

# Make your own Hacker Gadget

Vivek Ramachandran

Chief Trainer

<http://PentesterAcademy.com>

# Creating Extroot on USB

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# Extroot on OpenWrt

- Pivot Root
- Pivot Overlay

<http://wiki.openwrt.org/doc/howto/extroot>

# Partition USB

```
root@PentesterAcademy:~# fdisk /dev/sdb
```

```
Command (m for help): p
```

```
Disk /dev/sdb: 32.7 GB, 32717537280 bytes  
174 heads, 36 sectors/track, 10201 cylinders, total 63901440 sectors  
Units = sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disk identifier: 0x00000000
```

Device	Boot	Start	End	Blocks	Id	System
/dev/sdb1	*	2048	63901439	31949696	83	Linux

# Partition USB (contd..)

```
Command (m for help): d
Selected partition 1

Command (m for help): p

Disk /dev/sdb: 32.7 GB, 32717537280 bytes
174 heads, 36 sectors/track, 10201 cylinders, total 63901440 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

   Device Boot      Start         End      Blocks   Id  System

```

```
Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p):
Using default response p
Partition number (1-4, default 1):
Using default value 1
First sector (2048-63901439, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-63901439, default 63901439):
Using default value 63901439

Command (m for help): p

Disk /dev/sdb: 32.7 GB, 32717537280 bytes
174 heads, 36 sectors/track, 10201 cylinders, total 63901440 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

   Device Boot      Start         End      Blocks   Id  System
/dev/sdb1           2048     63901439   31949696   83  Linux
```

# Partition USB (contd..)

```
Command (m for help): a  
Partition number (1-4): 1
```

```
Command (m for help): p
```

```
Disk /dev/sdb: 32.7 GB, 32717537280 bytes  
174 heads, 36 sectors/track, 10201 cylinders, total 63901440 sectors  
Units = sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disk identifier: 0x00000000
```

Device	Boot	Start	End	Blocks	Id	System
/dev/sdb1	*	2048	63901439	31949696	83	Linux

```
Command (m for help): w  
The partition table has been altered!
```

```
Calling ioctl() to re-read partition table.  
Syncing disks.
```

```
root@PentesterAcademy:~#
```

# Format Filesystem

```
root@PentesterAcademy:~# mkfs.ext4 /dev/sdb1
mke2fs 1.42.5 (29-Jul-2012)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
1998848 inodes, 7987424 blocks
399371 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=0
244 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
    4096000, 7962624

Allocating group tables: done
Writing inode tables: done
Creating journal (32768 blocks):
done
Writing superblocks and filesystem accounting information:
done
```

# Create extroot on USB

```
root@OpenWrt:~# mkdir -p /mnt/usb
root@OpenWrt:~# mount /dev/sda1 /mnt/usb/
root@OpenWrt:~# mkdir -p /tmp/cproot
root@OpenWrt:~# mount --bind / /tmp/cproot
```

```
root@OpenWrt:~# tar -C /tmp/cproot -cvf - . | tar -C /mnt/usb -xf -
./
./bin/
./bin/ash
./bin/busybox
./bin/cat
./bin/chgrp
./bin/chmod
```

```
root@OpenWrt:~#
root@OpenWrt:~# umount /tmp/cproot
root@OpenWrt:~# umount /mnt/usb
root@OpenWrt:~# █
```

# Updating /etc/config/fstab

```
config global automount
    option from_fstab 1
    option anon_mount 1

config global autoswap
    option from_fstab 1
    option anon_swap 0

config mount
    option target /home
    option device /dev/sda1
    option fstype ext4
    option options rw, sync
    option enabled 0
    option enabled_fsck 0

config swap
    option device /dev/sda2
    option enabled 0
```

```
config global automount
    option from_fstab 1
    option anon_mount 1

config global autoswap
    option from_fstab 1
    option anon_swap 0

config mount
    option target /
    option device /dev/sda1
    option fstype ext4
    option options rw, sync
    option enabled 1
    option enabled_fsck 0

config swap
    option device /dev/sda2
    option enabled 0
```

# Awesome!

```
root@OpenWrt:~# df -h
Filesystem      Size      Used Available Use% Mounted on
rootfs          30.4G     597.1M    28.3G    2% /
/dev/root       2.0M      2.0M      0    100% /rom
tmpfs           14.3M     80.0K     14.2M    1% /tmp
tmpfs           512.0K      0      512.0K    0% /dev
/dev/sda1       30.4G     597.1M    28.3G    2% /
root@OpenWrt:~#
```

The screenshot shows the OpenWrt web interface. The top navigation bar includes 'Status', 'System', 'Network', and 'Logout'. The 'System' menu is expanded, showing 'System', 'Administration', 'Software', 'Startup', 'Scheduled Tasks', and 'Mount Points'. The 'Software' page is active, displaying 'No package lists available' with an 'Update lists' button. Below this, it shows 'Free space: 98% (29.81 GB)' with a green progress bar. At the bottom, there is a 'Download and install package:' section with a 'Filter:' input field.

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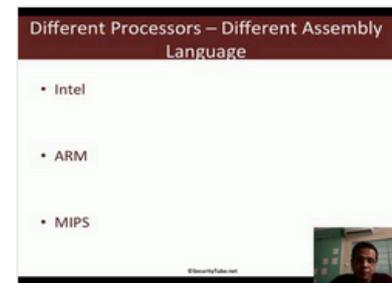
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Challenge 7: Cracking Digest Authentication in WAP Challenges



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