VBS Map



VBS4 24.1.1





VBS Map VBS4 24.1.

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1. VBS Map Overview

VBS Map is accessed from a web browser and is designed for Trainees to use alongside VBS, with the VBS Map web browser typically running on a second monitor. In addition, the VBS Map web browser enables Administrators / Instructors to set up specific User Clients, and observe / evaluate Trainees from one administrator station. For more information, see Using a Web Browser (on page 17).

For Administrators / Instructors, VBS Map provides:

- Full battlefield overview of all units and groups present in a scenario.
- The ability to observe the map of individual Trainees, and all of their actions in both Prepare and Execute modes.
- Simple map and display configuration with updates in real-time from the Administrator / Instructor console:
 - Configure Trainee maps to simulate specific scenario conditions, and real-life GPS device functions.
 - Create map presets with stored configurations, which determine map behavior, that can be applied to individual Trainee computers on the network.



NOTE

Map presets affect what Trainees see, and the functionality available to them.

For Trainees, VBS Map provides:

- A map window in a web browser on a separate screen, which mimics the functionality of real GPS devices used on the battlefield.
- Map coordinates and map tools.
- Battle plans created using VBS Plan.

VBS Map provides support for VBS4, including VBS Plan.

The VBS Map web browser can be run on the same computer as VBS, but is usually displayed on a separate monitor (or on the monitor of a separate computer).

1.1 Roles

There are distinct roles for users of the VBS Map:

Administrator / Instructor

Deploys and sets up the VBS Map web browser, configures the classroom, and creates off-line map presets. Plans scenarios, draws using VBS Plan, manages and observes scenarios, and edits map presets during run-time. For more information, see Deploying VBS Map (on page 10).

Trainee

Uses VBS Map for orientation purposes, to establish what is happening in the local terrain. The functionality is similar to that of C2 Mode (see Command and Control (C2) Screen in the VBS4 Trainee Manual). Trainees access VBS Map from a web browser. For more information, see Using a Web Browser (on page 17).

The VBS Map browser has the following modes, depending on your role:

Admin Mode



Specifically for **Administrators / Instructors**. This mode enables you to see all entities on the map in a VBS scenario, configure Trainee map settings, and create or edit map presets. You can also update map presets during run-time, by connecting to active VBS scenarios.

Admin Mode allows you to:

- Create and customize map presets, without being connected to an active VBS scenario.
- Create, edit, or apply map presets during VBS scenario run-time.
- Enable / disable map settings for Trainees.
- Specify which other units Trainees see on the map.
- Switch between Trainee sessions, without having to reopen the browser, and observe specific
 Trainee maps in real-time, to see what Trainees see.
- Configure images of hand-held or in-vehicle GPS devices, so that the map appears on the GPS device screen.
- See your own view of the map with options to observe any unit, including BLUFORs, OPFORs, Independents, and Civilians, if your computer is selected in the Classroom Widget (on page 22).
- See which Trainees are currently connected to the network.

For more information about Admin Mode, see Configuring Map Presets (on page 29) and Managing the Scenario Map (on page 36).

User Mode



Specifically for **Trainees**. Shows your player unit in the current VBS scenario, and other units based on your map configuration (defined on the VBS Map Server (on page 10)).

User Mode allows you to:

- See the map of the current VBS scenario.
- See any annotations made to the map by an Administrator / Instructor using VBS Plan.
- See the map on a hand-held or in-vehicle GPS device (as configured by the Administrator / Instructor).
- Join / re-join a scenario at any time.

For more information, see Using VBS Map as a Trainee (on page 42).

1.2 Workflow

VBS Map primarily works alongside VBS, and displays a real-time map of the scene in the current scenario.

Follow this process:

1. As an Administrator / Instructor, deploy VBS Map.

See Deploying VBS Map (on page 10).

2. All users should familiarize themselves with the VBS Map UI.

See VBS Map UI (on page 19).

3. As an Administrator / Instructor, create and configure VBS Map presets.

See Configuring Map Presets (on page 29).

4. As an Administrator / Instructor, start the VBS scenario, monitor Trainee behavior, and edit Trainee map configuration settings / map presets during run-time.

See Managing the Scenario Map (on page 36).

5. As a Trainee, use VBS Map to find your location, navigate around the terrain, and establish what is happening in your surrounding area.

See Using VBS Map as a Trainee (on page 42).

1.3 Limitations

VBS Map has the following limitations:

 Running two VBS instances as Server / Preview / Scenario on the same computer can result in undefined behavior.

- The VBS Map Server cannot be connected to a VBS instance running as a User Client.
- When VBS and the VBS Map web browser are run on the same computer, both should be run in Window Mode, to enable cursor use.
- Maps are fixed facing North. Units may rotate, but maps may not.
- Maps are always rectangular. Round maps, for example, are not supported.
- The UserConfiguration.json file is properly loaded on the initialization of the VBS Map server. Dynamic / run-time changes to the file are not saved / propagated to VBS Map.
- Ensure that the full computer name of the User Client is entered in the
 UserConfiguration.json. Otherwise, symbology and the player unit visualization are not
 shown on the map (see Configure User Clients (on page 13)).
- VBS Map retains the last direction a unit / vehicle was facing before being killed / destroyed.
- VBS Geo placed buildings are visualized in the VBS Map web browser, VBS Editor placed buildings are not.
- Only entities of the same side as the player are visible in VBS Map in User Mode (on the previous page). Enemy entities can be seen only in VBS Command and Control (C2) mode in VBS (players in Admin Mode (on page 6) can see all sides).
- Zooming capability can be locked in VBS Map by an Administrator. However, web browser settings can override this behavior. For example, a web browser zoom level is shared between VBS Map and online documents, which means that if a user zooms to read a document and then switches back to VBS Map, the document zoom level is applied. Panning and resolution settings are also overridden by web browsers.
- Multiple instances of the VBS Map web browser on one computer is not supported.
 - If you use multiple instances of VBS Map in one browser, refreshing the browser results in an error notification. A refreshed instance assumes the last used computer name, is treated as a duplicate, and does not work.
 - A similar situation happens to all instances of VBS Map running in a single browser when disconnected and reconnected to VBS. All assume the last used computer name, but only one instance works.
- VBS Points of Interest are not visible on the VBS Map.
- Refreshing the web browser causes a reset of default settings.

