



Red Hat Enterprise Linux Release 9.2 Manual Pages on 'qselect.1p' command

\$ man qselect.1p

QSELECT(1P) POSIX Programmer's Manual QSELECT(1P)

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

qselect ? select batch jobs

SYNOPSIS

```
qselect [-a [op]date_time] [-A account_string] [-c [op]interval]
        [-h hold_list] [-l resource_list] [-N name] [-p [op]priority]
        [-q destination] [-r y|n] [-s states] [-u user_list]
```

DESCRIPTION

To select a set of batch jobs is to return the batch job_identifiers for each batch job that meets a list of selection criteria. A set of batch jobs is selected by a request to a batch server. The qselect utility is a user-accessible batch client that requests the selection of batch jobs.

Upon successful completion, the qselect utility shall have returned a list of zero or more batch job_identifiers that meet the criteria specified by the options and option-arguments presented to the utility.

The qselect utility shall select batch jobs by sending a Select Jobs Request to a batch server. The qselect utility shall not exit until the

server replies to each request generated.

For each option presented to the `qselect` utility, the utility shall restrict the set of selected batch jobs as described in the `OPTIONS` section.

The `qselect` utility shall not restrict selection of batch jobs except by authorization and as required by the options presented to the utility.

When an option is specified with a mandatory or optional `op` component to the option-argument, then `op` shall specify a relation between the value of a certain batch job attribute and the value component of the option-argument. If an `op` is allowable on an option, then the description of the option letter indicates the `op` as either mandatory or optional. Acceptable strings for the `op` component, and the relation the string indicates, are shown in the following list:

- `.eq.` The value represented by the attribute of the batch job is equal to the value represented by the option-argument.
- `.ge.` The value represented by the attribute of the batch job is greater than or equal to the value represented by the option-argument.
- `.gt.` The value represented by the attribute of the batch job is greater than the value represented by the option-argument.
- `.lt.` The value represented by the attribute of the batch job is less than the value represented by the option-argument.
- `.le.` The value represented by the attribute of the batch job is less than or equal to the value represented by the option-argument.
- `.ne.` The value represented by the attribute of the batch job is not equal to the value represented by the option-argument.

OPTIONS

The `qselect` utility shall conform to the Base Definitions volume of POSIX.1?2017, Section 12.2, Utility Syntax Guidelines.

The following options shall be supported by the implementation:

`-a [op]date_time`

Restrict selection to a specific time, or a range of times.

The qselect utility shall select only batch jobs for which the value of the Execution_Time attribute is related to the Epoch equivalent of the local time expressed by the value of the date_time component of the option-argument in the manner indicated by the value of the op component of the option-argument.

The qselect utility shall accept a date_time component of the option-argument that conforms to the syntax of the time operator and of the touch utility.

If the op component of the option-argument is not presented to the qselect utility, the utility shall select batch jobs for which the Execution_Time attribute is equal to the date_time component of the option-argument.

When comparing times, the qselect utility shall use the following definitions for the op component of the option-argument:

.eq. The time represented by value of the Execution_Time attribute of the batch job is equal to the time represented by the date_time component of the option-argument.

.ge. The time represented by value of the Execution_Time attribute of the batch job is after or equal to the time represented by the date_time component of the option-argument.

.gt. The time represented by value of the Execution_Time attribute of the batch job is after the time represented by the date_time component of the option-argument.

.lt. The time represented by value of the Execution_Time attribute of the batch job is before the time represented by the date_time component of the option-argument.

.le. The time represented by value of the Execution_Time

attribute of the batch job is before or equal to the time represented by the date_time component of the option-argument.

.ne. The time represented by value of the Execution_Time attribute of the batch job is not equal to the time represented by the date_time component of the option-argument.

The qselect utility shall accept the defined character strings for the op component of the option-argument.

-A account_string

Restrict selection to the batch jobs charging a specified account.

The qselect utility shall select only batch jobs for which the value of the Account_Name attribute of the batch job matches the value of the account_string option-argument.

The syntax of the account_string option-argument is unspecified.

-c [op]interval

Restrict selection to batch jobs within a range of checkpoint intervals.

