

# Omb MultiOberon/BlackBox Quick-Start

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Omb is the instance of MultiOberon compiler with BlackBox backend. Based on Omnic CP DevCompiler.  
Version 0.9 12-Nov-2019

## Installation.

On Windows (this color - for Windows):

For BlackBox 1.6

```
win_toinstall.vbs 16 <path-to-blackbox>
```

For BlackBox 1.7

```
win_toinstall.vbs 17 <path-to-blackbox>
```

On Linux (this color – for Linux):

Download and install <https://blackbox.obertone.ru/download>

```
tclsh lin_toinstall.tcl 17 <path-to-blackbox>
```

## How to Start from Black Box

### 1 Installation

#### 1. Preconditions.

Omb doesn't use any other services except BlackBox.

#### 2. Omb/Docu/Quick-Start.odc, Omtest/Docu/Quick-Start.odc

#### 3. Compile the following modules:

```
^Q DevCompiler.CompileThis HostApi HostConLog HostTimes OmcCfgfile OmcTarget  
OmcCRunTime OmcHooks OmcDialog OmcOPM OmcOPT OmcOPU OmcOPB OmcOPS OmcOPP OmcDump  
OmcParams OmcOdcSource OmcTxtSource OmcRuntimeStd OmcDialogStd OmcDialogConsole  
OmcCompiler OmcConsole OmbOPE OmbOPH OmbOPL486 OmbOPC486 OmbOPV486 OmbBackEnd  
OmbCompiler OmbInLink OmbLnkBase OmbLnkLoad OmbLnkWritePe OmbLnkWriteElf  
OmbLnkWriteElfStatic OmbLinkPortableProcessor OmbLinker
```

### 3 Compiling the examples

Compile the following modules:

```
^Q OmbCompiler.CompileThis OmtestHelloWorld OmtestFormats OmtestDateTime  
OmtestMkTraps OmtestHeap
```

Link executives to call them from console

```
^Q OmbLinker.LinkExe dos "Omtest/Code/OmtestHelloWorld.exe" :=  
Kernel$+ Log Math Strings OStrings OLog HostConLog Runner OmtestHelloWorld  
^Q OmbLinker.LinkExe dos "Omtest/Code/OmtestFormats.exe" :=  
Kernel$+ Log Math Strings OStrings OLog HostConLog Runner OmtestFormats  
^Q OmbLinker.LinkExe dos "Omtest/Code/OmtestDateTime.exe" :=  
Kernel$+ Log Math Strings OStrings OLog Times HostConLog HostTimes Runner  
OmtestDateTime  
^Q OmbLinker.LinkExe dos "Omtest/Code/OmtestMkTraps.exe" :=  
Kernel$+ Log Math Strings OStrings OLog HostConLog Runner OmtestMkTraps  
^Q OmbLinker.LinkExe dos "Omtest/Code/OmtestHeap.exe" :=  
Kernel$+ Log Math Strings OStrings OLog HostConLog Runner OmtestHeap
```

### 4 Running the examples

#### 4.1. The simplest Hello, World example

```
^Q OmtestHelloWorld.Run
```

Logging with char, int and real formats

```
^Q OmtestFormats.Run
```

#### 4.2 Shows date, time and delay

```
^Q OmtestDateTime.Run
```

#### 4.3 Traps handling abilities of runtime

##### Simple Assert

```
^Q "OmtestMkTraps.RunOpt('a')"
```

##### Simple Halt

```
^Q "OmtestMkTraps.RunOpt('h')"
```

##### Zero divide

```
^Q "OmtestMkTraps.RunOpt('z')"
```

##### Nil pointer dereference

```
^Q "OmtestMkTraps.RunOpt('p')"
```

#### 4.4 Dynamic memory and garbage collector

```
^Q OmtestHeap.Run
```

## 5 Self-Compiling Omb Shell

### Self-Compile console Omb Shell.

```
^Q OmbCompiler.CompileThis HostApi HostConLog HostTimes OmcCfgfile OmcTarget  
OmcCRuntime OmcHooks OmcDialog OmcOPM OmcOPT OmcOPU OmcOPB OmcOPS OmcOPP OmcDump  
OmcParams OmcOdcSource OmcTxtSource OmcRuntimeStd OmcDialogStd OmcDialogConsole  
OmcTimesDialog OmcCompiler OmcConsole OmcShell OmbOPE OmbOPH OmbOPL486 OmbOPC486  
OmbOPV486 OmbBackEnd OmbCompiler OmbInlink OmbLnkBase OmbLnkLoad OmbLnkWritePe  
OmbLnkWriteElf OmbLnkWriteElfStatic OmbLinkPortableProcessor OmbLinker OmbLoader  
OmbSh
```

