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public member function

std::ios_base::register_callback

<ios> <iostream>

void register_callback (event_callback fn, int index);

Register event callback function

Registers *fn* as a callback function to be called automatically with *index* as argument when a *stream event* occurs.

If more than one callback function is registered, they are all called, in the inverse order of registration.

The callback function shall be of a type convertible to `event_callback`. And it is called by an expression equivalent to:

```
(*fn)(ev, stream, index)
```

where *index* is the *index* argument passed when the callback function is registered with this function, *stream* is a pointer to the stream object suffering the event, and *ev* is an object of member enum type `event` indicating which event occurred. It can be one of the following member values:

member constant	event triggered
<code>copyfmt_event</code>	on a call to member <code>copyfmt</code> (at the moment where all format flags have been copied, but before the exception mask is)
<code>erase_event</code>	on a call to the stream destructor (also called at the beginning of <code>basic_ios::copyfmt</code>).
<code>imbue_event</code>	on a call to <code>imbue</code> (just before the function returns).

All registered functions are called on all of the cases above. The function itself can use the *ev* parameter to discern which event triggered the function call.

Parameters

fn

Pointer to the function to be called.
The `event_callback` member type is defined as:

```
typedef void (*event_callback) (event ev, ios_base& ios, int index);
```

index

Integer value passed as parameter to the callback function.

Return Value

none

Example

```

1 // stream callbacks
2 #include <iostream>      // std::cout, std::ios_base
3 #include <fstream>      // ofstream
4
5 void testfn (std::ios::event ev, std::ios_base& stream, int index)
6 {
7     switch (ev)
8     {
9         case stream.copyfmt_event:
10             std::cout << "copyfmt_event\n"; break;
11         case stream.imbue_event:
12             std::cout << "imbue_event\n"; break;
13         case stream.erase_event:
14             std::cout << "erase_event\n"; break;
15     }
16 }
17
18 int main () {
19     std::ofstream filestr;
20     filestr.register_callback (testfn,0);
21     filestr.imbue (std::cout.getloc());
22     return 0;
23 }

```

ios_base::width

ios_base::xalloc

member types:

ios_base::event

ios_base::event_callback

ios_base::failure

ios_base::fmtflags

ios_base::Init

ios_base::iostate

ios_base::openmode

ios_base::seekdir

Output:

imbue_event

erase_event

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.

See also

ios_base::imbue	Imbue locale (public member function)
ios::copyfmt	Copy formatting information (public member function)
ios_base::event	Type to indicate event type (public member type)