• If a language is set using the menu in the Tool Bar (on page 20) in VBS Map, and the web browser is later refreshed, the VBS Map UI reverts to the default language (English).

- Currently, GeoJSON / KML / KMZ / MBTiles layers are not supported.
- UAVs have unit symbology in VBS Map, but not in VBS.

1.3.1 VBS Plan Limitations

VBS Plan drawings have the following limitations in VBS Map:

- Local changes in VBS Plan are not propagated to VBS Map.
- Some shapes, patterns, lines, and text may differ slightly in VBS Map to those shown in VBS Plan. Functionality is not affected.
- Changes made to overlays in VBS Plan during run-time must be committed, using the Commit
 Changes icon, for them to be propagated to VBS Map. For more information, see Managing
 Overlays in the VBS Plan Manual.
- The VBS Plan Units Tool is not visualized in VBS Map.
- VBS Close Air Support (CAS) is not supported by VBS Map.

2. Deploying VBS Map

VBS Map is accessed from a web browser, which is typically deployed alongside VBS.



WARNING

VBS Map is enabled in VBS by default, but it can be disabled in the VBS Launcher using startup option -disableVBSMap. Ensure that this startup option is disabled before proceeding. For more information, see -disableVBSMap in the VBS4 Administrator Manual and Export Map in the VBS4 Editor Manual.

If you start VBS using startup option -profiles=path in the VBS Launcher, the necessary . ison configuration files for VBS Map are loaded using the location logic described in profiles=path in the VBS4 Administrator Manual. They are not loaded from the standard location:

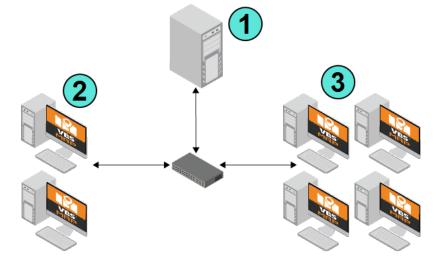
\Documents\VBS4\Map\External\



B NOTE

The .json configuration files mentioned in this topic are not installed, but are created automatically when a VBS Map User Client connects to the VBS Map Server for the first time.

The following diagram shows a common VBS Map lab deployment.



VBS Map Server

The VBS Map Server (running behind VBS4) is the central element of VBS Map, processing the configurations specified by the Administrator / Instructor to determine User Client Roles (on page 6).

2	Admin Clients	Administrators / Instructors configure VBS Map, and control the functionality available to User Clients (Trainees). Typically, these computers are also used to create and manage VBS scenarios.
3	Trainee Clients	Trainees (User Clients) access and use VBS Map in a web browser, alongside VBS on the same or different computers.



Admin and Trainee client computers can access and use VBS Map independently, without VBS installed on them. For more information, see Using VBS Map without VBS (on page 18).

2.1 System Requirements

Bohemia Interactive Simulations recommends the following hardware requirements for VBS Map:

VBS Map	Recommended
CPU	Intel Core i5-7400 (equivalent or better)
RAM	8 GB RAM
GPU	NVidia GeForce GTX 1050 Ti 4GB (equivalent or better) DirectX 11
os	Windows 10 64-bit
Web Browser	Google Chrome



MARNING

A firewall may prevent VBS Map clients from connecting to the VBS Map Server (on the previous page). If you get an error message, either disable the firewall, or configure it to allow client to server connections.

VBS Map uses port 4080 (default VBS Map Server port), which is configurable. For more information, see Server Configuration (on the next page).



1 NOTE

If you are using firewall, this port should be open.

2.2 Server Configuration

The VBS Map Server (on page 10) computer must have the ServerConfiguration. json file present. This file specifies the data refresh rate, default language, and map server port. The values shown in the example that follows are the default values. If necessary, you can edit the values in the file.



WARNING

The ServerConfiguration. json file cannot be edited when VBS is running.

Follow these steps:

1. On the **VBS Map Server computer**, go to:

\Documents\VBS4\Map\External\

- 2. Open the ServerConfiguration. json file with a text editor.
- Edit the values.
- 4. Click **File > Save** to save your edits.

EXAMPLE

ServerConfiguration.json

```
"dataRefreshTimerMilliseconds" : 1000,
"defaultLanguage" : "en",
"mapServerPort" : 4080,
```



WARNING

The data refresh rate (configured using dataRefreshTimerMilliseconds) is important, as it affects performance when multiple clients / units are in a scenario. Performance drop can be significant on the server machine when values between 1 and 1000 are used, considering the higher number of connected clients / visible units.

In other words, a higher number of clients / units with a lower dataRefreshTimerMilliseconds value may result in a performance drop.

2.3 Configure User Clients

The functionality available to User Clients (can be Administrator / Instructor / Trainee) is specified by their Roles (on page 6), which is reflected by the mode they are assigned (Admin Mode (on page 6) / User Mode (on page 7)). Mode configuration is determined on the VBS Map Server (on page 10) computer. As soon as a new User Client connects to this computer, a new entry is automatically created for it in the UserConfiguration. json file. You can edit this file so that when the VBS Map Server is running, only specific computers can connect to it, with specific roles.



WARNING

If the UserConfiguration. json file is corrupted in any way (typos, incorrect syntax, old format, and so on), it is recreated using default values / entries, and a backup file with custom (incorrect) changes is created in the same folder.



