

# Upgrade Java Version

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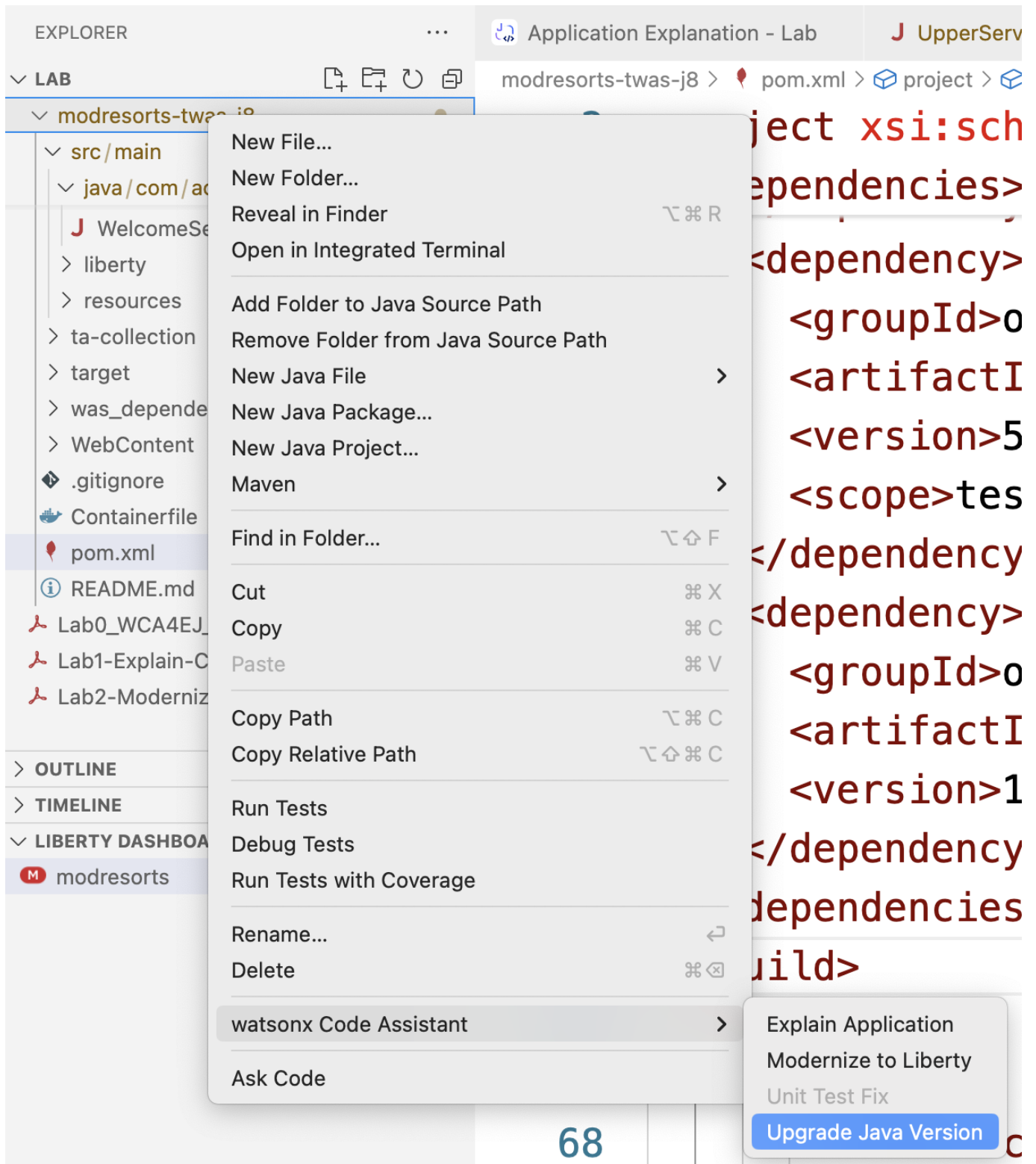
이 문서는 Upgrade Java version Lab 완료하기 위한 단계별 가이드를 제공합니다. Modernize 랩과 매우 유사한 단계를 확인 할 수 있을 것입니다.

## Upgrade Java Version covers:

- Java 버전을 8에서 21로 업그레이드 합니다.

### 1. Application analysis

`modresorts-twas-j8` 폴더에서 오른쪽 마우스를 클릭 하고 `watsonx Code Assistant - Upgrade Java Version`을 선택 해 주세요.



Upgrade 탭이 나타나게 됩니다. Target 드롭다운을 확장하고 난 후, Java 21 (LTS)을 선택 . 해주세요. Build and analyze 를 클릭합니다..

Modernize

Upgrade ×

☐ ...

## Upgrade ModResorts

You must first resolve any issues that prevent a successful upgrade. Watsonx Code Assistant can automatically fix many issues for you.

