

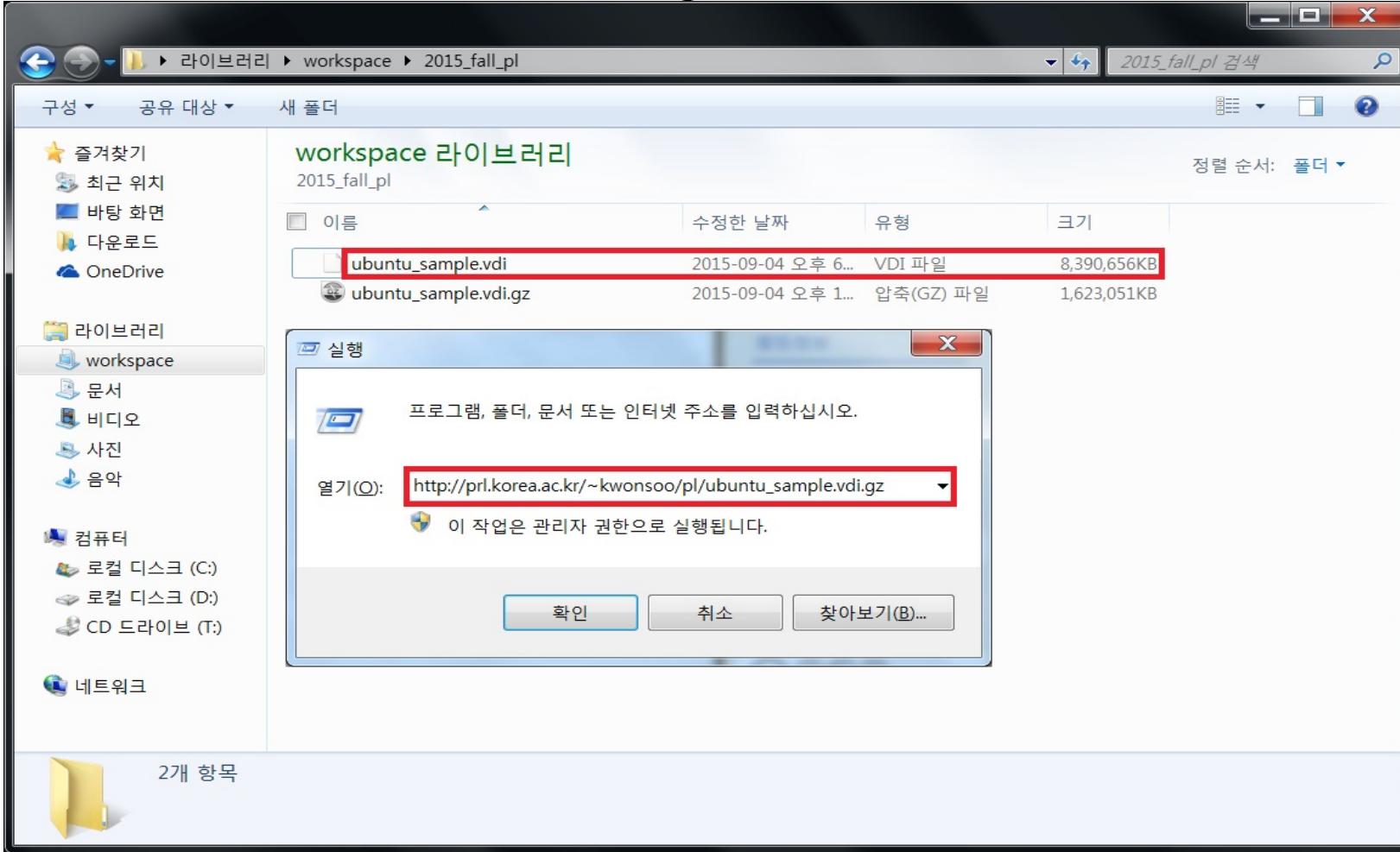
Installation of OCaml Programming Environment

Programming Research Laboratory, Korea University

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1. Download the VirtualBox image file



Download the image file from the address below and unpack it:

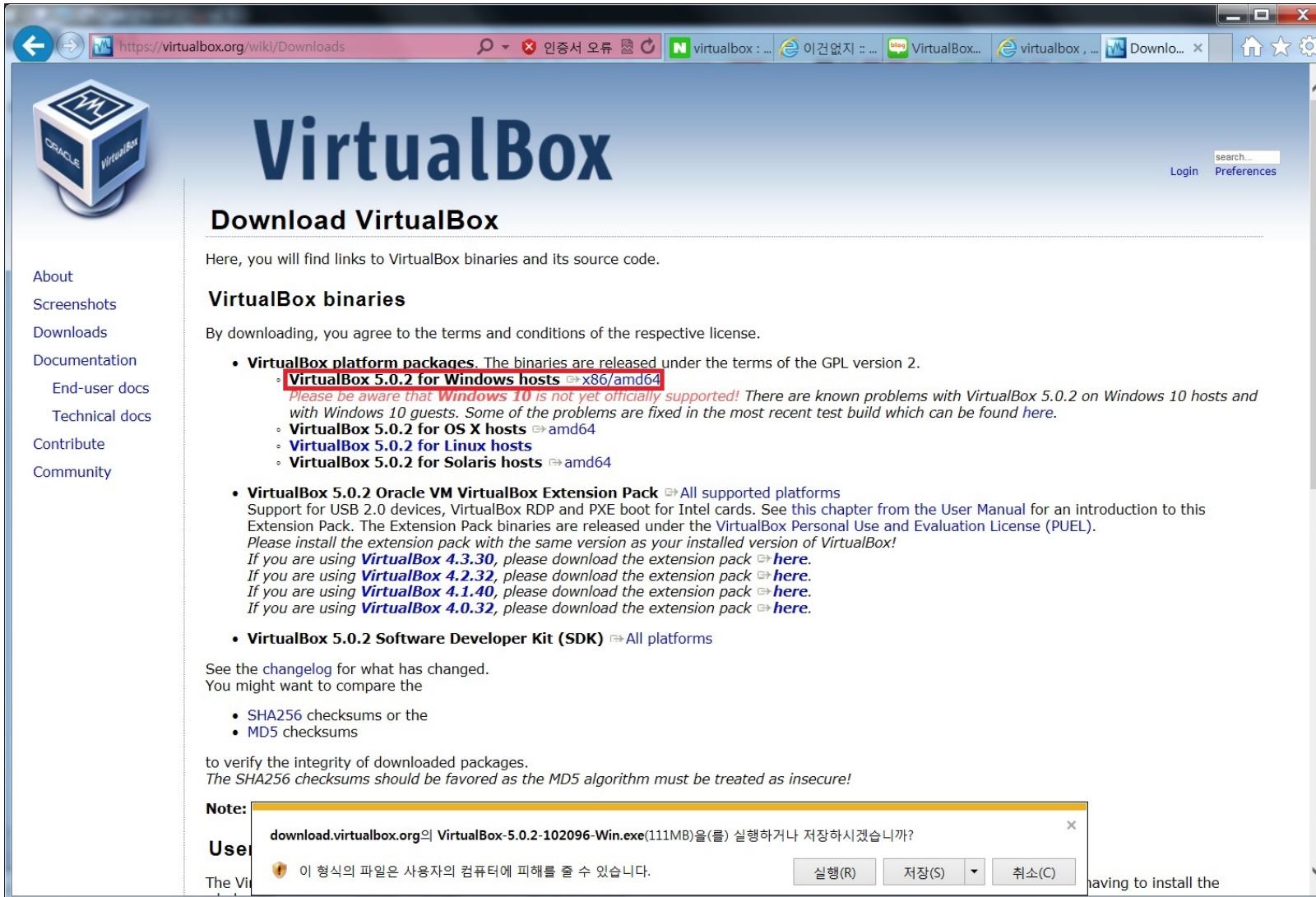
http://prl.korea.ac.kr/~kwonsoo/pl/ubuntu_sample.vdi.gz

2. Install VirtualBox

The screenshot shows the homepage of the VirtualBox.org website. At the top, there's a navigation bar with links for 'About', 'Screenshots', 'Downloads', 'Documentation', 'End-user docs', 'Technical docs', 'Contribute', and 'Community'. Below the navigation bar, there's a large 'VirtualBox' logo and a 'Welcome to VirtualBox.org!' message. A main text block explains that VirtualBox is a powerful virtualization product for enterprise and home use, available under the GNU General Public License (GPL) version 2. It supports various guest operating systems like Windows, Linux, Macintosh, and Solaris. A prominent blue button in the center says 'Download VirtualBox 5.0'. To the right, there's a 'News Flash' section with several bullet points about recent releases and hiring opportunities. At the bottom, there's a 'Hot picks:' section with links to Oracle Tech Network, Hyperbox, phpVirtualBox, and IQEmu. The footer includes an Oracle logo, links to 'Contact', 'Privacy policy', and 'Terms of Use', and a URL 'https://virtualbox.org/wiki/Downloads'.

Go to <http://virtualbox.org> and click [Download VirtualBox 5.0].

