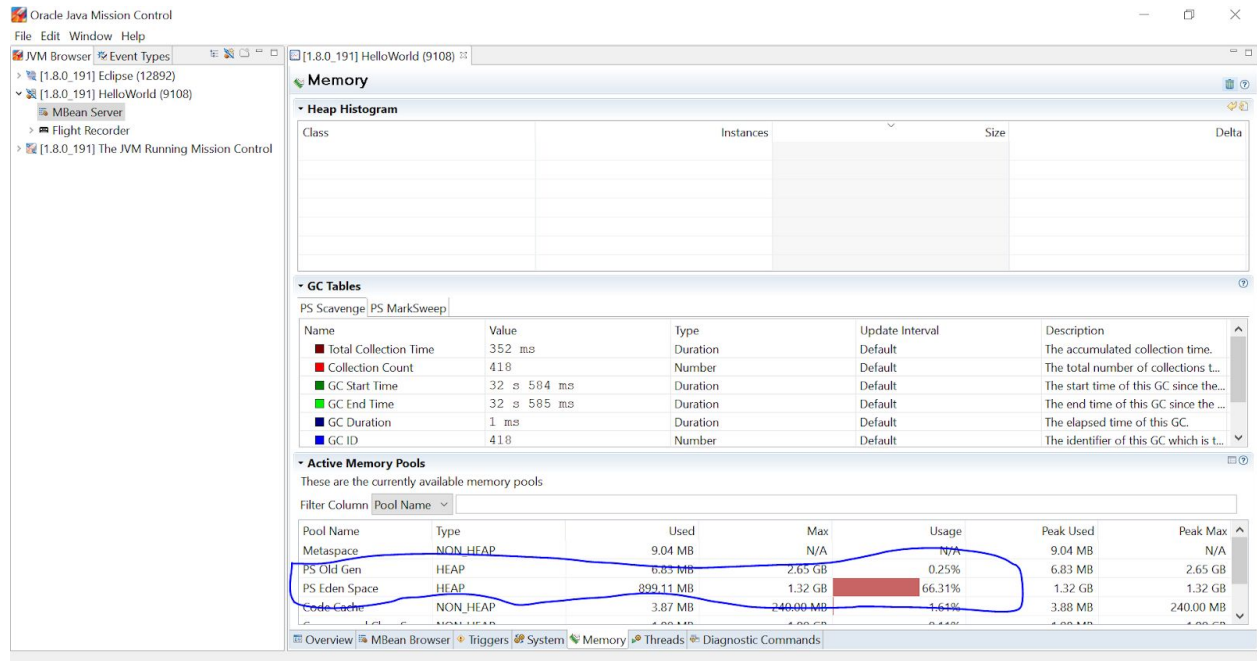# JAVA Assignment:

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Assignment 1: (OutOfMemoryException)

Code:

```java
public class HelloWorld {

    public static void main(String[] args) {

        System.out.println("Hello World!");

        while(true) {
            Double arr[] = new Double[10000000];
        }
    }
}
```

Basic memory usage:

MetaSpace   : 9 MB
Old generation : 6.8MB
Eden Space   : 899.11 MB

Assignment 2: (Spring Web app)

Pom.xml:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd">
        <modelVersion>4.0.0</modelVersion>
        <parent>
                <groupId>org.springframework.boot</groupId>
                <artifactId>spring-boot-starter-parent</artifactId>
                <version>2.1.1.RELEASE</version>
```

```xml
            <relativePath/> <!-- lookup parent from repository -->
        </parent>
        <groupId>com.example</groupId>
        <artifactId>demo</artifactId>
        <version>0.0.1-SNAPSHOT</version>
        <name>demo</name>
        <description>Demo project for Spring Boot</description>

        <properties>
            <java.version>1.8</java.version>
        </properties>

        <dependencies>
            <dependency>
                <groupId>org.springframework.boot</groupId>
                <artifactId>spring-boot-starter-web</artifactId>
            </dependency>

            <dependency>
                <groupId>org.springframework.boot</groupId>
                <artifactId>spring-boot-starter-test</artifactId>
                <scope>test</scope>
            </dependency>
        </dependencies>

        <build>
            <plugins>
                <plugin>
                    <groupId>org.springframework.boot</groupId>
                    <artifactId>spring-boot-maven-plugin</artifactId>
                </plugin>
            </plugins>
        </build>
</project>
```
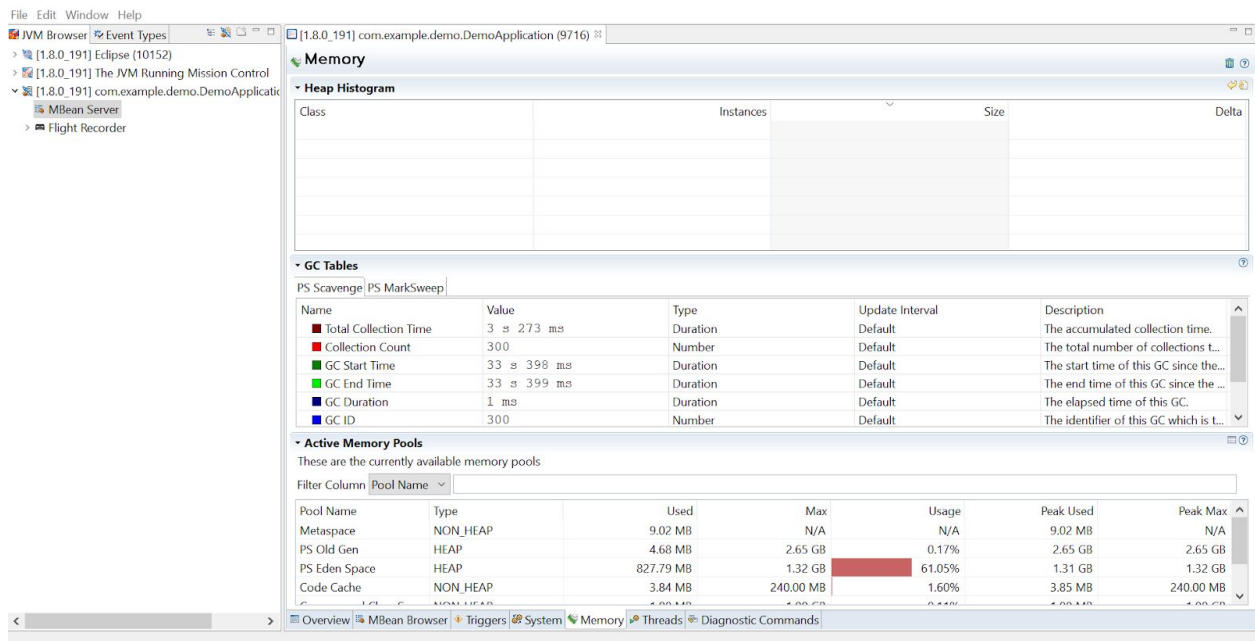
Output:

Basic memory usage:

Code cache   : 11.6 MB
MetaSpace   : 35.35MB
Old generation : 17.71MB
Eden Space   : 25.35 MB

Changed memory usage :

```java
@SpringBootApplication
public class DemoApplication {
        @RequestMapping("/home")
        String msg()
        {
                return "helloo";
        }
        public static void main(String[] args) {
                for(int i=0;i<100000;i++)
                {
                        Double arr[] = new Double[10000000];
                }
                SpringApplication.run(DemoApplication.class, args);
        }
}
```


Memory usage:

Metaspace   : 9 MB
Old generation : 4.68 MB
Eden Space   : 827 MB