

Lab 7 Notes

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Preparing kernel source

- Check kernel version
 - `$uname -r`
 - **2.6.31**-20-generic-pae
- Download kernel source
 - Download kernel from mainline (kernel.org)
 - Download by the distribution tools (ex: Ubuntu)
 - <https://wiki.ubuntu.com/KernelTeam/GitKernelBuild>
 - <https://help.ubuntu.com/community/forum/software/CustomKernel>
- Configuring kernel
 - Make menuconfig
 - (In Ubuntu) `cp /boot/config-`uname -r` .config`

Applying KDB patch

- Check the kernel version you will patch
- Download suitable KDB patch
 - kdb-v4.4-2.6.31-common-4.bz2
 - kdb-v4.4-2.6.31-x86-4.bz2
 - KDB version: 4.4 (choose the newest one)
 - Kernel version: **2.6.31**
 - Architecture: x86
 - Revision: 4 (choose the largest one)
- Apply patch
 - **Do not apply any other patch on the kernel**
- Enable KDB in kernel config

Problems in KDB

- Upper-case and lower-case alphabet change randomly
 - In arch/x86/kdb/kdba_io.c
 - Change `#define KDB_BLINK_LED 1`
to `#undef KDB_BLINK_LED`
- “Invalid address for breakpoint” shows when setting break point
 - In kernel config, set `CONFIG_DEBUG_RODATA=n`

Problems in Quagga

- No default config file ?
 - /usr/share/doc/quagga/examples
 - Or use the command “find / -name zebra.conf*”
- Config file permission
 - All configs must belong to quagga:quagga
 - And permission 640

Performance Testing

- FTP speed test
 - Prepare workload
 - `dd if=/dev/sda of=load-1g bs=1M count=1k`
 - bs: block size, count: how many blocks
 - Total size: $1M * 1024 = 1G$
 - Get workload by tools that will show speed (ex. Wget)
- Iperf speed test
 - <http://iperf.sourceforge.net/>
 - Start server
 - `iperf -s`
 - Start client
 - `iperf -c $server_ip`