# add cmd through interval transfer

# add cmd

To add **show** commands for which the output needs to be collected, use the **add cmd** command in Bulkstat data set command configuration mode. To remove the command, use the **no** form of this command.

**add cmd** *command-line*

**no add cmd** *command-line*

## Syntax Description

| | |
|---|---|
| *command-line* | Name of the **show** command for which output needs to be collected. |

## Command Default

By default, **show** commands are not added and output is not collected.

## Command Modes

Bulkstat data set command configuration (config-bs-ds-cmd)

## Command History

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

## Usage Guidelines

Add only **show** commands, because other commands will be rejected.

## Examples

The following example shows how to add the **show snmp stats oid** command to Bulkstat SNMP data set:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data snmp-set type command
Device(config-bs-ds-cmd)# add cmd show snmp stats oid
```

## Related Commands

| Command | Description |
|---|---|
| **bulkstat data** | Configures a Bulkstat command data set. |

# buckets

To configure the number of buckets in which the values of the object are saved when distribution or percentile processing is performed, use the **buckets** command in Bulkstat data group process configuration mode. To remove the buckets, use the **no** form of this command.

**buckets** *number*

**no buckets**

**Syntax Description**

| *number* | Number of buckets configured to save the values of objects. |
|---|---|

**Command Default**

By default, buckets are not configured for a Bulkstat data group.

**Command Modes**

Bulkstat data group process configuration (config-bs-dg-proc)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

Specify the number of buckets to distribute the values of the object. Based on the configuration, counters are maintained per bucket and incremented whenever the data falls into a bucket range. Two more exception buckets are provided for values which fall below the minimum and above the maximum values.

**Examples**

The following example shows how to configure buckets for a Bulkstat data group:

```
Device> enable
Device# configure terminal
Device# bulkstat data-group dg-name
Device(config-bs-dg)# process
Device(config-bs-dg-proc)# buckets 10
```

**Related Commands**

| Command | Description |
|---|---|
| **process** | Configures process-related parameters for a Bulkstat data group. |

# bulkstat data

To configure a Bulkstat command, expression, and Simple Network Management Protocol (SNMP) data set, use the **bulkstat data** command in global configuration mode. To remove the configuration, use the **no** form of this command.

**bulkstat data** *data-set-name* **type**{**command**| **expression**| **snmp**}

**no bulkstat data** *data-set-name*

**Syntax Description**

| | |
|---|---|
| *data-set-name* | Name of a data set. Data sets across different types can have the same name. |
| **type** | Specifies the type of data set. |
| **command** | Creates a Bulkstat command data set. |
| **expression** | Creates a Bulkstat expression data set. |
| **snmp** | Creates a Bulkstat SNMP data set. |

**Command Default**

By default, data sets are not created to collect command, expression, and SNMP data in the Bulkstat client application.

**Command Modes**

Global configuration (config)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

Use the **bulkstat data** command to create a data set with a given name and type and enter Bulkstat data set command configuration mode.

**Examples**

The following example shows how to configure a Bulkstat command data set named show-snmp:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data show-snmp type command
```

The following example shows how to configure a Bulkstat expression data set named interface-util:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data interface-util type expression
```

The following example shows how to configure a Bulkstat SNMP data set named interface-stats:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data interface-stats type snmp
```

# bulkstat data-group

To configure a Bulkstat data group, use the **bulkstat data-group** command in global configuration mode. To remove the configuration, use the **no** form of this command.

**bulkstat data-group** *data-group-name*

**no bulkstat data-group** *data-group-name*

**Syntax Description**

| *data-group-name* | Name of a Bulkstat data group. The string is case sensitive. |
|---|---|

**Command Default**

Bulkstat data groups are not created by default.

**Command Modes**

Global configuration (config)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

A Bulkstat data group can be linked to only one profile. A data group is used to group a data list, filter list, and instance list and specify processing options. This command also allows you to enter the Bulkstat data group configuration mode.

**Examples**

The following example shows how to configure a Bulkstat data group named if-dg:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data-group if-dg
```

**Related Commands**

| Command | Description |
|---|---|
| **collect** | Configures collection parameters for a Bulkstat data group. |
| **context** | Configures a context for a Bulkstat data group. |

| Command | Description |
|---|---|
| **discard** | Discards the raw data collected for a Bulkstat data group. |
| **enable** | Enables a Bulkstat profile for collection and transfer of data. |
| **interval polling** | Configures interval parameters for a Bulkstat data group. |
| **process** | Configures process-related parameters for a Bulkstat data group. |

# bulkstat filter

To configure a Bulkstat filter set, use the **bulkstat filter** command in global configuration mode. To remove the configuration, use the **no** form of this command.

**bulkstat filter** *filter-set-name*

**no bulkstat filter** *filter-set-name*

**Syntax Description**

| *filter-set-name* | Name of a Bulkstat filter set. |
|---|---|

**Command Default**

By default, a Bulkstat filter set is not configured for a Bulkstat object.

**Command Modes**

Global configuration (config)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

Use the **bulkstat filter** command to link a Bulkstat data set to one or more Bulkstat data groups and enter Bulkstat filter configuration mode.

**Examples**

The following example shows how to configure the Bulkstat filter set named vlanfilter:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat filter vlanfilter
```