The qselect utility shall select only batch jobs for which the value of the Checkpoint attribute relates to the value of the interval component of the option-argument in the manner indicated by the value of the op component of the option-argument.

If the op component of the option-argument is omitted, the qselect utility shall select batch jobs for which the value of the Checkpoint attribute is equal to the value of the interval component of the option-argument.

When comparing checkpoint intervals, the qselect utility shall use the following definitions for the op component of the option-argument:

.eq. The value of the Checkpoint attribute of the batch

job equals the value of the interval component of the option-argument.

.ge. The value of the Checkpoint attribute of the batch job is greater than or equal to the value of the interval component option-argument.

.gt. The value of the Checkpoint attribute of the batch job is greater than the value of the interval component option-argument.

.lt. The value of the Checkpoint attribute of the batch job is less than the value of the interval component option-argument.

.le. The value of the Checkpoint attribute of the batch job is less than or equal to the value of the interval component option-argument.

.ne. The value of the Checkpoint attribute of the batch job does not equal the value of the interval component option-argument.

The `qselect` utility shall accept the defined character strings for the `op` component of the option-argument.

The ordering relationship for the values of the interval option-argument is defined to be:

```
`n' .gt. `s' .gt. `c=minutes' .ge. `c'
```

When comparing Checkpoint attributes with an interval having the value of the single character 'u', only equality or in-equality are valid comparisons.

`-h hold_list`

Restrict selection to batch jobs that have a specific type of hold.

The `qselect` utility shall select only batch jobs for which the value of the `Hold_Types` attribute matches the value of the `hold_list` option-argument.

The `qselect -h` option shall accept a value for the `hold_list` option-argument that is a string of alphanumeric characters

in the portable character set (see the Base Definitions volume of POSIX.1?2017, Section 6.1, Portable Character Set).

The `qselect` utility shall accept a value for the `hold_list` option-argument that is a string of one or more of the characters 'u', 's', or 'o', or the single character 'n'.

Each unique character in the `hold_list` option-argument of the `qselect` utility is defined as follows, each representing a different hold type:

- u USER
- s SYSTEM
- o OPERATOR

If any of these characters are duplicated in the `hold_list` option-argument, the duplicates shall be ignored.

The `qselect` utility shall consider it an error if any hold type other than 'n' is combined with hold type 'n'.

Strictly conforming applications shall not repeat any of the characters 'u', 's', 'o', or 'n' within the `hold_list` option-argument. The `qselect` utility shall permit the repetition of characters, but shall not assign additional meaning to the repeated characters.

An implementation may define other hold types. The conformance document for an implementation shall describe any additional hold types, how they are specified, their internal behavior, and how they affect the behavior of the utility.

`-l resource_list`

Restrict selection to batch jobs with specified resource limits and attributes.

The `qselect` utility shall accept a `resource_list` option-argument with the following syntax:

```
resource_name op value [,resource_name op value,, ...]
```

When comparing resource values, the `qselect` utility shall use the following definitions for the `op` component of the option-argument:

- .eq. The value of the resource of the same name in the Resource_List attribute of the batch job equals the value of the value component of the option-argument.
- .ge. The value of the resource of the same name in the Resource_List attribute of the batch job is greater than or equal to the value of the value component of the option-argument.
- .gt. The value of the resource of the same name in the Resource_List attribute of the batch job is greater than the value of the value component of the option-argument.
- .lt. The value of the resource of the same name in the Resource_List attribute of the batch job is less than the value of the value component of the option-argument.
- .ne. The value of the resource of the same name in the Resource_List attribute of the batch job does not equal the value of the value component of the option-argument.
- .le. The value of the resource of the same name in the Resource_List attribute of the batch job is less than or equal to the value of the value component of the option-argument.

When comparing the limit of a Resource_List attribute with the value component of the option-argument, if the limit, the value, or both are non-numeric, only equality or inequality are valid comparisons.

The qselect utility shall select only batch jobs for which the values of the resource_names listed in the resource_list option-argument match the corresponding limits of the Resource_List attribute of the batch job.

Limits of resource_names present in the Resource_List attribute of the batch job that have no corresponding values in

the `resource_list` option-argument shall not be considered when selecting batch jobs.

