

Creating a Custom API Emphasizing Secure Software Development

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Abstract. This lab covers the comments and generated API added to the banking application.

Keywords: API, JavaDoc, comments

1. Creating Comments

JavaDoc comments were added when applicable for each Java class in the banking application. The JavaDoc comments contained descriptions of what the classes and methods are accomplishing. Comments were specifically added to describe the exceptions, returns, and variables that were also in the code.

2. Developed JavaDoc API

1. Screenshots of JavaDoc API

The screenshot displays the JavaDoc API for the `Account_S2024_Group2` class. The interface includes a navigation bar with tabs for PACKAGE, CLASS (selected), USE, TREE, INDEX, and HELP. Below the navigation bar, there are links for SUMMARY, NESTED, FIELD, CONSTR, METHOD, and DETAIL, along with a search bar. The main content area shows the package `bankapplication1` and the class `Account_S2024_Group2`, which inherits from `java.lang.Object`. It lists direct known subclasses: `Checking_S2024_Group2` and `Saving_S2024_Group2`. The class is defined as a public abstract class. The **Constructor Summary** section shows a single constructor: `Account_S2024_Group2(String name, int accountNum, double balance)`. The **Method Summary** section shows a single abstract method: `deposit(double depositAmount)`.

```
PACKAGE CLASS USE TREE INDEX HELP
SUMMARY: NESTED | FIELD | CONSTR | METHOD DETAIL: FIELD | CONSTR | METHOD
SEARCH: Search

Package bankapplication1
Class Account_S2024_Group2
java.lang.Object
    bankapplication1.Account_S2024_Group2

Direct Known Subclasses:
Checking_S2024_Group2, Saving_S2024_Group2

public abstract class Account_S2024_Group2
extends Object

Constructor Summary

Constructors
Constructor Description
Account_S2024_Group2(String name, int accountNum, double balance)

Method Summary

All Methods Instance Methods Abstract Methods Concrete Methods
Modifier and Type Method
Description
abstract void deposit(double depositAmount)
```

PACKAGE

CLASS

USE

TREE

INDEX

HELP

SUMMARY: NESTED | FIELD | CONSTR | METHODDETAIL: FIELD | CONSTR | METHOD

SEARCH:

Package

bankapplication1

Class

Checking_S2024_Group2

java.lang.Object[Ⓔ]
bankapplication1.Account_S2024_Group2
bankapplication1.Checking_S2024_Group2

public class Checking_S2024_Group2
extends Account_S2024_Group2

Field Summary

Fields

Modifier and Type	Field	Description
static int	OVERDRAFTFEE	

Constructor Summary

Constructors

Constructor	Description
Checking_S2024_Group2(String [Ⓔ] name, int accountNum, double checkingBalance)	Checking account operations

PACKAGE

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HELP

SUMMARY: NESTED | FIELD | CONSTR | METHODDETAIL: FIELD | CONSTR | METHOD

SEARCH:

Class

Saving_S2024_Group2

java.lang.Object[Ⓔ]
bankapplication1.Account_S2024_Group2
bankapplication1.Saving_S2024_Group2

public class Saving_S2024_Group2
extends Account_S2024_Group2

Constructor Summary

Constructors

Constructor	Description
Saving_S2024_Group2(String [Ⓔ] name, int accountNum, double savingBalance)	Creates a new saving account

Method Summary

All Methods

Instance Methods

Concrete Methods

Modifier and Type	Method	Description
void	deposit(double amount)	Method used to handle deposits in the saving account
void	withdraw(double amount)	Method to withdraw from the saving account

PACKAGE
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HELP

SUMMARY: NESTED | FIELD | CONSTR | METHOD
DETAIL: FIELD | CONSTR | METHOD

SEARCH:

Class testaccount

java.lang.Object[Ⓓ]
bankapplication1.testaccount

```

public class testaccount
extends ObjectⒹ

```

Constructor Summary

Constructors

Constructor	Description
testaccount()	

Method Summary

All Methods

Static Methods

Concrete Methods

Modifier and Type	Method	Description
static void	main(String [Ⓓ] [] args)	Main method that runs the banking application

Methods inherited from class java.lang.Object[Ⓓ]

equals[Ⓓ], getClass[Ⓓ], hashCode[Ⓓ], notify[Ⓓ], notifyAll[Ⓓ], toString[Ⓓ], wait[Ⓓ], wait[Ⓓ], wait[Ⓓ]

PACKAGE
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HELP

SUMMARY: NESTED | FIELD | CONSTR | METHOD
DETAIL: FIELD | CONSTR | METHOD

SEARCH:

Package bankapplication1

Class AccountNotFoundException

java.lang.Object[Ⓓ]
java.lang.Throwable[Ⓓ]
java.lang.Exception[Ⓓ]
bankapplication1.AccountNotFoundException

All Implemented Interfaces:
Serializable[Ⓓ]

```

public class AccountNotFoundException
extends ExceptionⒹ

```

See Also:
Serialized Form

Constructor Summary

Constructors

Constructor	Description
AccountNotFoundException(int accountNumber)	Constructs an exception with accountNumber

Method Summary

All Methods

Instance Methods

Concrete Methods

Modifier and Type	Method	Description
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PACKAGE
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SUMMARY: NESTED | FIELD | CONSTR | METHOD
DETAIL: FIELD | CONSTR | METHOD

SEARCH:

Package bankapplication1

Class FormatAmountException

java.lang.Object[Ⓓ]
java.lang.Throwable[Ⓓ]
java.lang.Exception[Ⓓ]
bankapplication1.FormatAmountException

All Implemented Interfaces:
Serializable[Ⓓ]

```

public class FormatAmountException
extends ExceptionⒹ

```

See Also:
Serialized Form

Constructor Summary

Constructors

Constructor	Description
FormatAmountException(double amount)	Constructs an exception with an amount

Method Summary

All Methods

Instance Methods

Concrete Methods

Modifier and Type	Method	Description
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3. Conclusions and Lessons Learned

Using proper API documentation is important when developing software, and JavaDoc was used for this banking application. Good API documentation allows for software to be better understood and for more efficient changes. It helps people returning to the code understand the intended use and purpose of the overall application as well as individual elements.

References

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