

Software Engineering 2 Glassfish

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# Assigned class

Our team has been assigned to do the code inspection on class WebappClassLoader. It belongs to the package org.glassfish.web.loader

Functions to be covered are:

* findClassInternal(String name)
* findResourceInternal(String name, String path)
* findResourceInternalFromRepositories(String name, String path)

# Functional role of assigned class

WebappClassLoader

# List of issues found

## Method 1 – findClassInternal(String name)

|  |  |  |  |
| --- | --- | --- | --- |
| Naming conventions |  |  |  |
| Checklist point | Issue | Line | Details |
| 1 | Parameter: name | 2727 | parameter *name* does not give enough information about what it represents. (name -> className) |
| 1 | Variable: entry | 2736 | Does not give enough information  (entry -> resourceEntry) |
| 1 | Variable: clazz | 2742 | Inappropriate name  (clazz -> classEntry) |
| 1 | Variable: pkg | 2756 | Does not give enough information  (pkg -> packageObject) |
| 1 | Function: validate | 3279 | Function is not specific enough |
| 3 | Class name: WebappClassLoader | 149 | First letter of each word sould be capitalized  (class WebappClassLoader -> class Web**A**ppClassLoader) |
| 5 | Method name: modified() | 1036 | Method names should be verbs, and modified is not a verb. |
| 5 | Method name: *nullInstance* | 2237 | Method names should be verbs, or should start with a verb. |
| 5 | Method name: *loadedByThisOrChild* | 2457 | Method names should be verbs, or should start with a verb. |

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| Indention |  |  |  |
| Checklist point | Issue | Line | Details |
| 8 | More spaces used for indention | 2739 | There are more than 7 spaces for indention. It should be reduced to 4. |
| 8 | Less spaces used for indention | 2761 and 2775 | There are just 2 spaces used for indention. It should be 3 or 4. |
| 8 | Block in code is not indent | 2762-2774 | This code should be indented by 3 or 4 spaces. |

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| --- | --- | --- | --- |
| Braces |  |  |  |
| Checklist point | Issue | Line | Details |
| 10 | Kernighan and Ritchie style is used | In whole class | First brace is on the same line of the instruction that opens the new block |
| 11 | If-statement has one statement | 2730 | Correct way is that the statement is surrounded by curly brackets |
| 11 | If-statement has one statement | 2738 | Correct way is that the statement is surrounded by curly brackets |
| 11 | If-statement has one statement | 2743 | Correct way is that the statement is surrounded by curly brackets |
| 11 | If-statement has one statement | 2754 | Correct way is that the statement is surrounded by curly brackets |
| 11 | If-statement has one statement | 2791 | Correct way is that the statement is surrounded by curly brackets |

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| --- | --- | --- | --- |
| File organization |  |  |  |
| Checklist point | Issue | Line | Details |
| 12 | Blank lines that don’t separate sections |  | There are blank lines that don’t separate sections, those are probably present to separate things conceptually different. However this requirement is respected which means that sections are correctly separated by blank lines in the entire class. |

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| --- | --- | --- | --- |
| Wrapping lines |  |  |  |
| Checklist point | Issue | Line | Details |
| 15 | Line break is not correct | 2788 | Line is separated before an operator “II” |
| 15 | Line break is not correct | 2793 | Line is separated before an operator “+” |
| 16 | High level break is present in this function | 2792-2794 | Break doesn’t occur after coma or an operator. |

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| --- | --- | --- | --- |
| Class and interface declaration |  |  |  |
| Checklist point | Issue | Line | Details |
| 25 | Class implementation comment | 112-148 | Class implementation comment is in wrong position, it should be after class statement. |
| 25 | Wrong order of class static variables | 157, 160, 167 | In class WebAppClassLoader there are first declared private static variables instead of public ones. |
| 25 | Wrong order of instance variables | 352-541 | Instance variables are declared in wrong order. Order should be: public, protected, package level and private as last. This is not the case in this class. |