2. Install VirtualBox



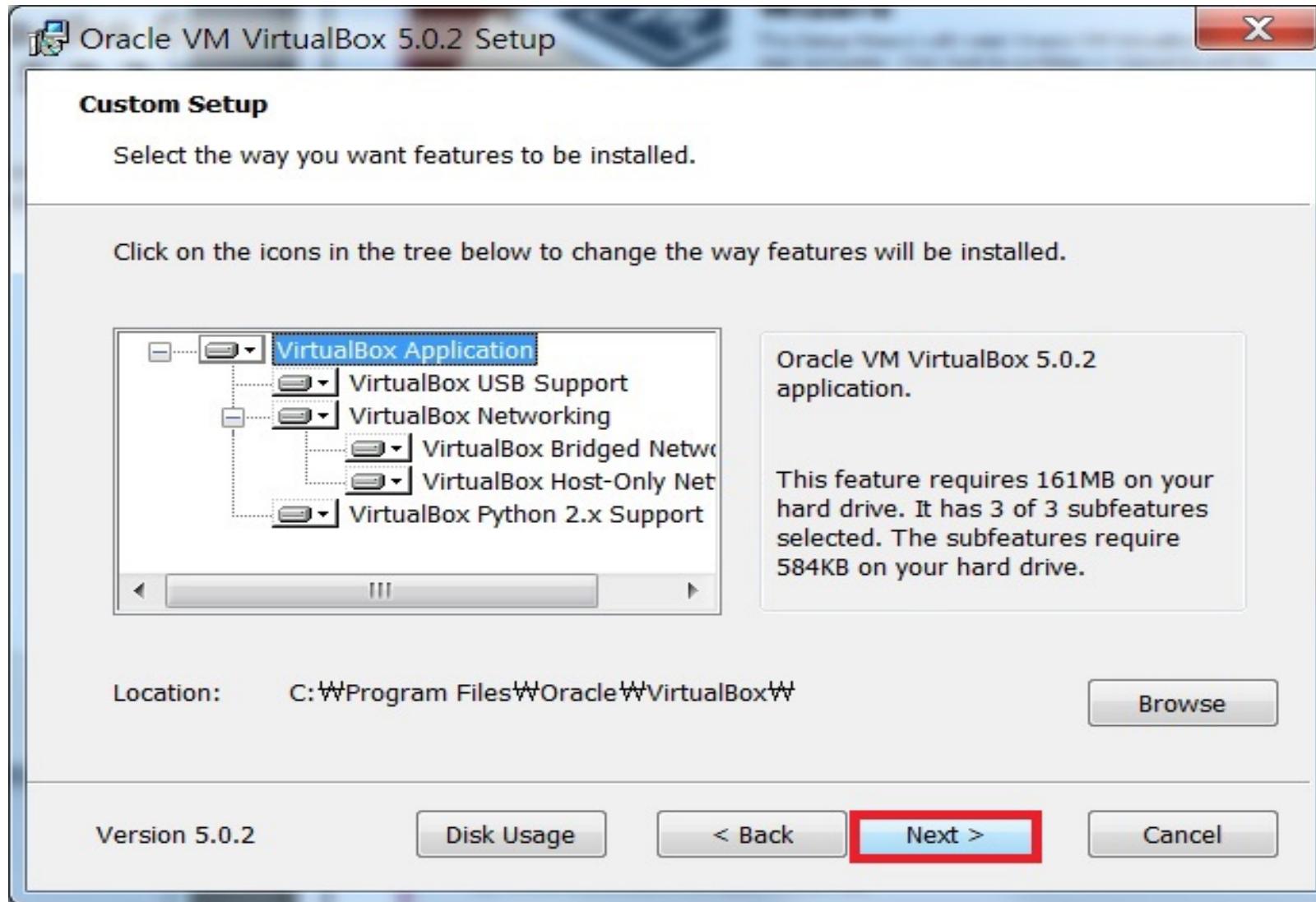
Click [VirtualBox 5.0.2 for Windows hosts] at the top.

2. Install VirtualBox



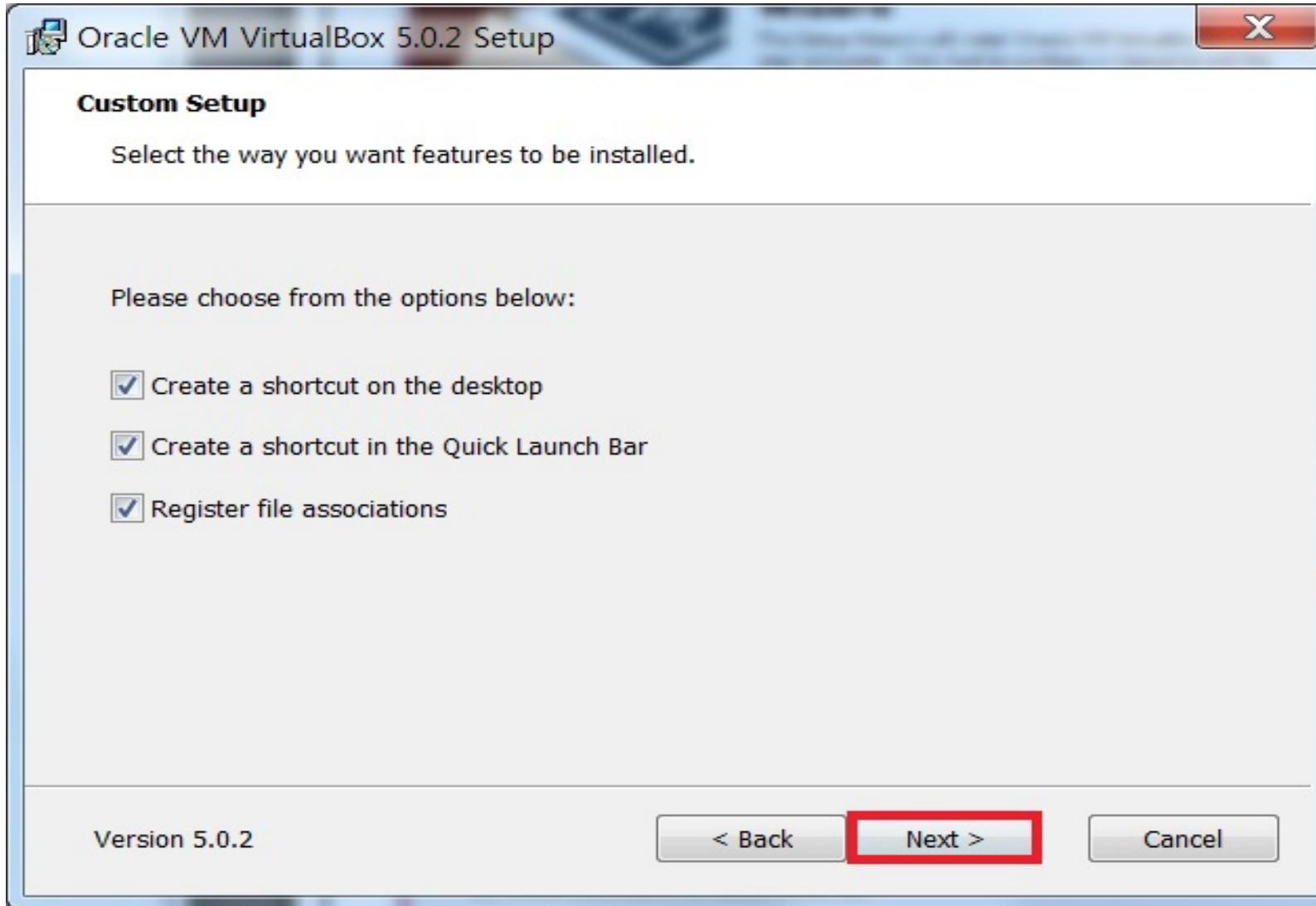
Click the button highlighted in red.

2. Install VirtualBox



Click the button highlighted in red.

2. Install VirtualBox



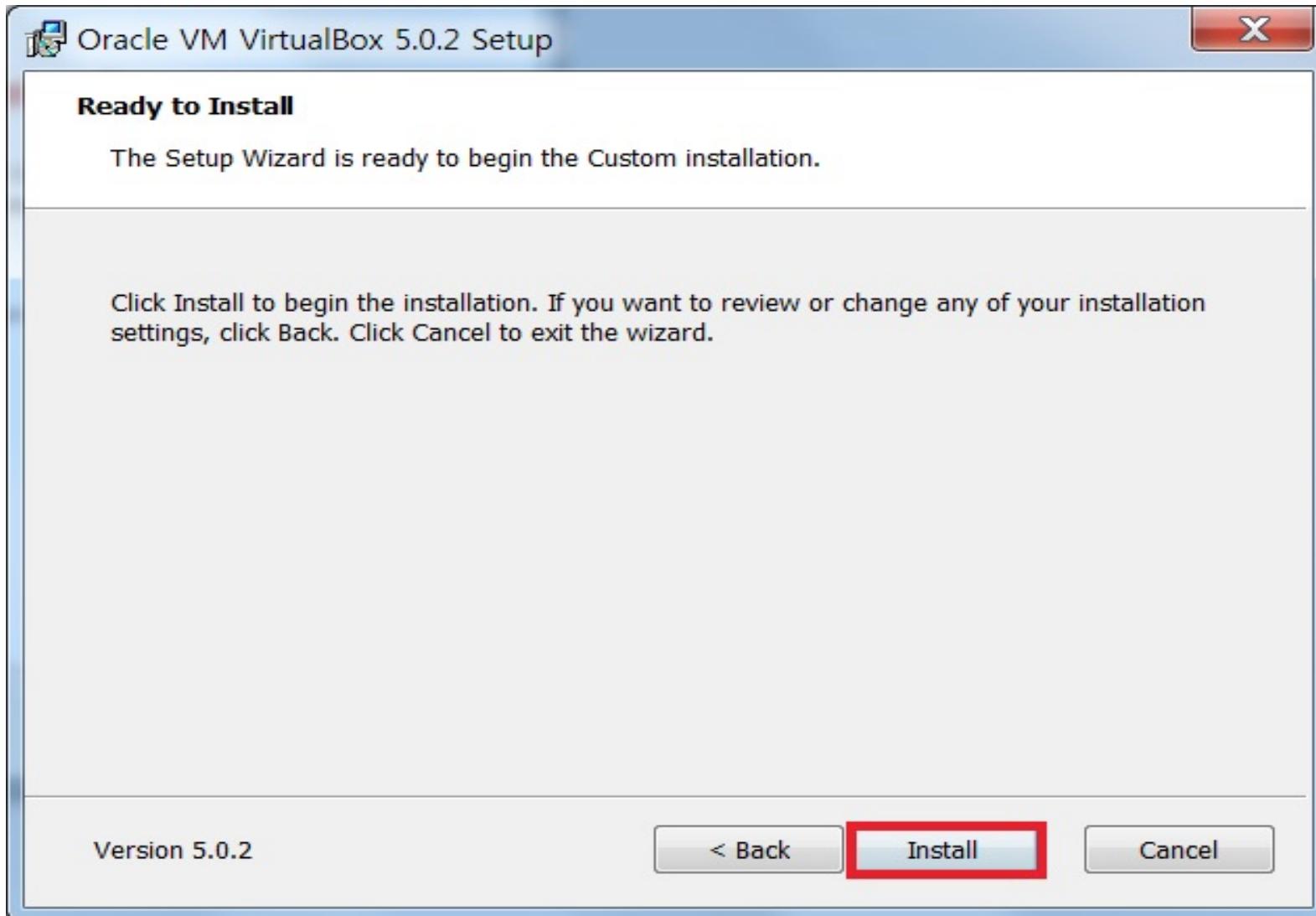
Click the button highlighted in red.