NOTE

The following considerations apply:

- The UserConfiguration.json file cannot be edited if VBS is running.
- Each User Client computer name only needs to be defined once in the UserConfiguration.json file.
- Ensure that the full computer name of the User Client is entered after parameter vbsClientFullComputerName. Otherwise, symbology and the player unit visualization are not shown on the map.
- The default mode assigned to everyone who connects is "User". However, this can be changed to "Admin" if necessary.

Follow these steps:

1. On the computer designated as the VBS Map Server (on page 10), go to:

\Documents\VBS4\Map\External\

2. Open the UserConfiguration.json file with a text editor.

3. Find the name of the computer you want to edit (defined by the loginName and vbsClientFullComputerName parameters).



To obtain the computer name of a User Client, go to the computer of the user, and do the following:

- a. Open Windows File Explorer on the User Client computer.
- b. Right-click This PC and select Properties.

The full computer name is displayed under the Device / Full Device Name / Device Manager settings.

4. Update "userRole" to "Admin".

UserConfiguration.json

```
"alias": ""
  "loginName" : "SampleUser",
  "userRole" : "Admin",
  "vbsClientFullComputerName" : "SampleUser"
},
```

WARNING

Keep the existing "SampleUser" entry as the final entry in the .json file without the trailing comma. This ensures correct .json formatting. Also, SampleUser is useful for creating map presets (see Configuring Map Presets (on page 29)).

- 5. Optional. Update "alias" to be the alias name of the user you want to appear in the Classroom Widget (on page 22).
- 6. Click File > Save to save your edits.



NOTE

Multiple Administrators can be configured to enable connection to the VBS Map Server (on page 10), but they are not listed in the Classroom Widget (on page 22). Each Administrator is able to observe their map or any Trainee map, but they are not able to observe the maps of other Administrators.

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2.4 Map Configuration

The map configuration file is called MapConfiguration.json, which contains parameters that determine the behavior and appearance of the VBS Map UI. The values shown in the example that follows are the default values. If necessary, you can edit the defined values in the file.

Follow these steps:

1. On the VBS Map Server computer, go to:

```
\Documents\VBS4\Map\External\Users\SampleUser\
```

- 2. Open the MapConfiguration.json file with a text editor.
- 3. Edit the values.
- 4. Click **File > Save** to save your edits.

EXAMPLE

MapConfiguration.json

```
"backgroundColor": "#3C3C3C",
"backgroundTexture": "none",
"chalkboardDrawings": true,
"coordinatesFormatLatLongDecimalDegrees": true,
"coordinatesFormatLatLongDegreesMinutes": true,
"coordinatesFormatLatLongDegreesMinutesSeconds": true,
"coordinatesFormatMGRS": true,
"coordinatesFormatUTM": true,
"defaultCoordinatesFormat": 0,
"fitToWindow": true,
"lockMapMovement": false,
"lockZoom": false,
"lockZoomScale": 20,
"mapCenterOffsetX": 0,
"mapCenterOffsetY": 0,
"mapHeight": 0,
"mapWidth": 0,
"showUnits": 3,
"unitsOrientation": true
```

2.5 Configure Map Layers

Use the Layers Widget (on page 26) in the VBS Map web browser to configure map layers. Here you can show / hide map textures and objects, or adjust their opacity.



WARNING

Certain map layers, such as Microsoft Bing Maps, Google Maps, or OpenStreetMap (OSM), require an unrestricted internet connection to be displayed, with access to the applicable third-party servers. Be aware that some map layers may require additional access permission from their relevant vendors.

Follow these steps:

- 1. Click **View** on the Tool Bar (on page 20).
- 2. In the View menu, check **Layers** to open the Layers widget.



3. Make your adjustments, and click X to close the widget.



NOTE

Trainees may choose their own map layers / adjust map layer opacity to customize their personal VBS Map layout.

If an Administrator / Instructor selects a Trainee computer in the Classroom Widget (on page 22), Trainee map layer changes are propagated to their computer automatically (without the need for a refresh), and the Layers option in the View menu is disabled.

Administrators / Instructors cannot change / control the opacity of map layers for Trainees.

2.6 Using a Web Browser

VBS Map is accessed from a web browser.

Do one of the following:



WARNING

The loginName and vbsFullComputerName parameter values are unique to a user. Therefore, they can only be used for one active connection to VBS Map.



1 NOTE

The default port (4080) can be changed, if necessary.

 If you are running the VBS Map Server (on page 10) on the same computer, type in the following web address, and press **Enter**:

```
http://localhost:4080/#/external/login?loginName=SampleAdmin
```

 If you are using VBS Map as a User Client, type in the following address (using the IP address of the VBS Map Server (on page 10)), and press Enter:

```
http://00.0.00.000:4080/#/external/login?loginName=SampleUser
```

```
(http://VBS Map Server IP address:Default
Port/#/external/login?loginName=UserName)
```

The web browser shows a visualization of the map of the scenario currently running in VBS.



B NOTE

As an Administrator / Instructor, you can use several web browsers to observe several VBS Map windows on the same computer.

To do this, you must define a different user for each web browser in the UserConfiguration.json file (see Configure User Clients (on page 13)). For example: "Admin1", "Admin2", "Admin3", and so on.

```
"alias": "",
"loginName" : "Admin1",
"userRole" : "Admin",
"vbsClientFullComputerName" : "Admin1"
```

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2.6.1 Using VBS Map without VBS

VBS Map can be used in Independent Mode, without VBS on your computer. This means that you can observe what is happening in a scenario using only VBS Map in a web browser. To do this, connect to the VBS Map Server (on page 10) computer.

