

Professional Traverse and Level Adjustment Software

Precision in every point

USER MANUAL · STEP BY STEP



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Every step has a screenshot. The red numbers on each screenshot match the numbered points under it.

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A For the administrator: going live

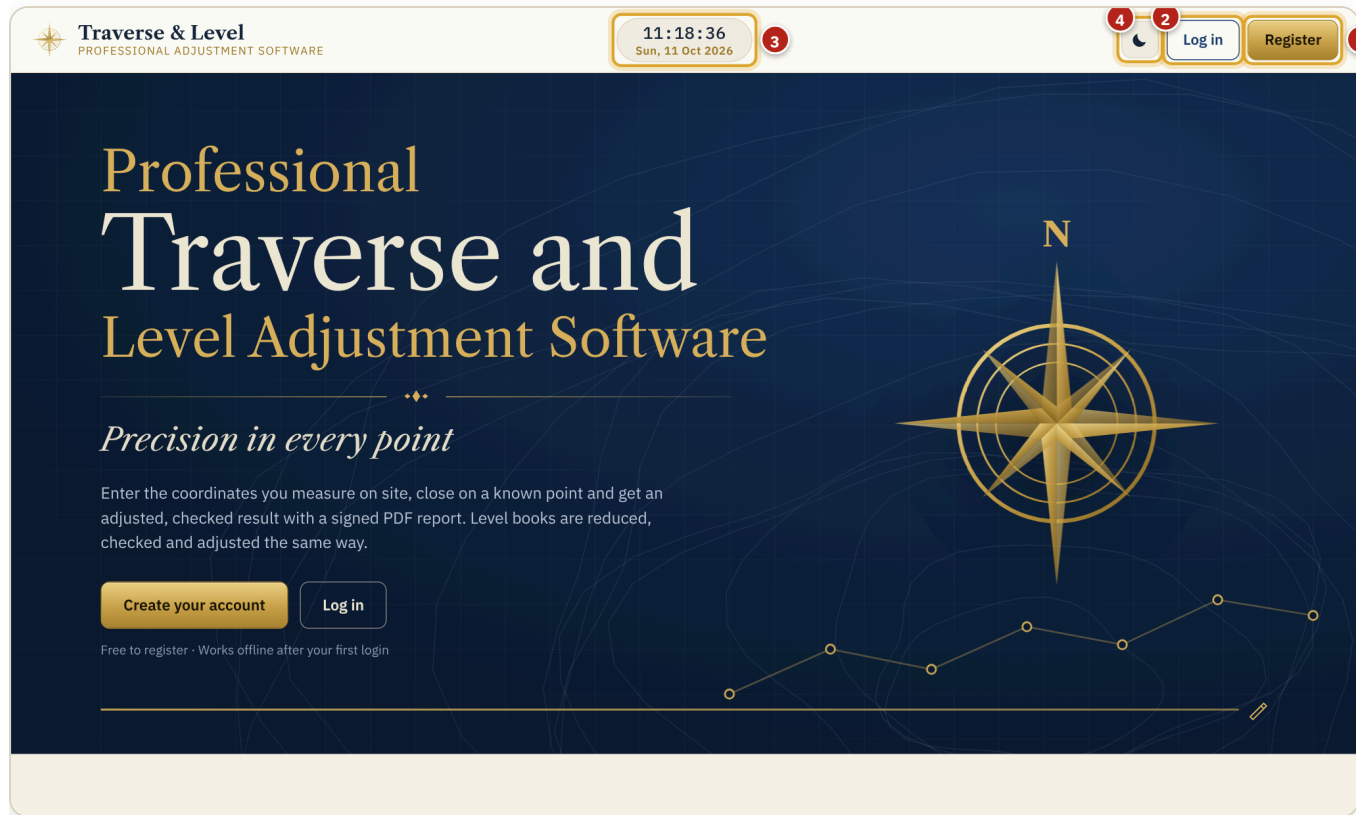
Connect accounts, publish the website, rebuild the .exe.

1 Getting started

Open the website, find your way around the top bar and choose light or dark mode.

1.1 Open the website

Open your website address in Chrome, Edge, Safari or Firefox. The front page shows what the software does.

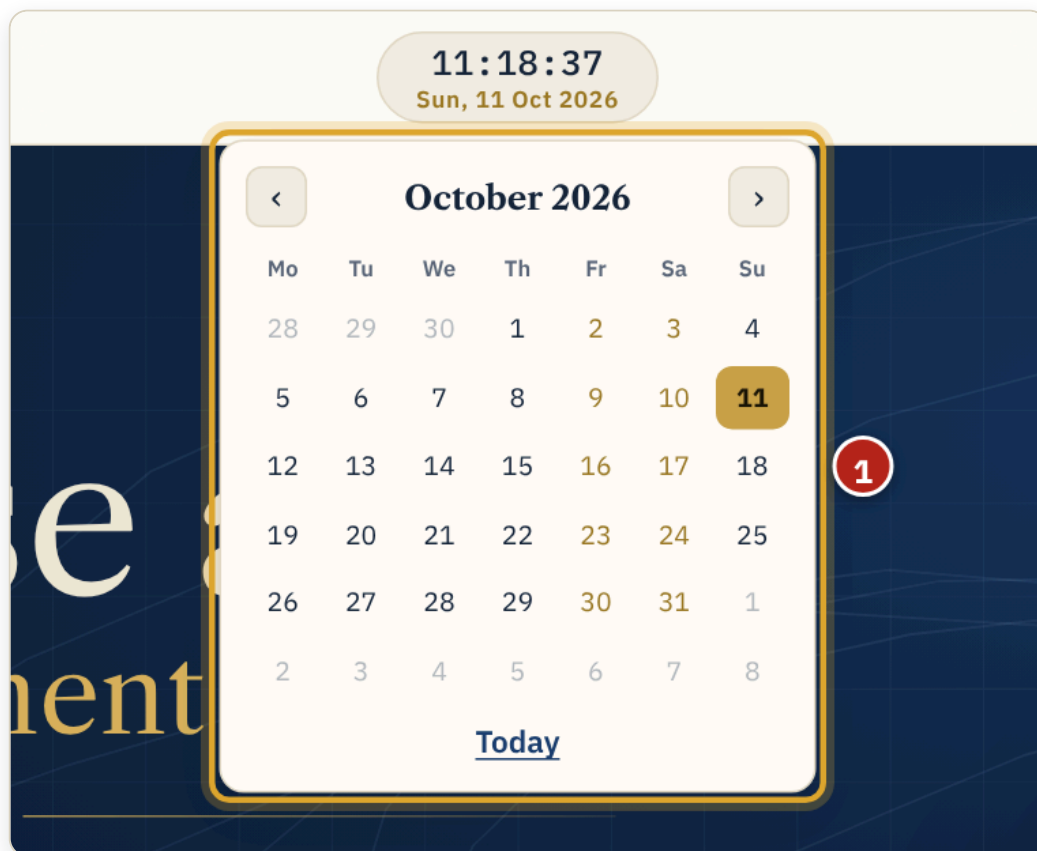


- 1 Register: create your account (first time only).
- 2 Log in: if you already have an account.
- 3 Clock and date: always shown at the top centre. Click it to open the calendar.
- 4 Light / dark mode: click to switch. Your choice is remembered.

Tip. You can also use the Windows program (.exe). It opens the same app in its own window.

1.2 Clock and calendar

The live clock and today's date sit at the top centre of every page.



