


# NS2リファレンスマニュアル

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## ns Documentation

Download ([ns2.27.tar.gz](#), [ns2.27.zip](#))

2.27

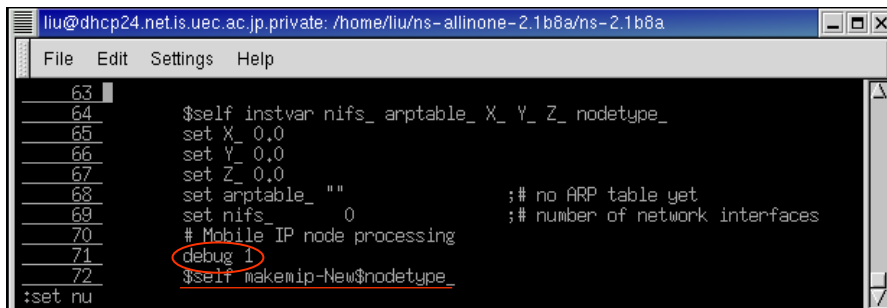
Generated on Thu Apr 15 19:54:06 2004 for ns by  1.3.6-20040222

## NS2にgdbとtcl-debuggerを有効へ

- gdbとtcl-debuggerをインストール
  - gdb6.2.1:  
<http://www.gnu.org/software/gdb/gdb.html>
  - tcl-debug-2.0:  
<http://expect.nist.gov/tcl-debug/tcl-debug.tar.gz>
- NS2にgdbとtcl-debuggerを有効する
  - `./configure --enable-debug --with-tcldebug=../tcl-debug-2.0`
  - `make clean`
  - `make`

## gdbとtcl-debuggerでNS2を実行

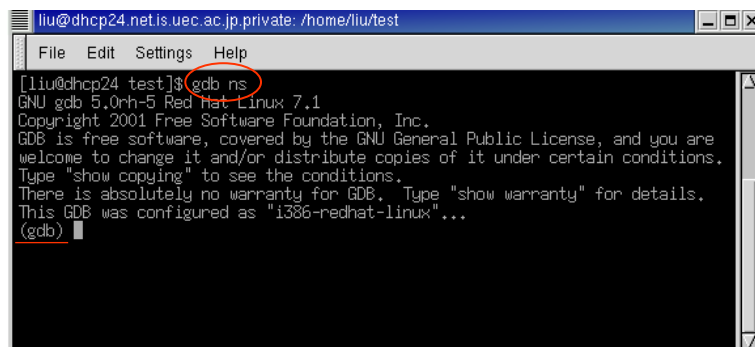
- あるtclファイルに最初の停止点を設定する
  - 自分のtclプログラムファイル(wireless3.tcl)、tclソースファイル(ns-mobilenode.tcl)のいずれかに一行の“debug 1”を追加
  - もう一回makeを実行する必要がある



```
liu@dhcp24.net.is.uec.ac.jp.private: /home/liu/ns-allinone-2.1b8a/ns-2.1b8a
File Edit Settings Help
63
64     $self instvar nifs_ arptable_ X_ Y_ Z_ nodetype_
65     set X_ 0.0
66     set Y_ 0.0
67     set Z_ 0.0
68     set arptable_ ""           ;# no ARP table yet
69     set nifs_ 0                ;# number of network interfaces
70     # Mobile IP node processing
71     debug 1
72     $self makemip-New$nodetype_
:set nu
```

## gdbの起動画面

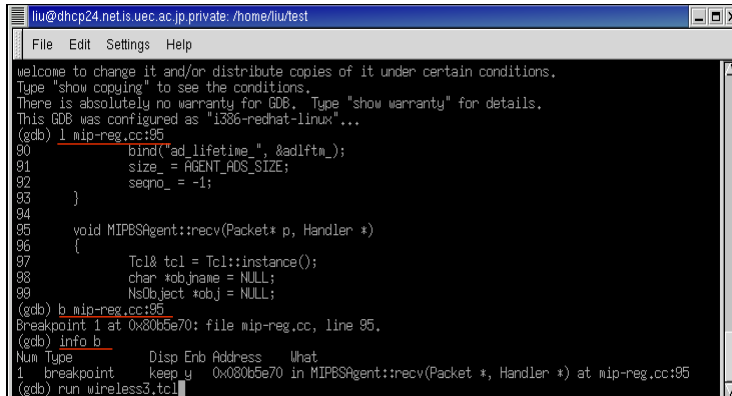
- “gdb ns” で実行



```
liu@dhcp24.net.is.uec.ac.jp.private: /home/liu/test
File Edit Settings Help
[liu@dhcp24 test]$ gdb ns
GNU gdb 5.0rh-5 Red Hat Linux 7.1
Copyright 2001 Free Software Foundation, Inc.
GDB is free software, covered by the GNU General Public License, and you are
welcome to change it and/or distribute copies of it under certain conditions.
Type "show copying" to see the conditions.
There is absolutely no warranty for GDB. Type "show warranty" for details.
This GDB was configured as "i386-redhat-linux"...
(gdb) █
```

