

# II. Dependencies

## What is a packaging system?

- A packaging system is a collection of software tools that automate the process of **installing, upgrading, configuring, and removing dependencies** for an application in a **consistent** manner.
- A package manager deals with packages as archive files. Packages contain metadata, such as their name, description of their purpose, version number, checksum, and a list of other dependencies necessary for the package to work properly.
- Packaging systems usually provide two main roles: **dependency declaration** and **dependency isolation** which must always co-exist and be used together.

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## Dependency Declaration vs. Dependency Isolation

### Dependency Declaration:

- A dependency declaration manifest **declares all dependencies** of an app.
- The full and explicit dependency specification is applied uniformly to both **development and production**.
- Explicit dependency declaration **simplifies setup** for developers new to the app.