`-N name` Restrict selection to batch jobs with a specified name.

The `qselect` utility shall select only batch jobs for which the value of the `Job_Name` attribute matches the value of the `name` option-argument. The string specified in the `name` option-argument shall be passed, uninterpreted, to the server. This allows an implementation to match "wildcard" patterns against batch job names.

An implementation shall describe in the conformance document the format it supports for matching against the `Job_Name` attribute.

`-p [op]priority`

Restrict selection to batch jobs of the specified priority or range of priorities.

The `qselect` utility shall select only batch jobs for which the value of the `Priority` attribute of the batch job relates to the value of the priority component of the option-argument in the manner indicated by the value of the `op` component of the option-argument.

If the `op` component of the option-argument is omitted, the `qselect` utility shall select batch jobs for which the value of the `Priority` attribute of the batch job is equal to the value of the priority component of the option-argument.

When comparing priority values, the `qselect` utility shall use the following definitions for the `op` component of the option-argument:

`.eq.` The value of the `Priority` attribute of the batch job equals the value of the priority component of the option-argument.

`.ge.` The value of the `Priority` attribute of the batch job is greater than or equal to the value of the priority component option-argument.

.gt. The value of the Priority attribute of the batch job is greater than the value of the priority component option-argument.

.lt. The value of the Priority attribute of the batch job is less than the value of the priority component option-argument.

.le. The value of the Priority attribute of the batch job is less than or equal to the value of the priority component option-argument.

.ne. The value of the Priority attribute of the batch job does not equal the value of the priority component option-argument.

-q destination

Restrict selection to the specified batch queue or server, or both.

The qselect utility shall select only batch jobs that are located at the destination indicated by the value of the destination option-argument.

The destination defines a batch queue, a server, or a batch queue at a server.

The qselect utility shall accept an option-argument for the -q option that conforms to the syntax for a destination. If the -q option is not presented to the qselect utility, the utility shall select batch jobs from all batch queues at the default batch server.

If the option-argument describes only a batch queue, the qselect utility shall select only batch jobs from the batch queue of the specified name at the default batch server. The means by which qselect determines the default server is implementation-defined.

If the option-argument describes only a batch server, the qselect utility shall select batch jobs from all the batch queues at that batch server.

If the option-argument describes both a batch queue and a batch server, the qselect utility shall select only batch jobs from the specified batch queue at the specified server.

-r y|n Restrict selection to batch jobs with the specified rerun? ability status.

The qselect utility shall select only batch jobs for which the value of the Rerunable attribute of the batch job matches the value of the option-argument.

The qselect utility shall accept a value for the option-argument that consists of either the single character 'y' or the single character 'n'. The character 'y' represents the value TRUE, and the character 'n' represents the value FALSE.

-s states Restrict selection to batch jobs in the specified states.

The qselect utility shall accept an option-argument that consists of any combination of the characters 'e', 'q', 'r', 'w', 'h', and 't'.

Conforming applications shall not repeat any character in the option-argument. The qselect utility shall permit the repetition of characters in the option-argument, but shall not assign additional meaning to repeated characters.

The qselect utility shall interpret the characters in the states option-argument as follows:

- e Represents the EXITING state.
- q Represents the QUEUED state.
- r Represents the RUNNING state.
- t Represents the TRANSITING state.
- h Represents the HELD state.
- w Represents the WAITING state.

For each character in the states option-argument, the qselect utility shall select batch jobs in the corresponding state.

-u user_list

Restrict selection to batch jobs owned by the specified user names.

The `qselect` utility shall select only the batch jobs of those users specified in the `user_list` option-argument.

The `qselect` utility shall accept a `user_list` option-argument that conforms to the following syntax:

```
username[@host][,username[@host], ...]
```

The `qselect` utility shall accept only one user name that is missing a corresponding host name. The `qselect` utility shall accept only one user name per named host.

OPERANDS

None.

STDIN

Not used.

INPUT FILES

None.

ENVIRONMENT VARIABLES

The following environment variables shall affect the execution of `qselect`:

LANG Provide a default value for the internationalization variables that are unset or null. (See the Base Definitions volume of POSIX.1?2017, Section 8.2, Internationalization Variables: the precedence of internationalization variables used to determine the values of locale categories.)

