

# Cheat Sheet

## SIGENCE Scenario Tool

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## Requirements

To start and use this tool, you must have Microsoft Windows 7, at least installed the Microsoft .NET Framework 4.6.1, and have an stable internet connection for loading the map data. For viewing the cheatsheet, you'll need an PDF Viewer. For exporting the model to an excel file, excel also is needed.

## Installation

Just download the latest version from <https://github.com/ObiWanLansi/SIGENCE-Scenario-Tool/releases> to a local folder (installer or the selfextracting executable) and use the installer or the selfextracting executable.

## Environment Variables

Currently, no environment variables or settings are needed 😊 .

## RFDevice Model

Name	Data Type	DefaultValue	Comment
<b>PrimaryKey</b>	Guid	Guid.NewGuid()	The Unique PrimaryKey For This RF Device.
<b>Id</b>	int	0	Every Scenario Element (I.E. Transmitter, Receiver) Must Be Assigned An Unique Id. Negative Id'S Are Reserved For Receivers While All Other Id'S Are Transmitters By Default. Some Applications (I.E. Tdoa Emitter Localization) Require A Reference Transmitter. For These Applications Id=0 Is The Reference Transmitter. Receivers Must Be Assigned First In The Table, Followed Be Transmitters (With Id=0 Being The First). After The Static Scenario, Update Of Id'S Requires No Specific Order. Note That Definition Of New Transmitters/Receivers After The Static Scenario Is Prohibited.
<b>DeviceSource</b>	DeviceSource	DeviceSource.Unknown	The Source Of This RF Device.
<b>StartTime</b>	double	0	This Is The Simulation Time At Which The Parameters (Following The Time Parameter In The Same Line) Are Set. All Transmitters And Receivers Used In The Simulation Must Be Set At Start Of The Simulation, I.E. At Time=0. For Static Scenarios, Where Positions Or Characteristics Settings Never Change Throughout The Simulation, The Time Column Only Contains Zero's.
<b>Name</b>	string	"RFDevice"	A Short Describing Display Name For The RF Device.
<b>Latitude</b>	Latitude	double.NaN	The Latitude Of The RF Device (WGS84).
<b>Longitude</b>	Longitude	double.NaN	The Longitude Of The RF Device (WGS84).
<b>Altitude</b>	Altitude	0	The Elevation Of The RF Device Above The Sea Level (Meter).
<b>Roll</b>	double	0	These Parameters Set The Orientation Of Transmitter / Receiver Antennas. The Respective Antenna Type Is Defined By Antennatype. The Rf Simulation Uses The Antenna

			Orientation To Compute The Resulting Signal Power At The Receivers.
<b>Pitch</b>	double	0	These Parameters Set The Orientation Of Transmitter / Receiver Antennas. The Respective Antenna Type Is Defined By Antennatype. The Rf Simulation Uses The Antenna Orientation To Compute The Resulting Signal Power At The Receivers.
<b>Yaw</b>	double	0	These Parameters Set The Orientation Of Transmitter / Receiver Antennas. The Respective Antenna Type Is Defined By Antennatype. The Rf Simulation Uses The Antenna Orientation To Compute The Resulting Signal Power At The Receivers.
<b>RxTxType</b>	RxTxType	RxTxType.Unknown	For All Receivers (i.e. ID's < 0) This Parameter Defines The Radio Being Used.
<b>AntennaType</b>	AntennaType	AntennaType.Unknown	AntennaType Defines The Antenna Type Used For Transmitter And Receiver Respectively. Note: Currently, Only Omnidirectional Antenna Type Is Available / Supported.
<b>CenterFrequency_Hz</b>	Frequency	0	For Transmitters (I.E. Id's >= 0) This Parameter Defines Transmitter Signal Center Frequency [Hz]. For Receivers (I.E. Id's < 0) This Parameter Is Currently Unused.
<b>Bandwidth_Hz</b>	Bandwidth	0	The Bandwith Of The Transmitter.
<b>Gain_dB</b>	Gain	0	For Transmitters (I.E. Id's >= 0) This Parameter Defines Transmitter Signal Power [Dbm]. For Receivers (I.E. Id's < 0) This Parameter Is Currently Unused.
<b>SignalToNoiseRatio_dB</b>	SignalToNoiseRatio	0	For Receivers (I.E. Id's < 0) This Parameter Is Imposes Gaussian White Noise To The Respective Receiver Signal. For Transmitters (I.E. Id's >= 0) This Parameter Is Unused.
<b>XPos</b>	int	0	XPos,YPos,ZPos Define The Transmitter / Receiver Positions In A Local Coordinate System With The Transmitter (ID=0) Being The Center Position.
<b>YPos</b>	int	0	XPos,YPos,ZPos Define The

