

WOMS Web — the server for phones

Guide for IT

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What WOMS Web is

WOMS_Web.exe (in the folder WOMS_Web of the WOMS release) is a small web server. It shows the phone pages of WOMS — the technician's tasks, the report back, photos, the QR labels, a new work order, messages — to phones, tablets and browsers on the company network. It uses the same PostgreSQL database as the WOMS.exe on the PCs, with the same rules and rights. No data is kept on the phones, and nothing goes to the internet.

```
phone / tablet / browser  --HTTPS-->  WOMS_Web.exe (company server)  --->  PostgreSQL
(woms)
WOMS.exe on the PCs       ----- PostgreSQL protocol ----->  PostgreSQL
(woms)
```

NOTE — Preview in V3.1.1

WOMS Web is tested on PostgreSQL 16 (all tests, the built program, HTTPS) but not yet on a company network with real phones. Set the company server up first (WOMS Server guide), then try WOMS Web with a few people.

1. What you need

- The company database of WOMS, set up with the WOMS Server guide (PostgreSQL, the account woms_app).
- A Windows server or PC that is always on, close to the database. 1 CPU core and 200 MB of memory are enough for a team.
- A certificate for the name of that server (for example woms.company.local), from the company certification authority or a public one, as two PEM files: the certificate (with its chain) and the private key.
- One TCP port (8443 by default, or 443) open from the company Wi-Fi and the VPN only.

2. Install

1. Copy the folder WOMS_Web from the WOMS release to the server, for example C:\Program Files\WOMS_Web. No data is ever written there.
2. Run WOMS_Web.exe once in a command window. It writes the settings file %ProgramData%\WOMS\woms_web.json and stops: there is no certificate yet.
3. Edit woms_web.json (below): the database, the port and the two certificate files.
4. Run WOMS_Web.exe --set-db-password and type the password of woms_app twice. It is stored encrypted with Windows (DPAPI) for this server only.
5. Run WOMS_Web.exe --check. It reads the settings, opens the database and says what it found.

```
{
  "db_kind": "server",
  "db_host": "db01.company.local",
  "db_port": 5432,
  "db_name": "woms",
  "db_user": "woms_app",
  "db_password": "dpapim:...",
  "db_ssl": true,
  "host": "0.0.0.0",
  "port": 8443,
  "cert_file": "C:/ProgramData/WOMS/cert/woms.crt.pem",
  "key_file": "C:/ProgramData/WOMS/cert/woms.key.pem",
  "allow_http": false,
  "session_days": 30,
  "threads": 16
}
```

%ProgramData%\WOMS\woms_web.json — an example.

TRAP — allow_http is for a test PC only

Without a certificate WOMS Web refuses to start, unless allow_http is true. Over HTTP passwords travel readable and the phones refuse the camera in the page. Never use it on the company network.

3. Start it with the server

Run WOMS Web as a scheduled task at start-up under the NETWORK SERVICE account. Give that account the right to write its log next to the settings:

```
icacls "%ProgramData%\WOMS" /grant "NETWORK SERVICE:(OI)(CI)M"
schtasks /Create /TN "WOMS Web" /SC ONSTART /RU "NT AUTHORITY\NETWORK SERVICE" /F ^
/TR "\"C:\Program Files\WOMS_Web\WOMS_Web.exe\""
schtasks /Run /TN "WOMS Web"
```

- In Task Scheduler, tab Settings: tick "If the task fails, restart every 1 minute" and untick "Stop the task if it runs longer than".
- Stop it: `schtasks /End /TN "WOMS Web"`. A test: open `https://<server>:8443/health` — it answers with the version and the database schema.
- The log: `%ProgramData%\WOMS\logs\woms.log` (logins, refused logins, errors; never a password or a photo).

4. Network and certificate

```
netsh advfirewall firewall add rule name="WOMS Web" dir=in action=allow ^
protocol=TCP localport=8443 remoteip=10.0.0.0/8
```

- Open the port for the Wi-Fi and VPN networks only. Never publish WOMS Web on the internet: V3.1 is made for the company network.
- The certificate must be trusted by the phones. A certificate of the company authority needs that authority installed on the company phones (MDM); otherwise every phone shows a warning and refuses the camera.
- Port 443 makes the shortest address (`https://woms.company.local/`). Any other port is part of the address.

TRAP — The QR labels hold the address

The machine labels printed by WOMS hold the QR address of the site (WOMS → Administration → Sites), for example <https://woms.company.local/m/PL1>. WOMS Web must answer at exactly that address — name and port. Agree it before labels are printed, and do not change it afterwards.

5. Updates

1. Update WOMS.exe on one PC first, as an administrator. If the new version brings a new database schema, it asks to upgrade the server and saves a copy first.
2. Then replace the folder WOMS_Web on the server with the one of the same release and start the task again.
3. All PCs and WOMS Web must have the same version. WOMS Web never upgrades the database itself: with an older or newer schema it stops and says so in the log.

6. Security — what WOMS Web does

- Every person logs in with their own WOMS user ID and password (the same as on the PCs). The phones never hold the password of the database.
- The login cookie holds a random token (HttpOnly, Secure, SameSite); the database keeps only its SHA-256, so a copy of the database logs nobody in.
- Every form carries a CSRF token. After 5 wrong passwords that user ID waits 30 seconds.
- Every page checks the rights again on the server. A person disabled in WOMS is logged out at the next click; a new password ends the other logins of that person.
- Strict headers: HSTS, no framing, a content policy that allows no script, style or picture from anywhere else. Uploads: pictures only, at most 40 MB per request.
- The minute jobs (maintenance plans, over-limit messages) also run in WOMS Web, one machine at a time (a PostgreSQL advisory lock): the plans work even when no PC is on.

7. PDF on the server (optional)

WOMS Web makes the documents of the chief (work-order sheets, views, activity report, Prio report, statistics) as Word files. To offer PDF too, install LibreOffice on the server; WOMS Web finds it in Program Files at its next start. Without LibreOffice the PDF buttons are not shown.

```
winget install TheDocumentFoundation.LibreOffice
```

The files are made in the temporary folder of the account that runs WOMS Web and deleted as soon as they are sent.