Follow these steps:

- 1. Open a web browser.
- 2. Type in the following address:

http://00.0.00.000:4080/#/external/login?loginName=vbsClientFullComputerName

(VBS Map Server IP address/#/external/login?loginName=vbsClientFullComputerName of the User Client computer)

3. Press Enter.

The web browser shows a visualization of the map of the scenario currently running in VBS on the VBS Map Server computer.

3. VBS Map UI

3. VBS Map UI

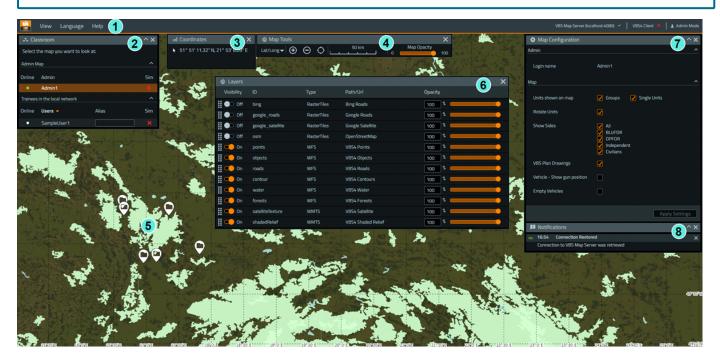
The version of the VBS Map UI you have depends on your role, which determines what you have access to. The VBS Map UI layout is similar for all Roles (on page 6), and is accessed in a web browser (see Using a Web Browser (on page 17)).

Administrators and Instructors use Admin Mode, which gives them access to additional controls and monitoring functionality. Trainees use User Mode.



1 NOTE

This topic focuses on the UI as available in Admin Mode (on page 6). For information about using the UI in User Mode (on page 7), see Using VBS Map as a Trainee (on page 42).



The VBS Map UI has the following features:

Number	Feature	Description
1	Tool Bar (on the next page)	Enables you to access various menus (View, Language, Help), displays the connection status of the VBS Map, and the mode.
2	Classroom Widget (on page 22)	Administrators / Instructors only The primary access point for Administrators / Instructors to view the scenario from different perspectives, see Trainee statuses, and control their access to VBS Map functionality.

Number	Feature	Description
3	Coordinates Widget (on page 26)	Displays your cursor position and your character unit position as a player.
4	Map Tools Widget (on page 26)	Enables all users to control their map display.
5	Battlespace Markers (on page 28)	Administrators / Instructors only VBS Battlespace markers that can be shown or hidden.
6	Layers Widget (on page 26)	Enables you to configure map layers.
7	Map Configuration Widget (on page 23)	Administrators / Instructors only Enables Administrators / Instructors to create map presets, and change map settings in order to control Trainee access to VBS Map functionality.
8	Notifications Widget (on page 25)	Displays connectivity information, and possible reasons why connectivity is lost.

Other Functions

The following additional functions are available:

 The Classroom Widget (on page 22), Map Configuration Widget (on page 23), and Notifications Widget (on page 25) can be collapsed by clicking the up arrow.



- The Coordinates Widget (on page 26), Map Tools Widget (on page 26), and Layers Widget (on page 26) can be moved elsewhere in the browser. Click and drag the widget headings to move them.
- Individual widgets can be hidden by clicking X, at the top-right corner of the widget.
- To move the map itself, click it using your LMB and drag your mouse (this is the opposite functionality to VBS, where the map is moved using your RMB).

3.1 Tool Bar

This feature provides access to various menus and displays the current VBS Map connection status and mode.



VBS Mao Server Bocalhost-60808 VBSA Client X & Admin Mode

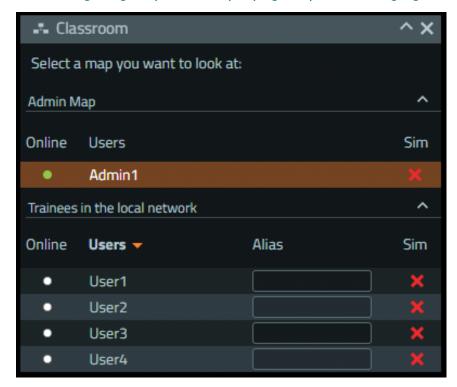
The Tool Bar has the following features.

Feature Description View Click to access the View menu, which enables you to show / hide the following widgets in the VBS Map UI: Show all widgets · Hide all widgets Check / uncheck the boxes to show / hide the following widgets in the VBS Map UI: Classroom (Administrators / Instructors only) Map Configuration (Administrators / Instructors only) Notifications Layers Coordinates Map Tools Battlespace Markers (Administrators / Instructors only) Language Click to open the Language menu, and change the language of the VBS Map UI: English French **1** NOTE When VBS Map is started, the defaultLanguage set by the Administrator in the ServerConfiguration.json file is loaded. If your language is not supported, the UI defaults to English. For more information, see Server Configuration (on page 12). Help Click to open the Help menu, and select from the following options: About - Opens a dialog with information about VBS Map. Documentation - Opens a HTML version of this manual. Connection The following connection statuses are shown: **Status** VBS4 Server (localhost:4080) < VBS4 Client Mode Icon The Admin / User icon is shown, depending on your role. **B** NOTE Roles (on page 6) are defined in the UserConfiguration. json configuration file on the VBS Map Server (on page 10) computer. User Mode Admin Mode

3. VBS Map UI

3.2 Classroom Widget

This widget provides an overview of the connection statuses of the Administrator and Trainees, and allows you to select Trainee computers, before modifying their presets or map functionality, see Configuring Map Presets (on page 29) and Managing the Scenario Map (on page 36).



The Classroom widget has the following sections:

Admin Map

Shows the following information about your computer:

Information	Description
Online	Status of your connection to the VBS Map Server. A green icon indicates that you are online.
Users	Your computer name.
Sim	Connection status to the simulation.



You can only see your own computer in this list. The computers of other Administrators are not shown.