			Transmitter / Receiver Positions In A Local Coordinate System With The Transmitter (ID=0) Being The Center Position.
<b>ZPos</b>	int	0	XPos,YPos,ZPos Define The Transmitter / Receiver Positions In A Local Coordinate System With The Transmitter (ID=0) Being The Center Position.
<b>Remark</b>	string	""	A Comment Or Remark For The RF Device.

## HotKeys (Main Application)

HotKey	Command	Action
<b>File</b>		
<b>STRG+N</b>	New	Creates a new file for a scenario.
<b>STRG+O</b>	Open	Open an existing scenario file.
<b>STR+S</b>	Save	Save the current scenario.
<b>ALT+F4</b>	Close	Close the application.
<b>F1</b>	OpenCheatSheet	Open this cheat sheet.
<b>RFDevice</b>		
<b>F5</b> ALT+C	CreateRFDevice	Create a new RFDevice.
<b>F6</b> ALT+D	DeleteRFDevice	Delete the selected RFDevice.
<b>F7</b> ALT+M	MoveRFDevice	Toggle the moving mode from the RFDevices's.
<b>F8</b> ALT+E	EditRFDevice	Edit the RFDevice In An Dialog.
<b>F9</b>	ExportRFDevice	Export the RFDevice list.
<b>F10</b>	ImportRFDevice	Import an RFDevice list.
<b>STRG+L</b>	ToggleDALF	Toggle the creating tool for RFDevice lines.
<b>STRG+M</b>	OpenInGoogleMaps	Open the current RFDevice in Google Maps.
<b>STRG+SHIFT+M</b>	MarkDevicesWithTheSameValue	Mark all RFDevice with the same property value.
<b>STRG+Q</b>	RFDeviceQRCode	Show a QRCode from the current RFDevice Location for scanning with a qrcode scanner.
<b>STRG+Z</b>	ZoomToRFDevice	Zoom to the selected RFDevice.
<b>Tools</b>		
<b>F11</b> STRG+F	Fullscreen (reserved 4 later)	Switch to a fullscreen display mode.
<b>F12</b>	ToggleInfoWindow	Toogle the information window on the map.
<b>STRG+G</b>	SyncMapAndGrid	Toggle the synchronizing from the selection between the map and the datagrid.
<b>STRG+T</b>	CreateScreenshot	Create a screenshot from the map with the current viewport.
<b>STRG+P</b>	OpenScriptEditor	Open the ScriptEditor for Python.
<b>STRG+X</b>	EditSettings	Open the Settings Dialog for edit the Settings.
<b>Viewer</b>		
<b>Shift + F5</b>	ViewDeviceMap	Fast switch to the RFDevice map display.
<b>Shift + F6</b>	ViewDescriptionHypertext	Fast switch to the scenario description view.
<b>Shift + F7</b>	EditDescriptionMarkdown	Fast switch to the scenario description editor.
<b>Shift + F8</b>	EditDescriptionStylesheet	Fast switch to the stylesheet editor.
<b>Shift + F9</b>	ViewValidationResults	Fast switch to the validation results.

