



Asfan Architect VR

User Manual

Version 2

Asfan Architect VR — User Manual

Version 2 · Windows program and Meta Quest app

Asfan Architect VR is an architectural design program. You draw the plan in 2D, the building appears in 3D as you draw, and you walk through it at real scale in a VR headset. The same project file opens on the computer and in the headset.

Quick start in five steps

1. **Install and activate:** run the installer, paste your licence key, press **Activate**.
 2. **Start a project:** *Empty project*, or *Import DXF / DWG* to start from an AutoCAD plan.
 3. **Draw:** walls (W), rooms (R), doors (D), windows (N), furniture from the Library (F). The 3D view follows as you draw.
 4. **Walk through it:** press **F5** and walk with W A S D.
 5. **See it in VR:** connect the Quest with Quest Link or Air Link and press **F7** — or open the Asfan app on the headset over Wi-Fi (VR Link).
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1. Installing and starting

1.1 What you need

	Minimum	Recommended
Computer	Windows 10 or 11 (64-bit), 8 GB RAM, a graphics card with DirectX 11	16 GB RAM, NVIDIA RTX / AMD RX graphics card (needed for PC VR)
Headset (optional)	Meta Quest 2, 3 or 3S	Meta Quest 3
Network	Internet for the AI assistant and updates; the same Wi-Fi for the headset (VR Link)	

1.2 Installing on the computer

1. Run **Asfan-Architect-VR-Setup-x.y.z.exe**. Choose the language of the installer, the folder and whether you want a desktop shortcut.
2. When Windows shows a **SmartScreen** warning on the first start, choose **More info → Run anyway**.
3. The first time the program runs a network feature (VR Link), Windows Firewall asks whether to allow it. Choose **Allow** for *private networks*: the headset needs it to reach the computer.

Project files (`.aavr`) open in the program with a double-click.

1.3 Activation (licence)

Two editions:

Edition	What it includes
Computer only	The full design program on the computer, without VR
Full (computer + VR)	Everything, plus the headset: VR on this computer (F7) and VR Link to Quest headsets (F8)

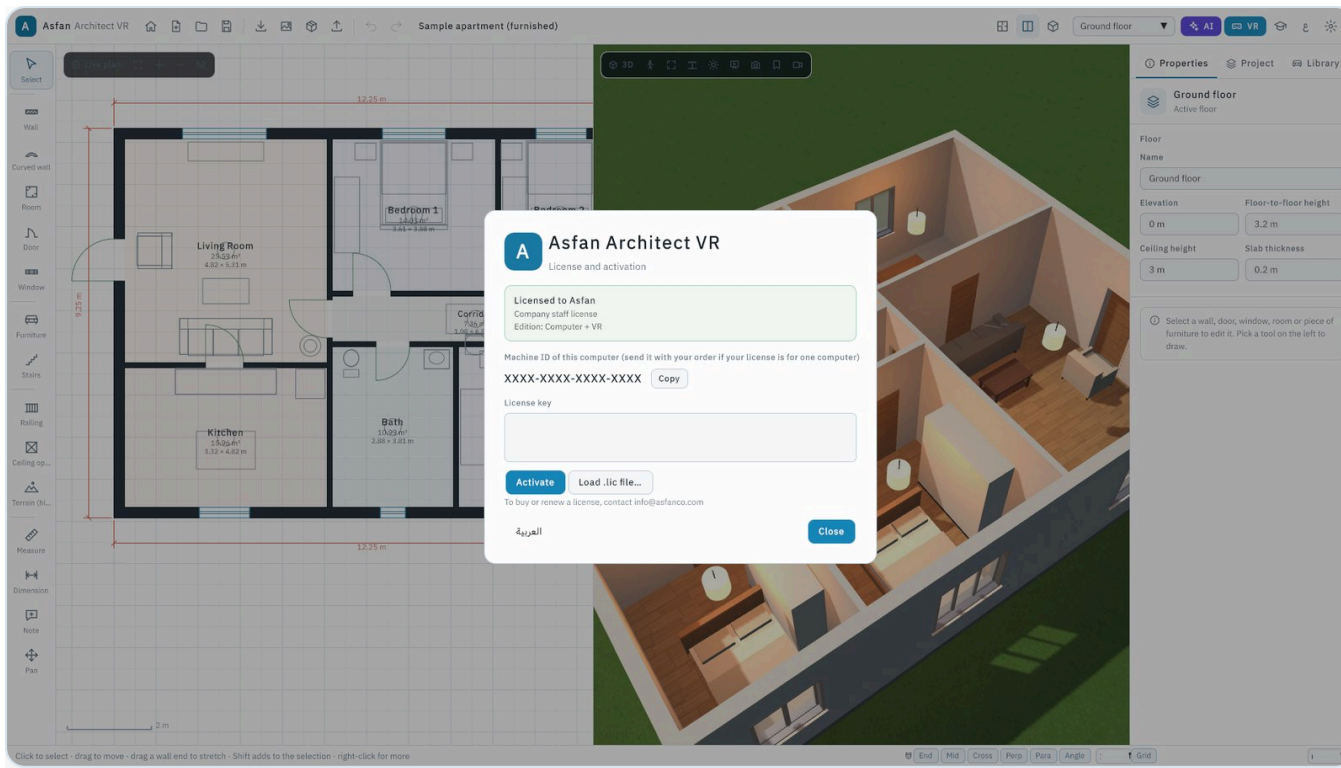
Five-day trial: without a key, the program runs as a trial for 5 days on each computer (the first day counts). In the trial you can draw, edit and view the design in 3D, including walking through it. **Saving, exporting (DXF, screenshots, video, quantities), VR and the AI assistant** need a licence. The top bar shows **Trial · N days left**; click it to activate. When the trial ends, the program asks for a licence key.

To activate:

1. Open *About → Licence* (or click the trial badge), paste the licence key you received, or press **Load .lic file...**
2. Press **Activate**, then **Continue**.

If your licence is for one computer, send us the **machine ID** shown in the window (the **Copy** button copies it) when you order. A licence activated in the earlier version of the program is found automatically.

About → Licence shows your subscription and its end date and takes a renewed key. You are reminded 14 days before a subscription ends. To buy or renew, contact **info@asfanco.com**.



Licence and activation

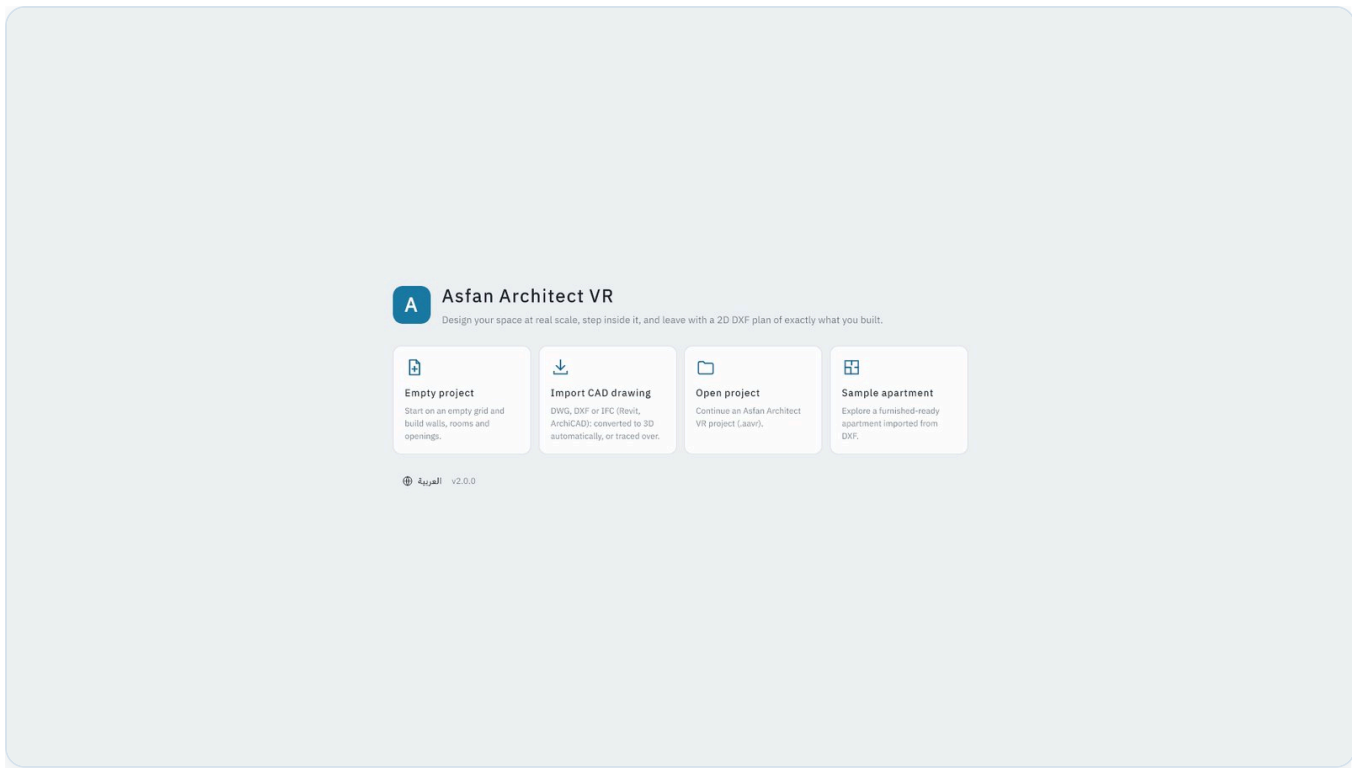
1.4 Updates

The installed program checks for new versions by itself, a few seconds after it starts and every few hours. A new version downloads in the background; then press **Restart and update** (your unsaved work is offered for saving first). *About* → *Check for updates* checks at once.