- 1 Click the clock to open the month calendar. Today is marked in gold; Friday and Saturday are shown in gold. Use < > to change month and Today to come back. Click anywhere else to close it.

2 Your account

Register once on the website. After your first login the app also works without internet on that device.

2.1 Register

Click Register on the front page and fill in the form.

The screenshot shows a mobile app registration screen titled "Create your account". At the top is a compass icon. Below the title is a subtitle: "Register once on this website. After your first login the app works offline too." The form contains the following fields and elements:

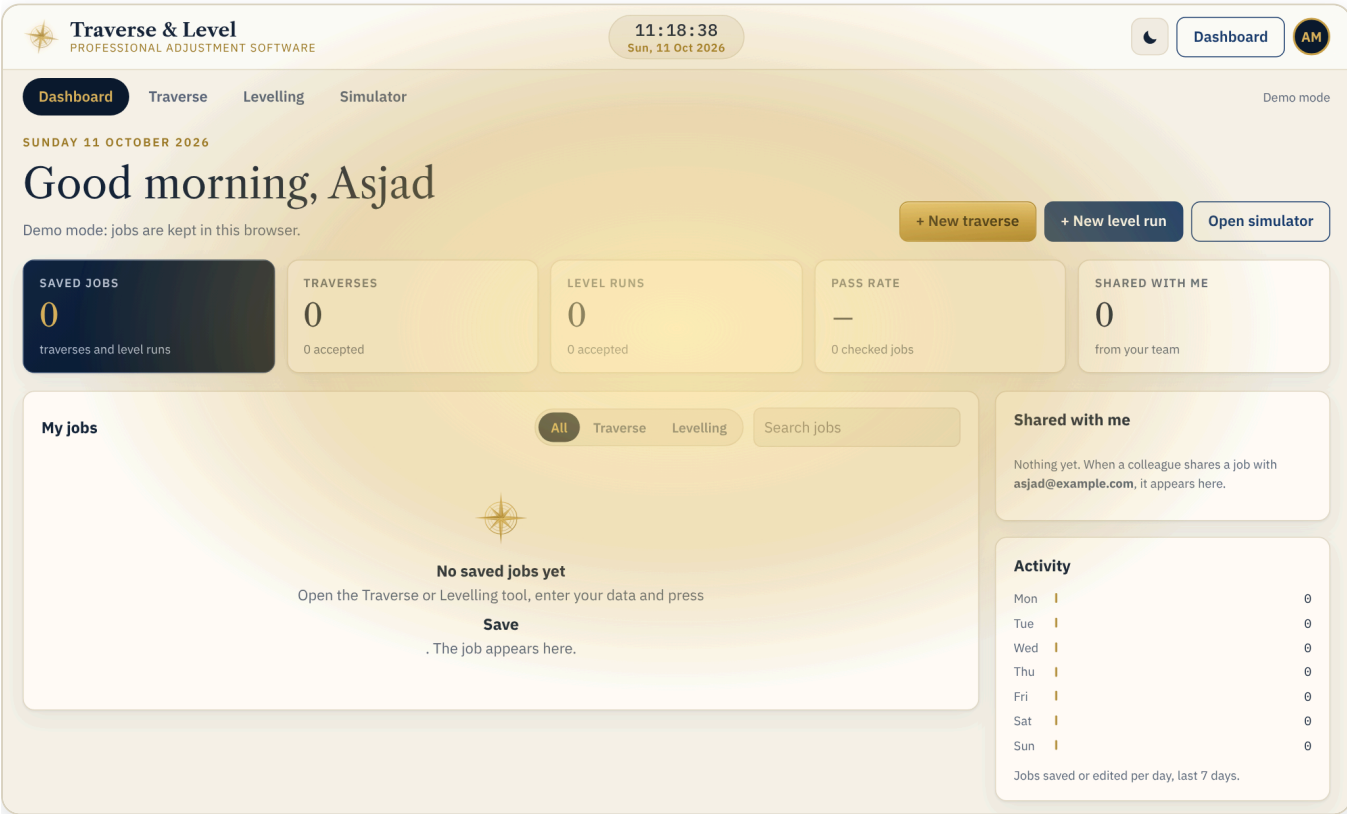
- Full name:** A text input field containing "Asjad Mehmood", marked with a red circle 1.
- Company:** A text input field containing "Samsung C&T", with "(optional)" written below it.
- Email:** A text input field containing "asjad@example.com", marked with a red circle 2.
- Password:** A password input field with dots, marked with a red circle 3.
- Confirm password:** A second password input field with dots.
- At least 8 characters:** A small text requirement below the password fields.
- Create account:** A large yellow button at the bottom, marked with a red circle 4.
- Already registered? [Log in](#)**: A link at the very bottom.

- 1 Full name. It is printed as the surveyor on your reports. Company is optional.
- 2 Email address. You log in with it and colleagues share jobs to it.
- 3 Password (at least 8 characters), typed twice.
- 4 Click Create account.

Tip. If the site asks you to confirm your email, open the link in the email first, then log in.

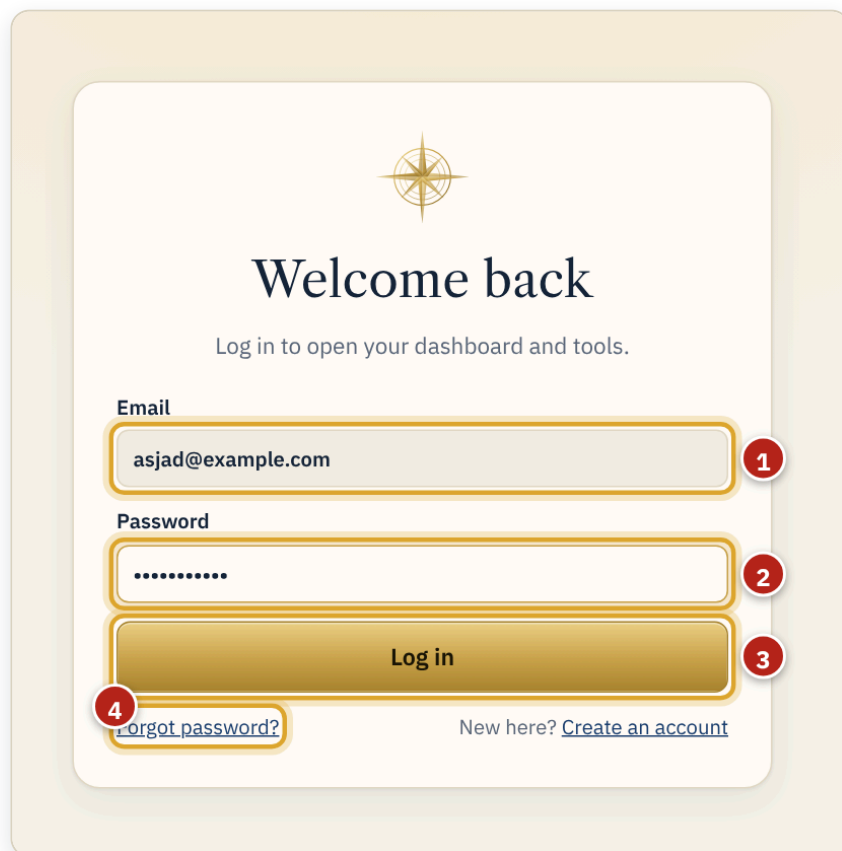
2.2 Golden welcome

Each time you log in, the screen flashes gold three times and the compass logo shines. Then your dashboard opens.



