

The Abstract Factory Pattern



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Overview



Classification: Creational

Close cousin of Factory Pattern

Factory creates one product

Abstract Factory creates families

Enforces dependencies between classes

Defers creation of objects to concrete subclasses

Also known as the Kit Pattern



Demo



Motivating Example:

Car factories

One manufacturer per factory

Each factory can make different models:

- Economy
- Sport
- Luxury

Need to support multiple manufacturers

How could we solve that?



Introduction to Atom



Notes for Demo 1



Abstract Factory Pattern Structure



Notes for Demo 2









Added an abstract factory base class

Many factories can be implemented

The implementations can vary

A complex factory might use other patterns

- Builder pattern

Encapsulated the factory loader



Summary



Encapsulates object instantiation

Supports dependency inversion

Clients can write to an abstraction

Factory vs Abstract Factory?

Factory is great when you don't know which concrete classes you'll need

Abstract Factory is useful when you have families of objects

It depends!

