Deprecated Functions in Key Dependencies

The following table lists some of the commonly used deprecated methods and classes in key dependencies used in the project. These deprecations need to be addressed when upgrading to newer versions of Java (JDK 17 and 21).

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| Dependency | Deprecated Function/Method | Replacement/Action |
| Spring Framework | @RequestMapping | Use @GetMapping, @PostMapping, etc. |
| Spring Framework | HandlerInterceptorAdapter | Implement HandlerInterceptor directly. |
| Spring Security | PasswordEncoder (NoOpPasswordEncoder) | Use DelegatingPasswordEncoder. |
| Spring Security | @PreAuthorize('hasRole(ROLE\_X)') | Remove 'ROLE\_' prefix and use directly. |
| Spring Integration | @EnableIntegration | Spring Boot auto-configuration handles it. |
| Hibernate | Session.getTransaction() | Use Session.beginTransaction(). |
| Hibernate | createCriteria() | Use JPA Criteria API (CriteriaBuilder). |
| Hibernate | Transaction.commit() | Use @Transactional annotation. |
| Hibernate Validator | javax.validation classes | Use jakarta.validation. |
| Joda-Time | All Joda-Time API | Use java.time package. |
| Jackson | @JsonTypeInfo.include as PROPERTY | Use WRAPPER\_OBJECT. |
| Jackson | JsonParser.getCodec() | Use explicit ObjectMapper configuration. |
| SLF4J | Logger.warn(String msg, Throwable t) | Use Logger.warn(String format, Object... args). |
| JUnit 4 | @Test(expected=Exception.class) | Use assertThrows in JUnit 5. |
| JUnit 4 | @Before/@After | Use @BeforeEach/@AfterEach in JUnit 5. |
| JUnit 4 | @Ignore | Use @Disabled in JUnit 5. |
| Log4j 2 | org.apache.logging.log4j.ThreadContext (static methods) | Use newer alternatives for thread-local storage. |
| Mockito | Mockito.spy(Object) | Use Mockito.mock or @Spy annotations. |
| Mockito | MockitoAnnotations.initMocks() | Use MockitoAnnotations.openMocks(). |
| Commons Lang | StringUtils.isEmpty() | Use StringUtils.isBlank(). |
| Commons Lang | ArrayUtils.toMap(Object[]) | Use Java Streams or Guava. |
| Commons IO | FileUtils.openOutputStream(File) | Use java.nio.file alternatives. |
| Jakarta EE | javax.\* classes | Migrate to jakarta.\* equivalents. |