**Related Commands**

| Command | Description |
|---|---|
| **match (bulkstat)** | Configures a Bulkstat filter set to match the value of an object during data collection. |

# bulkstat instance

To configure a Bulkstat instance set for a data source, use the **bulkstat instance** command in global configuration mode. To remove the configuration, use the **no** form of this command.

**bulkstat instance** *instance-set-name* **type snmp**

**no bulkstat instance** *instance-set-name*

**Syntax Description**

| *instance-set-name* | Name of an instance set. Instance sets across different types can have the same name. |
|---|---|
| **type snmp** | Specifies the type of instance set is SNMP. |

**Command Default**

By default, instance sets are not configured for Bulkstat data.

**Command Modes**

Global configuration (config)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

Use the **bulkstat instance** command to specify the instances for which data should be collected and enter Bulkstat instance configuration mode. Currently, SNMP is the only instance set type that is supported.

**Examples**

The following example shows how to configure Bulkstat SNMP instance set type named exact:

```
Device> enable
Device# configuring terminal
Device(config)# bulkstat instance exact type snmp
```

**Related Commands**

| Command | Description |
|---|---|
| **exact** | Configures Bulkstat SNMP exact instance. |
| **range** | Configures Bulkstat SNMP range instance. |

| Command | Description |
| --- | --- |
| **repetition** | Configures Bulkstat SNMP repetition instance. |
| **wildcard** | Configures Bulkstat SNMP wildcard instance. |

# bulkstat profile

To enable or disable the profile data-collection and transfer, use the **bulkstat profile** command in privileged EXEC mode.

**bulkstat profile** *bulkstat-profile-name* {**disable** | [**force**]| **enable** | [**onetime**| **recurring**| **repeat** *number*]}

**Syntax Description**

| | |
|---|---|
| **profile** *bulkstat-profile-name* | Specifies the name of the Bulkstat profile configured. |
| **disable** | Disables the profile collection. |
| | All process data will be return into process file and queued for transfer. |
| **force** | Disables the profile collection. |
| | All retained files will be deleted and transfer operation will be stopped. |
| **enable** | Enables the profile collection and transfer. |
| **onetime** | Specifies that the data is collected once. |
| | Data for all data-groups in profile will be collected once and the file will be frozen and queued for transfer. |
| **recurring** | Specifies that the data is collected repeatedly until the profile is disabled. |
| **repeat** *number* | Specifies that the data is collected repeatedly for the specified number of recurrences. |

**Command Default**    By default, the Bulkstat profile is not enabled for data collection and transfer.

**Command Modes**    Privileged EXEC(#)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

**Examples**
The following example shows how to enable a Bulkstat profile named if-stats repeatedly for 100 recurrences:

```
Device> enable
Device# bulkstat profile if-stats enable repeat 100
```

**Related Commands**

| Command | Description |
| --- | --- |
| **bulkstat profile (global)** | Configure a Bulkstat profile in global configuration mode. |

# bulkstat profile (global)

To configure a Bulkstat profile, use the **bulkstat profile** command in global configuration mode. To remove the configuration, use the **no** form of this command.

**bulkstat profile** *bulkstat-profile-name*

**no bulkstat profile** *bulkstat-profile-name*

**Syntax Description**

| *bulkstat-profile-name* | The name of a Bulkstat profile configured. |
|---|---|

**Command Default**

By default, Bulkstat profiles are not created.

**Command Modes**

Global configuration (config)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

A Bulkstat profile is used to group multiple data groups to simplify configuration as well as aggregate data of a similar nature. Use the **bulkstat profile** command to enter Bulkstat profile configuration mode.

**Examples**

The following example shows how to configure a Bulkstat profile named if-stats:

```
Device> enable
Device# configure terminal
Device(config)#  bulkstat profile if-stats
```

**Related Commands**

| Command | Description |
|---|---|
| **data-group** | Adds a data group to a Bulkstat profile. |
| **file** | Configures file-related parameters for a Bulkstat profile. |

| Command | Description |
|---------|-------------|
| **flow** | Configures the flow exporter configuration for a Bulkstat profile. |
| **interval** | Configures the interval parameters for a Bulkstat data group. |

# bulkstat resource limit

To configure the limit for resource memory usage, use the **bulkstat resource limit** command in global configuration mode. To reset the memory usage limit to the default value, use the **no** form of this command.

