Doing so will discard all existing queues and requests. This is a requirement if you wish the default queues to be installed later in this installation procedure. DO YOU WISH TO REPLACE THE EXISTING /usr/spool/nqs DIRECTORY? (y/n)**y**

```
--- Installing /usr/spool/nqs/directory structure.
--- This will take a few minutes.
```

--- Verifying installation.

A new, empty CXbatch database has been installed. Do you wish to install the default batch configuration (y/n)? **y**

--- Starting CXbatch and setting up default batch configuration.

--- Shutting down CXbatch.

--- Adding CXbatch installation message to /etc/motd.

Done processing install tape

