

# DevOps Exercises

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## Session 5: Docker Installation Methods and Linux Namespaces

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1. What is the difference between installing Docker from Debian's repositories and Docker's own repositories?

2. Types of namespaces in Linux and an explanation of each

1- What is the difference between installing Docker from Debian's repositories and Docker's own repositories?

1. Source of Packages:

- **Debian's Repositories:** Packages are provided by Debian, tested for compatibility, but may be outdated.
- **Docker's Own Repositories:** Maintained by Docker, offering the latest features and updates.

2. Version Updates:

- **Debian's Repositories:** Updates follow Debian's release cycles, which may delay access to new features.
- **Docker's Own Repositories:** Updates are more frequent and aligned with Docker's latest developments.

3. Compatibility:

- **Debian's Repositories:** Ensures stability within the Debian ecosystem.
- **Docker's Own Repositories:** Designed for multiple distributions, requiring manual repository configuration.

4. Ease of Installation:

- **Debian's Repositories:** Straightforward with default package manager.
  - **Docker's Own Repositories:** Involves additional setup but provides advanced tools like the latest Docker Compose.
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2- Types of Namespaces in Linux and an Explanation of Each

1. Mount (**mnt**):

- Isolates file system mount points, allowing independent filesystem views.

2. Process ID (**pid**):

- Isolates process IDs, enabling separate process trees.

### 3. Network (**net**):

- Isolates network stack, providing independent IP addresses and interfaces.

### 4. User (**user**):

- Isolates user and group IDs, supporting ID mapping between namespace and host.

### 5. UTS (**uts**):

- Isolates system identifiers like hostname and domain name.

### 6. IPC (**ipc**):

- Isolates inter-process communication mechanisms like shared memory.

### 7. Cgroup:

- Isolates resource control groups, limiting visibility and access to host resources.