

Changing Cygwin's Maximum Memory

By default no Cygwin program can allocate more than 384 MB of memory (program+data). You should not need to change this default in most circumstances. However, if you need to use more real or virtual memory in your machine you may add an entry in the either the HKEY_LOCAL_MACHINE (to change the limit for all users) or HKEY_CURRENT_USER (for just the current user) section of the registry.

Add the DWORD value `heap_chunk_in_mb` and set it to the desired memory limit in decimal MB. It is preferred to do this in Cygwin using the **regtool** program included in the Cygwin package. (For more information about **regtool** or the other Cygwin utilities, see [the section called “Cygwin Utilities”](#) or use each the `--help` option of each util.) You should always be careful when using **regtool** since damaging your system registry can result in an unusable system. This example sets memory limit to 1024 MB:

```
regtool -i set /HKLM/Software/Cygnus\ Solutions/Cygwin/heap_chunk_in_mb 1024
regtool -v list /HKLM/Software/Cygnus\ Solutions/Cygwin
```

Exit all running Cygwin processes and restart them. Memory can be allocated up to the size of the system swap space minus any the size of any running processes. The system swap should be at least as large as the physically installed RAM and can be modified under the System category of the Control Panel.

Here is a small program written by DJ Delorie that tests the memory allocation limit on your system:

```
main()
{
    unsigned int bit=0x40000000, sum=0;
    char *x;

    while (bit > 4096)
    {
        x = malloc(bit);
        if (x)
            sum += bit;
        bit >>= 1;
    }
    printf("%08x bytes (%.1fMb)\n", sum, sum/1024.0/1024.0);
    return 0;
}
```

You can compile this program using:

```
gcc max_memory.c -o max_memory.exe
```

Run the program and it will output the maximum amount of allocatable memory.