· Trainees in the Local Network

Shows the following information about Trainee computers:

Information	Description
Online	Status of Trainee connections to the VBS Map Server. A green icon indicates that the Trainee is online.
Users	Computer names of Trainees.
Alias	Any aliases assigned to Trainees.
Sim	Connection status to the simulation.

3.3 Map Configuration Widget

If your computer is highlighted in the **Admin Map** section of the Classroom widget, an abbreviated version of the Map Configuration widget is shown, where you can adjust your personal observational settings. Check / uncheck the boxes and click **Apply Settings** to update the VBS Map UI, and customize your view.



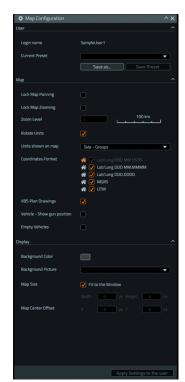
NOTE

These settings are not saved as map presets.



The abbreviated version of the Map Configuration widget has the following sections and settings:

Section	Setting	Description
Admin	Login name	Shows the name of the computer that the map configuration is applied to.
Мар	Units shown on map	 Check / uncheck the boxes to show / hide the following: Groups - All units on the map are shown as group symbols. Single Units - All units on the map are shown as single unit symbols.
	Rotate Units	Check to enable the rotation of units on the map to reflect their heading. If unchecked, all units face North.
	Show Sides	Check / uncheck the boxes to show / hide the following: • All • BLUFOR • OPFOR • Independent • Civilians
	VBS Plan Drawings	Check / uncheck the box to show / hide VBS Plan drawings, propagated from VBS, on the map.
	Vehicle - Show Gun Position	Check so that the standard symbology of player-occupied vehicles with gun turrets is replaced with VBS Map specific turret symbology, that has the following combined features: • Arrow - Colored to indicate the side (BLUFOR, OPFOR, Independent, Civilian) of the vehicle, showing the direction that the vehicle is facing. • Line - Indicates the current position and facing of the gun.
		If the vehicle has more than one turret, the line visualization is limited to the main turret.
	Empty Vehicles	Check / uncheck the box to show / hide empty vehicles on the map.

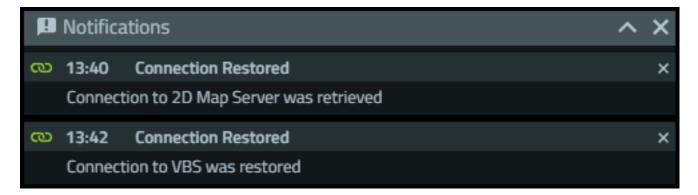


If you select a Trainee computer in the **Trainees in the Local Network** section of the Classroom widget, the Map Configuration widget expands to show additional Trainee specific settings (use the scrollbar to access all the settings).

For more information about the additional settings, see Managing the Scenario Map (on page 36) and Configuring Map Presets (on page 29).

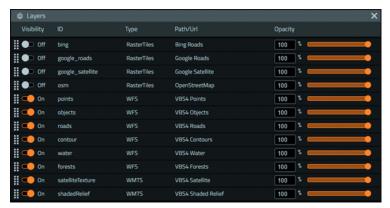
3.4 Notifications Widget

Shows notifications of events, such as "Connection Lost" or "Connection Restored".



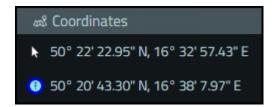
3.5 Layers Widget

This widget is used to configure map layers. For more information, see Configure Map Layers (on page 16).



3.6 Coordinates Widget

This widget displays both your cursor coordinates and the current coordinates of your character unit on the map.



3.7 Map Tools Widget

Use this widget to make adjustments to the coordinates format, zoom level, center the map on your character unit, or adjust the map opacity.



Tool	Description
Coordinates Drop-down	Use the drop-down to select the coordinates format you want to use. The options include: • Lat/Long - DDD MM SS.SS • Lat/Long - DDD MM.MMMM • Lat/Long - DDD.DDDD • MGRS • UTM

3. VBS Map UI

Tool Description

+/-Click to zoom in / out (alternatively, use your scroll wheel) to adjust the map scale (shown in meters on the adjacent scale).

Center on Player

Click the icon so that the map follows your character unit.



If you move the map, it stops following you until you click the icon again.



If the icon is empty (disabled), the map is not centered on your character unit as a player. If the icon is filled (enabled), the map is centered on your character unit as a player.



MARNING

If you refresh the web browser, Center on Player defaults to "on" (refreshing causes a reset of settings in VBS Map).

Map Opacity

Use the slider to adjust the opacity of the map.

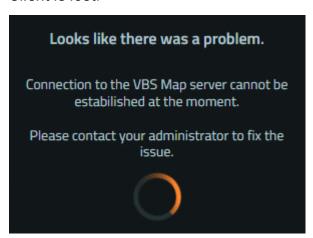
3.8 Battlespace Markers

Battlespace markers can be shown / hidden by checking / unchecking the option in the View (on page 21) menu.



3.9 Error Message

The following error message is shown if the connection between the VBS Map Server and a User Client is lost.



4. Configuring Map Presets

4. Configuring Map Presets

Administrators / Instructors use VBS Map in Admin Mode to create map presets, which are used to control the appearance and behavior of the VBS Map UI for Trainees. It is not necessary to be connected to a VBS scenario to create map presets, but you must be connected to the VBS Map Server (on page 10).



1 NOTE

Typically, the Administrator / Instructor configures all Roles (on page 6), prepares map presets, selects a Trainee computer in the Classroom Widget (on page 22), loads the map preset for it, and applies it to the Trainee computer. The map preset is then stored on the VBS Map Server (on page 10) computer for that specific Trainee computer, until it is overwritten by a new map preset.