2. Install VirtualBox



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2. Install VirtualBox



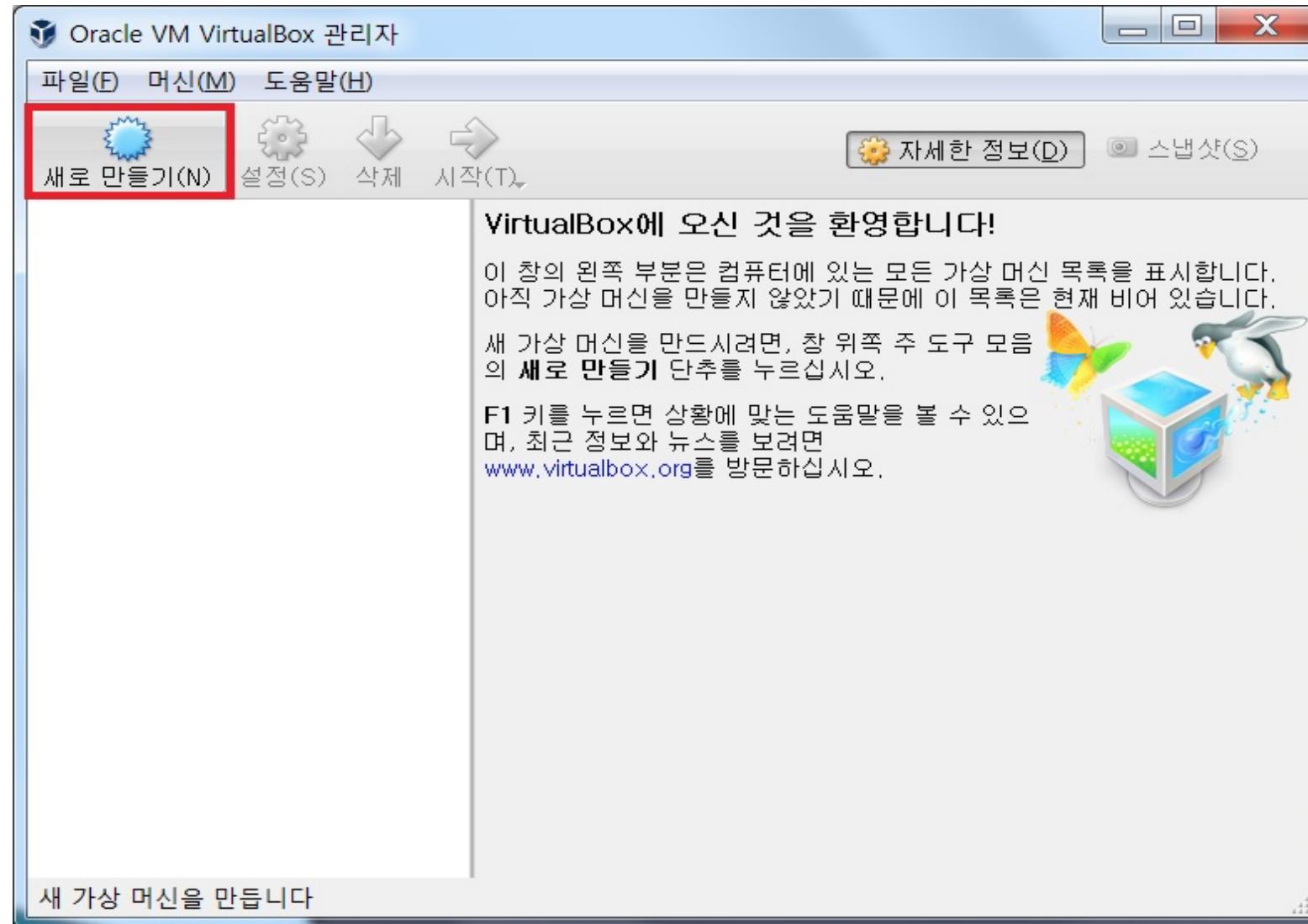
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2. Install VirtualBox



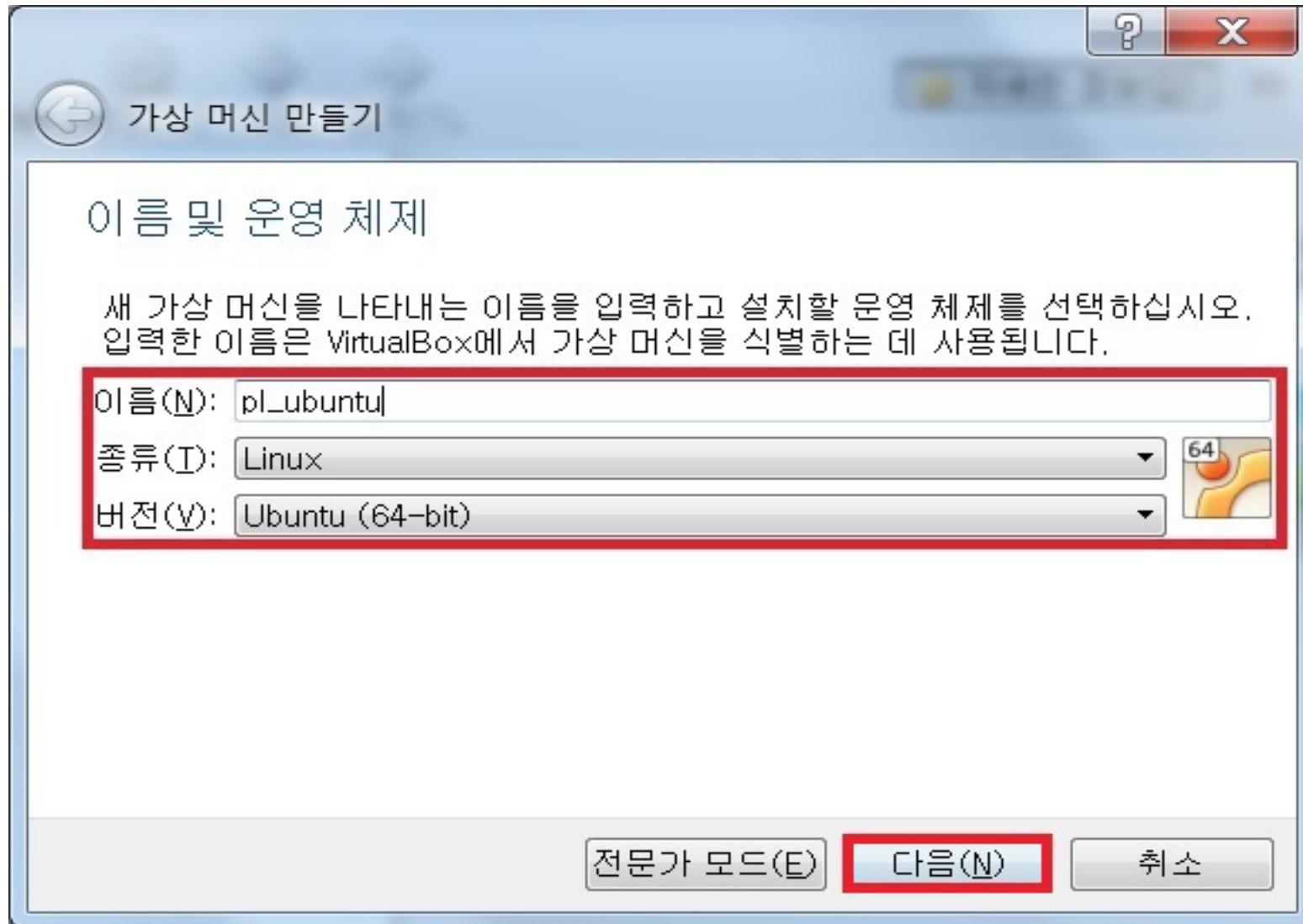
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2. Install VirtualBox



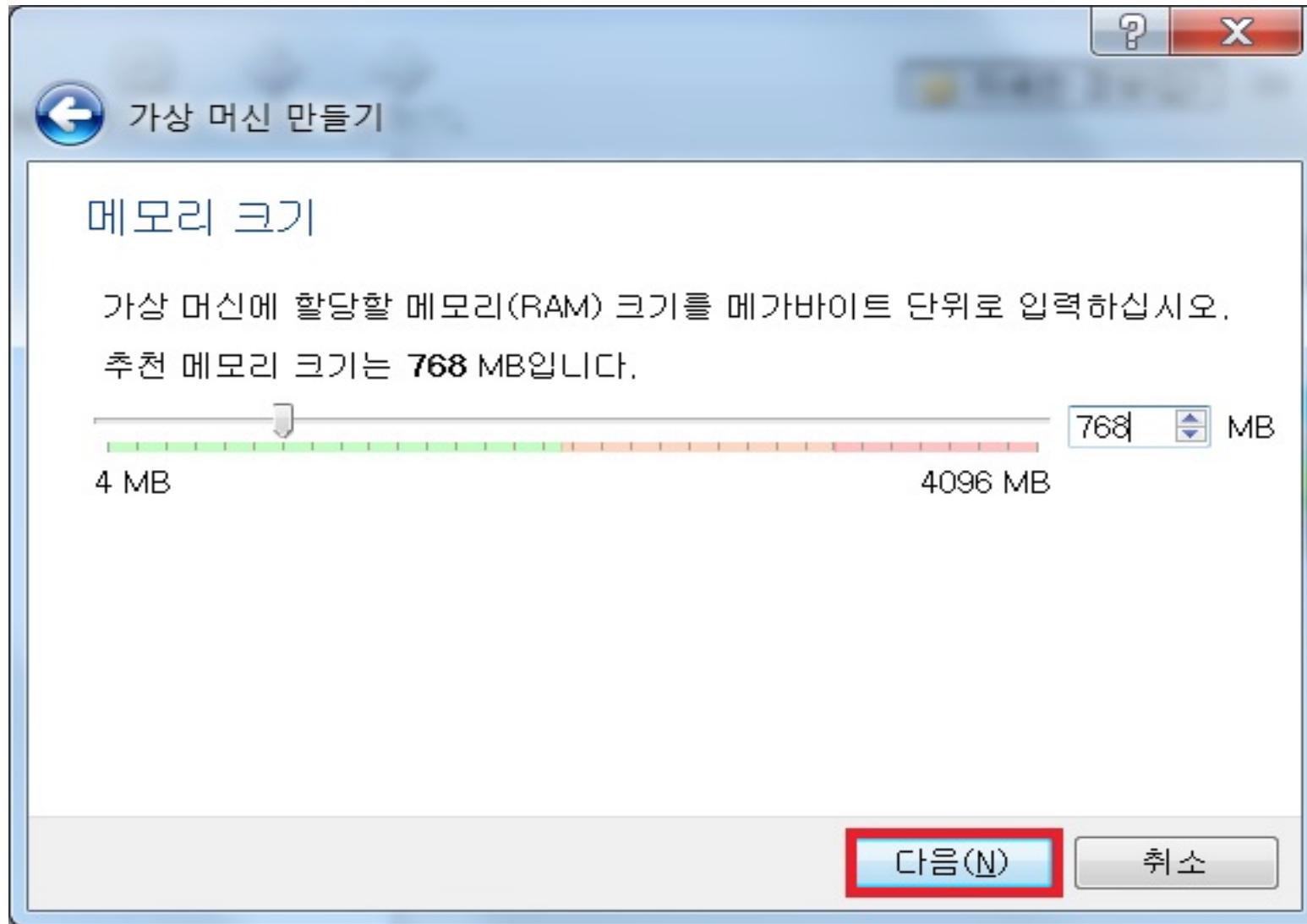
Click the button highlighted in red.

