

## LYNX-APP Installation for Linux

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This page will help you install the LYNX-APP (LYNX Application Component) in a Linux/Unix environment. Follow the steps in order and contact [email Series25 Support](#) or your assigned LYNX support analyst for assistance.

See [LYNX-APP Installation for Windows](#).

### Requirements for Installation:

- These instructions should be completed by your school's qualified Linux Systems Administrator.
- Ensure you have prepared your SIS database by deploying the necessary tables for database integration.
- The target server may need to be restarted during this process for installation to complete successfully.

## Review Java and Network Requirements

- Review [Series25 Technical Specifications](#).
- Ensure your target server for this installation is running a suitable version of Java.
  - Java 8, 11 or 15 (32-bit or 64-bit) is currently supported.
  - *Note: Please consult with your institution's IT department about where to source an appropriate Java version.*
- Ensure your target server can communicate with your SIS database through the desired JDBC port.
- Ensure your target server can communicate with CollegeNET's LYNX WebServices (<https://lynx.collegenet.com/> ... SSL / port 443 )
  - If your target server must use a proxy server to reach LYNX WebServices, you can configure it after installation.

## Retrieve Installation Files

- Prepare to download the installation zip file.
- You can either download it directly on the target server, or download it to a separate machine and file transfer it to your target server.
- The lynx-app-linux.zip file can be downloaded from here:

URL: <https://collegenet.files.com/f/e2802722d3c860d3/LYNX>

(Contact Series25 Support at [support@collegenet.com](mailto:support@collegenet.com) for credentials.)

## Consider Deployment Options

- Consider two options:
  - Install the Production LYNX-APP on the same server as Test LYNX-APP
  - Install the Production LYNX-APP on a separate server from the Test LYNX-APP
- If you install Prod and Test on the same server, you will need to install the LYNX-APP folder twice. Example:
  - /usr/local/bin/LYNX-APP-test
  - /usr/local/bin/LYNX-APP-prod
  - In this case, run through the instructions below twice, once for each application instance. You will need to flag the process appropriately as Prod or Test on startup (runBackground.sh).
- If you install Prod and Test on different servers, you will still need to flag the process with an argument when running runBackground.sh (this can be something generic such as LYNX, etc)

## Copy Files

- Create a suitable installation target for the application.
- The most suitable location may depend on best practices for your Linux/Unix Distribution. Example:
  - /usr/local/bin/LYNX-APP-test/
- Unzip application files from **lynx-app-linux.zip** into the target directory.
- Ensure a **~LYNX-APP/logs/** folder is created (you may have to create this manually)

## Update Configuration

- Navigate to the **~LYNX-APP/config/** folder.
- Open the **application.properties** configuration file with an appropriate text editor.
- Update this file with values for your instance.
  - lynx-url-prefix=https://lynx.collegenet.com/lynx-ws/sis/data/
  - lynx-instance-id=
  - lynx-username=
  - lynx-password=
  - db-url=
    - Example Oracle string
    - db-url=jdbc:oracle:thin:@//server:port/service\_name OR db-url=jdbc:oracle:thin@server:port:SID
    - Example Microsoft SQL Server string
    - db-url=jdbc:sqlserver://server.school.edu:1433;DatabaseName=lynx
  - db-username=
  - db-password=
- If you will use a proxy server to reach LYNX WebServices, [configure this now.](#)

## Review Execution Permissions

- LYNX processing is started and stopped through two background scripts:
  - `runBackground.sh`
  - `stopBackground.sh`
- Consider if you will need to change permissions to allow these scripts to execute. Example:
  - `chmod +x runBackground.sh`
  - `chmod +x stopBackground.sh`

## Test Execution of Background Scripts

### Test execution of `runBackground.sh`.

- You will need to include an input argument. Example:
  - `runBackground.sh TEST`
- Verify the process is running with a suitable command. Example:
  - `ps aux | grep lynx`
- The command above, for example, might return a line for the `grep`, as well as a line indicating the application is running ( `...lynx-app.jar` ):

```
user  2494  6.9  8.5 2584496 169848 pts/0  Sl  11:47   0:09 java -jar -Dmode=TEST lynx-app.jar
user  2584  0.0  0.0 119724  1052 pts/0   S+   11:50   0:00 grep --color=auto lynx
```

- LYNX-APP may start correctly, but stop itself if there is an error, such as a network connectivity error.
  - Ensure the process is still running after a few moments.
- If LYNX does not start correctly, check the `~lynx-app/logs/` folder to investigate possible causes.

### Test execution of `stopBackground.sh`.

- You will need to include an input argument. Example:
  - `stopBackground.sh TEST`
- Verify the process from before is no longer running with a suitable command. Example:
  - `ps aux | grep lynx`
- The command above might return just one line for the `grep` at this point:

```
user  2605  0.0  0.0 119724  1064 pts/0   S+   11:55   0:00 grep --color=auto lyn
x
```

- Use `runBackground.sh` to start the LYNX-APP process again for the next step.

## Review LYNX Dashboard

- If LYNX-APP starts correctly and continues to run, verify the LYNX Dashboard web page indicates "APP OK" and no errors are presented.
  - Example: <https://lynx.collegenet.com/<instance-name>>

## Consider Configuring Additional Features

- You may wish to encrypt the passwords in your application.properties file. See [Encrypting Passwords in Your LYNX-APP Config File \(Linux\)](#)
- Consider automating the startup of runBackground.sh, using a feature such as /etc/init.d or cron.
- We recommend testing any additional features in Test first.