2.3 Log in and forgotten password

Next time, click Log in on the front page.

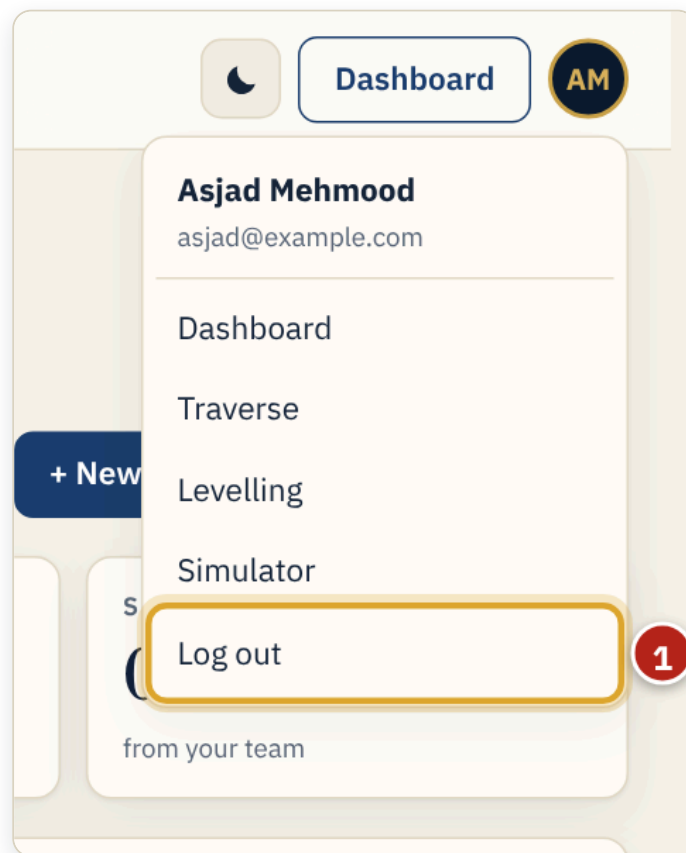


The image shows a login and forgotten password form with a light beige background. At the top center is a gold compass rose icon. Below it, the text "Welcome back" is displayed in a large, dark serif font. Underneath, in a smaller font, is the instruction "Log in to open your dashboard and tools." The form contains two input fields: "Email" with the value "asjad@example.com" and "Password" with masked characters ".....". Both fields have a red circle with the number "1" to the right. Below the password field is a gold "Log in" button with a red circle and the number "2" to its right. At the bottom left is a link "Forgot password?" with a red circle and the number "3" to its right. At the bottom right is the text "New here? [Create an account](#)".

- 1 Your email.
- 2 Your password.
- 3 Click Log in.
- 4 Forgot password? Enter your email and we send a link to set a new password.

2.4 Account menu and log out

Click the round button with your initials (top right) to open the account menu.



1 Log out. Any changes saved while offline are uploaded first when there is a connection.

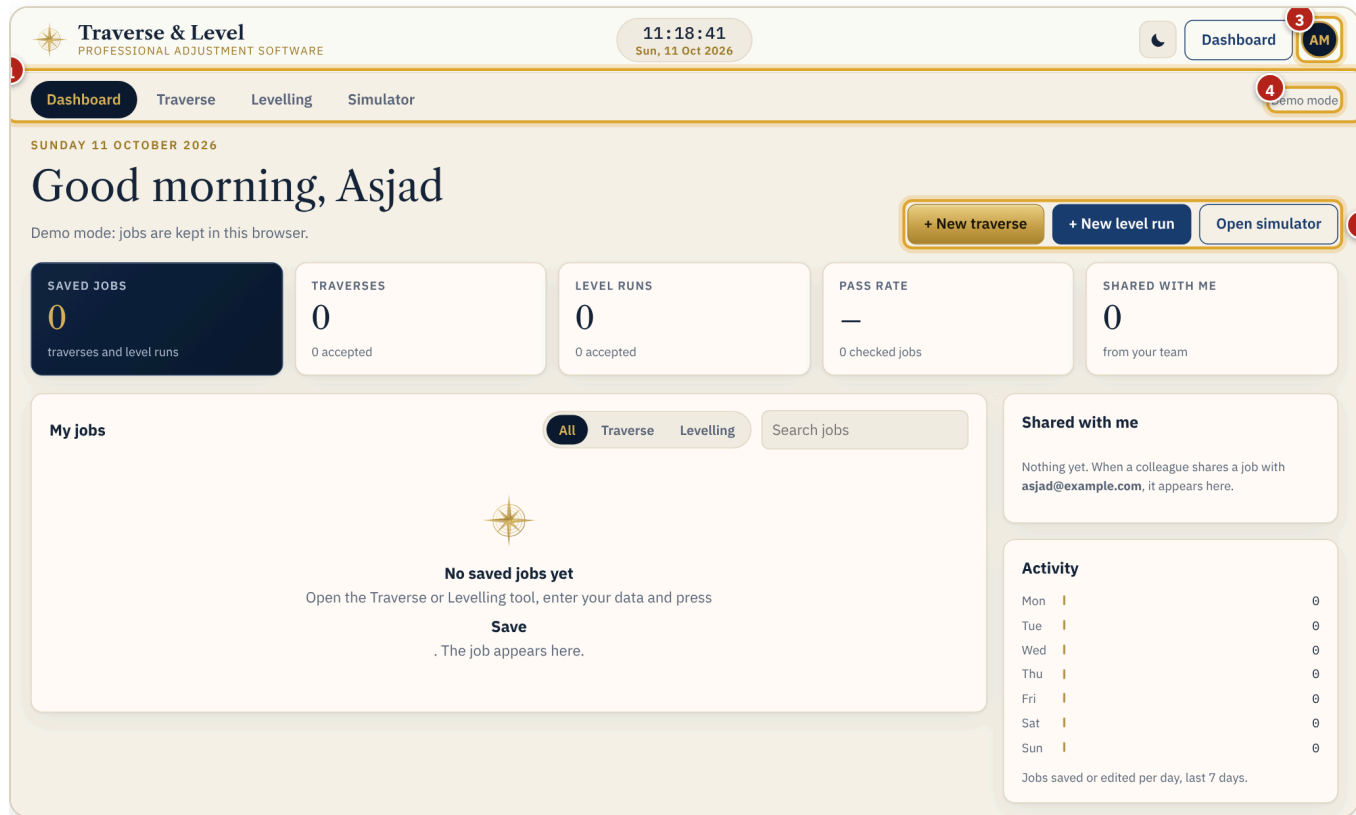
Tip. Do not log out on your own laptop if you need to work offline later: the app opens offline only for the user who is logged in.

3 Dashboard

Your home page: every traverse and level run you save is kept here.

3.1 Dashboard at a glance

After login the dashboard opens with a greeting, today's date and five summary tiles.



- 1 Section bar: Dashboard, Traverse, Levelling and Simulator.
- 2 Quick buttons: + New traverse, + New level run, Open simulator.
- 3 Your account (initials).
- 4 Connection: Online (saved to your account) or Offline (saving on this device).

3.2 Working with saved jobs

Each saved job shows its name, type, project, time, status (Accepted, Rejected, Open or Incomplete) and the key result.