LC_ALL If set to a non-empty string value, override the values of all the other internationalization variables.

LC_CTYPE Determine the locale for the interpretation of sequences of bytes of text data as characters (for example, single-byte as opposed to multi-byte characters in arguments).

LC_MESSAGES

Determine the locale that should be used to affect the format and contents of diagnostic messages written to standard error.

LOGNAME Determine the login name of the user.

TZ Determine the timezone used to interpret the date-time op?

tion-argument. If TZ is unset or null, an unspecified default
timezone shall be used.

ASYNCHRONOUS EVENTS

Default.

STDOUT

The `qselect` utility shall write zero or more batch `job_identifiers` to
standard output.

The `qselect` utility shall separate the batch `job_identifiers` written to
standard output by white space.

The `qselect` utility shall write batch `job_identifiers` in the following
format:

```
sequence_number.server_name@server
```

STDERR

The standard error shall be used only for diagnostic messages.

OUTPUT FILES

None.

EXTENDED DESCRIPTION

None.

EXIT STATUS

The following exit values shall be returned:

0 Successful completion.

>0 An error occurred.

CONSEQUENCES OF ERRORS

Default.

The following sections are informative.

APPLICATION USAGE

None.

EXAMPLES

The following example shows how a user might use the `qselect` utility in
conjunction with the `qdel` utility to delete all of his or her jobs in
the queued state without affecting any jobs that are already running:

```
qdel $(qselect -s q)
```

or:

```
qselect -s q || xargs qdel
```

RATIONALE

The `qselect` utility allows users to acquire a list of job identifiers that match user-specified selection criteria. The list of identifiers returned by the `qselect` utility conforms to the syntax of the batch job identifier list processed by a utility such as `qmove`, `qdel`, and `qrls`.

The `qselect` utility is thus a powerful tool for causing another batch system utility to act upon a set of jobs that match a list of selection criteria.

The options of the `qselect` utility let the user apply a number of useful filters for selecting jobs. Each option further restricts the selection of jobs. Many of the selection options allow the specification of a relational operator. The FORTRAN-like syntax of the operator that is, ".lt." was chosen rather than the C-like "<=" meta-characters.

The `-a` option allows users to restrict the selected jobs to those that have been submitted (or altered) to wait until a particular time. The time period is determined by the argument of this option, which includes both a time and an operator; it is thus possible to select jobs waiting until a specific time, jobs waiting until after a certain time, or those waiting for a time before the specified time.

The `-A` option allows users to restrict the selected jobs to those that have been submitted (or altered) to charge a particular account.

The `-c` option allows users to restrict the selected jobs to those whose checkpointing interval falls within the specified range.

The `-l` option allows users to select those jobs whose resource limits fall within the range indicated by the value of the option. For example, a user could select those jobs for which the CPU time limit is greater than two hours.

The `-N` option allows users to select jobs by job name. For instance, all the parts of a task that have been divided in parallel jobs might be given the same name, and thus manipulated as a group by means of this option.

The `-q` option allows users to select jobs in a specified queue.

The `-r` option allows users to select only those jobs with a specified rerun criteria. For instance, a user might select only those jobs that can be rerun for use with the `qrerun` utility.

The `-s` option allows users to select only those jobs that are in a certain state.

The `-u` option allows users to select jobs that have been submitted to execute under a particular account.

The selection criteria provided by the options of the `qselect` utility allow users to select jobs based on all the appropriate attributes that can be assigned to jobs by the `qsub` utility.

Historically, the `qselect` utility has not been a part of existing practice; it is an improvement that has been introduced in this volume of POSIX.1-2017.

FUTURE DIRECTIONS

The `qselect` utility may be removed in a future version.

SEE ALSO

Chapter 3, Batch Environment Services, `qdel`, `qrerun`, `qrls`, `qselect`, `qsub`, `touch`

The Base Definitions volume of POSIX.1-2017, Section 6.1, Portable Character Set, Chapter 8, Environment Variables, Section 12.2, Utility Syntax Guidelines

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