2. Install VirtualBox



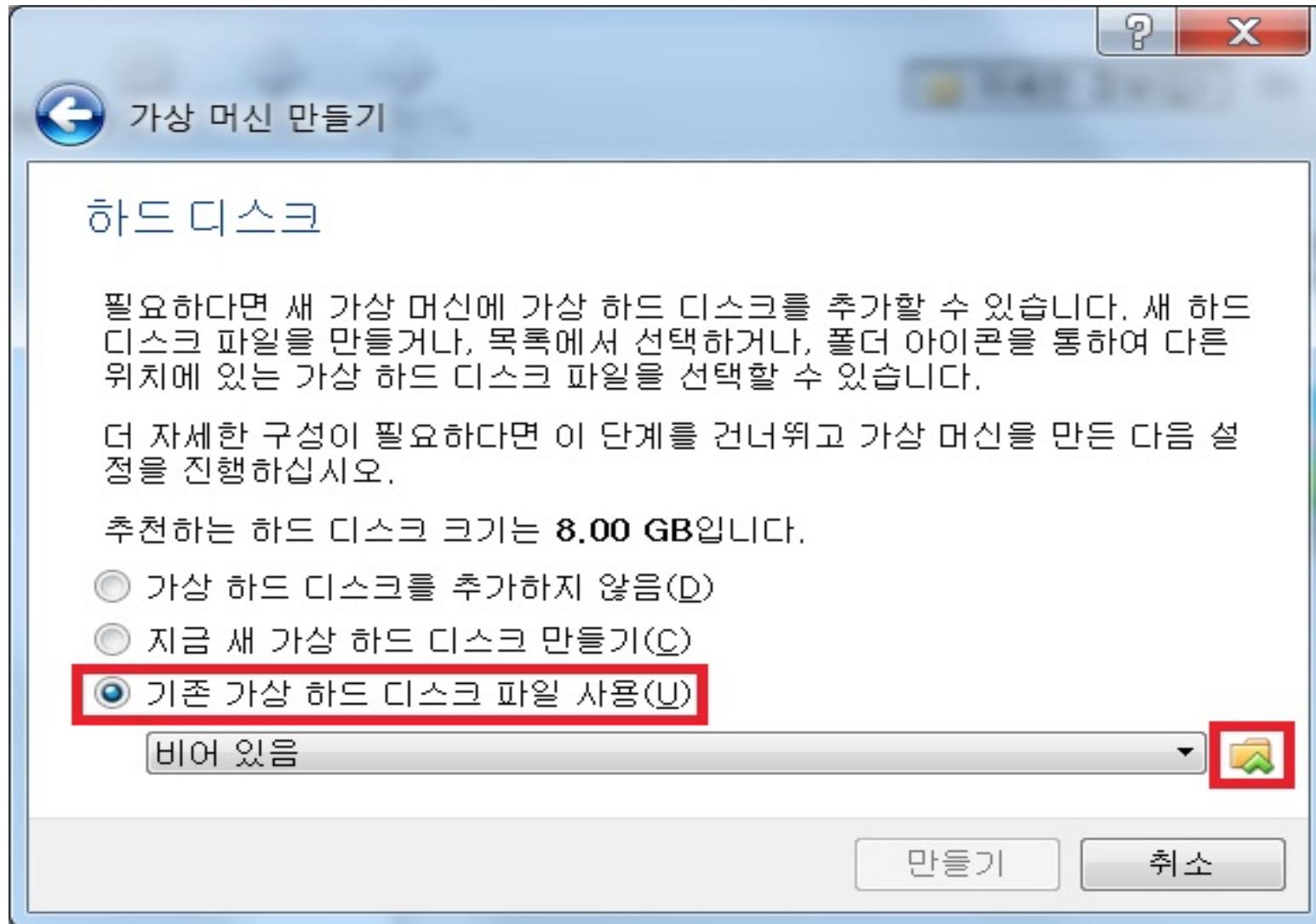
Click the button highlighted in red.

2. Install VirtualBox



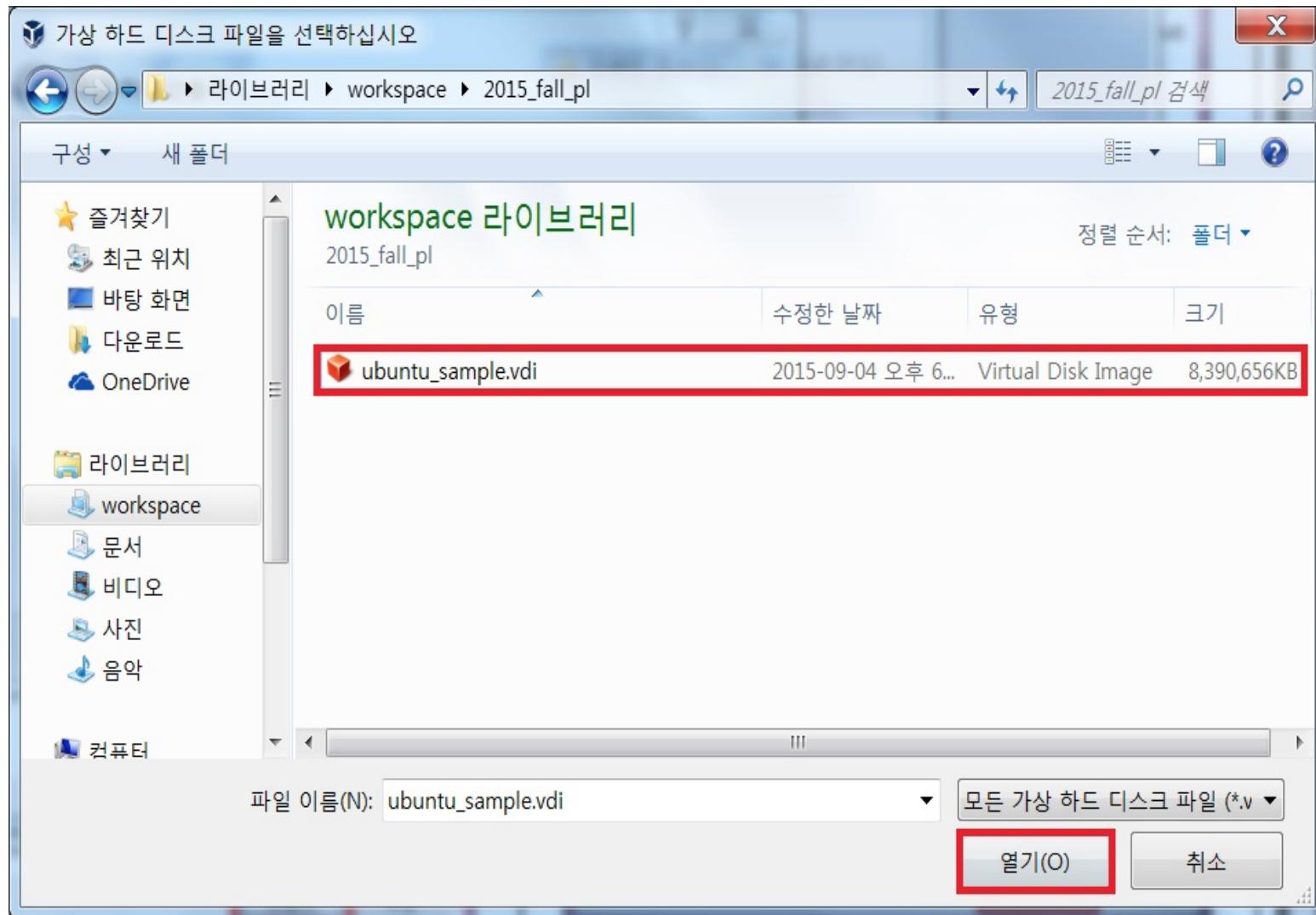
Click the button highlighted in red.

2. Install VirtualBox



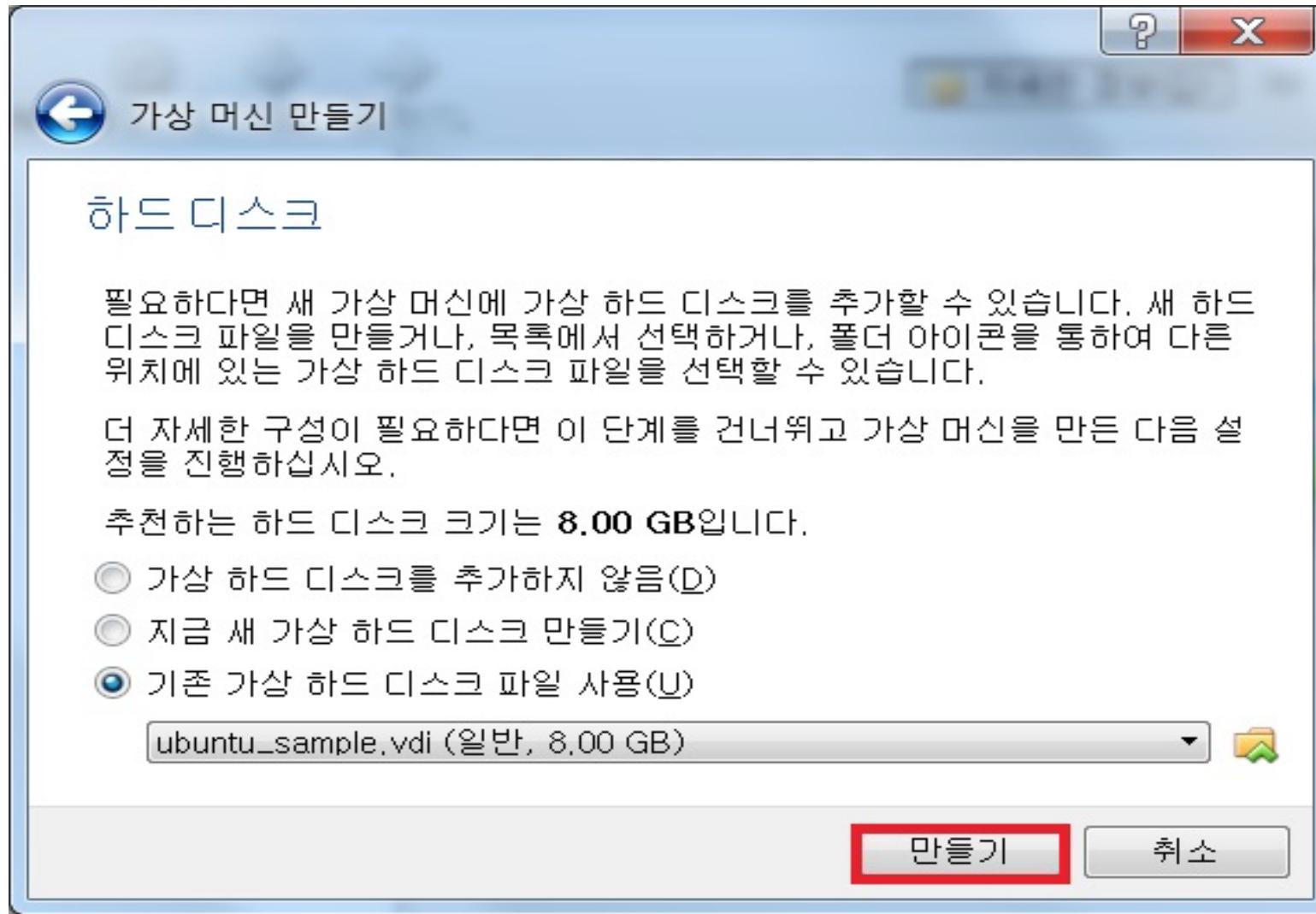
Select the last option and
click the Browse button on the bottom right side.