The screenshot displays the 'Traverse & Level' software interface. At the top, the header includes the logo, time (11:18:56), date (Sun, 11 Oct 2026), and user profile (Asjad). The main navigation bar has tabs for Dashboard, Traverse, Levelling, and Simulator. The dashboard shows a greeting 'Good morning, Asjad' and a demo mode notice. It features several summary cards: 'SAVED JOBS' (2), 'TRAVERSES' (1), 'LEVEL RUNS' (1), 'PASS RATE' (100%), and 'SHARED WITH ME' (0). Below these is a 'My jobs' section with two entries: 'BM loop Block A' and 'Al Khor TP loop 1'. Each entry has a filter dropdown (All, Traverse, Levelling), a search bar, and action buttons (Open, Share, Copy, Delete). A 'Shared with me' section is also present, along with an 'Activity' chart showing jobs saved or edited per day for the last 7 days.

- 1 Filter: All, Traverse or Levelling.
- 2 Search by job or project name.
- 3 Open: loads the job into its tool.
- 4 Share: send the job to a colleague by email.
- 5 Copy: makes a duplicate you can change.
- 6 Delete: asks you to confirm first.
- 7 Shared with me: jobs colleagues have shared with you.

Tip. The Activity chart shows how many jobs you saved or edited on each of the last 7 days.

4 Coordinate traverse

Enter the coordinates measured on site, close on a known point, choose the method and read the result.

4.1 Job name and report details

Open Traverse from the section bar. Start at the top.

- 1 Report details: project, location, surveyor, checked by, instrument and date. They print on the PDF report.
- 2 Job name, for example "Al Khor TP loop 1".
- 3 Save: stores the job in your dashboard. Save as new keeps the old one and makes another.
- 4 Example: loads a worked example to try the tool.
- 5 New: clears the screen for a new traverse (asks to confirm).

4.2 Step 1: known points

Choose the traverse type, then type the known coordinates.

1 Closed traverse **2** Open traverse

1 Known points

	POINT	EASTING	NORTHING
Station	CP-01	228450.312	441203.845
Backsight	CP-02	228912.640	441655.118
Closing	CP-03	229265.871	441392.006

[Closing point = station \(loop\)](#) **6**

2 Site coordinates as measured, in order

Example data is loaded

Accepted (Precision rule).

MISCLOSURE E 12.0 mm

LENGTH 931.58 m

Coordinates

POINT	MEAS
CP-01	228450.312

- 1** Closed traverse: you finish on a known point, so the error is checked and adjusted.
- 2** Open traverse: no closing point; coordinates are listed as measured, without a check.
- 3** Station point: where the instrument starts (name, Easting, Northing).
- 4** Backsight point: the known reference point you sighted (name, Easting, Northing).
- 5** Closing point: the known point you finish on, with its known coordinates.
- 6** For a loop that closes back on the station, click this link to copy the station into the closing point.

4.3 Step 2: site coordinates

Enter the coordinates measured on site, in the order you observed them.

The screenshot shows a web form titled "2 Site coordinates as measured, in order". It contains a table with the following data:

#	POINT	EASTING	NORTHING	REMARK
S	CP-01	228450.312	441203.845	Station (known)
1	TP-01	228610.458	441118.300	Steel pin ×
2	TP-02	228795.123	441090.770	Steel pin ×
3	TP-03	228968.548	441162.410	Steel pin ×
4	TP-04	229120.243	441281.652	Steel pin ×
C	CP-03	229265.883	441391.997	Closing point, as measured

Below the table are two buttons: "+ Add point" and "Import CSV". A tip at the bottom reads: "Tip: copy rows in Excel (Point, Easting, Northing, Remark) and paste into any cell." Numbered callouts 1 through 5 point to specific elements: 1 points to the station row, 2 points to the first traverse point row, 3 points to the closing point row, 4 points to the "+ Add point" button, and 5 points to the "Import CSV" button.

- 1 The station row is filled in for you from step 1.
- 2 Type each traverse point: name, Easting, Northing and a remark. Press Enter to go down a row.
- 3 Closing point as measured on site (closed traverse only).
- 4 + Add point adds a row; × deletes one.
- 5 Import CSV reads a file with Point, Easting, Northing, Remark.

Tip. Fastest way: copy the rows in Excel (with or without the header) and paste into the first Point cell. All rows fill at once.

4.4 Step 3: adjustment method

Choose how the misclosure is spread over the points, and the precision you need.

3 Adjustment

☒ **Bowditch**
Correction in proportion to distance. The usual choice.

☐ **Transit**
Easting and Northing corrected by their own changes.

☐ **Equal**
Same share of the error at every point.

Required precision 1 :

- 1 Bowditch: correction in proportion to the distance travelled (the usual choice). Transit: Easting and Northing corrected by their own changes. Equal: the same share at every point.
- 2 Required precision 1 : N, for example 10000 (1 : 10,000) or as your project specification says.

4.5 Read the result

The result updates as you type.

Example data is loaded. Type over it, or press **New** to start your own job.

Accepted
Precision 1 : 62,105 is better than the required 1 : 10,000. Adjusted by Bowditch (Compass rule).

MISCLOSURE E 12.0 mm	MISCLOSURE N -9.0 mm	LINEAR 15.0 mm	PRECISION 1 : 62,105
LENGTH 931.58 m			

- 1 Green Accepted: the precision is better than required. Red Rejected: check the field data.
- 2 Misclosure E and N = measured closing coordinates – known closing coordinates. Linear misclosure = $\sqrt{E^2 + N^2}$. Precision = total length ÷ linear misclosure.