Map presets are usually created prior to scenario start by the Administrator / Instructor, but they can also be edited during scenario run-time. For more information, see Managing the Scenario Map (on page 36).



If the Classroom Widget (on page 22) or Map Configuration Widget (on page 23) is not visible in the VBS Map UI, click View on the toolbar to open the widget menu, and check the **Classroom / Map Configuration** boxes.

Follow these steps:

- Start VBS.
- 2. Open a web browser and connect to VBS Map as an Admin.
- 3. Go to the **Classroom** widget.

4. Configuring Map Presets VBS4 24.1.

4. In the **Trainees in the local network** section, select a **User** (Trainee) computer, so that their row is highlighted.

The Map Configuration widget expands to show additional settings.



- 5. Go to the **Map Configuration** widget.
- 6. Use the **User** settings section to view the current map preset (if configured) or select a preconfigured map preset.

Setting	Description
Login Name	Shows the Trainee computer name, as selected in the Classroom widget.
Current Preset	Indicates which map preset you have selected from the list.

7. Use the **Map** settings to specify how the map behaves for the selected Trainee.

Setting	Description
Lock Map Panning	Check to force VBS Map to always display the Trainee character unit at the center of the map. Uncheck to enable the Trainee to pan the map, and use the Center on Map button to return to the center of the map.
Lock Map Zooming	Check to disable Trainee zoom control, and lock the Zoom Level .
Zoom Level	Use the up / down arrows to set the Trainee locked zoom level (shown in meters on the adjacent scale).
Rotate Units	Check (default) so that the unit symbol rotates to show the direction that the unit is facing. Uncheck so that the unit symbol is orientated North, and does not rotate with the unit.
Units Shown on Map	 None - Disables tracking of the Trainee. No units, apart from those in VBS Plan drawings are rendered for the Trainee. Player Only - Trainee sees only themself on the map. Player's Group - Trainee sees themself, and units in their group on the map. Side - Groups - Trainee sees their own group as individual units, and other groups only as group symbols. Side - Individual Units and Vehicles - Trainee sees their own group and other groups as individual units (including vehicle symbols). NOTE Destroyed vehicles are not shown on the map. No symbology is shown on the map for dead player units.

Setting

Description

Coordinates Format

Check the boxes to specify the coordinates formats available to a Trainee:

- Lat / Long DDD MM SS.SS
- Lat / Long DDD MM.MMMM
- Lat / Long DDD.DDDD
- MGRS
- UTM

If you select more than one option, you must select a primary coordinates system by clicking the applicable **house** icon next to the relevant coordinate system.





B NOTE

The primary coordinates system with an active (orange) house icon cannot be deselected. You must select a different primary coordinates system first.

VBS Plan Drawings

Check to display VBS Plan drawings in VBS Map, applied in VBS.

Vehicle -Show Gun Position

Check so that the standard symbology of player-occupied vehicles with gun turrets is replaced with VBS Map specific turret symbology, that has the following combined features:

- Arrow Colored to indicate the side (BLUFOR, OPFOR, Independent, Civilian) of the vehicle, showing the direction that the vehicle is facing.
- Line Indicates the current position and facing of the gun.



B NOTE

If the vehicle has more than one turret, the line visualization is limited to the main turret.







Empty Vehicles

Check / uncheck the box to show / hide empty vehicles on the map.

8. Use the **Display** settings to edit the appearance of the map for Trainees.

Setting

Description

Background Color

Click the **box** to open the color picker. Select a color for the background of the VBS Map web browser (shown if the map is displayed on a hand-held / in-vehicle GPS device, for example).

Click **X** to close the color picker.

Background **Picture**

Use the drop-down to select an image file to use as the device you want to display the map on. For more information, see Background Image (on the next page).



B NOTE

- The supported file extensions for image files are: .jpg or .png (.png also supports alpha values for transparency).
- The supported background image resolutions, that display successfully in the VBS Map browser, are:
 - 1024 x 768 (minimum resolution) 3960 x 2228 (~4K)
 - 1980 x 1114 (Full HD) 9900 x 5570 (~10K)
- Images must be saved and stored at the following location before you start VBS (file names should not contain spaces or special characters, such as *, ?, &, for example):

\Documents\VBS4\Map\External\BackgroundImageFiles

Map Size

Do one of the following:

- Check the Fit to the Window box so that the map occupies the whole of the browser window.
- Specify Width and Height (pixels) to set a specific size for the map, if you want it to appear on a device.

Follow these steps:

- a. Select an image of a device (see Background Picture).
- b. If necessary, uncheck Fit to Window.
- c. Use the Width and Height settings to adjust the size of the map to fit the device.
- d. Adjust the **Map Center Offset** settings to center the map on the device.

Map Center Offset

Define the **X** and **Y** values (pixels) to adjust the center point of the map.

The pixels define the difference between the center of the map and the center of the browser window. Manipulate the offset to position the map over the Background Picture. Negative values are allowed.

Background Image

This example image of a hand-held GPS device (example_device.png) is automatically copied to the \BackgroundImageFiles\ folder on VBS startup, providing that the folder is empty.



If the image is not copied over to the \BackgroundImageFiles\ folder, you can find it at the following location:

\VBS Installation\Components\WebMapController\assets\BackgroundImageFiles\

Follow these steps:

a. Click the drop-down arrow.



- b. Select an **image** from the list.
- c. Click **Apply Settings on Device** to see the image in the main window of your browser.
- d. Adjust the map to fit the screen of the device, see Map Size.
- 9. To save your newly created map preset, do the following:
 - a. Click the Save as... button under the Current Preset field.
 - b. Input a **Preset Name** in the Save New Preset dialog, and click **Save Preset**.