2. Install VirtualBox



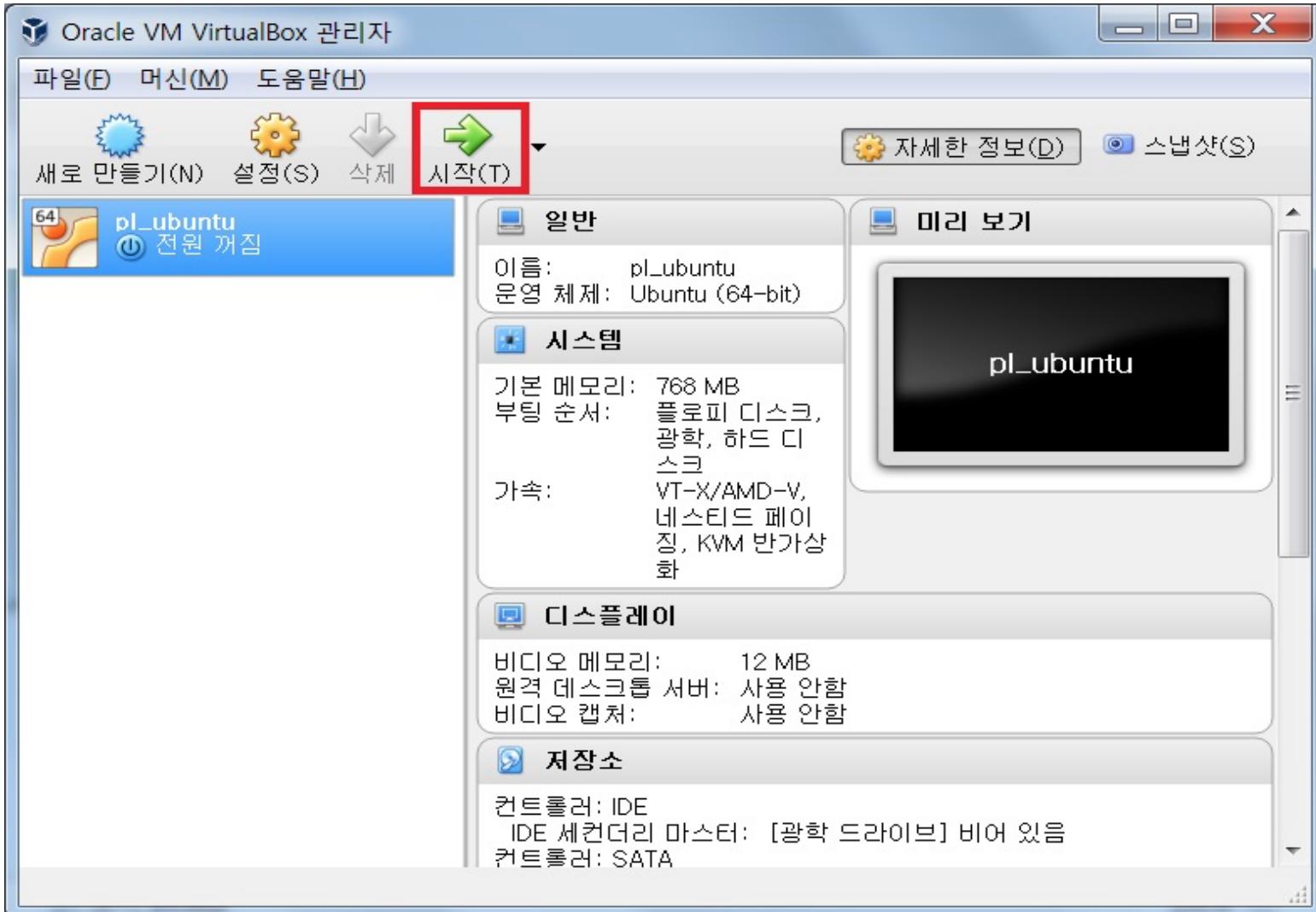
Open the VirtualBox image file you downloaded.

2. Install VirtualBox



Click the button highlighted in red.

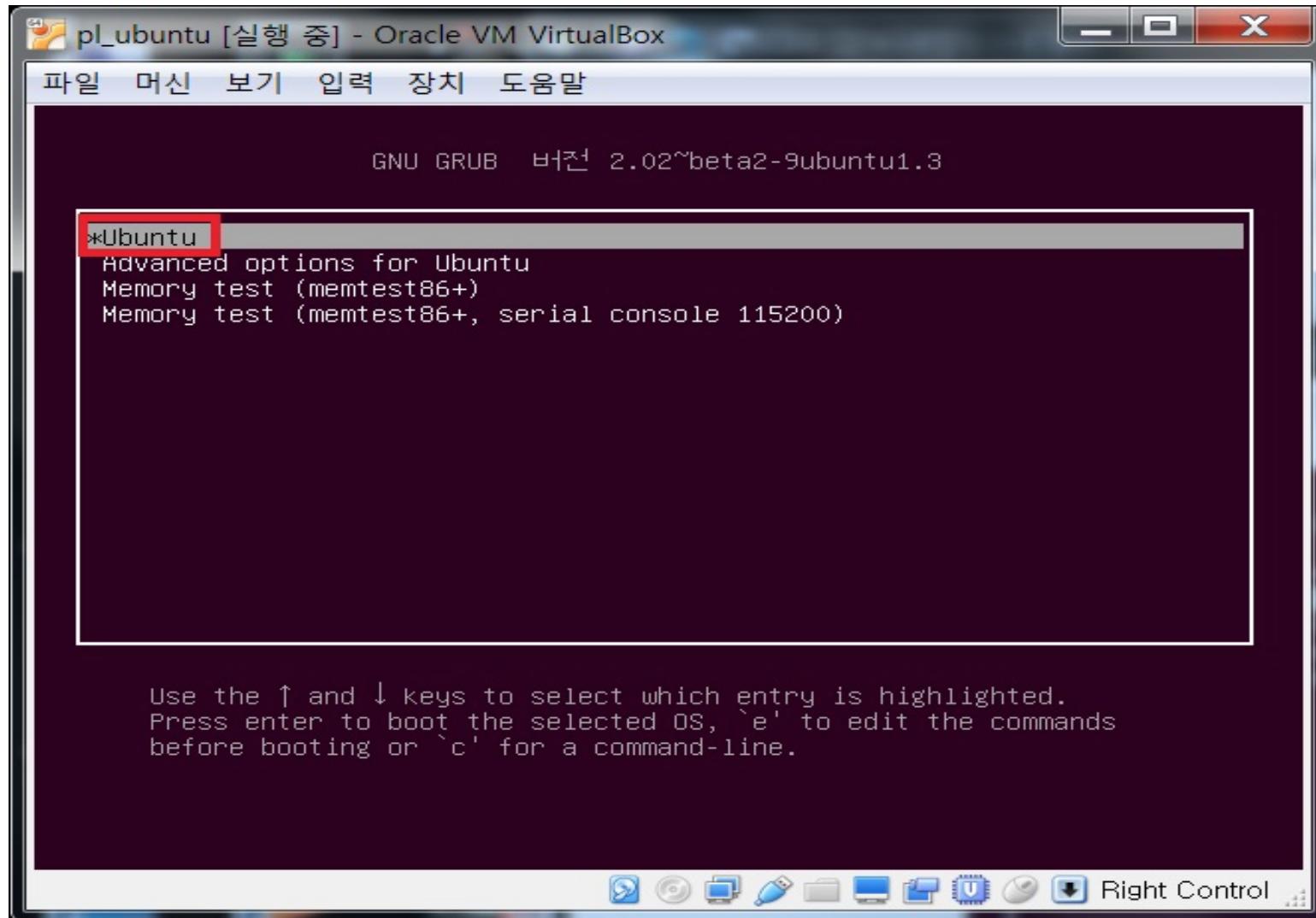
3. Run Ubuntu on VirtualBox



Almost done!