**bulkstat resource limit memory** *memory-usage-percentage*

**no bulkstat resource limit memory**

**Syntax Description**

| memory *memory-usage-percentage* | Specifies the memory resource limit as a percentage. |
|---|---|
| | The default value is 95 percentage of available memory resource. |
| | The range is from 20 to 100 percentage. |
| | Bulkstat deactivates all profiles if the remaining memory is less than the specified limit. |

**Command Default**

The resource limit for memory usage is not configured.

**Command Modes**

Global configuration (config)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**

The following example shows how to configure the limit for resource memory usage to 40 percent of the total memory available:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat resource limit memory 40
```

# bulkstat schedule

To configure the Bulkstat calendar scheduler to enable data collection, use the **bulkstat schedule** command in global configuration mode. To remove the configuration, use the **no** form of this command.

**bulkstat schedule** *schedule-name* **at** *time-of-day* {*date* | *day* | *month* | {**oneshot** | **recurring**}}

**bulkstat schedule** *schedule-name*

**Syntax Description**

| | |
|---|---|
| *schedule-name* | Name of calendar. |
| **at** | Specifies the collection conditions for raw or processed data. |
| *time-of-day* | Time of data collection in hours and minutes. The time entered must be in 24-hour format, hh:mm, and the colon is required. |
| *date* | Day of the month, entered as a number. The range is from 1 to 31. |
| *day* | Day of the week, entered in lowercase and abbreviated to the first three alphabets. For example, mon, tue, and so on. |
| *month* | Month of the year, entered in lowercase and abbreviated to the first three alphabets. For example, jan, feb, and so on. |
| **oneshot** | Specifies that the Bulkstat data collection occurs only once. |
| **recurring** | Specifies that the Bulkstat data collection occurs repeatedly at the conditions set. |

**Command Default**

The Bulkstat calendar schedule is not configured by default.

**Command Modes**

Global configuration (config)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

Use this command to schedule a one-time or repeated Bulkstat data collection occurrence and enter Bulkstat schedule configuration.

**Examples**   The following example shows how to configure a Bulkstat calendar schedule named mycal:

```
Device> enable
Device# configuring terminal
Device(config)# bulkstat schedule mycal at 18:30 feb 05 oneshot
```

**Related Commands**

| Command | Description |
|---------|-------------|
| **profile** | Schedules data collection on Bulkstat profiles. |

# clear

To clear counters set for both baseline and distribution processed data, use the **clear** command in Bulkstat data group process configuration mode. To remove the conditions set to clear the counters, use the **no** form of this command

**clear** {**sample** *number-of-samples*| **time** *number-of-hours*}

**no clear** {**sample**| **time**}

**Syntax Description**

| | |
|---|---|
| **sample** *number-of-samples* | Number of samples after which processed data is cleared. The range is from 100 to 65536. |
| **time** *number-of-hours* | Time duration after which the processed data is cleared. The range is from 1 to 48 hours. |

**Command Default**   By default, counters are not configured to clear the processed data.

**Command Modes**   Bulkstat data group process configuration (config-bs-dg-proc)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**   The following example shows how to configure counters for clearing baseline and distribution processed data:

```
Device> enable
Device# configure terminal
Device# bulkstat data-group dg-name
Device(config-bs-dg)# process
Device(config-bs-dg-proc)# clear sample 1000
```

# collect

To configure data set, instance set, and filter set collection parameters for Bulkstat command, expression, or Simple Network Monitoring Protocol (SNMP) data group, use the **collect** command in Bulkstat data group configuration mode. To remove the configuration, use the **no** form of this command.

**collect type** {**command**| **expression**| **snmp**}{**data** *data-set-name* **instance** *instance-set-name* **filter** *filter-set-name*}

**no collect**

**Syntax Description**

| type | Specifies the type of data. |
|---|---|
| **command** | Configures the data set and filter set collection parameters for Bulkstat command data group. |
| **expression** | Configures the data set and filter set collection parameters for Bulkstat expression data group. |
| **snmp** | Configures the data set, instance set, and filter set collection parameters for Bulkstat SNMP data group. |
| **data** *data-set-name* | Specifies the data set and name of the data set for the objects in a data group being configured. |
| **instance** *instance-set-name* | Specifies the instance set and name of the instance set for objects in a data group being configured. |
| **filter** *filter-set-name* | (Optional) Specifies the filter set and name of the filter set for the objects in a data group being configured. |

**Command Default**    Collection parameters for a data group are not configured.

**Command Modes**    Bulkstat data group configuration mode (config-bs-dg)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**

The following example shows how to configure data set, instance set, and filter set collection parameters for Bulkstat SNMP data group named if-dg:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data-group if-dg
Device(config-bs-dg)# collect type snmp data interfacestats instance ins-exact filter ifType
```