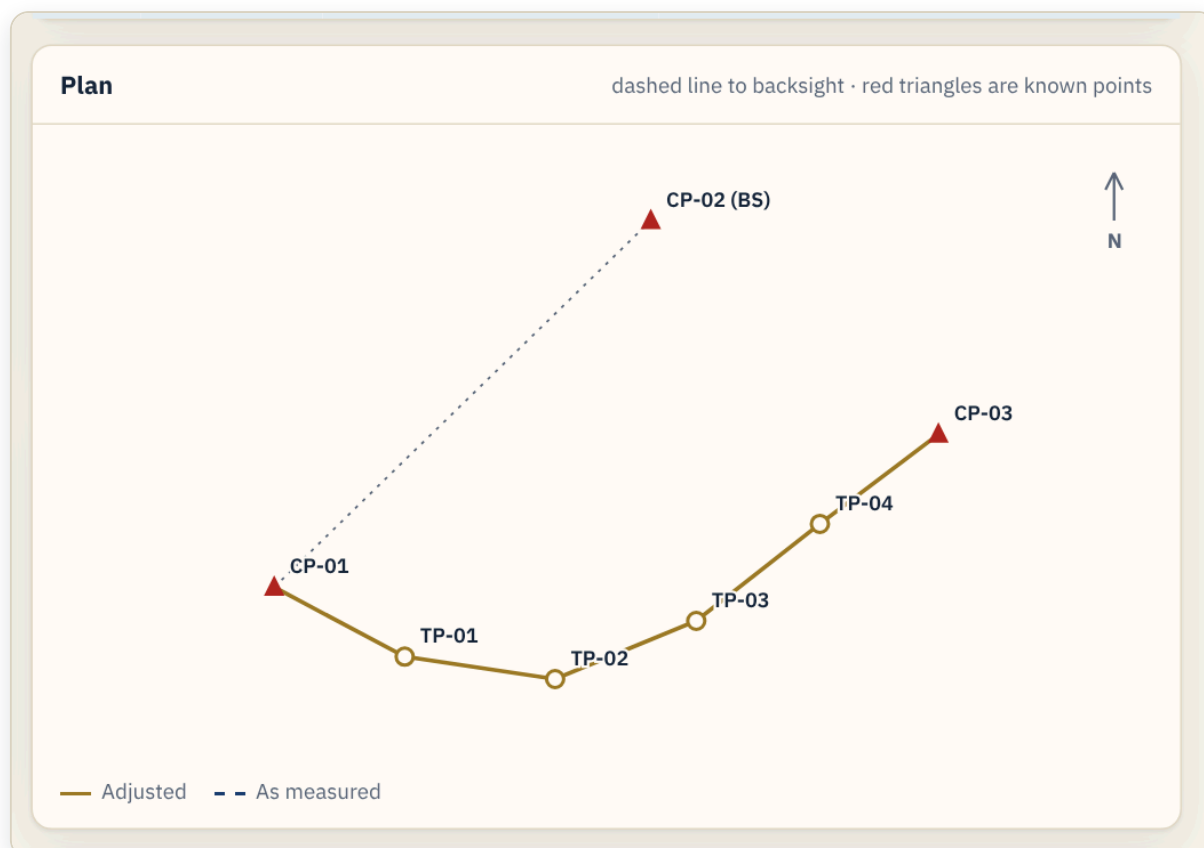
4.6 Input and output coordinates

The coordinates table lists every point: the coordinates you measured, the correction in millimetres, and the adjusted (output) coordinates in gold. The closing point ends exactly on its known coordinates.

Coordinates input (measured) and output (adjusted) · metres						
POINT	MEASURED E	MEASURED N	CORR E MM	CORR N MM	OUTPUT E	OUTPUT N
CP-01	228450.312	441203.845	0.0	0.0	228450.312	441203.845
TP-01	228610.458	441118.300	-2.3	1.8	228610.456	441118.302
TP-02	228795.123	441090.770	-4.7	3.6	228795.118	441090.774
TP-03	228968.548	441162.410	-7.2	5.4	228968.541	441162.415
TP-04	229120.243	441281.652	-9.6	7.2	229120.233	441281.659
CP-03	229265.883	441391.997	-12.0	9.0	229265.871	441392.006

4.7 Plan sketch

The plan shows the adjusted traverse in gold and the measured line dashed. Red triangles are known points; the dotted line goes to the backsight.



4.8 Bearings, PDF report and CSV

Bearings (whole circle) and distances are computed from the output coordinates.

Adjusted

As measured

Bearings and distances

from output coordinates

FROM	TO	BEARING	DISTANCE M
CP-01	TP-01	118°06'35"	181.559
TP-01	TP-02	098°28'44"	186.703
TP-02	TP-03	067°33'15"	187.638
TP-03	TP-04	051°49'46"	192.950
TP-04	CP-03	052°50'58"	182.720

1 PDF report

Coordinates CSV

2

- 1 PDF report: details, closure check, input and output coordinates, bearings, sketch and signature boxes.
- 2 Coordinates CSV: measured, corrections and output coordinates for Excel or CAD.

4.9 Save the job

Press Save. The status beside the buttons confirms it.

JOB Al Khor TP loop 1

Save

Save as new

Saved just now

1

Example

New

- 1 "Saved just now" means the job is in your account. "Unsaved changes" (amber) means you edited it after saving: press Save again.

4.10 When a traverse is rejected

Rejected means the precision is worse than required. Check, in this order: the closing point known coordinates, its measured coordinates, then the site coordinates of each point against the field book. Never lower the required precision just to make a traverse pass.



Rejected

Precision 1 : 8,292 is worse than the required 1 : 10,000. Check the site coordinates and the closing point before using these results.

4.11 Messages for missing or wrong values

If a value is missing or not a number, the result waits and lists what to fix, with the row and point name. The cell is outlined in red. Numbers may use a decimal point; thousands commas are allowed (228,450.312).



Waiting for complete data

Fix the items below to see the result.

- Row 2 (TP-02): Easting is missing or not a number.

4.12 Open traverse

Choose Open traverse when you cannot close on a known point. The result is shown in amber: coordinates are as measured and no error can be detected. Close the traverse whenever you can.



Open traverse: not checked

There is no closing point, so errors cannot be found. Coordinates are shown as measured.

POINTS

4

LENGTH

748.86 m

START BEARING

045°41'36"

4.13 Traverse PDF report

Page 1 of the report: header with your report details, traverse details, closure check (ACCEPTED / REJECTED), input coordinates and output coordinates. Page 2 has bearings and distances, the sketch and signature boxes for Surveyed by, Checked by and Approved by.

TRAVERSE ADJUSTMENT REPORT

SurveyX Digital
Date: 2026-10-11

PROJECT

Al Khor Expressway

LOCATION

Al Khor, Qatar

SURVEYOR

Asjad Mehmood

CHECKED BY

Senior Surveyor

INSTRUMENT

Leica TS16 2"

DATE

2026-10-11

1. Traverse details

Traverse type

Closed (checked on a known point)

Adjustment method

Bowditch (Compass rule)

Station point

CP-01 E 228450.312 N 441203.845

Backsight point

CP-02 E 228912.640 N 441655.118

Reference bearing

CP-01 -> CP-02 045°41'36" (646.061 m)

Closing point

CP-03 E 229265.871 N 441392.006

Traverse legs

5 (total length 931.579 m)

2. Closure check

ACCEPTED - within the required precision

Misclosure dE = 12.0 mm dN = -9.0 mm Linear = 15.0 mm

Precision achieved 1 : 62,105 Required 1 : 10,000 Total length 931.579 m

Misclosure = measured closing coordinates - known closing coordinates. Corrections are the opposite sign.

3. Input coordinates (as measured on site)

Point	Easting (m)	Northing (m)	Remark
CP-01	228450.312	441203.845	Station (known)
TP-01	228610.458	441118.300	Steel pin
TP-02	228795.123	441090.770	Steel pin
TP-03	228968.548	441162.410	Steel pin
TP-04	229120.243	441281.652	Steel pin
CP-03	229265.883	441391.997	Closing point as measured

4. Output coordinates (adjusted)

Point	Corr. dE (mm)	Corr. dN (mm)	Adjusted Easting (m)	Adjusted Northing (m)
CP-01	0.0	0.0	228450.312	441203.845
TP-01	-2.3	1.8	228610.456	441118.302
TP-02	-4.7	3.6	228795.118	441090.774
TP-03	-7.2	5.4	228968.541	441162.415
TP-04	-9.6	7.2	229120.233	441281.659
CP-03	-12.0	9.0	229265.871	441392.006

Traverse adjustment - Al Khor Expressway

Page 1 of 2

5 Levelling

Reduce a level book by Rise & Fall or Height of Instrument, check it and adjust it.

5.1 Enter the level book

Open Levelling. Choose Closed loop / to a BM, or Open run. Give the job a name.

1 Benchmarks

	NAME	RL (M)
Start BM	BM-01	4.215
Closing BM	BM-01	4.215

[Closing BM = start BM \(loop\)](#)

2 Staff readings one row per point, in order

#	STATION	BS	IS	FS	REMARK
1	BM-01	1.512			Benchmark
2	TP-1	1.388		0.866	Change point
3	IP-1		2.034		Kerb top
4	TP-2	1.604		0.801	Change point
5	BM-01			2.839	Back on bench

[+ Add row](#) [Import CSV](#)

First row: BS only. Change point: FS and BS on the same row. Last row: FS only.