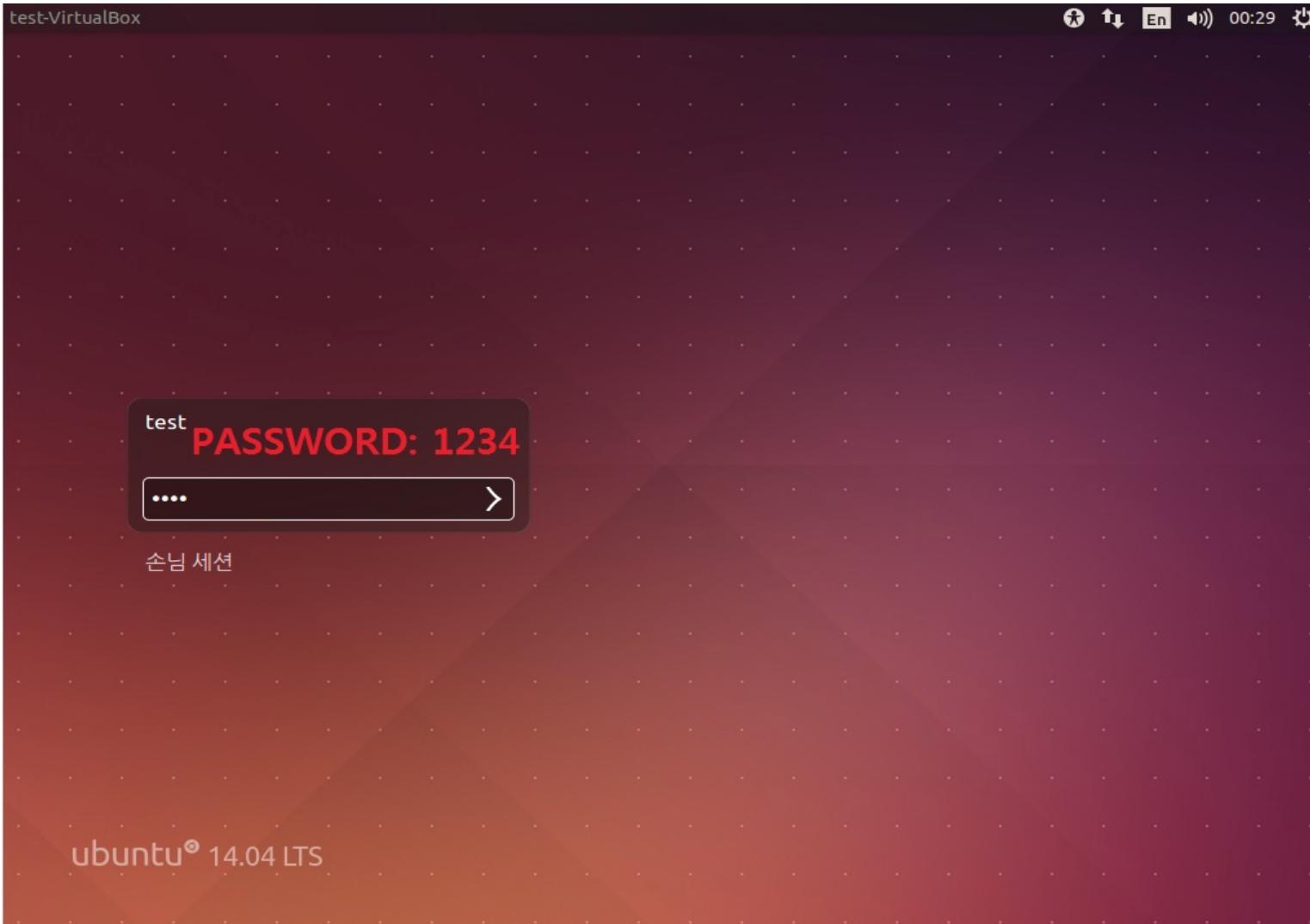
Click the button highlighted in red and then you can start Ubuntu.

3. Run Ubuntu on VirtualBox



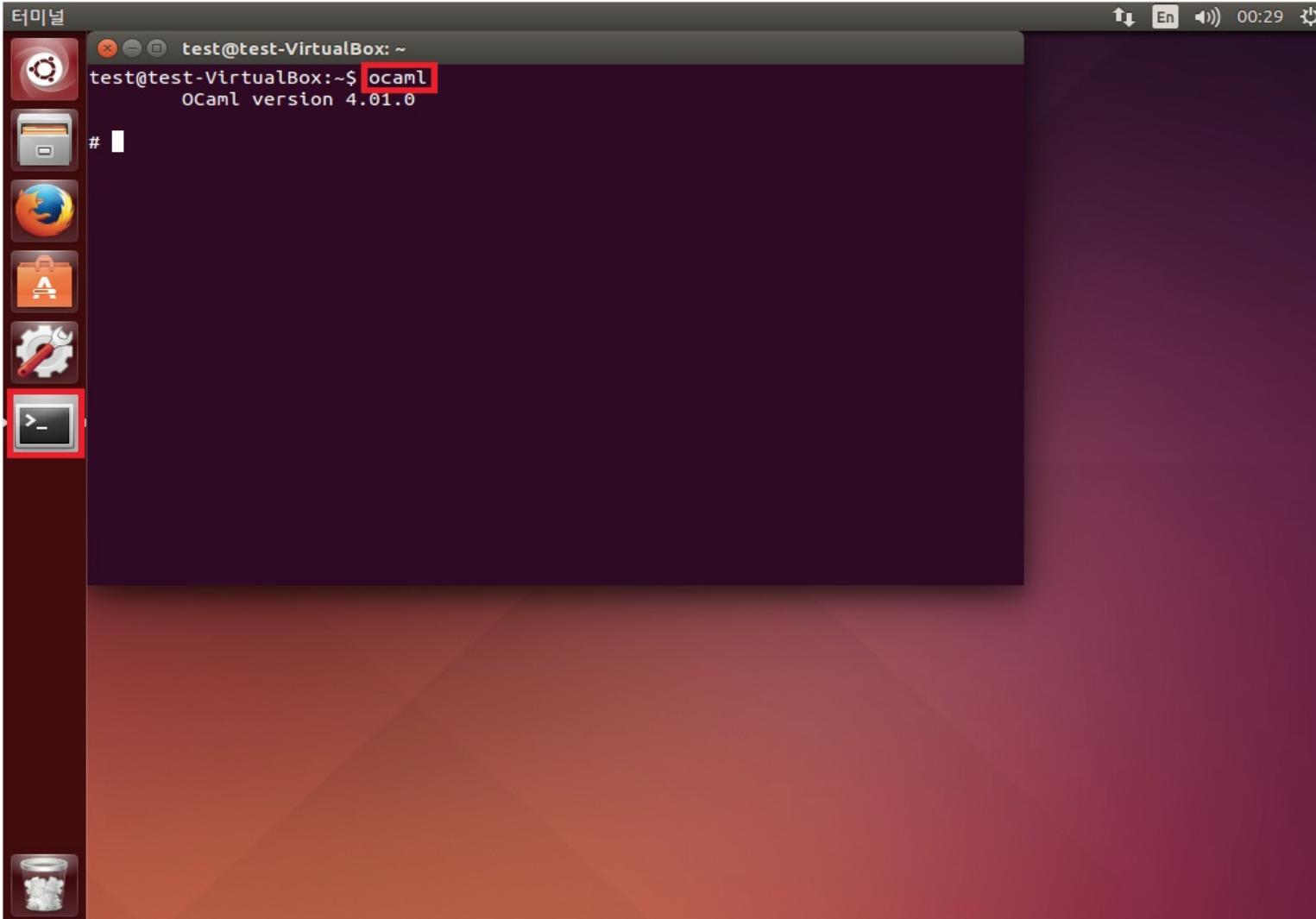
Choose the option highlighted in red.

3. Run Ubuntu on VirtualBox



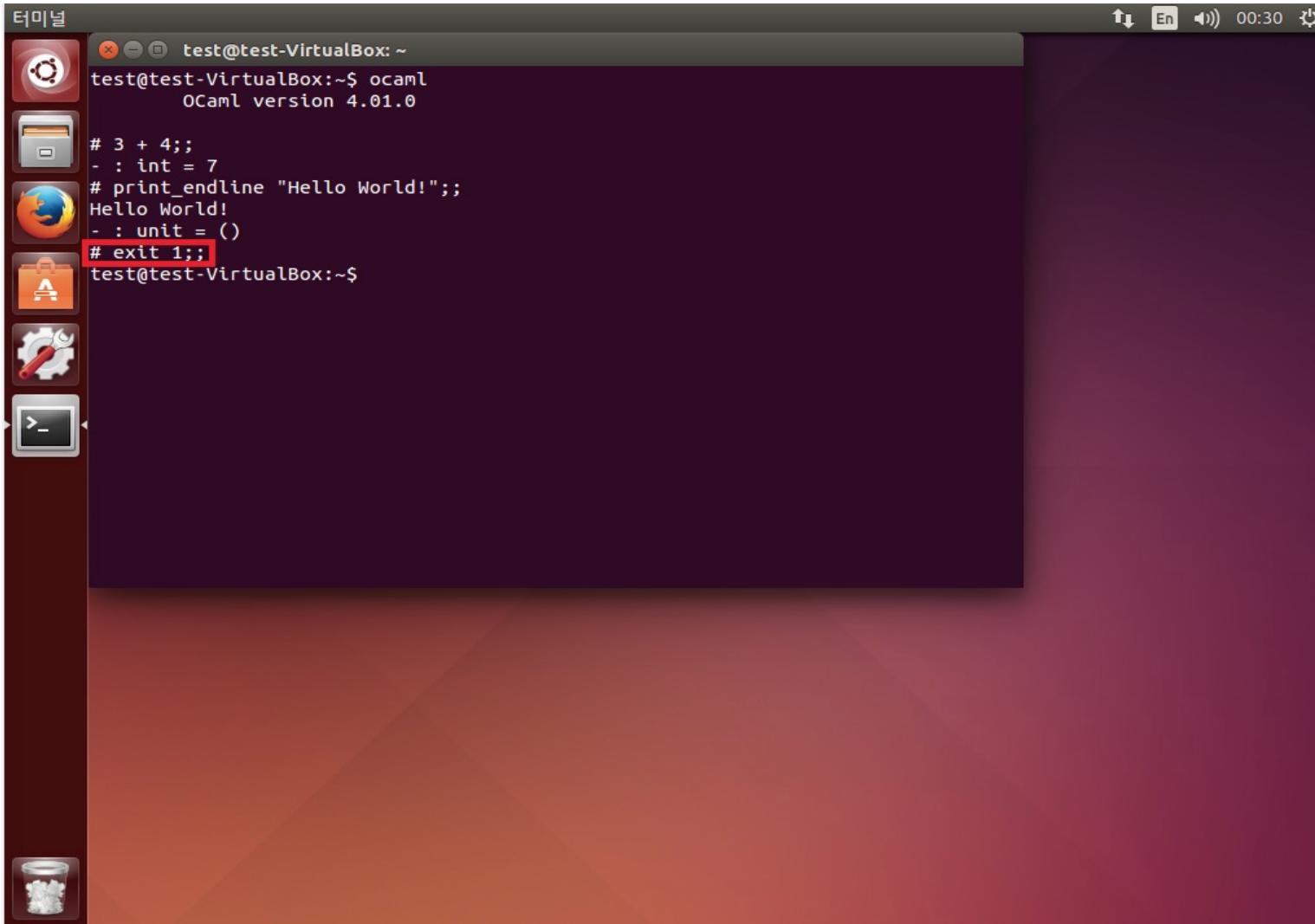
Log in with the password 1234.