1.5 The start screen

- **Empty project:** draw from scratch.
- **Import DXF / DWG:** start from an AutoCAD drawing.
- **Open project:** an `.aavr` file.
- **Sample apartment:** a furnished example to explore.
- **Recent projects** are listed below.

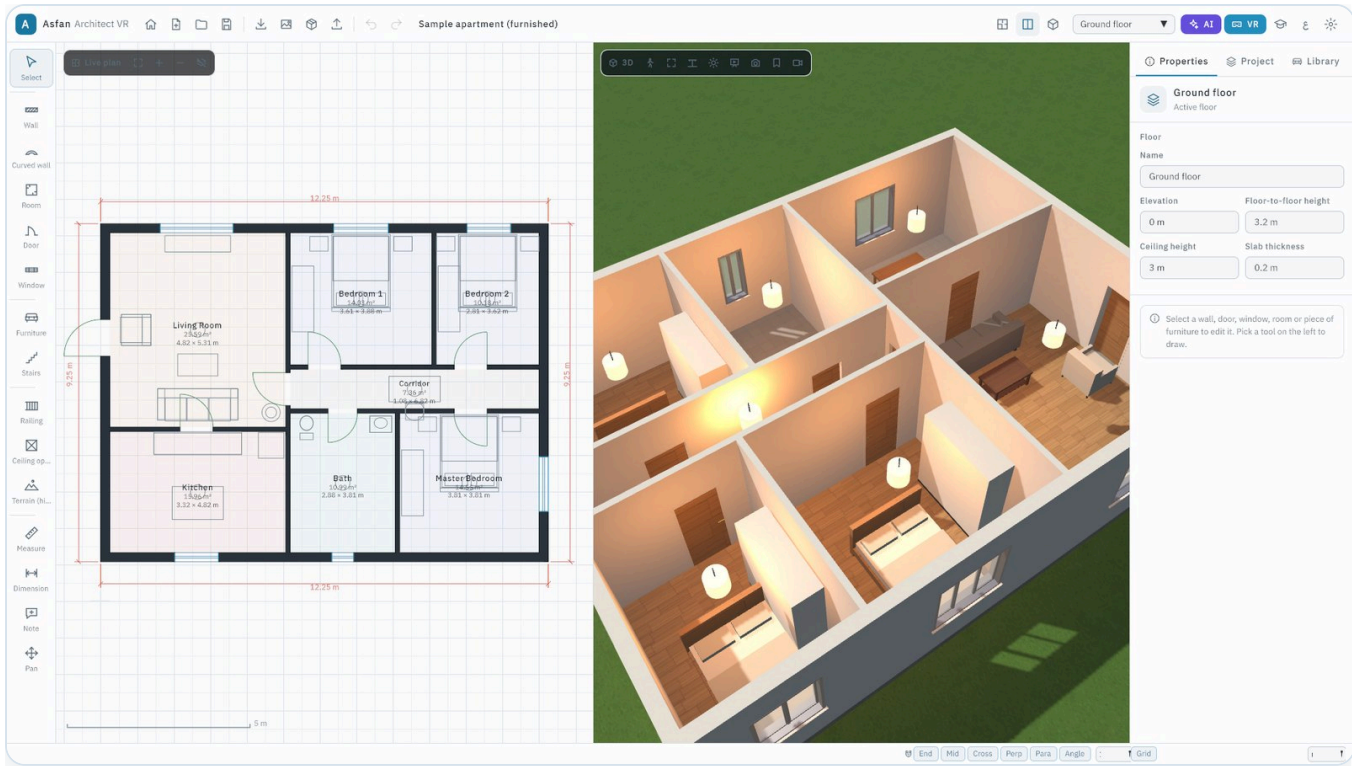
If the program closed unexpectedly, the start screen offers to **restore** the autosaved work.



The start screen

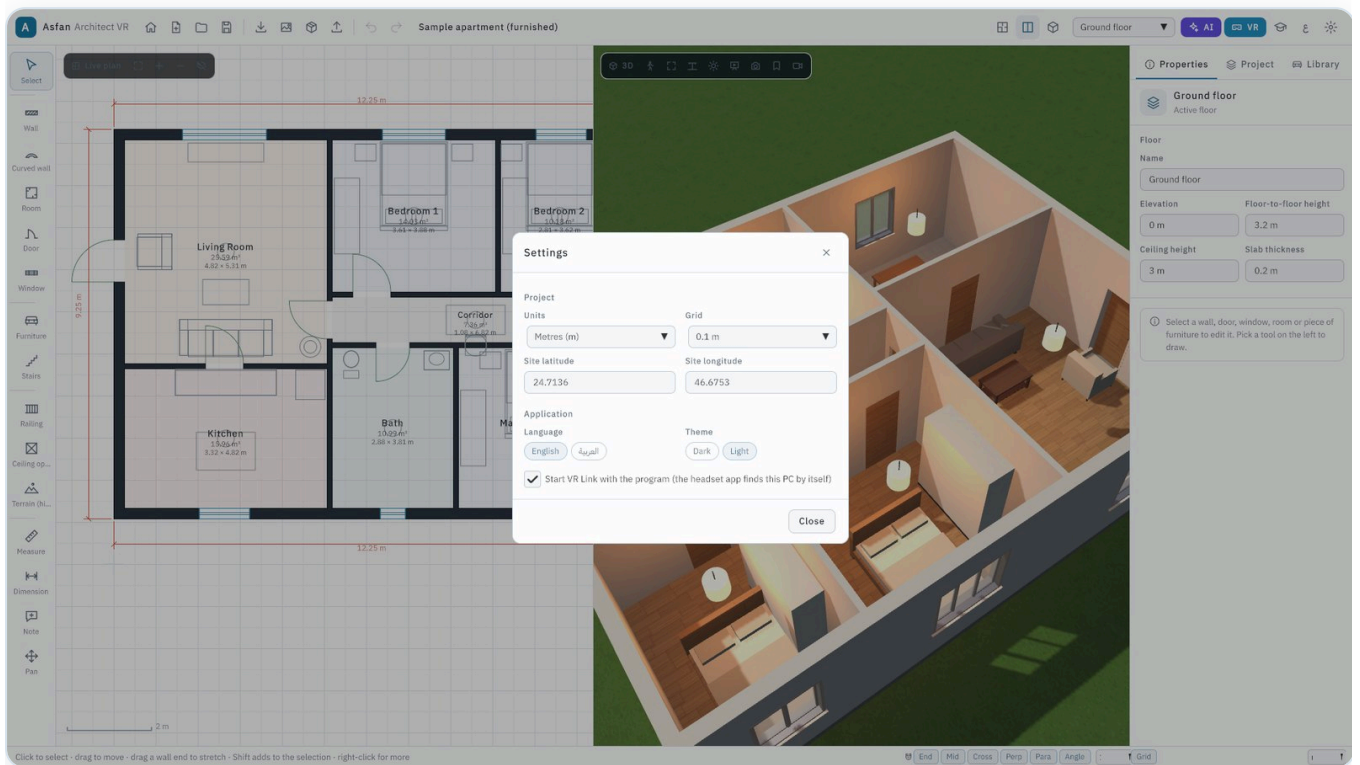
1.6 The window

- **Top bar:** file commands, undo / redo, the project name, plan / split / 3D view, the floor selector, **AI**, **VR**, education, language and settings.
- **Left tool rail:** the design tools.
- **Right panel,** with three tabs:
- **Properties:** the selected element, or the floor and the active tool.
- **Project:** floors, rooms, totals, design options, site, lights, saved views and notes.
- **Library:** furniture, your own 3D models and materials.
- **Status bar:** hints, snapping options, coordinates and units.



The window: tools on the left, the plan and the 3D view, the side panel on the right

Switch the interface between **English and Arabic** in *Settings* (gear button). Arabic uses a full right-to-left layout. Settings also has the units, the grid, the project's latitude and longitude (for the sun), and the dark or light theme.



Settings

2. Drawing the plan

Tool	Key	How to use it
Select	V	Click to select, drag to move, drag a wall end to stretch it. Shift adds to the selection; drag on empty space to select with a window. Right-click for more commands
Wall	W	Click the start and the end, or type a length and press Enter. Shift locks 90°, Alt turns snapping off. <i>Continuous walls</i> (Properties) keeps drawing from the last point
Curved wall	A	Click the points the wall should pass through; it bends smoothly through all of them. Double-click (or Enter) finishes, clicking the first point closes the loop, Backspace removes the last point
Room	R	Drag a rectangle: four walls at once
Door / Window	D / N	Move over a wall and click. Width, height and sill are in Properties
Furniture	F	Pick an item in the Library and click to place it; it backs onto the nearest wall. R rotates
Stairs	S	Straight, L, U or spiral. Risers are suggested from the floor height
Railing	L	Click points along a balcony, terrace or void; double-click or Enter finishes
Ceiling opening	O	Drag a rectangle (over a stair or a double-height space). It cuts this floor's ceiling and the slab above, with a railing around it up there
Terrain	G	Click to raise a hill, or dig a hollow with a negative height
Measure	M	A temporary measurement
Dimension	I	A dimension that stays on the plan
Note	T	Pin a text note (also seen in 3D and in the headset)
Pan	H	Or drag with the middle mouse button

Wall types (Properties, for the wall tools or a selected wall): - **Solid**. - **Glass partition**: frameless glass, 10 cm. - **Curtain wall**: a glass façade with mullions and transoms, 15 cm.