VBS Map saves the preset in the Current Preset drop-down, which is then available to assign to any Trainee computer. The file location of the map preset on the VBS Map Server (on page 10) computer is:

\Documents\VBS4\Map\External\MapConfigPresets\

4. Configuring Map Presets VBS4 24.1.

4.1 Assign a Map Preset

To assign the map preset to a Trainee computer, execute the following procedure.

Follow these steps:

- 1. In the Classroom Widget (on page 22), go to the **Trainees in the local network** section.
- 2. Select a **User** (Trainee), so that their row is highlighted.
- 3. In the Map Configuration Widget (on page 23), go to the **Current Preset** drop-down, and click the drop-down **arrow**.



4. Select the **map preset** from the list that you want to assign to the Trainee computer, and click **Apply Settings on Device**.

The map preset is assigned to the Trainee computer.

5. Managing the Scenario Map

Instructors use VBS Map to observe and monitor Trainee behavior, and edit map settings and presets during scenario run-time.

To create map presets, see Configuring Map Presets (on page 29).

Follow these steps:

- 1. Start a multiplayer scenario in VBS.
- 2. Open a web browser and connect to VBS Map as an Admin (see Using a Web Browser (on page 17)).

VBS Map starts, and you see a view of the whole scenario, including BLUFOR, OPFOR, Independent, and Civilian entities.

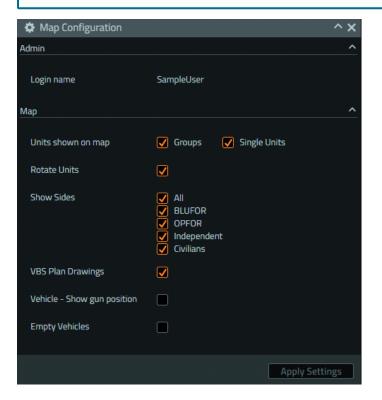
Your computer and the computers of all participant users (Trainees) are listed in the Classroom Widget (on page 22) in the **Admin Map** and **Trainees in the local network** sections, respectively.

If your computer is highlighted in the **Admin Map** section of the Classroom widget, an abbreviated version of the Map Configuration widget is shown, where you can adjust your personal observational settings. Check / uncheck the boxes and click **Apply Settings** to update the VBS Map UI, and customize your view.



NOTE

These settings are not saved as map presets.



For more information about the settings, see Map Configuration Widget (on page 23).

5.1 Edit Map Presets

How to edit Trainee map presets is described in the procedure that follows.

Follow these steps:

1. In the **Classroom** widget, go to the **Trainees in the Local Network** section, and click a **User** (Trainee).

VBS Map switches to the view of the Trainee, and the name of their computer, current preset (if any), and current map settings are shown in the Map Configuration widget, which expands to show more settings.



- 2. Go to the **Map Configuration** widget.
- 3. Use the **User** settings section to view the current map preset (if configured) or select a preconfigured map preset.

Setting	Description
Login Name	Shows the Trainee computer name, as selected in the Classroom widget.
Current Preset	Indicates which map preset you have selected from the list.

4. Use the **Map** settings to specify how the map behaves for the selected Trainee.

0.11	
Setting	Description
Lock Map Panning	Check to force VBS Map to always display the Trainee character unit at the center of the map. Uncheck to enable the Trainee to pan the map, and use the Center on Map button to
	return to the center of the map.
Lock Map Zooming	Check to disable Trainee zoom control, and lock the Zoom Level .
Zoom Level	Use the up / down arrows to set the Trainee locked zoom level (shown in meters on the adjacent scale).
Rotate Units	Check (default) so that the unit symbol rotates to show the direction that the unit is facing. Uncheck so that the unit symbol is orientated North, and does not rotate with the unit.
Units Shown on Map	 Use the drop-down to specify which unit types are visible to the Trainee on the map: None - Disables tracking of the Trainee. No units, apart from those in VBS Plan drawings are rendered for the Trainee. Player Only - Trainee sees only themself on the map. Player's Group - Trainee sees themself, and units in their group on the map. Side - Groups - Trainee sees their own group as individual units, and other groups only as group symbols. Side - Individual Units and Vehicles - Trainee sees their own group and other groups as individual units (including vehicle symbols). INOTE Destroyed vehicles are not shown on the map. No symbology is shown on the map for dead player units.

Setting

Description

Coordinates Format

Check the boxes to specify the coordinates formats available to a Trainee:

- Lat / Long DDD MM SS.SS
- · Lat / Long DDD MM.MMMM
- Lat / Long DDD.DDDD
- MGRS
- UTM

If you select more than one option, you must select a primary coordinates system by clicking the applicable **house** icon next to the relevant coordinate system.





NOTE

The primary coordinates system with an active (orange) house icon cannot be deselected. You must select a different primary coordinates system first.

VBS Plan Drawings

Check to display VBS Plan drawings in VBS Map, applied in VBS.

Vehicle -Show Gun Position

Check so that the standard symbology of player-occupied vehicles with gun turrets is replaced with VBS Map specific turret symbology, that has the following combined features:

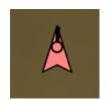
- Arrow Colored to indicate the side (BLUFOR, OPFOR, Independent, Civilian) of the vehicle, showing the direction that the vehicle is facing.
- Line Indicates the current position and facing of the gun.



B NOTE

If the vehicle has more than one turret, the line visualization is limited to the main turret.







Empty Vehicles

Check / uncheck the box to show / hide empty vehicles on the map.

5. Use the **Display** settings to edit the appearance of the map for Trainees.

Setting

Description

Background Color

Click the **box** to open the color picker. Select a color for the background of the VBS Map web browser (shown if the map is displayed on a hand-held / in-vehicle GPS device, for example).

Click **X** to close the color picker.

Background **Picture**

Use the drop-down to select an image file to use as the device you want to display the map on. For more information, see Background Image (on the next page).



