

Lab 2.1: Setup XWiki Locally

Objective:

This lab guides you through setting up **XWiki on your local machine**. You will learn how to install the necessary components (JDK, Tomcat, Database), deploy the XWiki WAR file, and configure the system to run locally.

By the end of this lab, you will have a fully functional local XWiki instance for development or testing purposes.

Prerequisites:

- A computer with at least **4 GB RAM**
 - Admin/root privileges
 - Internet access to download software
-

Step-by-Step Instructions

1. Install Required Software

 **Goal:** Prepare the system with Java, a servlet container (Tomcat), and a database (MySQL or PostgreSQL)

1.1. Install Java Development Kit (JDK)

- Recommended: **JDK 11 or later**
- Download: <https://adoptium.net/>
- After installation, verify with:

```
bash  
java -version
```

1.2. Install Apache Tomcat

- Recommended: **Tomcat 9 or 10**
- Download: <https://tomcat.apache.org/download-90.cgi>
- Extract the archive and move it to a working directory (e.g., /opt/tomcat or C:\tomcat)
- Test Tomcat by running:

```
bash  
.bin/startup.sh  # (Linux/macOS)  
.bin\startup.bat # (Windows)
```

1.3. Install a Relational Database

Choose one:

- **MySQL**
 - <https://dev.mysql.com/downloads/installer/>
- **PostgreSQL**
 - <https://www.postgresql.org/download/>

● Don't forget to create a database and user:

```
sql
```

```
CREATE DATABASE xwiki CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
CREATE USER 'xwiki'@'localhost' IDENTIFIED BY 'xwiki_pass';
GRANT ALL PRIVILEGES ON xwiki.* TO 'xwiki'@'localhost';
```

2. Deploy XWiki WAR to Tomcat

📦 **Goal:** Install the XWiki application by deploying its WAR file into Tomcat.

2.1. Download XWiki WAR Distribution

- Visit: <https://www.xwiki.org/xwiki/bin/view/Download/>
- Choose the **WAR distribution** (e.g., xwiki-platform-distribution-war-*.war)

2.2. Deploy to Tomcat

- Copy the WAR file to Tomcat's webapps directory and rename it to xwiki.war:

```
bash
```

```
cp xwiki*.war /path/to/tomcat/webapps/xwiki.war
```

- Start Tomcat:

```
bash
```

```
./bin/startup.sh    # (Linux/macOS)
.\bin\startup.bat  # (Windows)
```

⌚ The deployment may take a few minutes. Monitor the logs:

```
bash
```

```
tail -f logs/catalina.out
```

3. Configure XWiki Database and Launch Setup Wizard

 **Goal:** Connect XWiki to your database and complete initial configuration.

3.1. Configure Database

- XWiki detects the database configuration via `hibernate.cfg.xml`
- Edit the configuration file located at:

```
bash  
/webapps/xwiki/WEB-INF/hibernate.cfg.xml
```

- Example for MySQL:

```
xml  
  
<property  
name="connection.url">jdbc:mysql://localhost:3306/xwiki</property>  
<property name="connection.username">xwiki</property>  
<property name="connection.password">xwiki_pass</property>  
<property  
name="dialect">org.hibernate.dialect.MySQL8Dialect</property>
```

3.2. Open XWiki in Browser

- Navigate to:
 <http://localhost:8080/xwiki>
- You'll be guided through the **Distribution Wizard**, which:
 - Initializes the database
 - Installs default pages and extensions
 - Sets up the first admin account

Lab Summary

By completing this lab, you have:

- Installed Java, Tomcat, and a database
- Deployed the XWiki WAR file to a servlet container
- Configured and launched a working local XWiki instance

Optional Enhancements

- **Enable HTTPS** in Tomcat for secure access
- **Use a custom port** if 8080 is occupied
- **Create backup scripts** for your XWiki and database
- **Install extensions** from the XWiki Extension Manager after setup

 Troubleshooting Tips

Problem	Solution
HTTP 500 on startup	Check <code>catalina.out</code> for missing database driver
XWiki setup wizard not loading	Ensure the WAR fully deployed; try restarting Tomcat
MySQL connection refused	Ensure the MySQL service is running and user has proper privileges
Tomcat port conflict	Change the port in <code>conf/server.xml</code> (e.g., from 8080 to 8081)