Glass walls still form rooms and take doors.

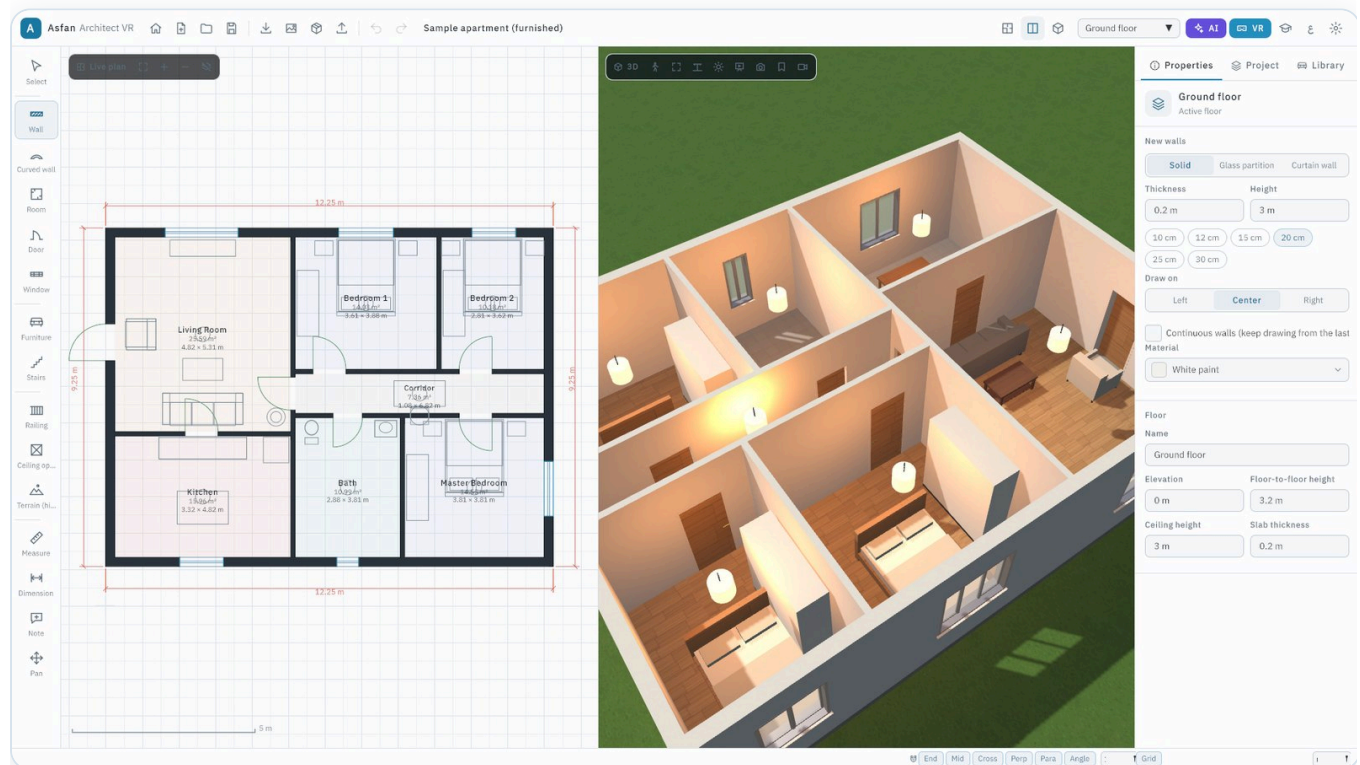
Rooms are found automatically whenever walls enclose a space. Select a room to: - give it a name, a number and a type; - choose its floor and ceiling finishes; - set its ceiling height.

Its area, perimeter, width, length and volume are shown live.

Snapping (status bar) covers endpoints, midpoints, intersections, perpendicular, parallel, angle steps (15°–90°) and the grid. Each can be turned on or off.

Typing exact sizes. While drawing a wall, type a length (4.5 , 450 cm , 4500 mm , 15 ft) and press Enter. Every size box in Properties accepts any unit, and Arabic digits.

Undo everything with Ctrl+Z and **redo** with Ctrl+Y.



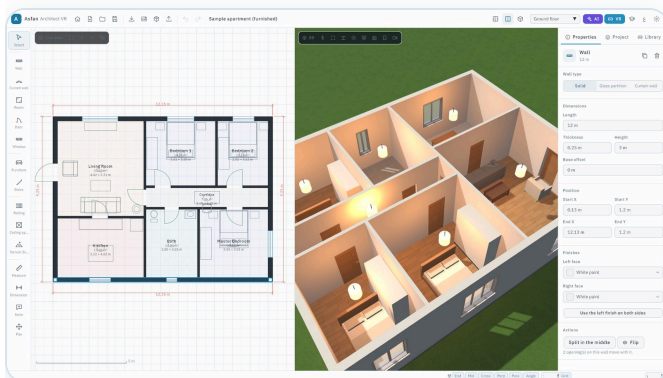
Drawing walls: the wall tool's options appear in Properties

3. Properties of the elements

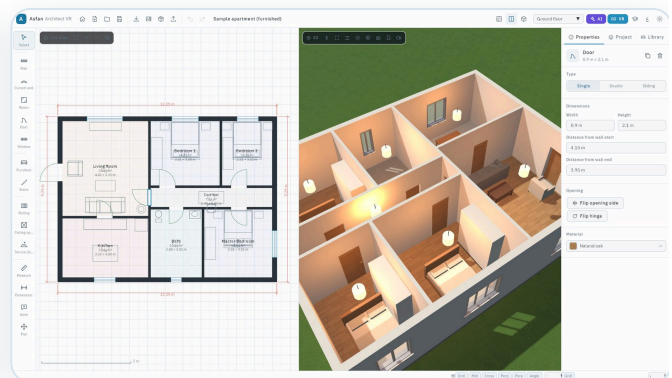
Select an element to edit it in **Properties**:

- **Wall:**
 - its type, length, thickness, height and base offset;
 - start and end coordinates;
 - the finish of each face (*Same on both sides*);
- **Split, Flip.**
- **Door:**
 - single, double or sliding;
 - width, height, and the distance from either end;
 - flip the swing or the hinge side;
 - material.
- **Window:** casement, sliding or fixed; width, height and sill; material.

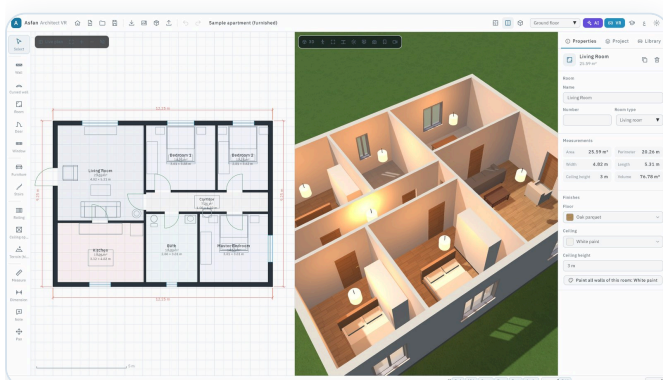
- **Room:** name, number, type, floor and ceiling finishes, ceiling height, and *Paint all walls of this room* with the material chosen in the Library.
- **Furniture:**
 - size, with *Reset size*;
 - position, rotation (90° , $\pm 15^\circ$) and height above the floor;
 - material and colour.
- **Light fixtures** also have:
 - **On / off**;
 - the **bulb type**: warm, neutral or daylight LED, halogen, spot, LED strip, candle and more;
 - the **colour temperature** (2200–6500 K) and **brightness** (lumens);
 - the **beam angle** and an optional **coloured light**.
- **Stairs:**
 - the type and the turn direction;
 - width, number of steps, tread, rise, landing and spiral angle;
 - a live comfort check (2R + G) with warnings;
 - material;
 - **handrails** (left, right or both, in six designs);
 - **Cut opening above this stair**.
- **Railing:** six designs (glass, vertical bars, horizontal rails, solid panel, wood, steel cables), height and material.



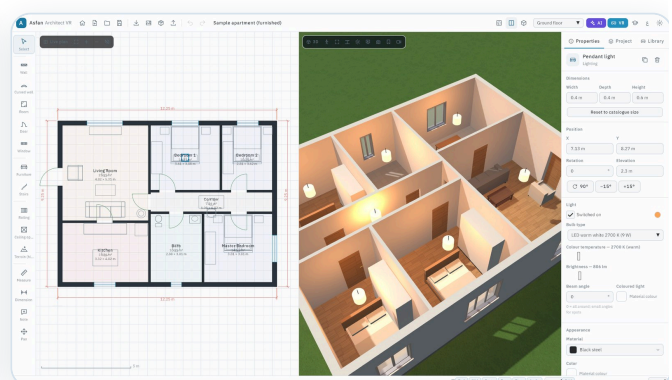
A selected wall



A selected door



A room: name, type, finishes and measurements



A light fixture: bulb, colour temperature, brightness

With nothing selected, Properties shows the **floor**: name, elevation, floor-to-floor height, ceiling height, slab thickness, and the reference drawing if there is one. While a tool is active, its **options** appear here too: wall type and thickness, door and window sizes, stair type, railing design, hill height and spread.