B NOTE

- The supported file extensions for image files are: .jpg or .png (.png also supports alpha values for transparency).
- The supported background image resolutions, that display successfully in the VBS Map browser, are:
 - 1024 x 768 (minimum resolution) 3960 x 2228 (~4K)
 - 1980 x 1114 (Full HD) 9900 x 5570 (~10K)
- Images must be saved and stored at the following location before you start VBS (file names should not contain spaces or special characters, such as *, ?, &, for example):

\Documents\VBS4\Map\External\BackgroundImageFiles

Map Size

Do one of the following:

- Check the Fit to the Window box so that the map occupies the whole of the browser window.
- Specify Width and Height (pixels) to set a specific size for the map, if you want it to appear on a device.

Follow these steps:

- a. Select an image of a device (see Background Picture).
- b. If necessary, uncheck Fit to Window.
- c. Use the Width and Height settings to adjust the size of the map to fit the device.
- d. Adjust the **Map Center Offset** settings to center the map on the device.

Map Center Offset

Define the **X** and **Y** values (pixels) to adjust the center point of the map.

The pixels define the difference between the center of the map and the center of the browser window. Manipulate the offset to position the map over the Background Picture. Negative values are allowed.

Background Image

This example image of a hand-held GPS device (example device.png) is automatically copied to the \BackgroundImageFiles\ folder on VBS startup, providing that the folder is empty.



If the image is not copied over to the \BackgroundImageFiles\ folder, you can find it at the following location:

\VBS Installation\Components\WebMapController\assets\BackgroundImageFiles\

Follow these steps:

a. Click the drop-down arrow.



- Select an image from the list.
- c. Click **Apply Settings on Device** to see the image in the main window of your browser.
- d. Adjust the map to fit the screen of the device, see Map Size.
- 6. Click **Apply Settings on Device** to apply your edits to the selected Trainee computer.
- 7. Click **Save Preset** to save your edits to the map preset.



B NOTE

This updates the map preset and saves the settings for future use.

Your map preset edits are saved.

6. Using VBS Map as a Trainee

As a Trainee, you can access VBS Map in User Mode from a web browser.



NOTE

If you are not in a VBS scenario, you are not able to see the map.

If your connection to the VBS Map Server (on page 10) is lost, you see a generic Error Message (on page 28).

What is shown on the map, and the functions available, varies depending on how the Administrator / Instructor has configured VBS Map for you. As a Trainee, you can see your character unit on the map, but you may not see other units, you may not be able to use some map tools, or you may be denied access to certain coordinates formats.

Turrets

If set by your Administrator / Instructor, the standard symbology of player-occupied vehicles with gun turrets is replaced with VBS Map specific turret symbology, which has the following combined features:

Feature Description

Arrow

Colored to indicate the side (BLUFOR, OPFOR, Independent, Civilian) of the vehicle, showing the direction that the vehicle is facing.

Line

Indicates the current position and facing of the gun.



NOTE

If the vehicle has more than one turret, the line visualization is limited to the main turret.







Follow these steps:

1. Start VBS and join the multi-player scenario set up by your Administrator / Instructor.



WARNING

Always start VBS using the **-forceSimul** option enabled, so that VBS continues to run when VBS Map has focus.

2. Open a web browser, type in the following address, and press **Enter**:

http://00.0.00.000:4080/#/external/login?loginName=SampleUser

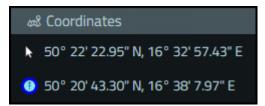
(http://VBS Map Server IP address:Default Port/#/external/login?loginName=UserName)

The following events occur:

- Your VBS Map web browser automatically connects to the VBS scenario.
- A map is displayed. Typically it occupies the whole of the browser window, but it may be displayed on a hand-held or in-vehicle GPS device.
- Your character unit is shown at the center of the map.



- 3. If necessary, drag and drop the web browser window to another monitor.
- 4. Use the Coordinates Widget (on page 26) to monitor your cursor position, and the position of your character unit on the map.



5. Use the Map Tools Widget (on page 26) to change coordinates, zoom in / out, center the map on your character unit, or adjust the opacity of the map.



WARNING

The available coordinates systems may be restricted by your Administrator / Instructor.



Tool

Description

Coordinates Drop-down

Use the drop-down to select the coordinates format you want to use. The options include:

- Lat/Long DDD MM SS.SS
- Lat/Long DDD MM.MMMM
- Lat/Long DDD.DDDD
- MGRS
- UTM
- + / Click to zoom in / out (alternatively, use your scroll wheel) to adjust the map scale (shown in meters on the adjacent scale).

Center on Player

Click the icon so that the map follows your character unit.



If you move the map, it stops following you until you click the icon again.



B NOTE

If the icon is empty (disabled), the map is not centered on your character unit as a player. If the icon is filled (enabled), the map is centered on your character unit as a player.



WARNING

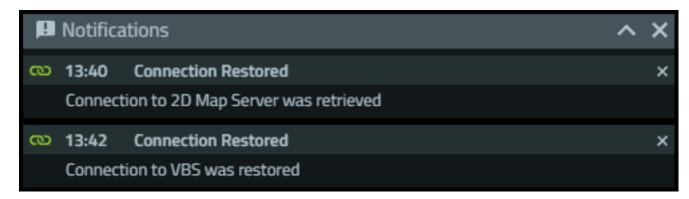
If you refresh the web browser, Center on Player defaults to "on" (refreshing causes a reset of settings in VBS Map).

Map Opacity

Use the slider to adjust the opacity of the map.

- 6. Use the Layers Widget (on page 26) to select / adjust the opacity of map layers.
- 7. Use the Other Functions (on page 20) to adjust the layout of your map.

8. Use the Notifications Widget (on page 25) to monitor the connection status of your VBS Map web browser.



9. Use Alt + Tab to switch between the VBS Map web browser and VBS.