**How to Resize Filesystem for xfs and ext4 Filesystems**

When resizing a disk volume (e.g., AWS EBS), you need to ensure both the partition and filesystem are resized to utilize the extra space. Below is a step-by-step guide for resizing filesystems on both xfs and ext4.

**Prerequisites**

1. **Increased Disk Size**: Ensure you have already expanded the volume in your cloud provider (e.g., AWS, Azure, etc.).
2. **Root Access**: You need sudo or root privileges to perform these actions.
3. **Backup Data**: Always take a backup of critical data before resizing partitions and filesystems.

**Step 1: Identify the Disk and Partition**

1. Use lsblk to view your disks and partitions:

lsblk

Example output:

NAME FSTYPE FSVER LABEL UUID FSAVAIL FSUSE% MOUNTPOINTS

nvme0n1

├─nvme0n1p1 xfs / 7c4e7e0e-ce36-42f9-b456-16f78f3a1eb1 20K 100% /

* + nvme0n1 is the disk.
  + nvme0n1p1 is the partition you need to resize.

1. Confirm the filesystem type:

df -T /

Example output:

Filesystem Type Size Used Avail Use% Mounted on

/dev/nvme0n1p1 xfs 7G 6.5G 500M 92% /

* + Look under the "Type" column (xfs or ext4).

**Step 2: Grow the Partition**

1. Use the growpart command to expand the partition:

sudo growpart /dev/nvme0n1 1

This command grows partition 1 on the disk nvme0n1.

1. Verify the partition has been resized:

lsblk

**Step 3: Resize the Filesystem**

**For xfs Filesystem:**

1. Use the xfs\_growfs command to expand the filesystem:

sudo xfs\_growfs /

* + The / indicates the mounted root partition.

1. Verify the new space:

df -h

**For ext4 Filesystem:**

1. Use the resize2fs command to expand the filesystem:

sudo resize2fs /dev/nvme0n1p1

* + Replace /dev/nvme0n1p1 with your actual partition name.

1. Verify the new space:

df -h

**Step 4: Confirm the Changes**

1. Check available space using df:

df -h

1. Ensure no errors occurred during the resizing process.

**Notes**

* growpart is part of the cloud-guest-utils package. Install it if not already available:
* sudo apt install cloud-guest-utils # For Debian/Ubuntu

sudo yum install cloud-utils-growpart # For RHEL/CentOS

* Resizing operations can only be performed on unmounted partitions for non-root filesystems. For root partitions, ensure they are resized while mounted.

**Troubleshooting**

1. **Error: "Bad magic number in super-block"**:
   * This happens if you run resize2fs on an xfs filesystem. Use xfs\_growfs instead.
2. **Partition Resizing Fails**:
   * Ensure you have extended the volume in your cloud provider.
3. **Still Out of Space**:
   * Check for large files consuming space:

sudo du -sh /\* | sort -h

* + Clear unnecessary files if needed.

By following these steps, you can successfully resize your filesystem to utilize the additional space on your disk!