### Self-Link console Omb Shell.

```
^Q OmbLinker.LinkExe dos "Bbwe/OmbSh.exe" :=  
^Q OmbLinker.LinkExe dos "Bbue/ombsh" :=  
Kernel$+ Log Math Strings OStrings OLog HostConLog Runner Files HostFiles  
OmcCfgfile Dates Times HostTimes Dialog Stores Sequencers Models Services Fonts  
Meta Converters Ports Views Controllers Properties Mechanisms Containers  
Printers Printing OmcTimesDialog Documents TextModels TextRulers TextSetters  
TextViews OmcTarget OmcCRuntime OmcDialog OmcHooks OmcOPM OmcOPT OmcOPB OmcOPU  
OmcOPS OmcOPP OmcParams OmcOdcSource OmcDialogConsole OmcRuntimeStd OmcConsole  
OmcShell OmbOPE OmbOPH OmbOPL486 OmbOPC486 OmbOPV486 OmbBackEnd OmbLoader  
OmbInlink OmbLnkBase OmbLnkLoad OmbLnkWritePe OmbLnkWriteElf  
OmbLnkWriteElfStatic OmbLinkPortableProcessor OmbSh
```

## 6 Unloading Omb Compiler

```
^Q DevDebug.UnloadThis OmbLinker OmbLinkPortableProcessor OmbLnkWriteElfStatic  
OmbLnkWriteElf OmbLnkWritePe OmbLnkLoad OmbLnkBase OmbLinkWinProcessor  
OmbCompiler OmbInlink OmbBackEnd OmbOPV486 OmbOPC486 OmbOPL486 OmbOPH OmbOPE  
OmcCompiler OmcTimesDialog OmcDialogStd OmcRuntimeStd OmcOdcSource OmcParams  
OmcDump OmcOPP OmcOPS OmcOPU OmcOPB OmcOPT OmcOPM OmcDialog OmcHooks OmcCRuntime  
OmcTarget OmcCfgfile Runner
```

# How to Start from Command Line.

## 1 Installation

### 1. Preconditions.

Omb doesn't use any other services. Process all the commands below from the Mob-master root dir.

## 2 Compiling examples

```
Bbwe\ombsh co OmtestHelloWorld
```

```
Bblue/ombsh co OmtestHelloWorld
```

A new symbol file is created first, then OmtestHelloWorld.mod is compiled to Omtest/Code/HelloWorld.ocf. A list of files can be compiled.

```
Bbwe\ombsh ru OmtestHelloWorld
```

```
Bblue/ombsh ru OmtestHelloWorld
```

Run OmtestHelloWorld.ocf with Omb Shell as dynamically loaded module.

```
Bbwe\ombsh ex OmtestHelloWorld
```

```
Bblue/ombsh ex OmtestHelloWorld
```

Execute means both compile and run OmtestHelloWorld.mod with Omb Shell.

```
Bbwe\ombsh ex -odc OmtestHelloWorld
```

```
Bblue/ombsh ex -odc OmtestHelloWorld
```

Option `-odc` takes BlackBox OmtestHelloWorld.odc file instead of mod, valid for co and ru commands.

```
Bbwe\ombsh co -odc OmtestHelloWorld OmtestFormats OmtestDateTime OmtestMkTraps  
OmtestHeap
```

```
Bblue/ombsh co -odc OmtestHelloWorld OmtestFormats OmtestDateTime OmtestMkTraps  
OmtestHeap
```

The command above compiles all the examples listed

## 3 Linking modules

```
Bbwe\ombsh li Kernel+ Log Math Strings OStrings OLog HostConLog Runner
```

```
OmtestHelloWorld -dos -o Omtest/Code/OmtestHelloWorld
```

```
Bblue/ombsh li Kernel+ Log Math Strings OStrings OLog HostConLog Runner
```

```
OmtestHelloWorld -dos -o Omtest/Code/OmtestHelloWorld
```

Links to executive OmtestHelloWorld

## 4 Example set

```
bwe_tomake
```

```
bue_tomake.sh
```

Makes all the executives of example set

```
bwe_toclean
```

```
bue_toclean.sh
```

Cleans all the executives of example set

Run examples

```
Omtest\Code\OmtestHelloWorld
```

```
Omtest/Code/OmtestHelloWorld
```

```
Omtest\Code\OmtestFormats
```

```
Omtest/Code/OmtestFormats
Omtest\Code\OmtestDateTime
Omtest/Code/OmtestDateTime
Omtest\Code\OmtestHeap
Omtest/Code/OmtestHeap
Traps handling abilities of runtime
Simple Assert
Omtest\Code\OmtestMkTraps -trap a
Omtest/Code/OmtestMkTraps -trap a
Simple Halt
Omtest\Code\OmtestMkTraps -trap h
Omtest/Code/OmtestMkTraps -trap h
Zero divide
Omtest\Code\OmtestMkTraps -trap z
Omtest/Code/OmtestMkTraps -trap z
Nil pointer dereference
Omtest\Code\OmtestMkTraps -trap p
Omtest/Code/OmtestMkTraps -trap p
```

## Change Log

may 2019 original MultiOberon pre-version 0.8 released  
nov 2019 MultiOberon pre-version 0.9 released

Use it and enjoy! - Ўўsalos y disfrýtalos! - Bonne utilisation - Приятного использования - Powodzenia - Viel Spaß

Dmitry V. Dagaev  
[dvdagaev@yahoo.com](mailto:dvdagaev@yahoo.com)