4. 3D, walking and presentation

The 3D view updates as you draw. Use the view buttons (or F2 / F3 / F4) for **plan**, **3D** or **split**.

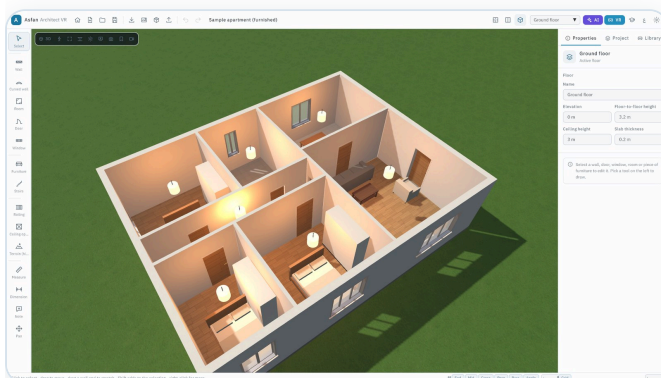
Orbit - Drag to turn, right-drag to pan, and use the wheel to zoom. - A short right-click opens the context menu. - **Alt + click** opens or closes a door or window.

Walk mode (F5) - W A S D (or the arrows) move you, Shift runs and **Space jumps**. - **Click once in the view** to take the mouse. From then on, moving the mouse turns your head. **Esc** gives the mouse back. - A **red dot** shows where you are looking. Point it at a door or window and **click or press E** to open or close it. - Doors stay closed until you open them, and a closed door stops you. - A door opens to 90°, or **stops against furniture in its swing** and tells you what it hit. With something right behind it, it gives a little, falls back shut and shows a message. - Sliding doors and windows slide; casement windows turn inward; fixed windows stay shut. - **Gravity**: you walk up and down stairs and over the terrain. Step off an open edge and you fall to the floor below. - Walls, furniture, closed doors and railings stop you.

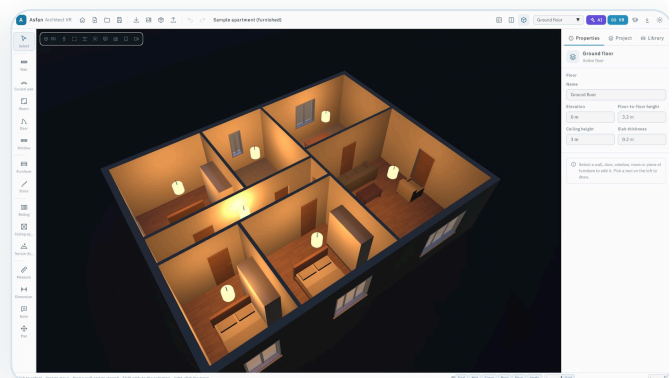
Presentation mode (F6) hides the tools for clients and starts a walk.

Lighting - Choose day, evening or night (sun button). The sun follows the project's latitude and longitude. - Rooms are not lit automatically: add light fixtures from *Library* → *Lighting* and switch them on. - *Project* → *Lights on this floor* lists every fixture, with *All on* and *All off*.

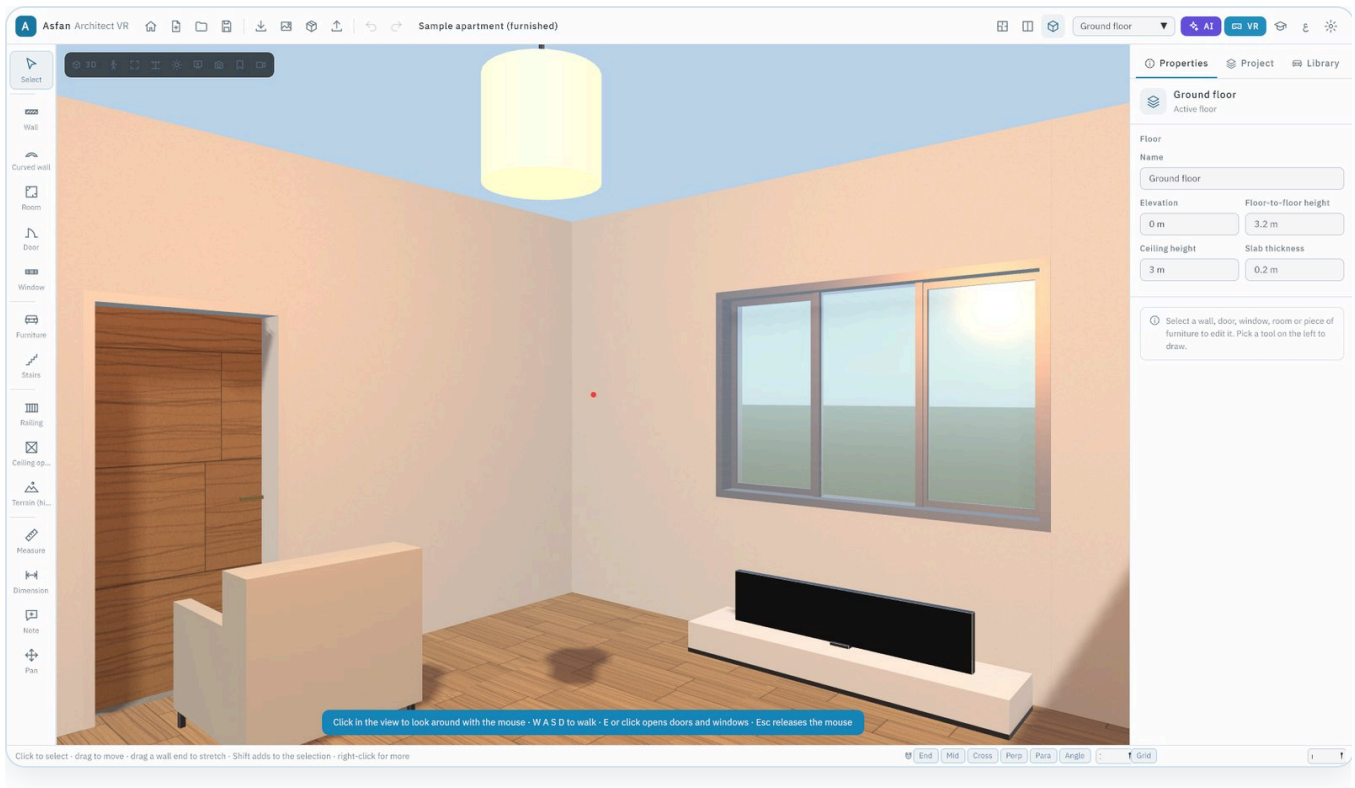
Ceilings: show or hide them from the 3D toolbar.



The 3D view



Night lighting with the fixtures switched on

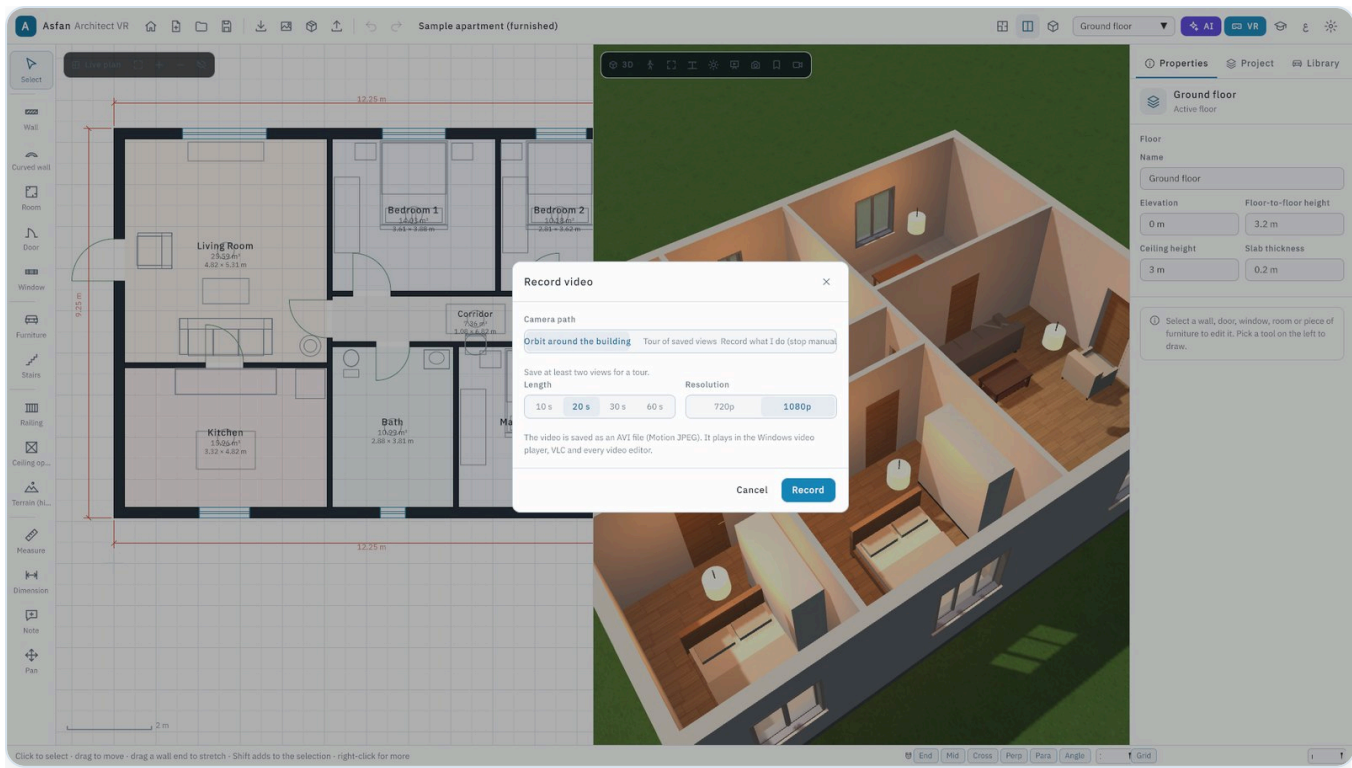


Walk mode: the red dot opens doors and windows

4.1 Saved views, screenshots and video

- **Save view** (bookmark button or Ctrl+B) stores the 3D camera.
- Saved views are listed in *Project* → *Saved views*.
- Click a view to fly there. Right-click it to rename, update, screenshot or delete it.
- **Screenshot** (camera button or F12) saves a PNG or JPG at the window size, 1920×1080 or 3840×2160.
- **Record video** (video button or Ctrl+Shift+R) has three modes:
 - *Orbit around the building*;
 - *Tour of saved views*, which flies smoothly from one view to the next;
 - *Record what I do*, until you press **Stop**.