**Related Commands**

| Command | Description |
|---------|-------------|
| **context** | Configures the context for a Bulkstat data group. |
| **discard** | Discards raw data for a Bulkstat data group. |
| **interval** | Configures interval parameters for a Bulkstat data group. |
| **process** | Configures process-related parameters for a Bulkstat data group. |

# conditional object

To define a conditional object when evaluating an expression, use the **conditional object** command in expression object configuration mode. To disable the configured settings, use the **no** form of this command.

**conditional object** *conditional-object-id* [**wildcard**]

**no conditional object**

**Syntax Description**

| | |
|---|---|
| *conditional-object-id* | Conditional object identifier for evaluating the expression.<br><br>• Conditional object identifiers are specified as a numeric value in dotted decimal format or as an object descriptor. |
| **wildcard** | (Optional) Enables a wildcard search for conditional object identifiers. |

**Command Default**

By default, conditional object identifiers are not defined.

**Command Modes**

Expression object configuration (config-expression-object)

Bulkstat data set expression object configuration (config-bs-ds-expr-obj)

**Command History**

| Release | Modification |
|---|---|
| 12.4(20)T | This command was introduced. |
| 12.2(33)SRE | This command was integrated into Cisco IOS Release 12.2(33)SRE. |
| Cisco IOS XE Release 3.1S | This command was integrated into Cisco IOS XE Release 3.1S. |
| 12.2(50)SY | This command was integrated into Cisco IOS Release 12.2(50)SY. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |

**Usage Guidelines**

An object identifier specifies the instance of an object to consider while evaluating an expression. If an object does not have an instance, the value specified for the object identifier will not be used. Conditional objects determine the use of the value specified for the object identifier.

**Examples**    The following example shows how to define a conditional object in expression object configuration mode:

```
Device(config)# snmp mib expression owner owner1 name Expression1
Device(config-expression)# object 32
Device(config-expression-object)# conditional object
mib-2.90.1.3.1.1.2.3.112.99.110.4.101.120.112.53
Device(config-expression-object)# end
```

The following example shows how to enable a wildcard search for the conditional object identifier mib-2.5 in expression object configuration mode:

```
Device(config-expression-object)# conditional object mib-2.5 wildcard
Device(config-expression-object)# end
```

The following example shows how to define a conditional object ifDesc in Bulkstat data set expression object configuration mode:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data dataSet type expression
Device(config-bs-ds-expr)# object 1
Device(config-bs-ds-expr-obj)# conditional object ifDesc
```

**Related Commands**

| Command | Description |
|---|---|
| **snmp mib expression owner** | Specifies the owner of an SNMP expression. |
| **object (expression)** | Specifies the objects to be used while evaluating an SNMP expression. |

# context (Bulkstat)

To configure a Simple Network Management Protocol (SNMP) context for a Bulkstat data group, use the **context** command in Bulkstat data group configuration mode. To remove the configuration, use the **no** form of this command.

**context** *context-name*

**no context**

**Syntax Description**

| | |
|---|---|
| *context-name* | Object defined by the object cdcDGContextName, Cisco Data Collection Data Group Context Name, as the SNMP context name in which to collect data. |

**Command Default**

No SNMP context is associated with a Bulkstat data group.

**Command Modes**

Bulkstat data group configuration (config-bs-dg)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**

The following example shows how to configure an SNMP context for a Bulkstat data group named ctx-name:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data-group if-dg
Device(config-bs-dg)# context ctx-name
```

**Related Commands**

| Command | Description |
|---|---|
| **collect** | Configures collection parameters for a Bulkstat data group. |
| **discard** | Discards raw data for a Bulkstat data group. |

| Command | Description |
|---------|-------------|
| **interval polling** | Configures interval parameters for a Bulkstat data group. |
| **process** | Configures process–related parameters for a Bulkstat data group. |

# data-group

To add a data group to a Bulkstat profile, use the **data-group** command in Bulkstat profile configuration mode. To remove a data group from a profile, use the **no** form of this command.

**data-group** *data-group-name*

**no data-group** *data-group-name*

**Syntax Description**

| *data-group-name* | Name of a data group as defined by the SNMP object, cdcDGVFileIndex. The data group must be configured before adding it to the Bulkstat profile. |
|---|---|

**Command Default**  A data group is not configured in the Bulkstat profile.

**Command Modes**  Bulkstat profile configuration (config-bs-profile)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**  You can add one or more data groups to a profile, but a data group can be linked to only one data profile.