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| --- | --- | --- | --- |
| Initialization and Declarations |  |  |  |
| Checklist point | Issue | Line | Details |
| 33 | Declarations at the beginning of block | 2733, 2734, 2736, 2752, 2753 and 2757 | Declarations at those lines are not on the beginning of the block. |

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| --- | --- | --- | --- |
| Computation, Comparisons and Assignments |  |  |  |
| Checklist point | Issue | Line | Details |
| 44 | Brutish programming present | 2779-2796 | Brutish programing is presented in a way that there are too many if checks. |
| 45 | Operator precedence problems | 2788-2789 | Parenthesis are used to avoid operator precedence problems. |

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| Exceptions |  |  |  |
| Checklist point | Issue | Line | Details |
| 53 | Exception is not caught | 2792 | SecurityException is thrown and is not properly handled in the function, and it is neither stated in the function declaration. |

## Method 2 - findResourceInternal(String name, String path)

|  |  |  |  |
| --- | --- | --- | --- |
| Naming conventions |  |  |  |
| Checklist point | Issue | Line | Details |
| 1 | Parameter: name | 2825 | parameter *name* does not give enough information about what it represents. (parameter name -> resourceName) |
| 1 | Variable: started | 2826 | Does not give enough information  (started -> resourceStarted) |
| 1 | Variable: entry | 2835 | Inappropriate name  (entry -> resourceEntry) |

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| --- | --- | --- | --- |
| Indention |  |  |  |
| Checklist point | Issue | Line | Details |
| 8 | More spaces used for indention | 2827 | Line has 4 spaces more that it should have |

|  |  |  |  |
| --- | --- | --- | --- |
| Braces |  |  |  |
| Checklist point | Issue | Line | Details |
| 10 | Kernighan and Ritchie style is used | In whole class | First brace is on the same line of the instruction that opens the new block |

|  |  |  |  |
| --- | --- | --- | --- |
| File organization |  |  |  |
| Checklist point | Issue | Line | Details |
| 12 | Blank lines that don’t separate sections |  | There are blank lines that don’t separate sections, those are probably present to separate things conceptually different. However this requirement is respected which means that sections are correctly separated by blank lines in the entire class. |

|  |  |  |  |
| --- | --- | --- | --- |
| Wrapping lines |  |  |  |
| Checklist point | Issue | Line | Details |
| 15 | Line break is not correct | 2827 | Line wrap is in front of open bracket which is not by the proposed rules, also the length of the line is not greater than 80 characters |

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| --- | --- | --- | --- |
| Comments |  |  |  |
| Checklist point | Issue | Line | Details |
| 19 | Comments do not contain dates | 2855-2858 | Comment from line 2855-2858 do not contain date when it should be removed. |

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| --- | --- | --- | --- |
| Class and interface declaration |  |  |  |
| Checklist point | Issue | Line | Details |
| 25 | Class implementation comment | 112-148 | Class implementation comment is in wrong position, it should be after class statement. |
| 25 | Wrong order of class static variables | 157, 160, 167 | In class WebAppClassLoader there are first declared private static variables instead of public ones. |
| 25 | Wrong order of instance variables | 352-541 | Instance variables are declared in wrong order. Order should be: public, protected, package level and private as last. This is not the case in this class. |

|  |  |  |  |
| --- | --- | --- | --- |
| Initialization and Declarations |  |  |  |
| Checklist point | Issue | Line | Details |
| 33 | Declarations at the beginning of block | 2835 and 2859 | Line 2835 – *entry* variable is not declared in the beginning of block of code  Line 2859 – *entry2* variable is not declared in the beginning of block of code |

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| --- | --- | --- | --- |
| Methods Calls |  |  |  |
| Checklist point | Issue | Line | Details |
| 35 | Wrong function call | 2851 | function putIfAbsent(name,name) should be used instead of put(name,name) because previously we checked that this key does not exist in the hash map |