Choose 10–60 seconds and 720p or 1080p. The video is saved as an **AVI** file. It plays in the Windows video player and VLC, and opens in every video editor.



Recording a video

5. Importing and exporting

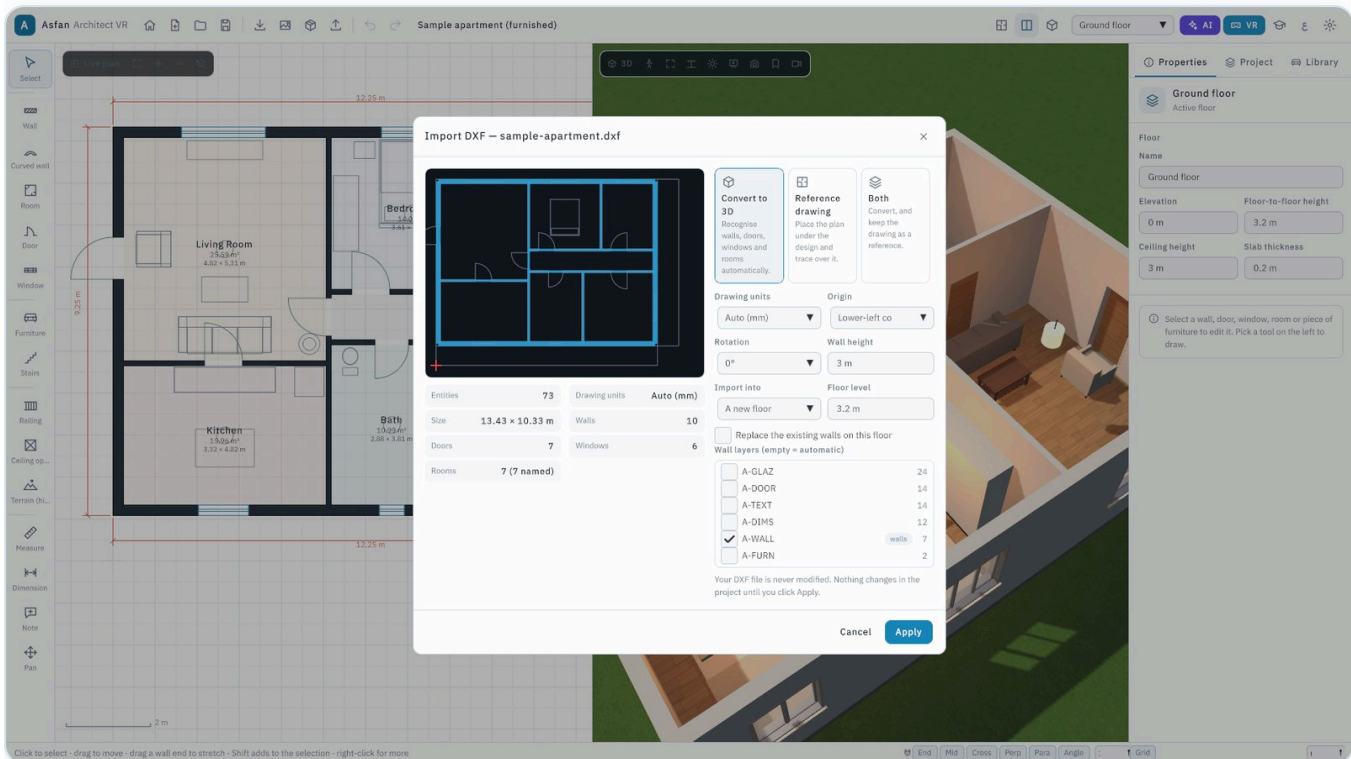
Import CAD / BIM (Ctrl+I, or the import button) accepts:

Format	What happens
DXF (AutoCAD R12–2018)	Converted to walls, doors, windows and rooms, or used as a reference underlay
DWG (AutoCAD)	Read by the built-in DWG reader (GNU LibreDWG), then imported like a DXF. Nothing to install
IFC (Revit, ArchiCAD, Vectorworks, Allplan, Tekla...)	Choose a storey; its walls, doors, windows and named spaces become an editable plan
GLB, glTF, OBJ, FBX, STL, 3MF, DAE, PLY, 3DS	Imported as a 3D object (furniture, fittings)
RVT, SKP, PLN, SLDPRPT, CATPart, 3DM, STEP, IGES...	Closed formats: the program shows exactly how to export them from their own software

The **DXF import dialog** shows a preview and what was recognised: walls, doors, windows and rooms. You choose:

- **Convert to 3D:** walls are built from double lines or wall layers, door and window blocks become openings, and room names are read from the text.
- **Reference underlay:** the drawing is shown under the plan for tracing.
- **Both.**

You also set the units (detected automatically), the origin, the rotation, the wall height, the target floor and its elevation, and which layers hold walls. Nothing in the project changes until you press **Apply**.

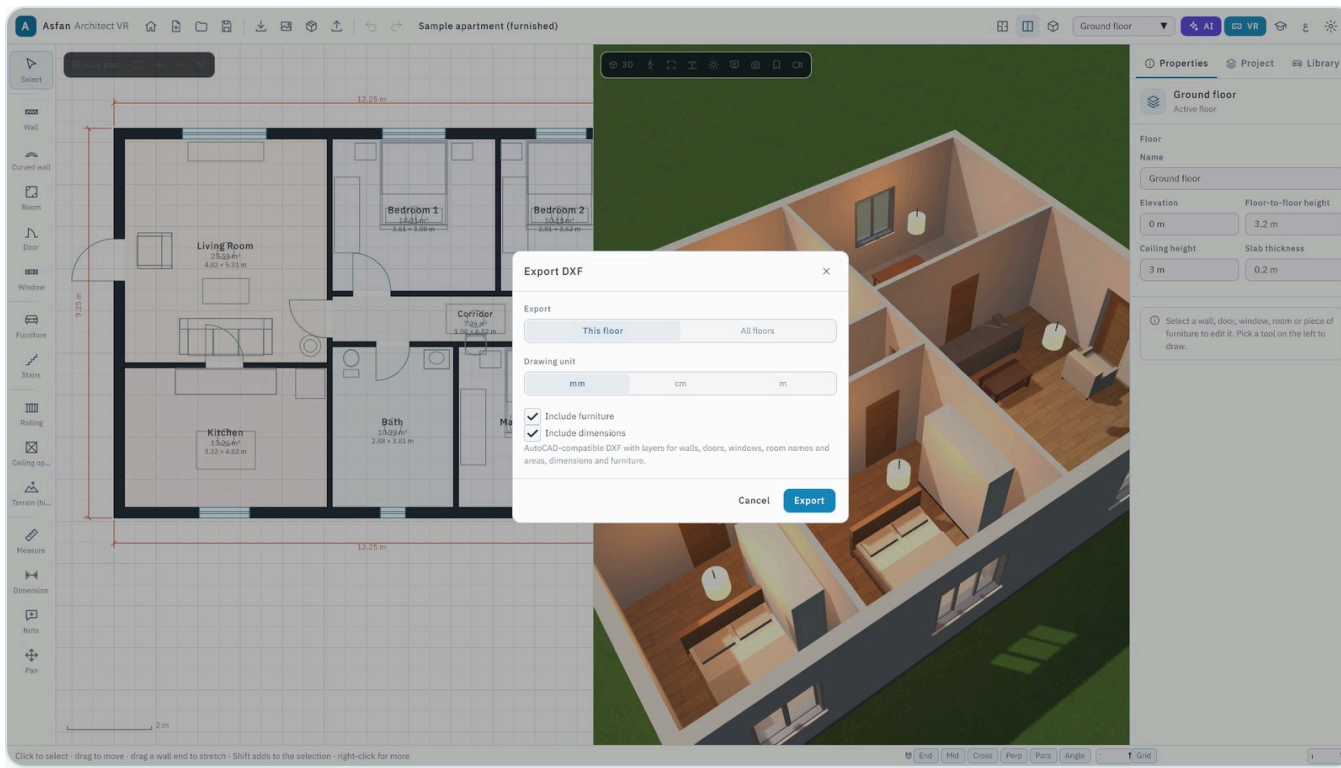


The DXF / DWG import: preview, what was recognised, and the settings

Revit (RVT). In Revit use *File → Export → IFC* (recommended) or *Export → CAD Formats → DWG* for one plan view, then import that file.