## gdbの使い方の概要

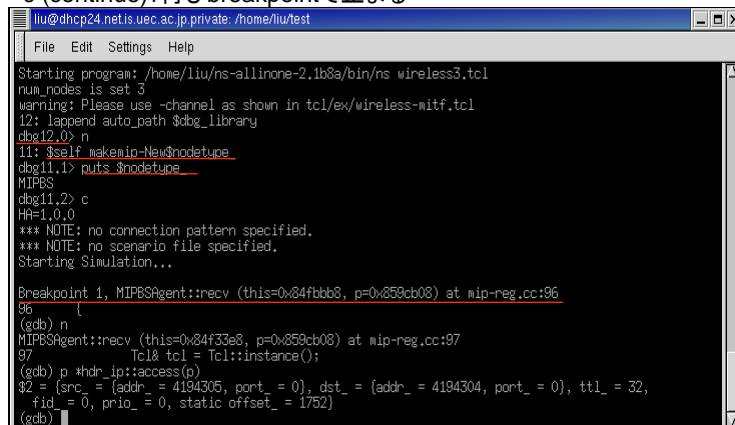
- l(list): プログラムを表示する
- b (breakpoint): breakpointの設定
- Info b: breakpointの情報を表示
- run: プログラムを実行



```
liu@dhcp24.net.is.uec.ac.jp.private: /home/liu/test
File Edit Settings Help
welcome to change it and/or distribute copies of it under certain conditions.
Type "show copying" to see the conditions.
There is absolutely no warranty for GDB. Type "show warranty" for details.
This GDB was configured as "i386-redhat-linux"...
(gdb) l mip-reg.cc:95
90         bind("ad_lifetime_", &adlftw_);
91         size_ = AGENT_AOS_SIZE;
92         seqno_ = -1;
93     }
94
95     void MIPBSAgent::recv(Packet* p, Handler *)
96     {
97         Tcl& tcl = Tcl::instance();
98         char *objname = NULL;
99         NsObj& obj = NULL;
(gdb) b mip-reg.cc:95
Breakpoint 1 at 0x800b9e70: file mip-reg.cc, line 95.
(gdb) info b
Num Type           Disp Enb Address      What
1 breakpoint keep y 0x0800b9e70 in MIPBSAgent::recv(Packet *, Handler *) at mip-reg.cc:95
(gdb) run wireless3.tcl
```

## gdbとtcl-debuggerの実行概要

- ステップ実行
  - step :ソースの異なる行に到達するまで実行する
  - next :その時のスタックフレーム内でソースの次の行まで実行する
- c (continue) :再びbreakpointで止まる



```
liu@dhcp24.net.is.uec.ac.jp.private: /home/liu/test
File Edit Settings Help
Starting program: /home/liu/ns-allinone-2.1b3a/bin/ns wireless3.tcl
num_nodes is set 3
warning: Please use -channel as shown in tcl/ex/wireless-mif.tcl
12: lappend auto_path $dbg_library
dbg12.0> n
11: $self makein-New$nodetype
dbg11.1> puts $nodetype
MIPBS
dbg11.2> c
HA=1,0,0
*** NOTE: no connection pattern specified.
*** NOTE: no scenario file specified.
Starting Simulation...

Breakpoint 1, MIPBSAgent::recv (this=0x84fbbb8, p=0x859cb08) at mip-reg.cc:96
96     {
(gdb) n
MIPBSAgent::recv (this=0x84f33e8, p=0x859cb08) at mip-reg.cc:97
97         Tcl& tcl = Tcl::instance();
(gdb) p *hdr ip::access(o)
$2 = {src_ = {addr_ = 4194305, port_ = 0}, dst_ = {addr_ = 4194304, port_ = 0}, ttl_ = 32,
      fid_ = 0, prio_ = 0, static offset_ = 1752}
(gdb)
```