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| --- | --- | --- | --- |
| Output Format |  |  |  |
| Checklist point | Issue | Line | Details |
| 42 | Error message not descriptive enough | 2827 | throws exception that the web container has not yet been started but the message displayed will be “AS-WEB-UTIL-00010” which does not give information how to solve the issue |

|  |  |  |  |
| --- | --- | --- | --- |
| Computation, Comparisons and Assignments |  |  |  |
| Checklist point | Issue | Line | Details |
| 44 | Brutish programming present | 2836-2862 | Brutish programing is presented in a way that there are too many if checks. |
| 45 | Operator precedence problems | 2831 | Parenthesis are used to avoid operator precedence problems. |

## Method 3 - findResourceInternalFromRepositories(String name, String path)

|  |  |  |  |
| --- | --- | --- | --- |
| Naming conventions |  |  |  |
| Checklist point | Issue | Line | Details |
| 1 | Parameter: name | 2874 | parameter *name* does not give enough information about what it represents. (name -> resourceName) |
| 1 | Parameter: path | 2875 | Does not give enough information  (path -> resourcePath) |
| 1 | Variable: repositories | 399 | Inappropriate name  (repositories-> repositoriesPath) |
| 1 | Variable: dp | 2900 | Does not give enough information  (dp -> priviledgedAction) |
| 1 | Variable: result2 | 2926 | Does not give enough information  (result2 -> lastModifiedDatesExtended) |
| 1 | Variable: result | 2934 | Does not give enough information  (result -> pathsExtended) |

|  |  |  |  |
| --- | --- | --- | --- |
| Braces |  |  |  |
| Checklist point | Issue | Line | Details |
| 10 | Kernighan and Ritchie style is used | In whole class | First brace is on the same line of the instruction that opens the new block |

|  |  |  |  |
| --- | --- | --- | --- |
| File organization |  |  |  |
| Checklist point | Issue | Line | Details |
| 12 | Blank lines that don’t separate sections |  | There are blank lines that don’t separate sections, those are probably present to separate things conceptually different. However this requirement is respected which means that sections are correctly separated by blank lines in the entire class. |

|  |  |  |  |
| --- | --- | --- | --- |
| Comments |  |  |  |
| Checklist point | Issue | Line | Details |
| 18 | Comment not descriptive enough | 2897 | Comment of the fn is well written, but comment on line 2897 is and explained because it doesn’t tell what the code does instead it just inform us that if exception is thrown the resource was found |
| 19 | Comments do not contain dates |  | Comments are not written in the proposed way |

|  |  |  |  |
| --- | --- | --- | --- |
| Class and interface declaration |  |  |  |
| Checklist point | Issue | Line | Details |
| 25 | Class implementation comment | 112-148 | Class implementation comment is in wrong position, it should be after class statement. |
| 25 | Wrong order of class static variables | 157, 160, 167 | In class WebAppClassLoader there are first declared private static variables instead of public ones. |
| 25 | Wrong order of instance variables | 352-541 | Instance variables are declared in wrong order. Order should be: public, protected, package level and private as last. This is not the case in this class. |

|  |  |  |  |
| --- | --- | --- | --- |
| Initialization and Declarations |  |  |  |
| Checklist point | Issue | Line | Details |
| 32 | Variable not initialized | 2924 | Variable j is declared as int but not initialized on the spot |
| 33 | Declarations at the beginning of block | 2881 to 2885, 2907 and 2934 | Declarations at those lines are not on the beginning of the block. |

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| Arrays |  |  |  |
| Checklist point | Issue | Line | Details |
| 38 | Array variable might go out of bound | 2901 | For loop depends on the length of repositories, and in the for block array variable files is accessed through counter i. Variable files[i], counter i is connected to variable repositories[i], if the length of files is less than length of repositories files will go out of bound |

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| --- | --- | --- | --- |
| Exceptions |  |  |  |
| Checklist point | Issue | Line | Details |
| 53 | Exception is not properly handled | 2943 | Catch block is empty, exception is not handled |

# Other problems