Plan image or PDF (with the AI assistant online): *Import plan image* reads walls, doors, windows and room names from a picture or a PDF of a plan. Enter the real width, then apply.

Export DXF (Ctrl+E) writes the active floor or all floors in mm, cm or m. It uses standard layers (A-WALL, A-DOOR, A-GLAZ, A-AREA, A-FURN, A-ANNO-DIMS...) and can include furniture and dimensions.



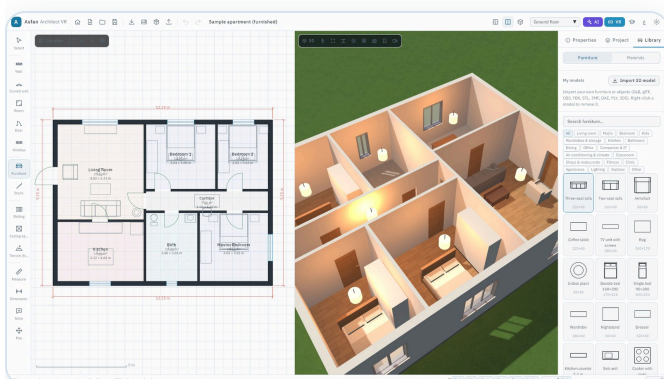
DXF export

6. Furniture, materials and your own 3D models

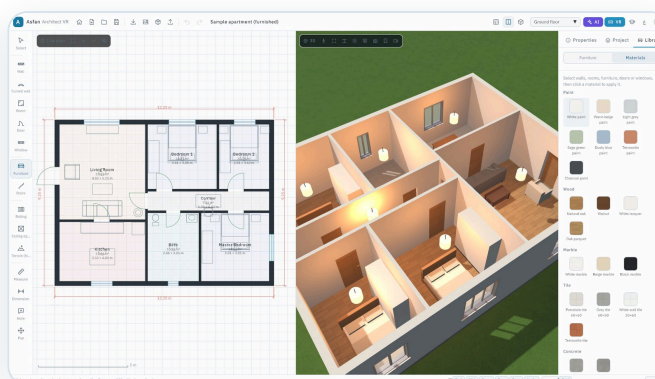
Library → Furniture has more than 260 parametric items in 19 sections: - living, majlis, bedroom, kids, storage, kitchen, bathroom and dining; - office, computers and IT, air conditioning, classroom, shops and restaurants; - fitness, clinic, appliances, lighting, outdoor and other.

Search covers all sections in both languages and ignores Arabic spelling variants (خزانة / خزانه).

Library → Materials: select walls, rooms, doors, windows, stairs or furniture, then click a material.



The furniture library



The materials

Your own models (**Library → My models → Import 3D model**):

1. Choose a GLB, glTF, OBJ, FBX, STL, 3MF, DAE, PLY or 3DS file. For glTF, use one file with embedded data; **.glb** is best.
2. Check the unit (mm, cm or m, detected from the size) and the *Up axis* (Y or Z). Set the real width, depth and height.
3. Press **Add and place**, then click in the plan.

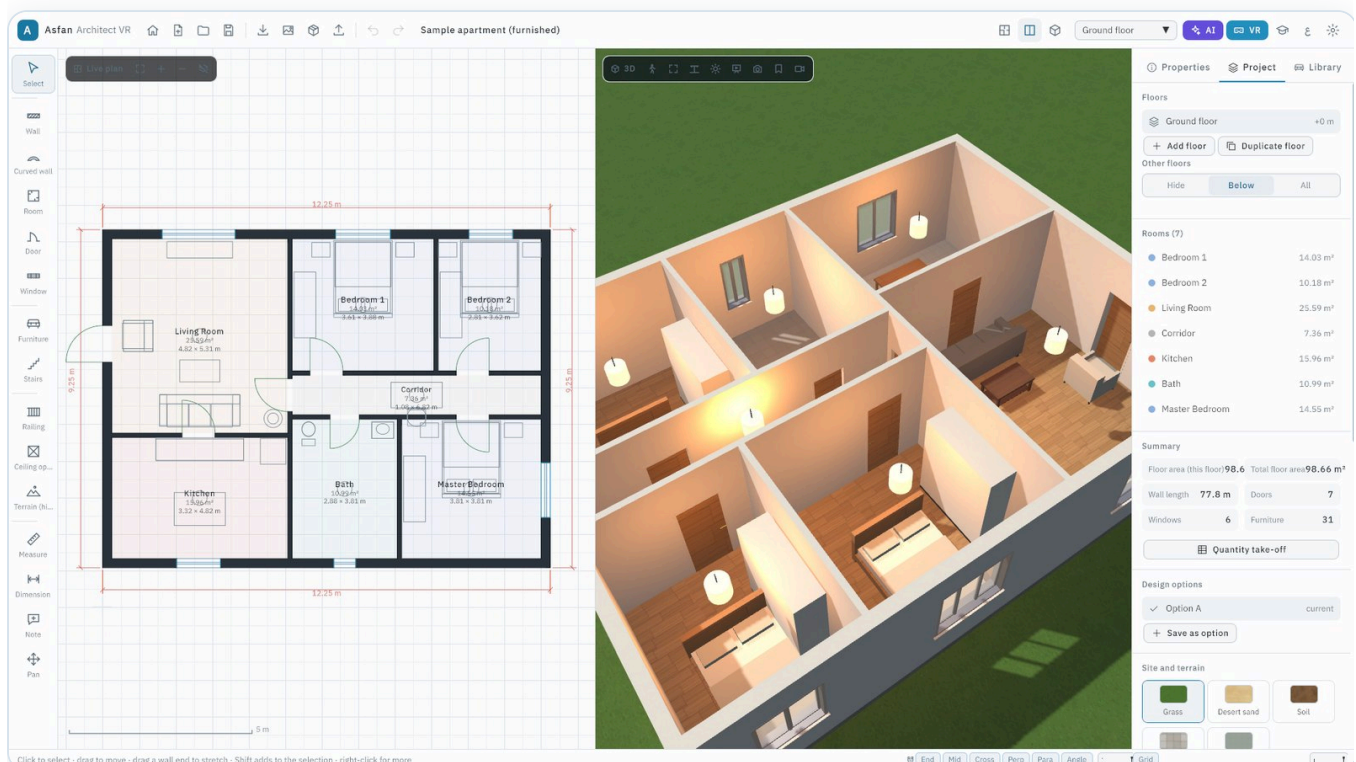
Models are saved inside the project file, so the project stays one portable file and also appears in the headset. Right-click a model in *My models* to remove it, once no copy of it is placed.

7. Floors, site and terrain

Floors - *Project* → *Floors* adds, duplicates, renames (right-click) and deletes floors. - *Show floors* draws the floors below (or all floors) faded. - **Stairwells and voids**: select a stair and press *Cut opening above this stair*, or use the *Ceiling opening* tool.

Site (*Project* → *Site and terrain*) - **Ground**: grass, desert sand, soil, paving or plain. - The **natural ground level** and the **land slope** (percent and direction). - **Hills and hollows**: draw them with the Terrain tool (G) and edit their height and spread in the list. - **Keep the land flat under the building**. - **Trees and plants**.

You can walk outside on the terrain in walk mode and in VR.



The Project panel: floors, rooms, totals, design options, site

8. Design options and comparison

Project → Design options:

- **Save as option** stores the current design as Option A, B, C...
- **Switch** swaps the live design with an option. The current design is kept as an option.
- **Compare** shows an option against the current design:
- **Overlay**: the option drawn dashed on top, with removed and new walls highlighted.
- **Side by side**: both designs next to each other in the plan and in 3D.

A table compares the area, rooms, wall length and openings.

9. Seeing the project in VR

There are **two ways**. Neither needs anything to be rebuilt for a new project: you design on the computer and look at it in the headset.

9.1 Highest quality: the headset on this computer (F7)

The computer's graphics card draws the picture, so the quality is the same as on the screen.

1. **One-time setting:**
2. Install the **Meta Quest Link** app on the computer.
3. In that app open **Settings → General → OpenXR Runtime**.
4. Press **Set Meta Quest Link as active**.
5. Connect the headset with a **USB-C cable** (Quest Link) or over Wi-Fi (**Air Link**: in the headset, *Quick settings → Quest Link*).
6. In the program press **VR → Enter VR (F7)**.

You stand in the project at 1:1. Changes made on the computer appear at once. Press F7 again to leave.