**Examples**  The following example shows how to add a data group to a Bulkstat profile:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat profile ifstats
Device(config-bs-profile)# data-group if-dg
```

**Related Commands**

| Command | Description |
|---|---|
| **bulkstat profile** | Configures a Bulkstat profile. |
| **file** | Configures file-related parameters for a Bulkstat profile. |

| Command | Description |
| --- | --- |
| **flow exporter** | Configures the flow exporter configuration for a Bulkstat profile. |
| **interval polling** | Configures interval parameters for a Bulkstat data group. |

# discard

To discard raw data for a Bulkstat data group, use the **discard** command in Bulkstat data group configuration mode. To reenable storing raw data for a data group, use the **no** form of this command.

**discard**

**no discard**

## Syntax Description

This command has no keywords or arguments.

## Command Default

Raw data for a Bulkstat data group is stored by default.

## Command Modes

Bulkstat data group configuration (config-bs-dg)

## Command History

| Release | Modification |
|---------|--------------|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

## Usage Guidelines

Use the **discard** command to discard raw collected data and if processing or thresholding is enabled.

## Examples

The following example shows how to discard raw data for a Bulkstat data group:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data-group if-dg
Device(config-bs-dg)# discard
```

## Related Commands

| Command | Description |
|---------|-------------|
| **collect** | Configures the collection parameters for a Bulkstat data group. |
| **context** | Configures the context for a Bulkstat data group. |
| **interval polling** | Configures the interval parameters for a Bulkstat data group. |

| Command | Description |
|---|---|
| **process** | Configures process–related parameters for a Bulkstat data group. |

# discontinuity object (Bulkstat)

To configure the discontinuity properties for evaluation of an expression MIB object, use the **discontinuity object** command in Bulkstat data set expression object configuration mode. To disable the configuration settings, use the **no** form of this command.

**discontinuity object** *discontinuity-object-id* **[wildcard]** [**type** {**timeticks**| **timestamp**| **date-and-time**}]

**no discontinuity object**

**Syntax Description**

| *discontinuity-object-id* | Discontinuity object identifier to identify discontinuity in a counter.<br><br>• The default object identifier is sysUpTime.0. |
|---|---|
| **wildcard** | (Optional) Enables a wildcard search for Bulkstat objects with discontinuity properties.<br><br>• By default, the object identifier is fully specified. |
| **type** | (Optional) Specifies the type of discontinuity in a counter.<br><br>• The default value for the discontinuity type is timeticks. |
| **timeticks** | (Optional) Specifies timeticks for discontinuity in a counter. |
| **timestamp** | (Optional) Specifies the time stamp for discontinuity in a counter. |
| **date-and-time** | (Optional) Specifies the date and time of discontinuity in a counter. |

**Command Default**

The discontinuity properties for evaluation of a Bulkstat object are not configured.

**Command Modes**

Bulkstat data set expression object configuration (config-bs-ds-expr-obj)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |

| Release | Modification |
|---|---|
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**  The **discontinuity object** command configures discontinuity properties of a Bulkstat object when the object sampling type is delta, or changed.

**Examples**  The following example shows how to configure discontinuity properties for evaluation of an expression MIB object:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data interface-util type expression
Device(config-bs-ds-expr)# object 1.2.3.4.5.6
Device(config-bs-ds-expr-obj)# discontinuity object sysUpTime
```

The **type** keyword sets the value for Bulkstat objects with discontinuity properties. The following example shows the usage of the **type** keyword with the **discontinuity object** command:

```
Device(config-bs-ds-expr-obj)# discontinuity object sysUpTime type timestamp
```

The **wildcard** keyword enables a wildcard search for Bulkstat objects with discontinuity properties. The following example shows the usage of the **wildcard** keyword with the **discontinuity object** command:

```
Device(config-bs-ds-expr-obj)# discontinuity object ifDiscontinuityTime wildcard type
timeticks
```

**Related Commands**

| Command | Description |
|---|---|
| **conditional object** | Defines a conditional object when evaluating expression MIB output. |
| **id** | Configures the OID for expression MIB output. |
| **sample** | Configures an object value to be used in evaluating expression MIB output. |
| **wildcard** | Configures wildcard instances of an expression MIB object. |

# enable (Bulkstat)

To enable a Bulkstat profile for collection and transfer of raw and processed data, use the **enable** command in Bulkstat profile configuration mode. To disable profile collection, use the **no enable** form of this command.

**enable**

**no enable** [**force**]

**Syntax Description**

| force | (Optional) Deletes a Bulkstat profile after a file transfer is completed, and if the profile is currently transferring a file. |
|---|---|

**Command Default**

Data groups associated with a Bulkstat profile are not activated for collection.

**Command Modes**

Bulkstat profile configuration (config-bs-profile)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

You can enable or disable a Bulkstat profile for collection and transfer by doing one of the following:

- Using the **enable** or **no enable** command in Bulkstat profile configuration mode.
- Using a profile action.
- Using calendar scheduling.
- Using the **EXEC** command.

Remember the following when enabling a profile:

- If a Bulkstat profile is enabled using the **enable** command and by using option 2, 3 or 4, it will not be displayed in the running-config file by the process of nonvolatile generation (NVGEN).
- If multiple enabling is done through any of the options above, the last enabling will be considered as the final option. For example, if a Bulkstat profile is enabled through option 1 and again through option 4, then the command will not be NVGENed. But, if the profile is enabled through option 4 and again through option 1, the command will be NVGENed.

• No matter which way the profile is enabled, disabling by any option will disable the profile.

When Bulkstat profile collection is disabled with the **no enable** command, the polling operation for all data groups will be stopped. All stateful data information, including collection options and process, threshold, and collected nontransferred data will be purged. All retained files will be deleted and transfer operations will be stopped.

**Examples**　　　The following example shows how to enable a Bulkstat profile for collection and transfer:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat profile ifstats
Device(config-bs-profile)# enable
```

**Related Commands**

| Command | Description |
|---|---|
| **file** | Configures all file-related parameters for a Bulkstat profile. |
| **flow exporter** | Configures the flow exporter configuration for a Bulkstat profile. |
| **interval** | Configures the interval parameters for a Bulkstat profile. |

# enable (Bulkstat data-group)

To enable percentile and summary processing of data, use the **enable** command in Bulkstat data group process configuration mode. To disable processing, use the **no** form of this command.

**enable** {**percentile**| **summary**}

**no enable** {**percentile**| **summary**}

**Syntax Description**

| percentile | Enables percentile value computation. |
|---|---|
| summary | Enables summary processing. |

**Command Default**

By default, percentile and summary processing of data is not enabled.

**Command Modes**

Bulkstat data group process configuration (config-bs-dg-proc)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

Enables both percentile and summary processing of the data marked to be processed in the corresponding data-set configuration.

**Examples**

The following example shows how to enable percentile processing of data:

```
Device> enable
Device# configure terminal
Device# bulkstat data-group dg-name
Device(config-bs-dg)# process
Device(config-bs-dg-proc)# enable percentile
```

# exact

To configure an exact instance at which data should be collected for a Simple Network Management Protocol (SNMP) object, use the **exact** command in Bulkstat snmp instance configuration mode. To remove the configuration, use the **no** form of this command.

**exact** {**oid** *oid*| **interface** *interface-id* [**sub-if**]}

**no exact** {**oid** *oid*| **interface** *interface-id* [**sub-if**]}

**Syntax Description**

| | |
|---|---|
| **oid** *oid* | Specifies an exact instance identifier in object identifier (OID) format. The object is defined by cdcDGInstanceOid. |
| **interface** *interface-id* | Specifies an interface name. |
| **sub-if** | (Optional) Specifies to include all subinterfaces under the specified main interface. |

**Command Default**    By default, the exact instance for data collection is not configured.

**Command Modes**    Bulkstat instance snmp configuration (config-bs-is-snmp)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**    The following example shows how to configure an exact instance with a specified OID of 1.2.3:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat instance inst-set type snmp
Device(config-bs-is-snmp)# exact oid 1.2.3
```

The following example shows how to configure an exact instance for an Ethernet interface:

```
Device(config-bs-is-snmp)# exact interface Ethernet0/0 sub-if
```

**Related Commands**

| Command | Description |
| --- | --- |
| **range** | Configures a range instance. |
| **repetition** | Configures a repetition instance. |
| **wildcard** | Configures a wildcard instance. |

# expression

To configure expression MIB output, use the **expression** command in Bulkstat data set expression configuration mode. To remove the configuration, use the **no** form of this command.

**expression** *expression-line*

**no expression** *expression-line*

## Syntax Description

| | |
|---|---|
| *expression-line* | Expression as defined by the Simple Network Management Protocol (SNMP) object expExpression in *RFC 2982*, *Distributed Management Expression MIB*. |

## Command Default

By default, the expression for which the output needs to be collected is not configured.

## Command Modes

Bulkstat data set expression configuration (config-bs-ds-expr)

## Command History

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

## Usage Guidelines

Use the **expression** command to add an expression object to a data set.

**Note**  The expressions are in ANSI C syntax. However, the variables in an expression are defined as a combination of the dollar sign ($) and an integer that corresponds to the object number of the object used in evaluating the expression.

## Examples

The following example shows how to configure expression MIB output:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data interface-util type expression
Device(config-bs-ds-expr)# expression $1+$2
```

**Related Commands**

| Command | Description |
|---|---|
| **object (Bulkstat)** | Configures the objects to be used while evaluating a Bulkstat MIB expression. |

# file

To configure file-related parameters for a Bulkstat profile, use the **file** command in Bulkstat profile configuration mode. To reset or remove the file-related parameters, use the **no** form of this command.