### Analyze application

Select the application analysis parameters. The analysis parameters define the rules that the application is evaluated against. Select the source runtime environment and target runtime environment for upgrading the Java version.

Source ⓘ  
IBM Java 8 (Recommended) ▼  
Detected in build configuration.

Target  
Java 21 (LTS) ▼

❗ *The application must be built before analyzing, as the application analysis is performed on the application binary.*  
*Choosing **Build and analyze** will automatically perform a build before the analysis assuming a default build command that also skips tests. For more advanced build configurations, you may wish to build the application manually, and then click **Analyze**.*

Analyze

Build and analyze

분석 후 보고서에는 **modresorts** 애플리케이션에서 수정해야 할 문제를 보여줍니다. 그 중 3개는 자동으로 수정할 수 있고, 2개는 도움이 필요합니다. 자동 수정을 위해서는 **Run automated fixes**을 클릭합니다(이 과정은 오래 걸릴 수 있습니다).

# Upgrade ModResorts

[↩ Return to analyze](#)

## Application analysis parameters

Java version

IBM Java 8 to Java 21 (LTS)

[View technology report](#) | [View inventory report](#) | [View analysis report](#)

Issues

5

Generated on 13 November 2024 at 12:51

Issues are categorized by type of fixes available. Click the **Rebuild and refresh** button to update the list.

[Show more](#)

Rebuild and refresh

▼

Automated fixes	Assisted fixes	Self-directed fixes	Additional information
3	2	0	2

Instructions	▼
<div><div>i</div><div>Java SE 21 general information and potential issues</div></div>	▼
<div><div>i</div><div>Java SE 17 general information and potential issues</div></div>	▼
<div><div>i</div><div>Java SE 11 general information and potential issues</div></div>	▼

Run automated fixes

## 2. Apply Fixes

수동 수정을 위해서는 **Instructions** 드롭다운을 클릭하여 단계별 안내를 확인할 수 있습니다. 이제 첫 번째 문제의 드롭다운을 확장합니다. 문제를 해결하는 방법에 대한 명확한 지침이 아래에 제공됩니다.

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Upgrade

Automated fixes3

Assisted fixes2

Self-directed fixes0

Additional information2

Instructions

Behavior change in the javax.management.MBeanOperationInfo constructor

In Java SE 11 the javax.management.MBeanOperationInfo constructor now throws an IllegalArgumentException when the impact provided is not one of INFO, ACTION, ACTION\_INFO, or UNKNOWN.  
For more information, see Java 10 Removed Features and Options.  
[Read more](#)

src/main/java/com/acme/modres/mbean/DMBeanUtils.java

There is one occurrence of this issue in this file. You will have to resolve it sequentially.

Detected line number might differ from actual.

1. Method getOps  
Match Criteria - javax.management.MBeanOperationInfo(java.lang.String, java.lang.String, javax.management.MBeanParameterInfo[], java.lang.String, int, javax.management.Descriptor)  
Detected line number - 28

Step 1: Get a code suggestion  
Click "Help Me" after you select the method that calls the MBeanOperationInfo constructor

Step 2: Check the impact field value  
Confirm that MBeanOperationInfo.UNKNOWN is the appropriate impact value to be used in place of an invalid one

Back to top

이제 문제가 있는 파일 이름을 클릭합니다. 편집기 창에서MBeanOperationInfo 생성자를 호출하는 클래스 전체를 선택합니다. 그런 다음 Help me를 클릭하여 wCA의 도움을 요청합니다.

The screenshot shows an IDE with a Java file named `DMBeanUtils.java`. The code is as follows:

```

5
6 import javax.management.MBeanOperationInfo;
7
8 public final class DMBeanUtils {
9     private static final Logger logger = Logger.getLogger(DMBeanUtils.class);
10
11     public static MBeanOperationInfo[] getOps(OpMetadataList opList) {
12         MBeanOperationInfo[] ops = null;
13         if (opList == null || opList.getOpMetadataList().isEmpty()) {
14             logger.log(Level.WARNING, "No operations found");
15             return ops;
16         }
17
18         int numOps = opList.getOpMetadataList().size();
19         if (numOps > 0) {
20             ops = new MBeanOperationInfo[numOps];
21             int i = 0;
22             for (OpMetadata opMetadata : opList.getOpMetadataList()) {
23                 String name = opMetadata.getName();
24                 String desc = opMetadata.getDescription();
25                 String type = opMetadata.getType();

```

The AI assistant sidebar on the right shows a warning about a behavior change in the `javax.management.MBeanOperationInfo` constructor. The message states that in Java SE 11, the constructor now throws an `IllegalArgumentException` when the `impact` provided is not one of `INFO`, `ACTION`, `ACTION_INFO`, or `UNKNOWN`. It also provides a link to [Java 10 Removed Features and Options](#).

