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<b>Platform</b>	S60 3rd Edition, FP2	<b>Tested on devices</b>	Nokia 6220 Classic
<b>Category</b>	Open C/C++	<b>Subcategory</b>	Files/Data

**Keywords (APIs, classes, methods, functions):** time\_t, tm, stringstream, use\_facet, time\_put, time\_put::put(), time(), localtime(), asctime()

## Overview

This code snippet shows how to convert a date and time to a string. The easiest way to get this string is to use the library function `asctime()` from the `<ctime>` header. The returned string has the following format: "Www Mmm dd hh:mm:ss yyyy". Another possibility is to use the `time_put` template class from the `<locale>` header and use a custom formatting for the date and time string.

**Note:** In order to use this code, you need to install the [Open C/C++ plug-in](#).

This snippet can be self-signed.

## MMP file

The following libraries are required:

```
STATICLIBRARY  libcert0.lib

LIBRARY  libstdc++_lib
LIBRARY  libc.lib
LIBRARY  euser.lib
```

## Source file

```
#include <iostream>
#include <string>
```

## CS001143\_-\_Converting\_date\_and\_time\_to\_string\_in\_Open\_C++

```
#include <sstream>
#include <locale>
#include <ctime>

using namespace std;

string datetime_to_string(const tm& time, const char* format)
{
    stringstream datetime;

    // retrieve the time_put facet installed in the stream
    const time_put<char>& writer =
        use_facet< time_put<char> >(datetime.getloc());

    int len = strlen(format);

    //formats the contents of the tm time into the output stream datetime
    if (writer.put(datetime, datetime, ' ',
        &time, format, format + len).failed( ))
    {
        throw runtime_error("formatting date time failed!");
    }

    return datetime.str();
}

int main( )
{
    string time_string;
    time_t time_now = time(NULL);
    struct tm * timeinfo;
    timeinfo = localtime (&time_now);

    //-- using the library function asctime()

    cout << "Current local time and date: " << endl
        << asctime(timeinfo) << endl;

    //-- using the own function datetime_to_string()

    /* The list of % format specifiers:
    a          Abbreviated weekday name
    A          Full weekday name
    b          Abbreviated month name
    B          Full month name
    c          Date and time
    d          Day of the month
    H          Hour of the 24-hour day
    I          Hour of the 12-hour day
    j          Day of the year
    m          Month of the year
    M          Minutes after the hour
    p          AM/PM indicator
    S          Seconds after the minute
    U          Week of the year (Sunday)
    w          Day of the week
    W          Week of the year (Monday)
    x          Date MM/DD/YY
    X          Time HH/MM/SS (24-hour)
    y          Year of the century
    Y          Year
    Z          Time zone name
```

```
*/  
  
try  
{  
    time_string = datetime_to_string(*timeinfo, "%A %B %d %H:%M:%S %Y");  
    cout << time_string << endl;  
  
    time_string = datetime_to_string(*timeinfo, "%Y/%m/%d %H:%M:%S");  
    cout << time_string << endl;  
  
    time_string = datetime_to_string(*timeinfo, "%x %X");  
    cout << time_string << endl;  
}  
catch (const exception& e)  
{  
    cout << "Exception: " << e.what() << endl;  
}  
  
//getchar();  
  
return 0;  
}
```

## Postconditions

The current date and time have been converted to four different formats and are shown on the screen.