3 Method

☒ **Rise & Fall**
Report shows rise and fall columns.

☐ **Height of Instrument**
Report shows the HI column.

Allowable misclosure ± mm Blank = 10 mm × √set-ups

- 1 Start BM: name and known RL. Closing BM: name and known RL.
- 2 For a loop that closes on the start BM, click this link.
- 3 First row: the start benchmark with its BS only.
- 4 Change point: FS and BS on the same row.
- 5 Intermediate sight: IS only.
- 6 Last row: the closing benchmark with its FS only.

Tip. Method: Rise & Fall or Height of Instrument (both give the same RLs; the report shows the matching columns). Allowable misclosure: leave blank for 10 mm × √set-ups, or type your own value in mm.

5.2 Levelling result

The result shows Accepted or Rejected, the misclosure against the allowable, set-ups, ΣBS and ΣFS .

Example data is loaded. Type over it, or press **New** to start your own job.

Accepted
 Misclosure -2.0 mm is within the allowable $\pm 10 \text{ mm} \times \sqrt{3} \text{ set-ups} = \pm 17.3 \text{ mm}$. Corrected equally per set-up.

1

MISCLOSURE
-2.0 mm

ALLOWABLE $\pm$
17.3 mm

SET-UPS
3

ΣBS
4.504

ΣFS
4.506

Reduced levels							Rise & Fall - metres	
STATION	BS	IS	FS	RISE	FALL	RL	CORR MM	ADJUSTED RL
BM-01	1.512					4.215	0.0	4.215
TP-1	1.388		0.866	0.646		4.861	0.7	4.862
IP-1		2.034			0.646	4.215	1.3	4.216
TP-2	1.604		0.801	1.233		5.448	1.3	5.449
BM-01			2.839		1.235	4.213	2.0	4.215
Sum	4.504		4.506	1.879	1.881			

- The reduced levels table lists HI or Rise/Fall, RL, the correction (equal per set-up, cumulative) and the adjusted RL. Below it, the arithmetic checks: $\Sigma BS - \Sigma FS = \text{Last RL} - \text{First RL}$, $\Sigma \text{Rise} - \Sigma \text{Fall} = \text{Last RL} - \text{First RL}$, and HI equals Rise & Fall at every point.

5.3 Levelling PDF report

Press PDF report. The report has run details, the closure check, the arithmetic checks, the full level book with adjusted RLs, and signature boxes. Levels CSV saves the table for Excel.

LEVELLING REPORT

SurveyX Digital
Date: 2026-10-11

PROJECT

Al Khor Expressway

LOCATION

Al Khor, Qatar

SURVEYOR

Asjad Mehmood

CHECKED BY

Senior Surveyor

INSTRUMENT

Leica TS16 2"

DATE

2026-10-11

1. Level run details

Run type

Closed (checked on a known benchmark)

Reduction method

Rise & Fall

Starting benchmark

BM-01 RL 4.215 m

Closing benchmark

BM-01 RL 4.215 m

Instrument set-ups

3

2. Closure check

ACCEPTED - within the allowable misclosure

Misclosure = computed RL 4.213 - known RL 4.215 = -2.0 mm

Allowable $\pm 10 \text{ mm} \times \sqrt{3} \text{ set-ups} = \pm 17.3 \text{ mm}$

Correction applied equally per set-up: 0.67 mm per set-up (cumulative).

3. Arithmetic checks

Check	Left side (m)	Right side (m)	Result
Sum BS - Sum FS = Last RL - First RL	-0.0020	-0.0020	OK
Sum Rise - Sum Fall = Last RL - First RL	-0.0020	-0.0020	OK
HI method and Rise & Fall method give the same RLs	max diff 0.0000		OK

4. Level book

Station	BS	IS	FS	Rise	Fall	RL	Corr. (mm)	Adjusted RL	Remark
BM-01	1.512					4.215	0.0	4.215	Benchmark
TP-1	1.388		0.866	0.646		4.861	0.7	4.862	Change point
IP-1		2.034			0.646	4.215	1.3	4.216	Kerb top
TP-2	1.604		0.801	1.233		5.448	1.3	5.449	Change point
BM-01			2.839		1.235	4.213	2.0	4.215	Close on benchmark
Sum	4.504		4.506	1.879	1.881				

SURVEYED BY

Asjad Mehmood

Signature / Date

CHECKED BY

Senior Surveyor

Signature / Date

APPROVED BY

Signature / Date

Levelling - Al Khor Expressway

Page 1 of 1

6 Traverse simulator

Watch a total station observe a traverse with realistic errors, then adjust it. Ideal for training new surveyors.

6.1 Run a simulation

Open Simulator from the section bar.

Traverse

Link: CP-01 to CP-03

New points: 5

Average leg (m): 200

Angle accuracy: 2" instrument

Distance accuracy: 1 mm + 1.5 ppm

Scenario number: 2826

Speed: Normal

☐ Show true positions

Pause Reset

STATION
TP-01

BACKSIGHT
CP-01

FORESIGHT
TP-02

HORIZONTAL ANGLE
160°31'46.9"

HORIZONTAL DISTANCE
214.629 m

BEARING CARRIED
226°50'20"

MEASURED TP-02
E 228267.933 · N 441007.398

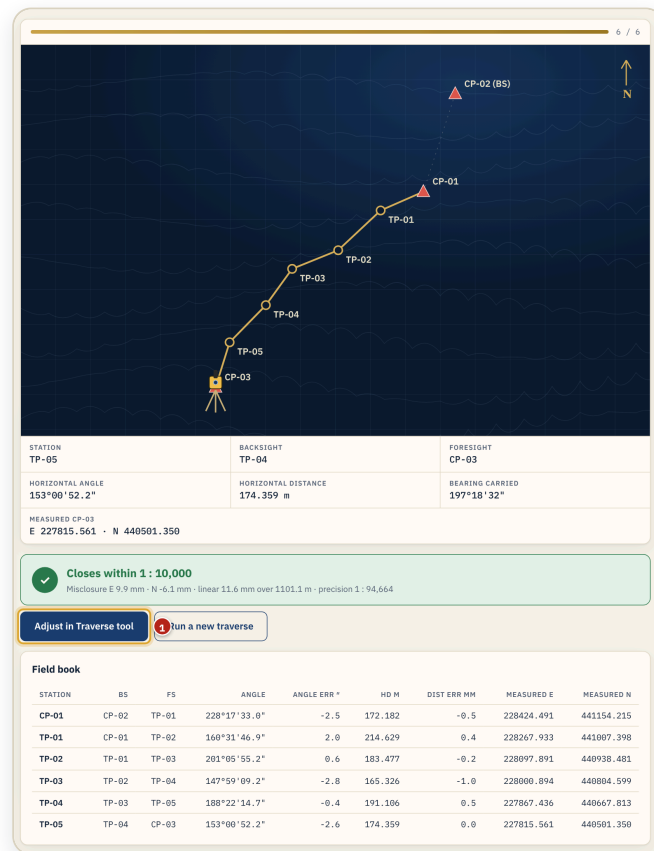
Field book

STATION	BS	FS	ANGLE	ANGLE ERR "	HD M	DIST ERR MM	MEASURED E	MEASURED N
CP-01	CP-02	TP-01	228°17'33.0"	-2.5	172.182	-0.5	228424.491	441154.215
TP-01	CP-01	TP-02	160°31'46.9"	2.0	214.629	0.4	228267.933	441007.398

- 1 Settings: link (CP-01 to CP-03) or loop, number of new points, average leg, angle accuracy, distance accuracy, scenario number (same number = same traverse), speed, and Show true positions.
- 2 Run starts the observation. Pause / Resume, and Reset to start again.
- 3 Live readout: station, backsight, foresight, horizontal angle, distance, bearing carried forward and the measured coordinates.