The sidebar also shows a list of detected issues:

- 1. Method `getOps`
  - Match Criteria - `javax.management.MBeanOperationInfo(java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.lang.String, int, javax.management.Descriptor)`
  - Detected line number - 28

Step 1: Get a code suggestion. Click "Help Me" after you select the method that calls the `MBeanOperationInfo` constructor.

Step 2: Check the impact field value. Confirm that `MBeanOperationInfo.UNKNOWN` is the appropriate impact value to be used in place of an invalid one.

Buttons: [Help me](#), [Back to top](#).

Footer: Avoid using `Thread.stop()`, `Thread.resume()`, and `Thread.suspend()`.

채팅창에 wCA가 앞의 문제점을 바탕으로 수정 방법에 대해 질의 한 것을 확인할 수 있으며, 이후 이슈를 해결할 수 있는 방법에 대한 제안을 답변으로 받습니다.

You

This code suggestion uses MBeanOperationInfo.UNKNOWN as the value for the impact field if an IllegalArgumentException is caught when instantiating an MBeanOperationInfo object

⋮



watsonx

```
public final class DMBeanUtils {
    private static final Logger logger = Logger.getLogger(DMBeanUtils.class.getName());

    public static MBeanOperationInfo[] getOps(OpMetadataList opList) {
        MBeanOperationInfo[] ops = null;
        if (opList == null || opList.getOpMetadataList() == null) {
            logger.log(Level.WARNING, "No operation is configured");
            return ops;
        }

        int numOps = opList.getOpMetadataList().size();
        if (numOps > 0) {
            ops = new MBeanOperationInfo[numOps];
            int i = 0;
            for (OpMetadata opMetadata : opList.getOpMetadataList()) {
                String name = opMetadata.getName();
                String desc = opMetadata.getDescription();
                String type = opMetadata.getType();
                int impact = opMetadata.getImpact();

                try {
                    MBeanOperationInfo opInfo = new MBeanOperationInfo(name, desc, /* signature */ null, type, impact);
                    ops[i++] = opInfo;
                } catch (IllegalArgumentException e) {
                    logger.log(Level.WARNING, "MBeanOperationInfo: Unknown impact. Operation: " + name + ". Using MBeanOperationInfo opInfo = new MBeanOperationInfo(name, desc, /* signature */ null, type, MBeanOperationInfo.UNKNOWN);
                    ops[i++] = opInfo;
                }
            }
        }
    }
}
```

여기서는 채팅에서 복사한 코드를 사용하여 `DMbeanUtils.java` 파일의 코드를 변경합니다.

일단 두 번째 문제는 deprecation 경고이므로 무시할 수 있습니다. 또는 재빌드 시 오류가 발생하면 동일한 과정을 거쳐 경고를 수정할 수 있습니다."

### 3. Rebuild Application

이제 모든 수정 사항을 적용했으므로, **Rebuild and refresh**를 통해 애플리케이션에 더 이상 중요한 문제가 없는지 확인할 수 있습니다.

Modernize

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Upgrade ModResorts

[Return to analyze](#)

Application analysis parameters

Java version

IBM Java 8 to Java 21 (LTS)

[View technology report](#) | [View inventory report](#) | [View analysis report](#)

Issues 

1

Generated on 13 November 2024 at 13:26

Issues are categorized by type of fixes available. Click the **Rebuild and refresh** button to update the list.

[Show more](#)

Rebuild and refresh

Automated fixes	Assisted fixes	Self-directed fixes	Additional information
0	1	0	2

Instructions

Avoid using Thread.stop(), Thread.resume(), and Thread.suspend() methods

This rule flags the use of the `Thread.stop()`, `Thread.suspend()`, and `Thread.resume()` methods. These methods have been terminally deprecated in Java SE 18 and have been updated to always throw an `UnsupportedOperationException`. The method will eventually be degraded and removed in a future release as it is inherently unsafe and has been deprecated since Java 1.2.

For more information see [JDK-8277861](#).

[Read more](#) →

브라우저로 이동하여 새로운 애플리케이션을 확인할 수 있습니다. 이번에는 위치 모듈이 수정된 것을 확인할 수 있습니다.

localhost:9080/resorts/

Finish update

IBM-Technical

IBM Products

IBM Tools

Githubs

AI Alliance

Citi Cards

Gartner - Magic Q...

Personal

M

MOD RESORTS

Home

Reservations

Reward Center

Languages

Miami, USA

13 Nov 2024

13 Nov 2024

Reserve

Logout

Miami

Florida

Weather Condition

Partly Cloudy

Temperature

76.6 °F | 24.8 °C

Wind

S @ 6 MPH | 9.7 KPH

Visibility

10.0 M | 16.1 KM



