public member function

std::ios_base::setf

<ios> <iostream>

```
set (1)   fmtflags setf (fmtflags fmtfl);
mask (2)  fmtflags setf (fmtflags fmtfl, fmtflags mask);
```

Set specific format flags

The first form *(1)* sets the stream's *format flags* whose bits are set in *fmtfl*, leaving unchanged the rest, as if a call to `flags(fmtfl|flags())`.

The second form *(2)* sets the stream's *format flags* whose bits are set in both *fmtfl* and *mask*, and clears the *format flags* whose bits are set in *mask* but not in *fmtfl*, as if a call to `flags((fmtfl&mask)|(flags()&~mask))`.

Both return the value of the stream's *format flags* before the call.

The format flags of a stream affect the way data is interpreted in certain input functions and how it is written by certain output functions. See `ios_base::fmtflags` for the possible values of this function's arguments.

The first form of `setf` *(1)* is generally used to set *independent format flags*: `boolalpha`, `showbase`, `showpoint`, `showpos`, `skipws`, `unitbuf` and `uppercase`, which can also be unset directly with member unsetf.

The second form *(2)* is generally used to set a value for one of the selective flags, using one of the field bitmasks as the `mask` argument:

fmtfl format flag value	*mask* field bitmask
`left`, `right` or `internal`	`adjustfield`
`dec`, `oct` or `hex`	`basefield`
`scientific` or `fixed`	`floatfield`

The parameterized manipulator `setiosflags` behaves in a similar way as the first form of this member function *(1)*.

Parameters

`fmtfl`
: Format flags to be set. If the second syntax is used, only the bits set in both *fmtfl* and *mask* are set in the stream's format flags; the flags set in *mask* but not in *fmtfl* are cleared.

`mask`
: Mask containing the flags to be modified.

Member type `fmtflags` is a bitmask type (see `ios_base::fmtflags`).

Return Value

The format flags selected in the stream before the call.

Example

```
// modifying flags with setf/unsetf
#include <iostream>     // std::cout, std::ios

int main () {
  std::cout.setf ( std::ios::hex, std::ios::basefield );  // set hex as the basefield
  std::cout.setf ( std::ios::showbase );                  // activate showbase
  std::cout << 100 << '\n';
  std::cout.unsetf ( std::ios::showbase );                // deactivate showbase
  std::cout << 100 << '\n';
  return 0;
}
```

Output:

```
0x64
64
```

Data races

Modifies the stream object.
Concurrent access to the same stream object may cause data races.

Exception safety

Basic guarantee: if an exception is thrown, the stream is in a valid state.

ios_base::failure
ios_base::fmtflags
ios_base::Init
ios_base::iostate
ios_base::openmode
ios_base::seekdir

See also

ios_base::flags	Get/set format flags (public member function)
ios_base::unsetf	Clear specific format flags (public member function)
ios_base::fmtflags	Type for stream format flags (public member type)
setiosflags	Set format flags (function)
resetiosflags	Reset format flags (function)