6.2 Result and adjustment

At the end the simulator shows the misclosure and precision against 1 : 10,000. The field book lists every angle and distance with its random error.



- 1 Adjust in Traverse tool: loads the simulated site coordinates into the Traverse tool, ready to adjust and save.

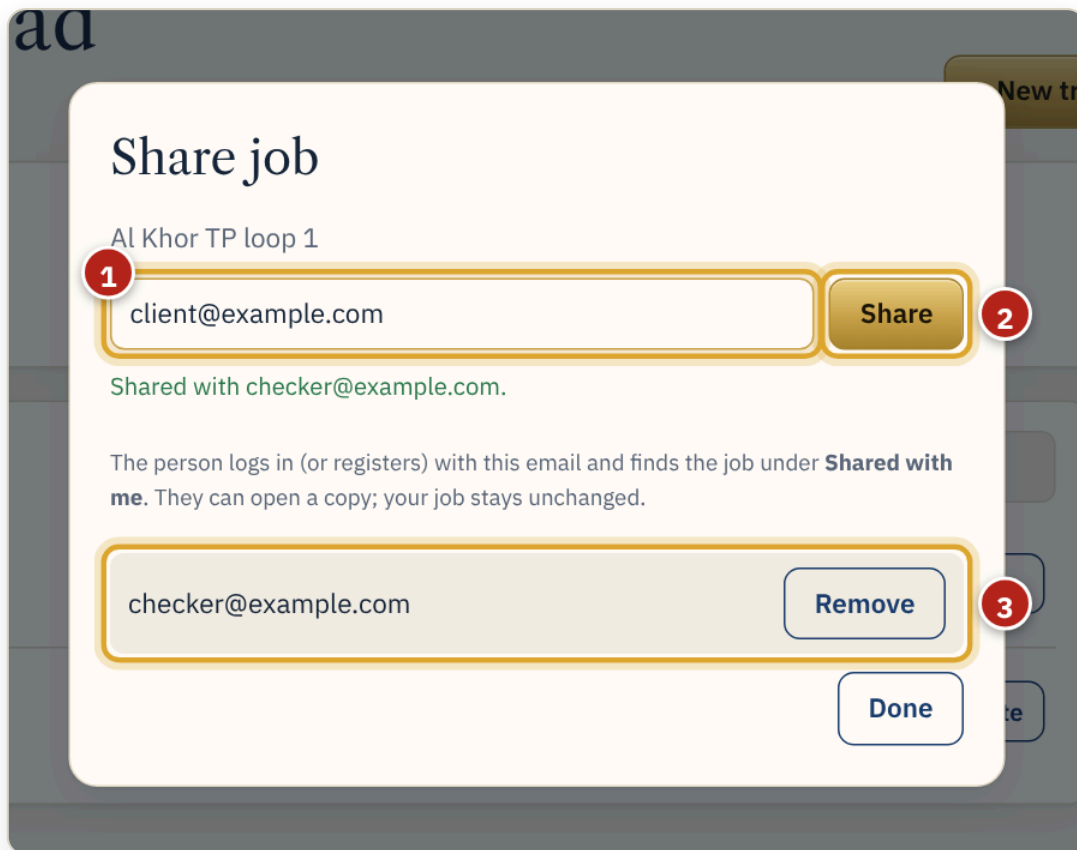
Tip. Try a 30" angle accuracy or "10 mm + 5 ppm" to see how a poor set-up makes a traverse fail.

7 Sharing

Share a job with a checker, engineer or client. They see it in their own dashboard.

7.1 Share a job

On the dashboard, click Share on the job.

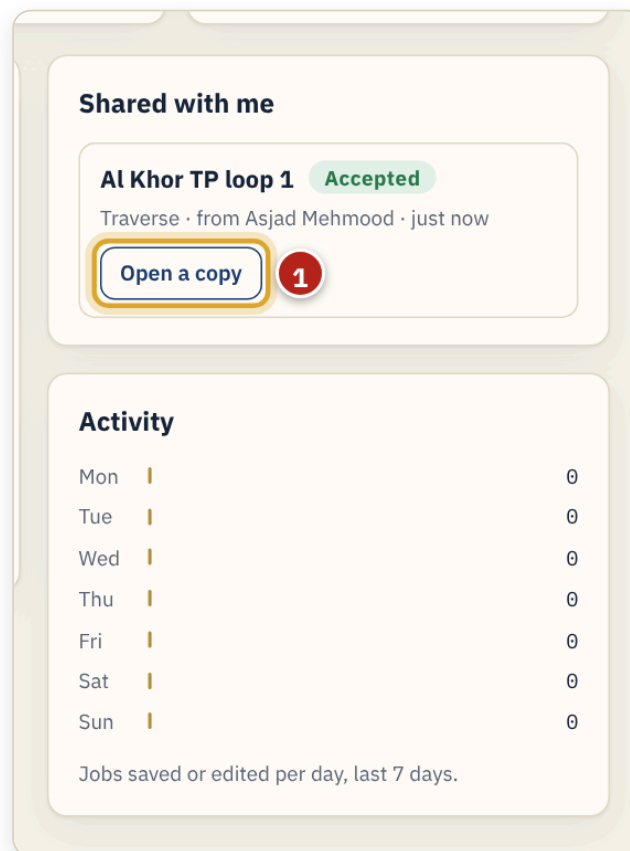


- 1 Type the person's email.
- 2 Click Share.
- 3 People it is shared with. Remove stops sharing.

Tip. The person logs in (or registers) with that same email. Sharing needs an internet connection.

7.2 Jobs shared with you

Jobs that colleagues share with you appear under Shared with me on your dashboard.



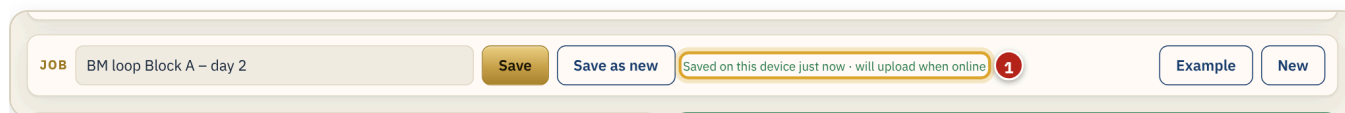
- 1 Open a copy loads it into the tool. Their job stays unchanged; press Save to keep your own copy.

8 Offline, dark mode and phone

Keep working without internet, at night, or on site from your phone.

8.1 Working offline

After you log in once with internet, the app opens and works on that device without internet.

