32-bit Java on 64-bit Ubuntu

> The case for 32-bit Java on 64-bit Ubuntu is not that popular, however, on Cloud where memory is a premium 32-bit can result in significant savings.
>
> For example, originally Confluence on 32-bit required less than 1GB of memory while 64-bit was 2x. Some readings cite Java 64-bit have improved memory performance using compression type scans., but as of Java 64-bit 1.8u92, this is still not the case.

If you try and install 32-bit Java on 64-bit Ubuntu you will get an error,

This is because the 32-bit library support is not installed,

For **Ubuntu 16**

```
sudo dpkg --add-architecture i386
sudo apt-get update
sudo apt-get install libc6:i386 libstdc++6:i386
```

```
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  gcc-5-base:i386 gcc-6-base:i386 libgcc1:i386
Suggested packages:
  glibc-doc:i386 locales:i386
The following NEW packages will be installed:
  gcc-5-base:i386 gcc-6-base:i386 libc6:i386 libgcc1:i386 libstdc++6:i386
0 upgraded, 5 newly installed, 0 to remove and 13 not upgraded.
Need to get 2,763 kB of archives.
After this operation, 12.1 MB of additional disk space will be used.
```

For **Ubuntu 13** and above multiarch has also been removed for direct dependencies,

... Tin to fill this out.... notes,

- sudo apt-get install package-name:i386 - http://askubuntu.com/questions/107230/what-happened-to-the-ia32-libs-package
- Discusses how to manually determine dependencies for package-name:i386 - http://askubuntu.com/questions/359156/how-do-you-run-a-32-bit-program-on-a-64-bit-version-of-ubuntu
- More discussions - http://stackoverflow.com/questions/9393670/how-to-run-a-32bit-jvm-on-a-64bit-linux

Reading above, somehow(I forget now), but somehow, I got to this and it works,

```
 sudo apt-get install libc6:i386 libgcc1:i386 gcc-4.6-base:i386
libstdc++5:i386 libstdc++6:i386
```

For **Ubuntu 12** to 12.04, ia32-lib has been removed in favour of multiarch,

```
sudo apt-get install ia32-libs-multiarch
```

For **Ubuntu 11** and lower,
⌄ Click here to expand...

```
sudo apt-get install ia32-libs # Required for 32-bit Java on 64-bit
Ubuntu
```

Now 32-bit Java can be installed,

```
su - serveradmin # If you are not already serveradmin
cd ~ # Switch to the serveradmin home directory
tar -xvpf jre-7u7-linux-i586.tar.gz
```

The result will be an uncompressed jre directory using the same name as the package. In this example the folder name would be, **jre-7u7-linux-i586**.

If you plan to use multiple versions of Java, we recommend keeping the folder name with the version number information and using symbolic links. If you are only using one version of Java, then simply rename the folder.

For the server example, we will rename the folder,

```
mv jre-7u7-linux-i586 java
```