

# Software Engineering

**Lesson #02 - Practice**



## Lesson #02 - Practice

## Agenda: Lesson #02 - Software Engineering - Practice

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1

Play. Experiment. Discover.

2

StarUML & StarUML installation

3

First UML diagram

4

Q & A

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**Play. Experiment. Discover.**

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Software Engineering class is based on Play. Experiment. Discover.  
approach

# Play. Experiment. Discover.

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UML tool

- StarUML
- <http://staruml.io>



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# Play. Experiment. Discover.

Working Diagrams

- Library Domain Model — Lib
- submit\_comments — Submit
- Ticket Vending Machine — T
- Electronic Prescriptions — E

Toolbox

Classes (Basic)

- Class
- Interface
- Association
- Directed Association
- Aggregation
- Composition
- Dependency
- Generalization
- Interface Realization

Classes (Advanced)

-

Packages

-

Composite Structure

-

Examples.mdj — StarUML

class Library Domain Model

Book

+ISBN: String[0..1] {id}  
+title: String  
+summary  
+publisher  
+publication date  
+number of pages  
+language

Author

+name: String  
+biography: String

«entity»  
Book Item

+barcode: String[0..1] {id}  
+tag: RFID[0..1] {id}  
+isReferenceOnly

Account

+number {id}  
+history: History[0..\*]  
+opened: Date  
+state: AccountState

«enumeration»  
AccountState

Active  
Frozen  
Closed

1..\*

1

0..12

0..3

\*

\*

1

\*

«use»

+account

+accounts

Diagram Thumbnails

Abstract Factory Design

Library Domain Model

StandardProfileL2

Robustness Stereotype

StandardProfileL3

Model Explorer

Examples (from www.uml-diagrams.org)

- Abstract Factory Design Pattern
- Library Domain Model
  - Library Domain Model
  - (link to <http://www.uml-diagrams.org/library>)
  - Book

Editors

Styles

Font: Arial, 13

Color

Line Style

Format

Label

Alignment

Properties

name: Book

stereotype: —

visibility: public

isAbstract: ☐



# StarUML & StarUML installation

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## StarUML

- A sophisticated software modeler for agile and concise modeling
- Compatible with UML 2.x standard metamodel and diagrams
- Cross-Platform Support
- PDF Export for Clean Printing



# StarUML & StarUML installation

## StarUML customers



# StarUML installation

<http://staruml.io/download>

Current version is 6.0.0(2023/09/11)



# Download

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You can evaluate for free without time limit

v6.0.0



macOS 10.13 or higher

**macOS**

(Intel x86)

**macOS**

(Apple arm64)



Windows 10 or higher

**Windows**

(x86-64bit)



Ubuntu or Fedora

**.deb**

(x86-64bit)

**.rpm**

(x86-64bit)

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## First UML diagram

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# Please, draw any software design

- Please draw any software design (app, web, software)
- At the end of class, please, send your work to [z.aldamuratov@kbtu.kz](mailto:z.aldamuratov@kbtu.kz), indicating Software Engineering Practice #02 & your surname and name
- No correct/incorrect answer



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**Q & A**