



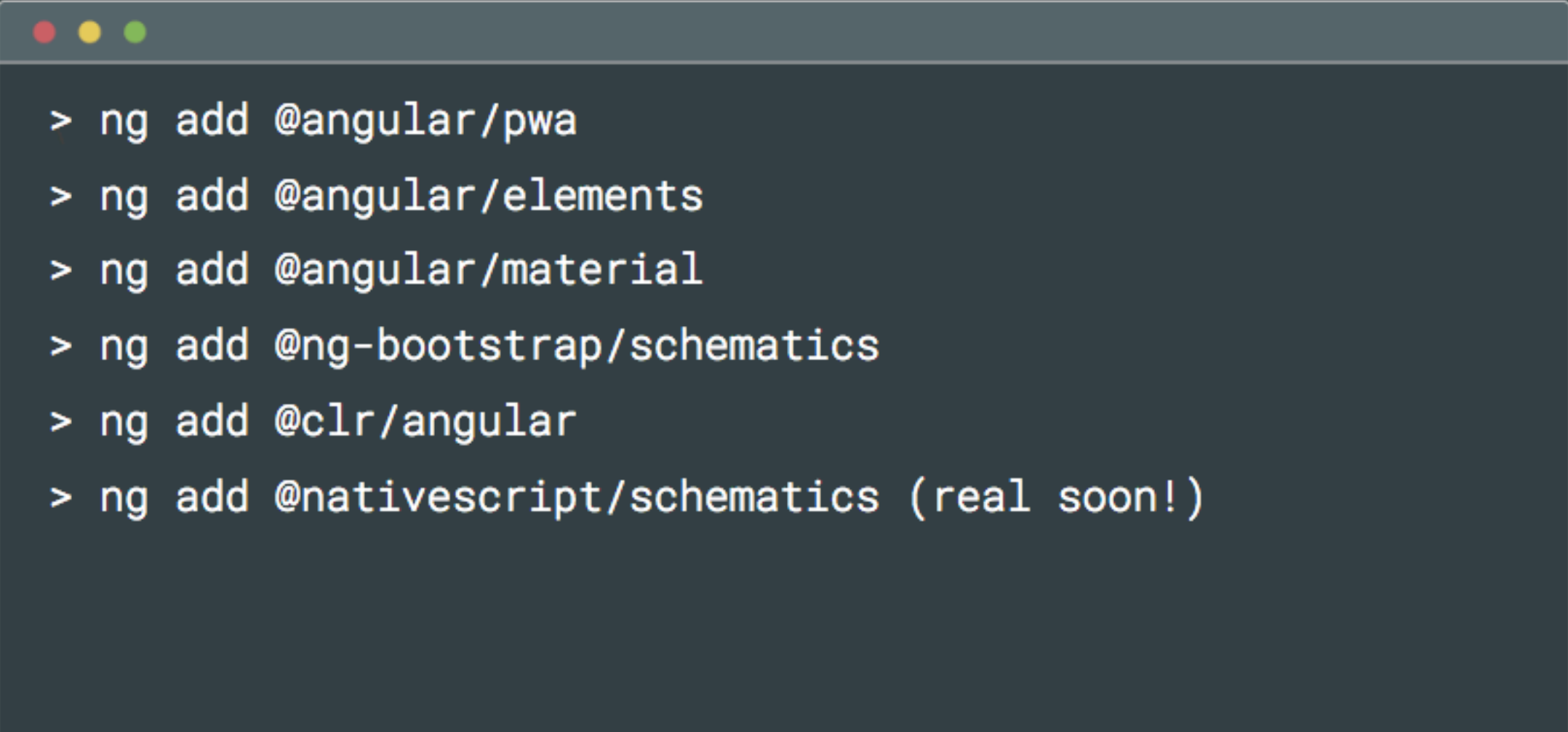
Schematics

Schematics allow you to “do things” to your project.

- update = single command to update dependencies
  - *ng update = npm, code, RxJS, Material*
- add = instant code and library scaffolding
  - Material, Elements, PWA, bootstrap, clarity, nativescript
  - *ng add @angular/pwa = does all the setup.*
- generate = Per-library 'generate' schematics
  - *ng generate @angular/material:material-nav --name=main-nav*

Vendors and Us can publish our own schematics. Goal is to make universal libraries easier to build: project scaffolding, test, build system. N

# Using 'ng add'



```
> ng add @angular/pwa
> ng add @angular/elements
> ng add @angular/material
> ng add @ng-bootstrap/schematics
> ng add @clr/angular
> ng add @nativescript/schematics (real soon!)
```

# Security

## Things to keep an eye out for:

- #1 security is to keep application up-to-date
  - nsp (npm package) - checks for vulnerabilities
- #2 Package hacking
  - installing from npm = allowing others to run code on the code base
  - people tend to be too trusting of open source
  - cross-env vs. crossenv
  - solutions:
    - @scope/package-name = only allows people to load who own the name
    - package-name now also covers “packagename” and “package.name”



# Schematics

Schematics allow you to “do things” to your project.

- update = single command to update dependencies
  - *ng update = npm, code, RxJS, Material*
- add = instant code and library scaffolding
  - Material, Elements, PWA, bootstrap, clarity, nativescript
  - *ng add @angular/pwa = does all the setup.*
- generate = Per-library 'generate' schematics
  - *ng generate @angular/material:material-nav --name=main-nav*

Vendors and Us can publish our own schematics.  
Goal is to make universal libraries easier to build:  
project scaffolding, test, build system. N

## Using 'ng add'

```
> ng add @angular/pwa
> ng add @angular/elements
> ng add @angular/material
> ng add @ng-bootstrap/schematics
> ng add @clr/angular
> ng add @nativescript/schematics (real soon!)
```