## Quick Commands

Command	Parameter	Action
<b>new</b>	-	Create A New Empty Scenario.
<b>rand</b>	count	Create (count) Randomized Transmitter.
<b>load</b>	filename	Load The Scenario With The Given Filename.
<b>save</b>	filename	Save The Scenario With The Given Filename, Or If Empty, With The Current Filename.
<b>export</b>		Export The Current Scenario.
<b>export</b>	filename	Export The Scenario To This File. The File Extension Also Determines The Format.
<b>import</b>	filename	Import The Scenario From This File. The File Extension Also Determines The Format.
<b>set</b>	property value	Set The Property From The Marked RFDevices To The Value.
<b>sendudp</b>	Delay	Start Sending The Marked Devices Over UDP With The Delay Between Every RFDevice.
<b>goto</b>	lat, lon	Jumps To The Latitude, Longitude In The Map-
<b>gc</b>	-	Runs The Garbage Collector
<b>git</b>		Start An Webbrowser With <a href="https://github.com/ObiWanLansi/SIGENCE-Scenario-Tool">https://github.com/ObiWanLansi/SIGENCE-Scenario-Tool</a>
<b>wiki</b>		Start An Webbrowser With <a href="https://de.wikipedia.org/wiki/Wikipedia:Hauptseite">https://de.wikipedia.org/wiki/Wikipedia:Hauptseite</a>
<b>go</b>		Start An Webbrowser With <a href="https://www.google.de">https://www.google.de</a>
<b>xmp</b>		Create Two Specialized RF Devices.
<b>exit</b>	-	Exit The Tool.
<b>close</b>	-	Exit The Tool.
<b>quit</b>	-	Exit The Tool.

## HotKeys (Description Editor)

HotKey	Command	Description
<b>Control + A</b>	Accept Changes	Accept the changes and update the view.
<b>Control + D</b>	Discard Changes	Discard the last changes.
<b>Control + Y</b>	DeleteLine	Delete the current line.
<b>Control + B</b>	ToggleBookmark	Toogle an bookmark at the current line.
<b>Control + Cursor Up</b>	GotoPrevBookmark	Goto the previous bookmark.
<b>Control + Cursor Down</b>	GotoNextBookmark	Goto the next bookmark.
<b>Control + Shift + U</b>	ToUpperCase	Switch the selected text to uppercase.
<b>Control + Shift + L</b>	ToLowerCase	Switch the selected text to lowercase.
<b>Control + Shift + C</b>	ToCapitalize	Switch the selected text to capitalize.
<b>Control + Shift + B</b>	ToBold	Switch the selected text to bold.
<b>Control + Shift + I</b>	ToItalic	Switch the selected text to italic.
<b>Control + Shift + S</b>	ToStrikethrough	Switch the selected text to strikethrough.
<b>Control + Shift + (1-4)</b>	ToHeader (1-4)	Switch the selected text to an header.
<b>Control + Shift + X</b>	ToogleSpecialCharacter	Switch the display of special character like spaces, tabs and eol.
<b>Control + Shift + T</b>	ConvertTabsToSpaces	Convert all tabs to space.
<b>Control + Shift + R</b>	RemoveTrailingWhiteSpaces	Remove all trailing white spaces.
<b>Control + Alt + L</b>	InsertLoremIpsum	Insert an lorem ipsum text.
<b>Control + Alt + D</b>	InsertDateTime	Insert the curent date and time.



# Useful Links

- SIGINT  
[https://en.wikipedia.org/wiki/Signals\\_intelligence](https://en.wikipedia.org/wiki/Signals_intelligence)
- Git Tutorial  
<https://www.tutorialspoint.com/git/index.htm>
- Mastering Markdown  
<https://guides.github.com/features/mastering-markdown/>
- Microsoft Visual Studio  
<https://visualstudio.microsoft.com/>
- C# Tutorial  
<https://www.tutorialspoint.com/csharp/index.htm>
- WPF Tutorial  
<https://www.tutorialspoint.com/wpf/index.htm>
- HTML Tutorial  
<https://www.w3schools.com/html/default.asp>
- Python Tutorial  
<https://www.tutorialspoint.com/python/index.htm>
- IronPython  
<http://ironpython.net/documentation/dotnet/>
- SQLite  
<https://sqlite.org/index.html>