**file**{**format schemaAscii**| **retain**{**disk** *url*| **memory** *time*}| **size** *bytes*| **transfer**{**retry** *number*| **url**{**primary**| **secondary**}*url*}}

**no file**{**format schemaAscii**| **retain**| **size**| **transfer**{**retry**| **url**{**primary**| **secondary**}}}

**Syntax Description**

| format | Configures the file data format as defined by the Simple Network Management Protocol (SNMP) object, cdcVFileFormat. |
|---|---|
| schemaAscii | Specifies that the ASCII format is supported with additional bulk statistics schema tags. |
| retain | Configures the retention location and interval in the local system memory and the NVRAM for Bulkstat files. |
| disk *url* | Specifies that the the Bulkstat profile file needs to be retained at the location specified. The locations can be configured as follows: <br><br>• disk0: Transfer to a rotating disk media. <br><br>• disk1: Transfer to a secondary rotating disk media. <br><br>• unix: Transfer to a UNIX file system. |
| memory *time* | Specifies that the the Bulkstat profile file needs to be retained at local system memory and configures the retention period of a Bulkstat file in seconds. The range is from 0 to 1200000. |
| size *bytes* | Configures the maximum buffer size, in bytes. The default value is 2048. |
| transfer | Configures the file-related parameter for a profile. |
| retry *number* | Configures the number of times to retry a transfer in case of transfer failure to both primary and secondary URLs. If the retain command is not configured, no retries will be attempted. Number of times the file transfer is tried. The range is from 0 to 100. |
| url | Specifies the file transfer URL configuration. |
| *primary* | Name of the URL to be used first for transferring bulk statistics. |

| *secondary* | Name of the URL to be used for bulk statistics transfer attempts if the transfer to the primary URL is not successful. |
|---|---|
| *url* | Destination URL address for bulk-statistics file storage.<br><br>• disk0: Transfer to a rotating disk media.<br><br>• disk1: Transfer to a secondary rotating disk media.<br><br>• ftp: Transfer to a FTP network server.<br><br>• http: Transfer to a web browser.<br><br>• null: Null destination for copies. You can copy a remote file to null to determine its size.<br><br>• nvram: Transfer to NVRAM. This is the default location for the running-configuration file.<br><br>• rcp: Transfer to a remote copy protocol (RCP) network server.<br><br>• system: Transfer to local file system.<br><br>• tftp: Transfer to a TFTP server.<br><br>• tmpsys: Transfer to a temporary file system.<br><br>• unix: Transfer to a UNIX file system. |

**Command Default**

Bulkstat profile file parameters are not configured.

**Command Modes**

Bulkstat profile configuration (config-bs-profile)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**

The following example show how to configure schema format for a Bulkstat profile:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat profile ifStasts
Device(config-bs-profile)# file format schemaAscii
```

The following example show how to configure file retention location and time for retention for a Bulkstat profile:

```
Device(config-bs-profile)# file retain memory 1000
```
The following example show how to configure file transfer properties for a Bulkstat profile:

```
Device(config-bs-profile)# file transfer url primary tftp://10.0.0.1/dcm/cpu-stats
```

**Related Commands**

| Command | Description |
|---|---|
| **data-group** | Configures a data group in a Bulkstat data profile. |
| **enable** | Enables a Bulkstat data profile for collection and transfer of raw data. |
| **flow** | Configures a flow exporter for a Bulkstat data profile. |
| **interval transfer** | Configures the interval transfer parameters for a Bulkstat data profile. |

# flow exporter (Bulkstat)

To configure a Flexible NetFlow flow exporter for a Bulkstat profile, use the **flow exporter** command in Bulkstat profile configuration mode. To remove the configuration, use the **no** form of this command.

**flow exporter** *exporter-name*

**no flow exporter** *exporter-name*

**Syntax Description**

| exporter-name | Name of the exporter used to configure the flow exporter. |
|---|---|

**Command Default**

By default, Flexible NetFlow flow exporters are not present in the configuration.

**Command Modes**

Bulkstat profile configuration (config-bs-profile)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

Define Flexible NetFlow flow exporter using global flow configuration commands.

**Examples**

The following example shows how to configure a flow exporter for a Bulkstat profile:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat profile if-stats
Device(config-bs-profile)# flow exporter mynetflow
```

**Related Commands**

| Command | Description |
|---|---|
| **data-group** | Adds a data group to a Bulkstat profile. |
| **enable** | Enables a Bulkstat profile for collection and transfer of raw and processed data. |

| Command | Description |
|---|---|
| **file** | Configures file-related parameters for a Bulkstat profile. |
| **interval transfer** | Configures interval transfer parameters for a Bulkstat data profile. |

# id (Bulkstat)

To configure the object ID (OID) for an expression object, use the **id** command in Bulkstat data set expression object configuration mode. To remove the OID configuration, use the **no** form of this command.