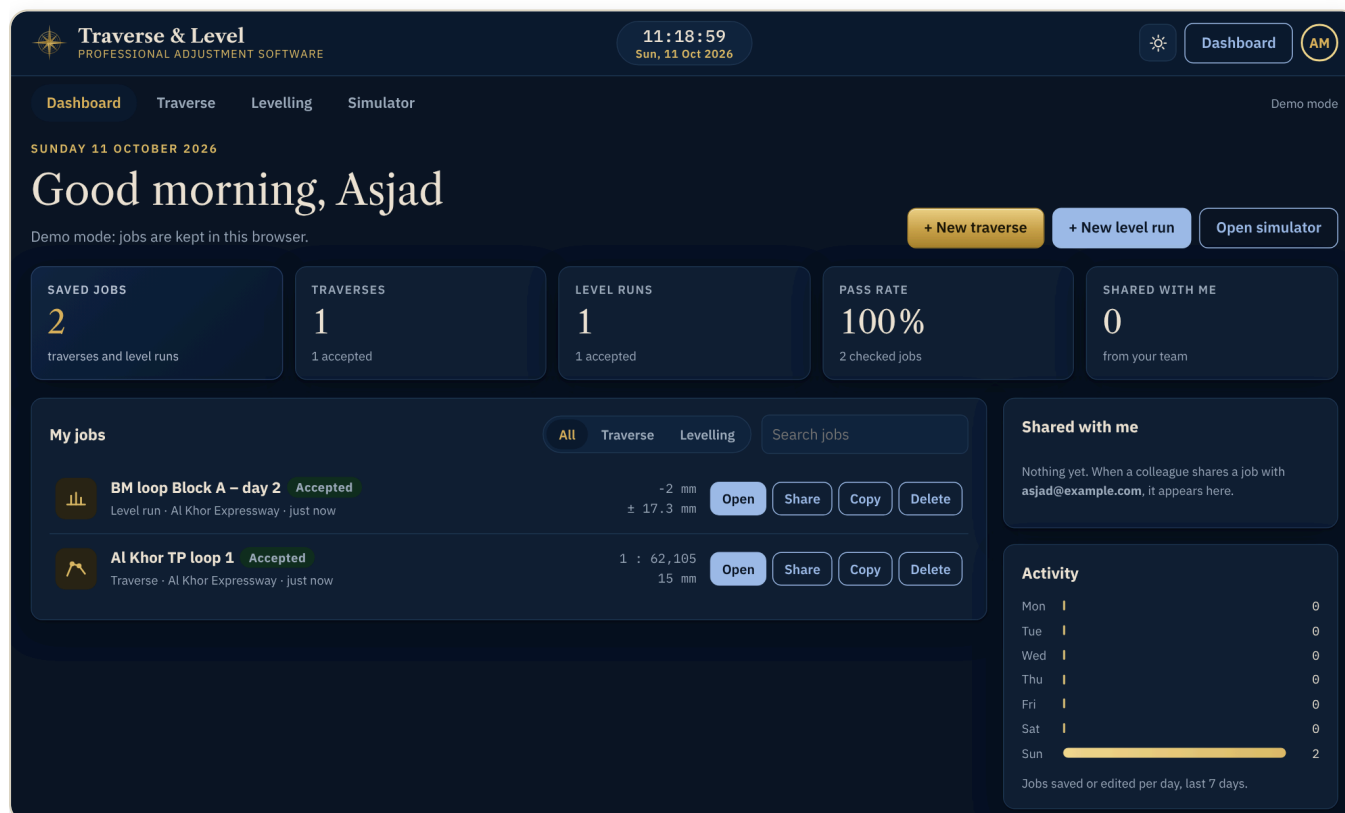


- 1 Jobs you save offline show "Saved on this device · will upload when online". They upload by themselves when the connection is back.

Tip. Install it like an app: in Chrome or Edge click the install icon in the address bar; on a phone use "Add to Home screen". The Windows .exe also works offline.

8.2 Dark mode

Click the moon button (top right) for dark mode and the sun button for light mode. Your choice is remembered on that device. The first time, the app follows your computer's setting.



8.3 On your phone

Every screen fits a phone: the clock moves under the logo, and tables scroll sideways inside their own box.



9 Sample files

These files come with the manual. Use them to practise before your own job.

File	What it is
<code>sample-traverse-site-coordinates.csv</code>	Site coordinates of the example traverse. The comment lines at the top give the known points to type in step 1.
<code>sample-level-book.csv</code>	The example level book (closed loop on BM-01, RL 4.215).
<code>sample-data.xlsx</code>	The same two samples in Excel, formatted as text, ready to copy and paste.
<code>sample-traverse-report.pdf</code>	The PDF report the example traverse produces.
<code>sample-level-report.pdf</code>	The PDF report the example level book produces.

How to use the traverse sample

- 1 Open Traverse and press New.
- 2 Type the known points from the first lines of the CSV file: CP-01 (station), CP-02 (backsight) and CP-03 (closing).
- 3 Click Import CSV and choose `sample-traverse-site-coordinates.csv` (or paste the rows from `sample-data.xlsx`).
- 4 Type the closing point as measured: E 229265.883, N 441391.997. The result shows Accepted, precision 1 : 62,105.

How to use the levelling sample

- 1 Open Levelling and press New.
- 2 Start BM: BM-01, RL 4.215. Click "Closing BM = start BM (loop)".
- 3 Import `sample-level-book.csv`. The result shows Accepted, misclosure -2.0 mm, allowable ± 17.3 mm.

10 Troubleshooting

Messages you may see and what to do.

You see	What to do
Waiting for complete data	A value is missing or not a number. Read the red list: it names the row and point. Fix the outlined cell.
Rejected	Precision is worse than required. Check the closing point known and measured coordinates, then each point against the field book.
Transit rule cannot spread an error	All legs run exactly north–south or east–west. Choose Bowditch.
Level book: change point needs both FS and BS	Put the FS and the next BS on the same row.
Email or password is not correct	Check the email spelling and Caps Lock, or use Forgot password.
Please confirm your email first	Open the confirmation link in your email, then log in.
Opens offline but my jobs from another device are missing	Jobs come down from your account when you are online. Connect once and they appear.
Not uploaded label on a job	It was saved offline. It uploads automatically when you are online; do not log out before that.
Windows protected your PC (the .exe)	Click More info, then Run anyway. The program is not code-signed yet.
The .exe opens a blank window	Install Microsoft Edge WebView2 Runtime (free from Microsoft), then open it again.

A For the administrator: going live

Do this once to switch the website from demo mode to real accounts. It takes about 20 minutes and the free Supabase plan is enough to start.

1 Create the account service

Go to supabase.com, sign up free and create a project (choose a region near Qatar, for example Middle East or Europe).

2 Create the tables

In the project, open SQL Editor → New query, paste the whole file `supabase/schema.sql` and click Run. This creates the jobs and sharing tables with security rules: each user sees only their own jobs and jobs shared with their email.

3 Copy the two keys

Project Settings → API: copy the Project URL and the anon public key.

4 Fill in config.js

Open `website/config.js` in Notepad and paste the URL and key, and your website address as `siteUrl`. Save.

5 Set the website address in Supabase

Authentication → URL Configuration: set Site URL to your website address and add it under Redirect URLs. Under Authentication → Providers → Email you can turn "Confirm email" on (safer) or off (instant access).

6 Publish the website

Upload everything inside the website folder to your host: Netlify (drag the folder onto app.netlify.com/drop), Vercel, GitHub Pages or your cPanel `public_html`. Use https so the app can install and work offline.

7 Test

Open the website, register, save a job, log in on a second device and check the job is there. The "Demo mode" bar disappears once the keys are in.

8 Desktop .exe

The `.exe` contains its own copy of `config.js`. After step 4, rebuild it (see `desktop/README.md`: one command) or send the URL and anon key to be rebuilt. Until then the `.exe` runs in demo mode with accounts kept on that PC.