3. Run Ubuntu on VirtualBox



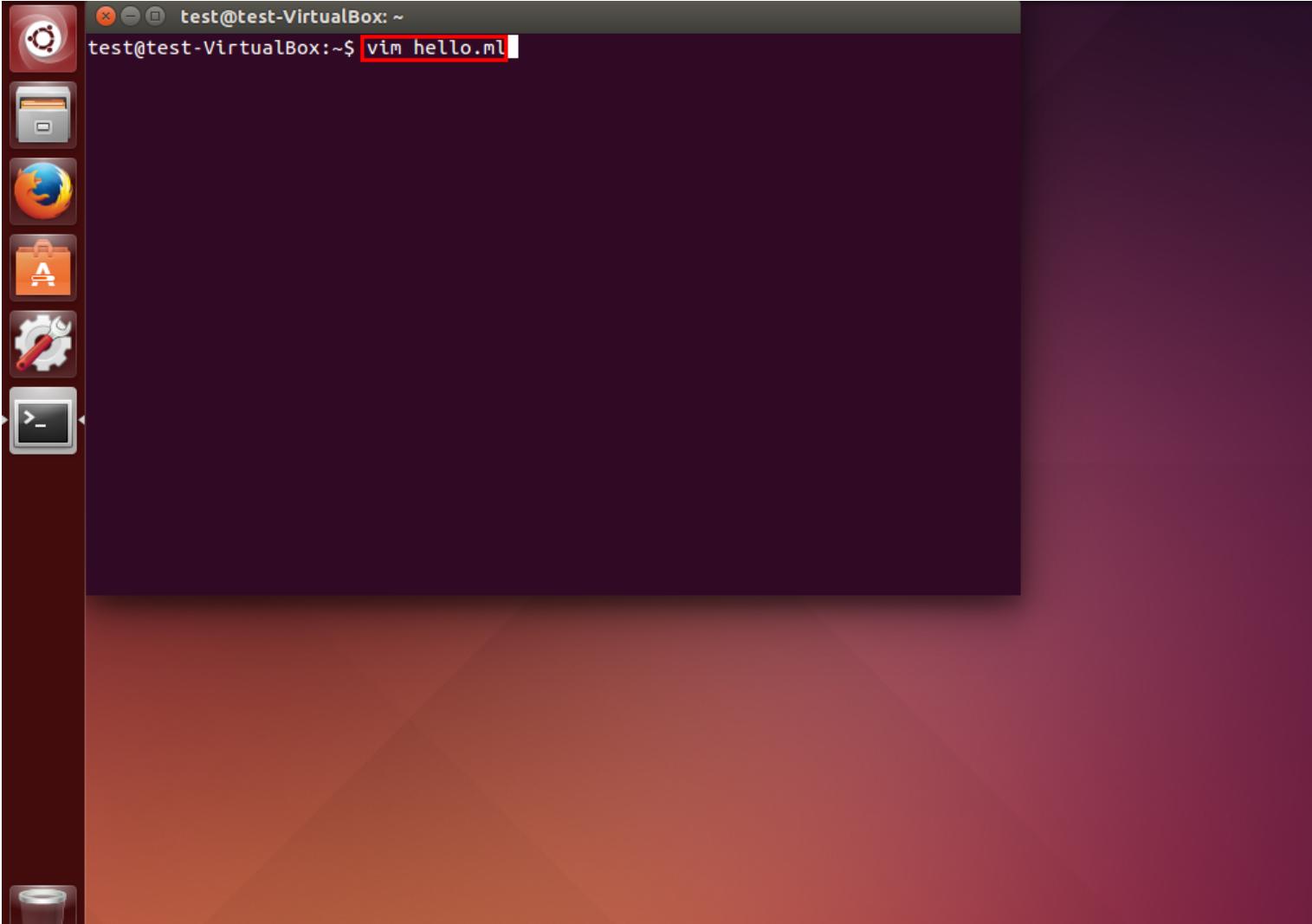
Open a terminal by clicking the black square icon highlighted in red.
After typing “ocaml”, you can play with Ocaml in interactive mode.
(Ocaml toplevel system, REPL)

3. Run Ubuntu on VirtualBox



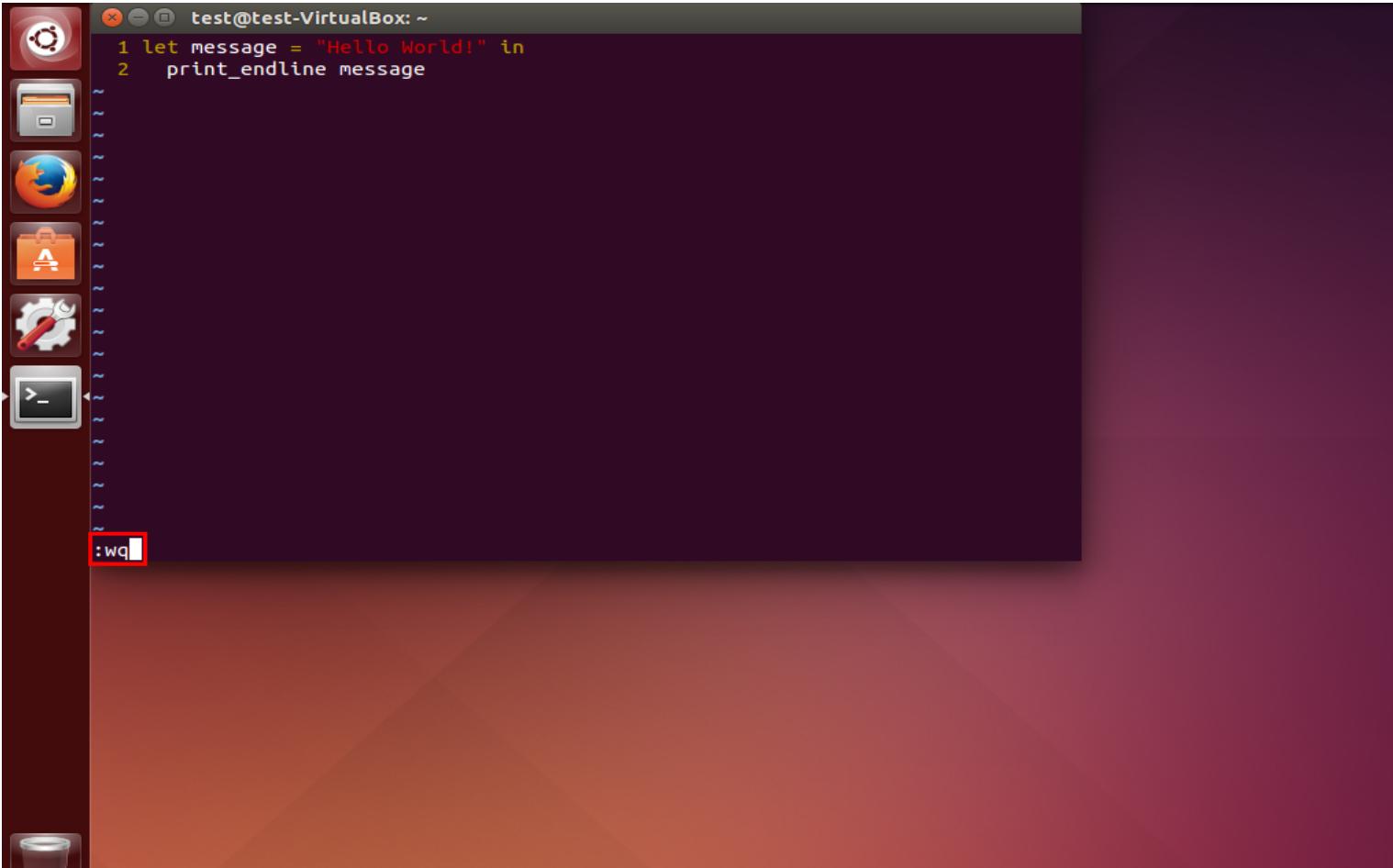
You can get back to terminal by typing: `exit 1;;`

4. Write a Source File with Vim



Edit a file by the command: `vim [options] [filename]`

4. Write a Source File with Vim

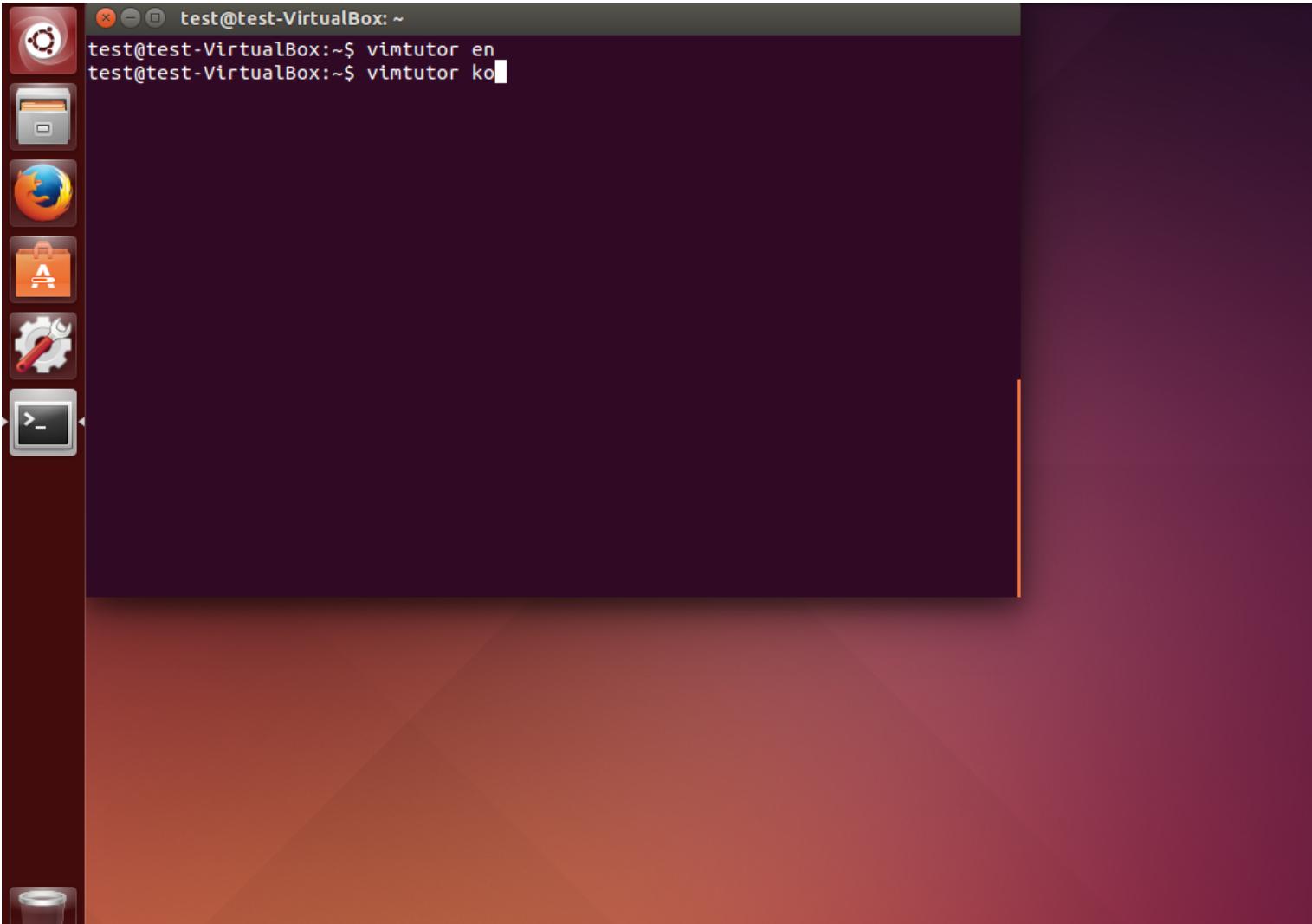


It begins in **command mode**, where you cannot edit text.