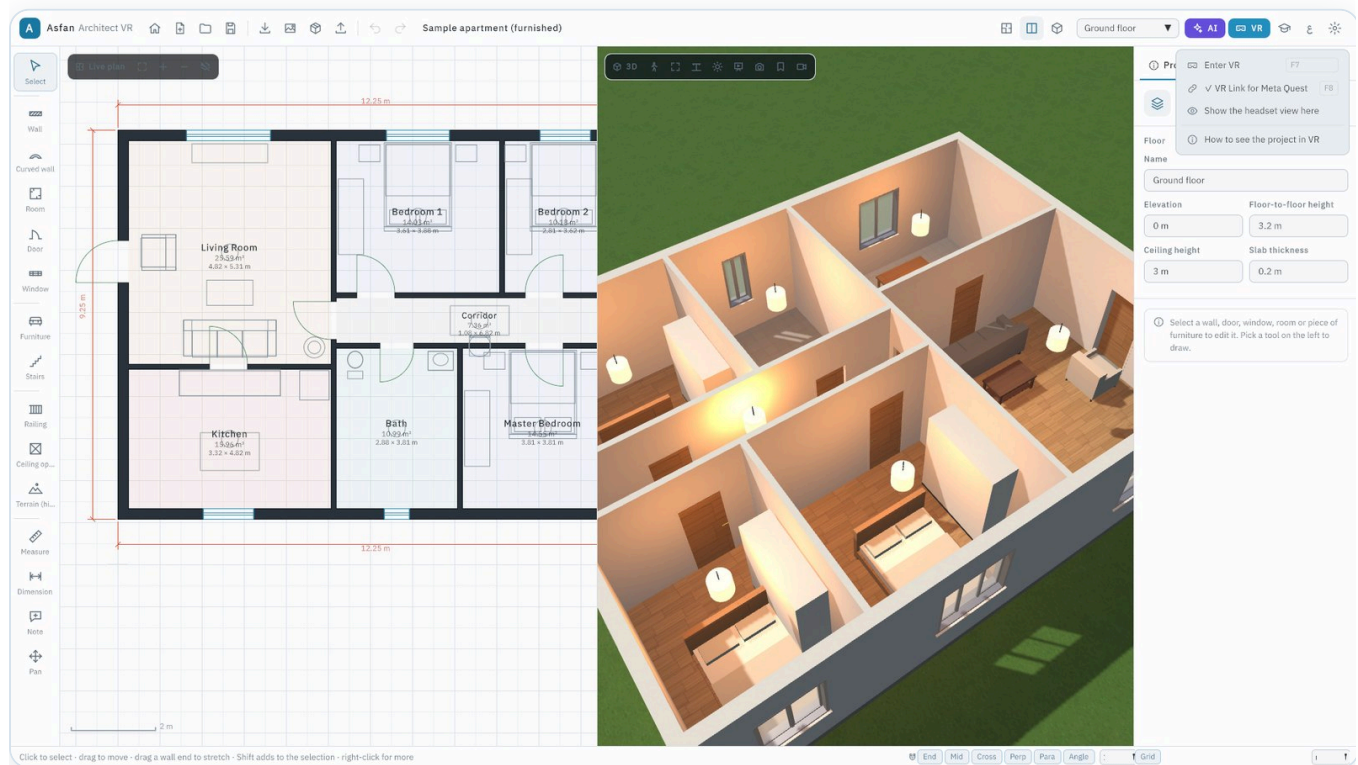
9.2 Without a cable: the Asfan app on the Quest (VR Link, F8)

The headset draws the picture itself, and the computer sends it the project.

1. Install the **Asfan Architect VR** app on the Quest **once**. Your supplier gives you the app, or installs it for you.
2. Connect the Quest and the computer to the **same Wi-Fi network**.

3. VR Link starts with the program (you can turn this off in *Settings*). It can also be started with **VR → VR Link** (F8).
4. Open the Asfan app in the headset. It **finds the computer by itself**, or you can press **Live from PC** in its menu.
5. On the computer press **Allow** for the headset.

The open project appears in the headset. Every change you make on the computer appears in the headset within a second or two, and the headset's position is shown on the computer as a figure. *VR → Show the headset view here* makes the 3D view follow the person in the headset, so others can watch on the screen.



The VR menu: Enter VR (F7), VR Link (F8)

Projects can also be copied to the headset with a USB cable, into its **Download** or **Documents** folder. The app's menu (◀ **Project** ▶) opens them without the computer.

9.3 Controls in the headset (Quest controllers)

Control	Action
Left stick	Walk where you look; hold the left grip to go faster
Right stick ← →	Turn (snap 30°, or smooth — see the menu)
Right stick ↑	Aim the teleport arc, release to jump there
A (right controller)	Jump (like Space on the computer)
Right trigger	Open or close the door or window under the ray; press menu buttons

Control	Action
Y or ≡ (left)	Show or hide the menu on your left hand

Menu buttons

Group	Buttons
Lighting	Day, evening, night, lamps on or off
View	Ceilings, collision, open / close all doors, turn style, frame rate
Floors	Floor ▼, start point, floor ▲
Projects	◀ Project, reload, Project ▶
	Exit VR, Live from PC, hide menu

How you move - Your real steps move you too. - Walls, furniture and closed doors stop you. Collision can be turned off in the menu. - Stairs and the terrain carry you up and down.

Performance - Everything that does not move is merged into a few large pieces, so the headset keeps its full frame rate. - The lamps nearest to you are real lights. - *Frame rate* shows the frame rate and the size of the scene.

10. AI assistant

Open it with the **AI** button or **Ctrl+K**. Type in English or Arabic, for example:

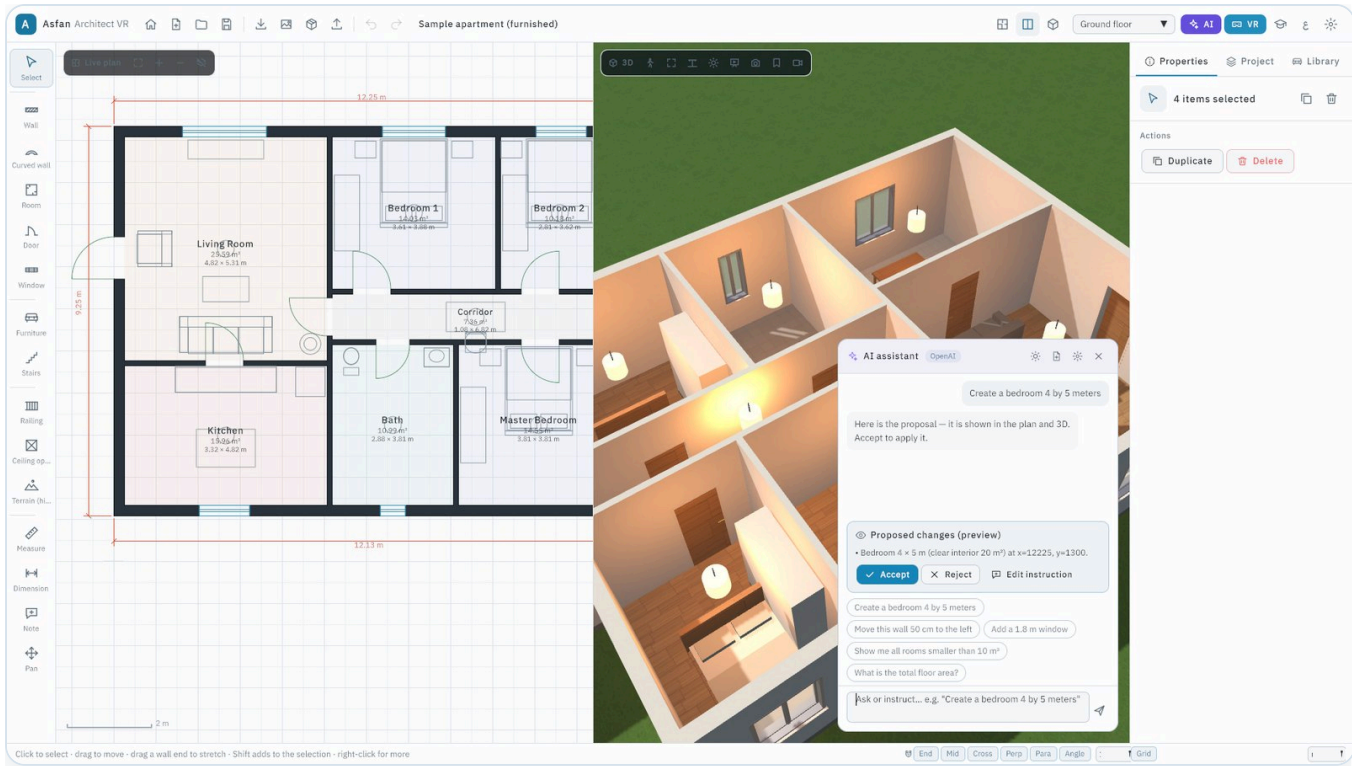
- *Create a bedroom 4 by 5 meters* · أنشئ غرفة نوم 4 في 5 متر
- *Move this wall 50 cm to the left* · حرك هذا الجدار خمسين سم لليسار
- *Add a 1.8 m window to the kitchen* · أضف نافذة 1,8 متر للمطبخ
- *What is the total floor area? · Which bedroom is smallest?*
- *How can I improve this layout?* (or the sun button in the panel)

Every change is a preview in the plan and in 3D: - **Accept** applies it as one step that can be undone. - **Reject** discards it. - **Edit** puts your request back in the box.

What it answers: only the design open in the program and how to use Asfan Architect VR. It politely declines other questions (general knowledge, news, homework, programming, translation and the like).

The full assistant is built in. It uses the company's AI service (OpenAI), so there is no key to enter; it works whenever the computer is online. **Offline**, it still understands the common commands and questions above.

Voice: in the text box, press **Win + H** to dictate in Arabic or English with Windows voice typing.



