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class
std::ios_base

<ios> <iostream>

```
class ios_base;
```

Base class for streams

Base class for the entire hierarchy of stream classes in the standard input/output library, describing the most basic part of a stream which is common to all stream objects, independently of their character type.

It has no public constructors, and thus no objects of this class can be declared.

Both `ios_base` and its derived class `basic_ios` define the components of streams that do not depend on whether the stream is an input or an output stream: `ios_base` describes the members that are independent of the template parameters (i.e. the character type and traits), while `basic_ios` describes the members that do depend on them.

More specifically, the `ios_base` class maintains the following information of a stream:

	field	member functions	description

Formatting	format flags	`flags`
		`setf`
		`unsetf`
			A set of internal flags that affect how certain input/output operations are interpreted or generated.
			See member type `fmtflags`.

	field width	`width`	Width of the next formatted element to insert.
	display precision	`precision`	Decimal precision for the next floating-point value inserted.
	locale	`getloc` `imbue`	The `locale` object used by the function for formatted input/output operations affected by localization properties.
Other	callback stack	`register_callback`	Stack of pointers to functions that are called when certain events occur.

	extensible arrays	`iword`
		`pword`
		`xalloc`
			Internal arrays to store objects of type `long` and `void*`.

Member Functions

(constructor)	Construct object (public member function)
(destructor)	Destruct object (public member function)

Formatting:

flags	Get/set format flags (public member function)
setf	Set specific format flags (public member function)
unsetf	Clear specific format flags (public member function)
precision	Get/Set floating-point decimal precision (public member function)
width	Get/set field width (public member function)

Locales:

imbue	Imbue locale (public member function)
getloc	Get current locale (public member function)

Internal extensible array:

xalloc	Get new index for extensible array [static] (public static member function)
iword	Get integer element of extensible array (public member function)
pword	Get pointer element of extensible array (public member function)

Others:

register_callback	Register event callback function (public member function)
sync_with_stdio	Toggle synchronization with cstdio streams [static] (public static member function)

Member types

event	Type to indicate event type (public member type)

event_callback	Event callback function type (public member type)
fmtflags	Type for stream format flags (public member type)
iostate	Type for stream state flags (public member type)
openmode	Type for stream opening mode flags (public member type)
seekdir	Type for stream seeking direction flag (public member type)

Member classes

failure	Base class for stream exceptions (public member class)
Init	Initialize standard stream objects (public member class)

Member constants

Streams have member constants with the possible values for member types `fmtflags`, `iostate`, `openmode` and `seekdir` (see the description of each type for more info).