

Axle Barr

IT Instructor



- Worked in the IT industry for over 20 years
- Started career on a mainframe computer
- Went on to application development and finally onto web development
- Configure networks, build databases and worked on server-side software
- Worked for small and large companies
- Worked as an independent contractor for several years



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Learning Objectives

In this course, we'll:

- Discuss the need for basic design patterns and go into details about the three basic types of patterns that exist
- Talk about the Gang of Four
- Dive into each type of pattern and use examples in each case
- Discuss the SOLID design principles in detail and use examples and scenarios when discussing these
- Talk about software design practices in a general sense



1:40 / 1:50



Need for Design pattern.

Design Patterns – Definition



A software design pattern is a blueprint or general solution for solving a programming problem. Patterns offer a tried and tested method to solve programming problems.

Design Patterns – Not the Solution



Software solutions that can be applied to common software problems



A pattern is considered a higher-level description of a solution



A blueprint that can be adapted to the specific problem being handled

Importance of Design Patterns

- ✓ Teaching tool – available solution to a problem
- ✓ Communication starter
- ✓ Productivity – with an available guide, some work is already done

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Three basic types of design pattern

The Gang of Four

- Recurring problem
- Templated solution
- Reuse of template

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Three Basic Types of Patterns



Creational design patterns handle objects at their initialization stage



Structural design patterns describe how objects become part of larger groups



Behavioral design patterns focus on responsibilities and communication among objects

Design Patterns Awareness

- It is possible to use an incorrect pattern
- No formalization by the industry
- May generate an inadequate solution
- Describe a solution that does not have a problem



4:32 / 4:49