The AI assistant: a preview to accept or reject

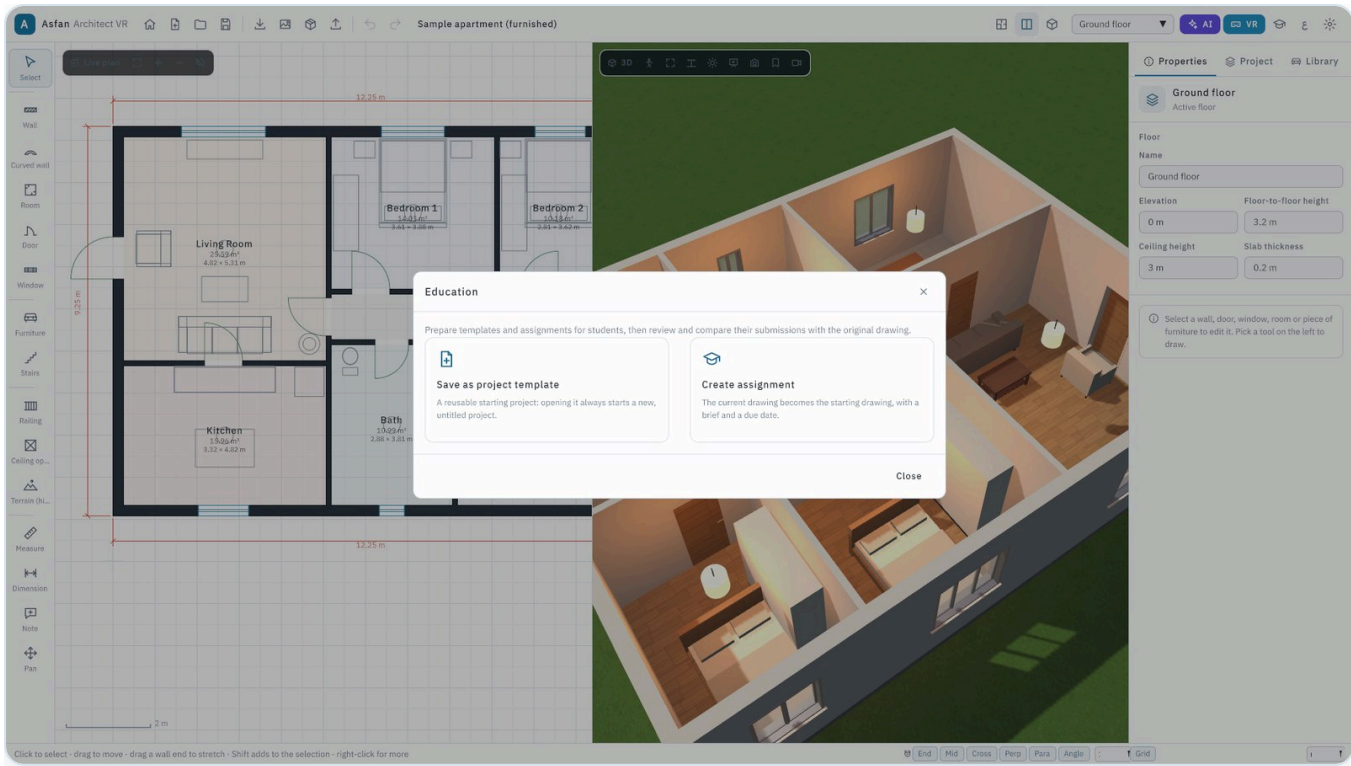
11. Education mode

Open it with the graduation-cap button.

Instructor - Save as project template: a reusable starting project. Opening it always starts a new, untitled project. - **Create assignment:** saves a copy with the starting drawing, a title, the course, a brief and a due date. Share the `.aavr` file by e-mail or through your learning platform.

Student 1. Open the assignment. The brief appears in *Project*. 2. Design. 3. Press **Submit assignment** and enter your name. A file named *Assignment - Student.aavr* is saved; send it to the instructor.

Review 1. Open the submission and press **Review**. 2. Enter a grade and feedback. 3. Use **Compare with original** to see exactly what the student changed. 4. **Save review** stores everything in the file.

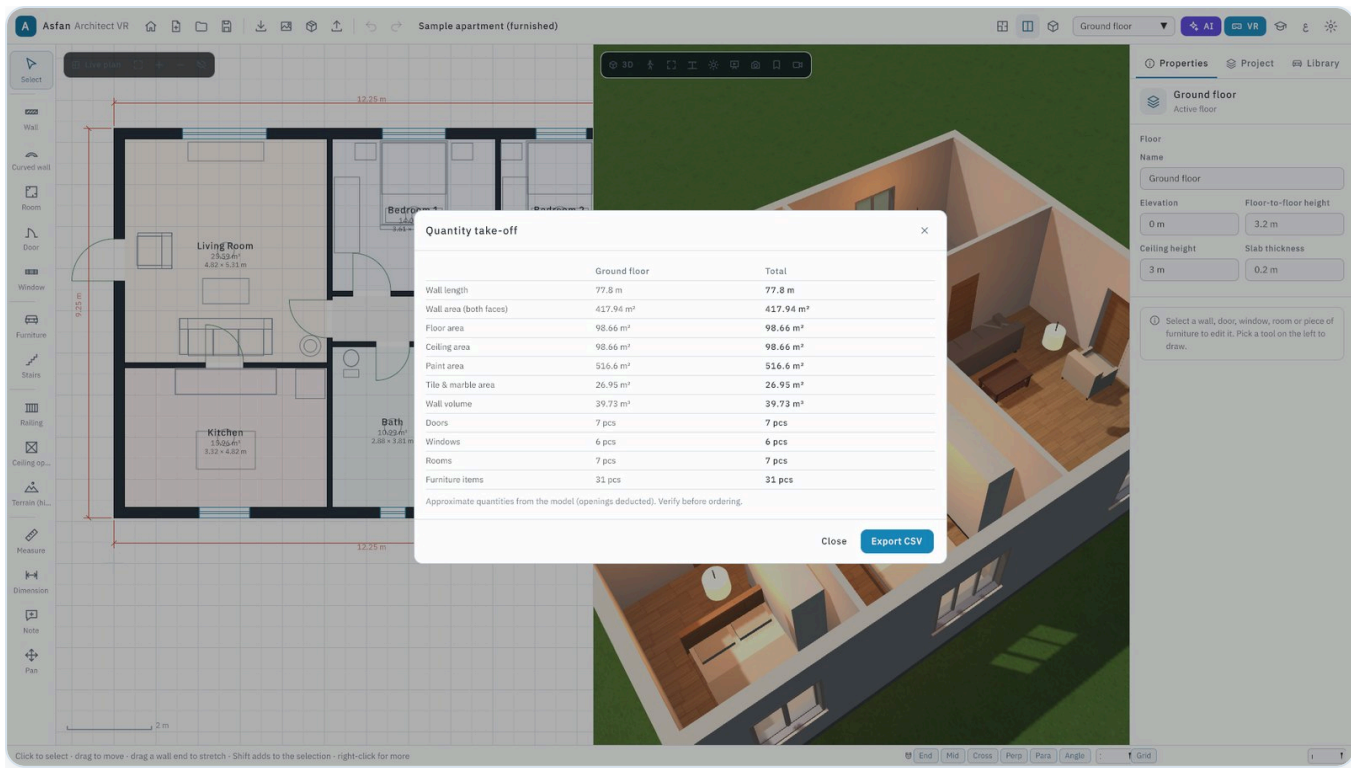


Education mode

12. Quantities, saving and files

- *Project* → *Quantity take-off* lists, per floor and in total:
- floor, ceiling, wall, paint and tile areas;
- wall volume and wall length;
- doors, windows, rooms and furniture.

Export CSV opens in Excel. - A project is one `.aav r` file: save with Ctrl+S, save as with Ctrl+Shift+S. - The program autosaves for crash recovery, and asks before closing with unsaved changes.



Quantity take-off

13. Keyboard shortcuts

Press **F1** in the program for the full list.

Shortcut	Command
Ctrl+N / O / S	New, open, save
Ctrl+Z / Y	Undo, redo
Ctrl+D, Del	Duplicate, delete
Ctrl+A	Select all
Q	Rotate 90°
F2 / F3 / F4	Plan, 3D, split
F5 / F6	Walk, presentation
F7 / F8	Enter VR, VR Link
Ctrl+I / E	Import CAD / BIM, export DXF
Ctrl+K	AI assistant

Shortcut	Command
Ctrl+B, F12, Ctrl+Shift+R	Save view, screenshot, record video
Home	Fit the drawing in the view
Esc	Cancel the tool, clear the selection, leave presentation
V W A R D N F S L O G M I T H	The tools (see section 2)

14. Troubleshooting

- **"This licence is for another computer"**: send the machine ID shown in the licence window to info@asfanco.com for a key for this computer.
- **"The computer's date is wrong"**: the Windows date was set back. Correct the date and time, then start the program again.
- **The headset does not find the computer (VR Link)**:
 - Both must be on the same Wi-Fi network (not a guest network).
 - Allow the program through Windows Firewall.
 - Check that VR Link is on (F8).
- **F7 says no headset was found**:
 - Check that Quest Link or Air Link is connected.
 - Check that Meta Quest Link is the active OpenXR runtime (section 9.1).
- **A DWG does not open**: it may be damaged or password-protected. Save it as DXF from AutoCAD and import that.
- **An IFC storey imports without walls**: pick another storey, or export the IFC again with walls assigned to storeys.
- **A glTF model does not load**: export it as a single `.glb`.
- **A model is the wrong size**: change the unit in the import dialog, or edit its size in Properties.
- **The AI says "offline"**: check the internet connection. If it continues, contact info@asfanco.com.
- **Something looks wrong in 3D**: *Settings* → check the units. Press Home to fit the view.

Support: info@asfanco.com