Press 'i' to trigger **insert mode** that lets you edit it.

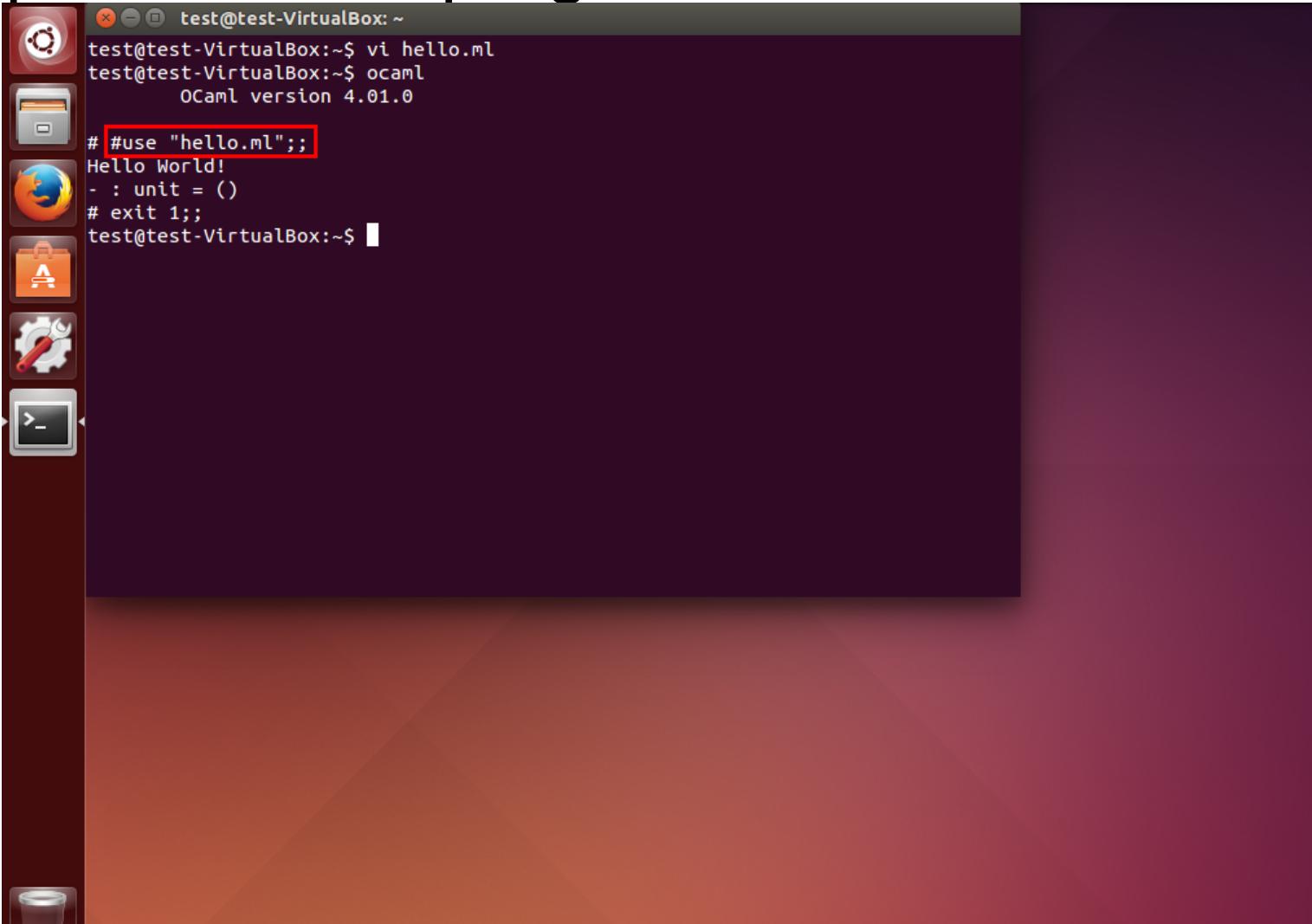
Hitting 'Esc' returns you to command mode,
and you can type ':wq' to save and finish the file.
(':w' for save only)

4. Write a Source File with Vim



You can learn Vim with Vimtutor, and the tutorial is provided in both English and Korean.
It is strongly recommended to try it. (It will take just about 20 minutes!)

5. Compile and Run programs

A screenshot of an Ubuntu desktop environment. A terminal window titled "test@test-VirtualBox: ~" is open, showing the following command-line session:

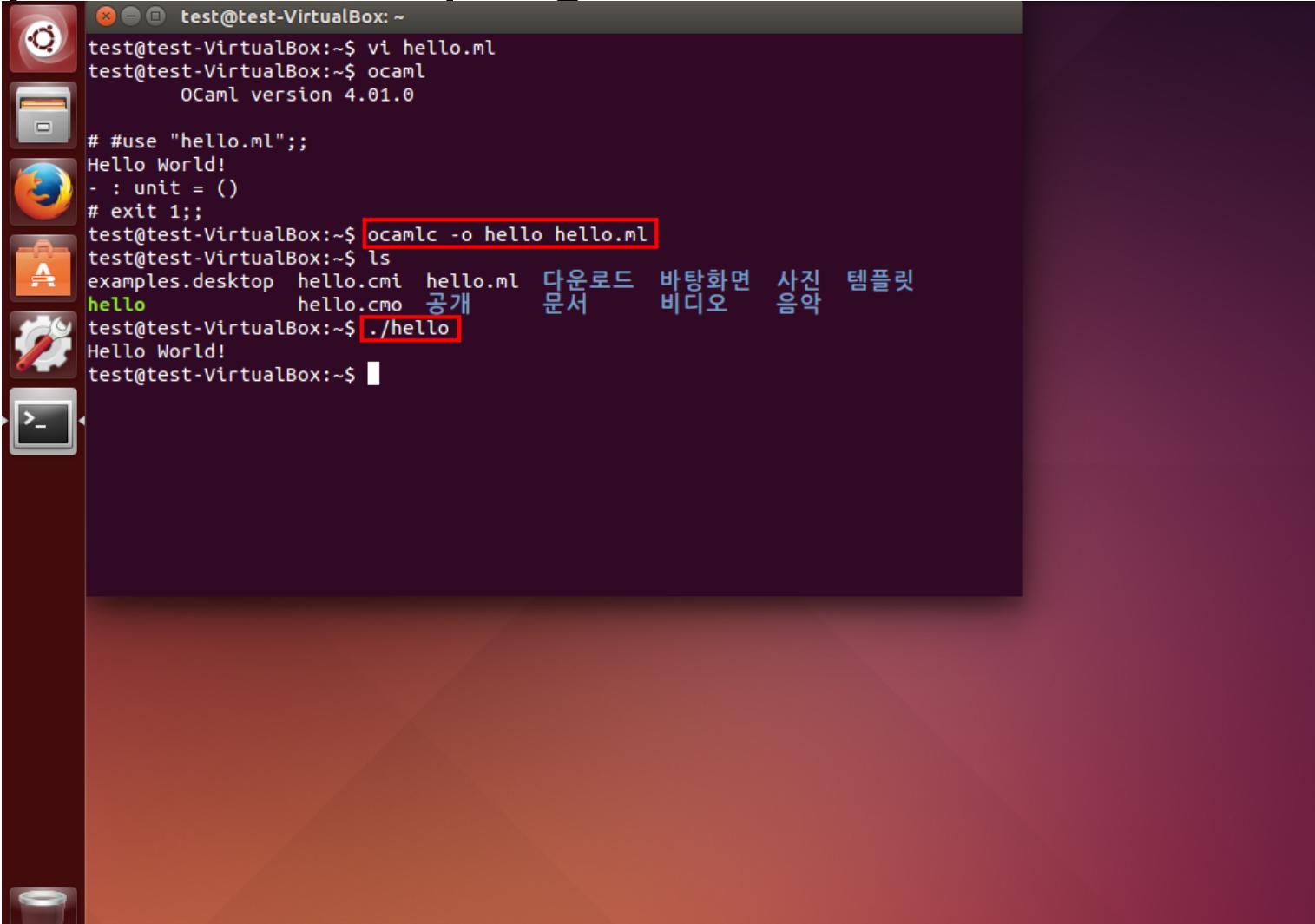
```
test@test-VirtualBox:~$ vi hello.ml
test@test-VirtualBox:~$ ocaml
  OCaml version 4.01.0

# #use "hello.ml";;
Hello World!
- : unit = ()
# exit 1;;
test@test-VirtualBox:~$
```

The line "# use "hello.ml";;" is highlighted with a red rectangle. The desktop interface includes a dock with icons for the Dash, Home, Applications, and Help, and a taskbar at the bottom.

You can import your source file by “`#use [filename]`” command on the REPL.

5. Compile and Run programs



A screenshot of an Ubuntu desktop environment. A terminal window titled "test@test-VirtualBox: ~" is open, showing the following command-line session:

```
test@test-VirtualBox:~$ vi hello.ml
test@test-VirtualBox:~$ ocaml
  OCaml version 4.01.0

# #use "hello.ml";;
Hello World!
- : unit = ()
# exit 1;;
test@test-VirtualBox:~$ ocamlc -o hello hello.ml
test@test-VirtualBox:~$ ls
examples.desktop hello.cmi hello.ml 다운로드 바탕화면 사진 템플릿
hello           hello.cmo 공개 문서 비디오 음악
test@test-VirtualBox:~$ ./hello
Hello World!
test@test-VirtualBox:~$
```

The terminal window has a dark purple background and a light gray title bar. The command `ocamlc -o hello hello.ml` and its output are highlighted with a red box. The command `./hello` and its output are also highlighted with a red box.

Like the C language, you can compile programs and run executable files.
For compile, type: `ocamlc -o [output] [source file]`

The End

It is highly recommended that students use Ubuntu(OS) and Vim(Editor).
Q/A's and discussions will be done through our Google Plus Community.