**id** *object-id*

**no id** *object-id*

**Syntax Description**

| *object–id* | Name of the object. For example, it may be 1.3.6.1.2.1.2.2.1.10, ifInOctets, or ifEntry.10, whichever is understood by the Simple Network Management Protocol (SNMP) agent. The object is defined by expObjectID in *RFC 2982, Distributed Management Expression MIB*. |
|---|---|

**Command Default**

By default, the OID is not configured.

**Command Modes**

Bulkstat data set expression object configuration (config-bs-ds-expr-obj)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Usage Guidelines**

You cannot check for validity of an object during the configuration of an OID for an expression object. If the object is not supported, the expression evaluation fails.

**Examples**

The following example shows how to configure the OID for an expression object:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data interface-util type expression
Device(config-bs-ds-expr)# object 1
Device(config-bs-ds-expr-obj)# id ifInOctets.1
```

id (Bulkstat)

**Related Commands**

| Command | Description |
| --- | --- |
| **expression** | Configures expression MIB output. |
| **object (Bulkstat)** | Adds an object in an SNMP type Bulkstat data set. |
| **value type** | Configures the result of a value type data set expression output. |

# interval polling

To configure polling interval parameters for a Bulkstat data group, use the **interval polling** command in Bulkstat data group configuration mode. To reset the interval parameters to the default value, use the **no** form of this command.

**interval polling** *polling-interval*

**no interval polling**

**Syntax Description**

| polling-interval | Polling period, in seconds. The range is from 1—120000. The default value is 600. |
|---|---|

**Command Default**

By default, polling interval parameters for a Bulkstat data group are not configured.

**Command Modes**

Bulkstat data group configuration (config-bs-dg)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**

The following example shows how to configure polling interval parameters for a Bulkstat data group:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data-group if-dg
Device(config-bs-dg)# interval polling 100
```

**Related Commands**

| Command | Description |
|---|---|
| **collect** | Configures collection parameters for a Bulkstat data group. |
| **context** | Configures the context for a Bulkstat data group. |
| **discard** | Discards raw data for a Bulkstat data group. |

| Command | Description |
|---------|-------------|
| **process** | Configures process-related parameters for a Bulkstat data group. |

# interval transfer

To configure interval parameters for a Bulkstat data profile, use the **interval transfer** command in Bulkstat data profile configuration mode. To reset the interval parameters to the default value, use the **no** form of this command.

**interval transfer** {**process**| **raw**} {*time-seconds*}

**no interval transfer** {**process**| **raw**} {*time-seconds*}

**Syntax Description**

| | |
|---|---|
| **process** | Creates process files for the processed data and lists the process files for transfer. |
| **raw** | Freezes the active file (raw data) and enqueues the file for transfer. Object is defined by cdcVFileCollectionPeriod. |
| *time-seconds* | Data transfer period, in seconds. Processed data: The range is from 1800—604800. The default value is 3600.  Raw data: The range is from 160—4294967. The default value is 1800. |

**Command Default**

By default, the interval for transferring processed data and raw data is set to 3600 seconds and 1800 seconds, respectively.

**Command Modes**

Bulkstat data profile configuration (config-bs-profile)

**Command History**

| Release | Modification |
|---|---|
| 15.3(1)T | This command was introduced. |
| 15.3(1)S | This command was integrated into Cisco IOS Release 15.3(1)S. |
| Cisco IOS XE Release 3.8S | This command was integrated into Cisco IOS XE Release 3.8S. |

**Examples**

The following example shows how to configure interval parameters for processed data transfer in a Bulkstat data profile:

```
Device> enable
Device# configure terminal
```

```
Device(config)# bulkstat profile is-stats
Device#(config-bs-profile)# interval transfer process 4000
```
The following example shows how to configure interval parameters for raw data transfer in a Bulkstat data profile:

```
Device#(config-bs-profile)# interval transfer raw 100
```

**Related Commands**

| Command | Description |
|---|---|
| **bulkstat profile** | Configures a Bulkstat profile. |
| **data-group** | Adds a data group to a Bulkstat profile. |
| **file** | Configures file-related parameters for a Bulkstat profile. |
| **flow exporter** | Configures the flow exporter configuration for a Bulkstat profile. |