



Return to Blockland

Modding Documentation

by Ephialtes

Version 3.0

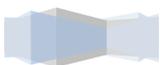
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Add-On Preferences

RTB allows add-on makers to register preferences with RTB that the server owner can then manage via the RTB Server Control. See below for an example of this;



Figure 1: Duplicator preferences in RTB Server Control

Preferences have a range of configurations you can use to define them. You are able to set the following options for each preference you register:

- A category for the pref to go into
- The pref name
- The pref variable name (`$Duplicator::Timeout`)
- The variable type (string, bool, int, list)
- A default value for the pref
- Whether the pref will only take effect once the server restarts
- Whether the pref can only be changed by the host
- The name of a function to call when the pref gets changed

Preferences are registered as the server starts, and are cached once on the client when the client joins or becomes admin – so you cannot register prefs during gameplay or none of the clients will be able to see them.

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Preferences are also saved and loaded automatically so building in pref management to your add-on is unnecessary, since the default value will be used if the add-on is being used on a non-rtb server.

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Adding Preferences

Preferences should be registered within your **server.cs** script so that it is registered before the first client connects and downloads them all. The following is the code used to register a pref for your add-on;

```
RTB_registerPref(  
    "Pref Name",  
    "Category",  
    "Variable Name",  
    "Variable Type",  
    "Add-On Name",  
    "Default Value",  
    Requires Restart,  
    Host Only,  
    "Callback Name");
```

The following is a rundown of the meaning of each parameter, using the duplicator as an example:

Pref Name

This is simply to identify your pref in the list. This should accurately describe what the preference does, but keep it short!

Example: Max Bricks (Admin)

Category

A category allows all prefs of a certain type to be grouped together.

Example: Duplicator

Variable Name

The actual variable should be entered here that gets changed by the user.

Example: \$Duplicator::Timeout

Variable Type

This specifies what type of variable you're setting. This is very similar to how parameters for the event system are set. It also decides how to display the setting for the client. You can use the following values:

- "list text value text value text value"
- "bool"
- "int min max"
- "string max"

Example: "int 0 5000"

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Add-On Name

This is unused at the moment but is still required. You should set this to the name of the zip file (minus the .zip extension)

Example: Tool_Duplicator

Default Value

This is the default value used for the variable, and is the one used when someone clicks Defaults on the Preferences menu.

Example: 5000

Requires Restart

This is a 1 or a 0 to indicate whether the server needs to be restarted before the preference change will take effect.

Example: 0

Host Only

You can choose whether or not the preference can be changed by other people, or just the host of the server. Again this is either a 1 or a 0.

Example: 0

Callback Name

This is an optional value. You can create a function to be called when a certain pref is changed. The function is passed two parameters; the old value of the pref and the new one.

Example: onChangeDuplicator

Because RTB may not be executed before your add-on, you will need to add some code that checks RTB is executed (and executes it if it is not) before you can register your pref. This also gives you the chance to set the default variable for non-rtb users.

```
if(isFile("Add-Ons/System_ReturnToBlockland/server.cs"))
{
    if(!$RTB::RTBR_ServerControl_Hook)
        exec("Add-Ons/System_ReturnToBlockland/RTBR_ServerControl_Hook.cs");
    RTB_registerPref("Duplicator Timeout", "Duplicator", "Duplicator::Timeout", "int 0 60", "Tool_Duplicator", 40, 0, 0);
}
else
{
    $Duplicator::Timeout = 40;
}
```

This checks to see if the server has RTB, and if it does it makes sure the pref can be registered, otherwise it executes that file and then your pref is registered.

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If the server doesn't have RTB, the default value can be set instead.

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GUI Downloading

As of RTB v3, basic GUIs can now be downloaded from the server to the client and used in the game. Currently only the following control types will be downloaded:

- GuiBitmapButtonCtrl
- GuiButtonCtrl
- GuiBitmapCtrl
- GuiTextEditCtrl
- GuiTextCtrl
- GuiMLTextCtrl
- GuiSwatchCtrl
- GuiWindowCtrl
- GuiScrollCtrl

Any other types of control in the gui will be ignored and not sent to the client. There are also restrictions on what fields of a control get sent to the client. Most the standard fields will get sent unless you're trying to do something unusual. As of this version of RTB, you are not able to manipulate or control the GUI on the client, although this is likely to change in future versions.

Registering a GUI

Much like registering a preference, there is another command to register a GUI file for downloading – although this is much more simple. You simply enter the path to the GUI file you want to be sent to the client and RTB will take care of the rest.

Again, you will need extra code to make sure RTB is executed:

```
RTB_registerGUI (
    "path/to.gui");
```

Then when the client joins the server, they will download the gui as part of the mission load

```
if(isFile("Add-Ons/System_ReturnToBlockland/server.cs"))
{
    if(!$RTB::RTBR_GUITransfer_Hook)
        exec("Add-Ons/System_ReturnToBlockland/RTBR_GUITransfer_Hook.cs");
    RTB_registerGUI("RTB_Example.gui");
}
```

sequence, just before the datablocks are loaded. This is very sensitive to prevent people trying to misuse the downloading so trying to do naughty things will be detected by the client and they'll reject the gui you try to download to them. It is also worth noting that the "command" fields for buttons only allow two types of things; `commandtoserver()` functions and `canvas.popDialog()` function calls. You can't access client preferences or send them using the `commandtoserver()` function, but you can get the values of input fields within your GUI.

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Opening and closing RTB GUIs

There are three functions to allow you to open, close and toggle the RTB GUIs that clients have.

```
commandtoclient(%client,'RTB_OpenGUI',"GuiName");
```

Opens the gui on the client

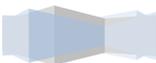
```
commandtoclient(%client,'RTB_CloseGUI',"GuiName");
```

Closes the gui on the client

```
commandtoclient(%client,'RTB_ToggleGUI',"GuiName");
```

Toggles the gui open or closed on the client

These will only work on RTB GUIs and not Blockland GUIs.



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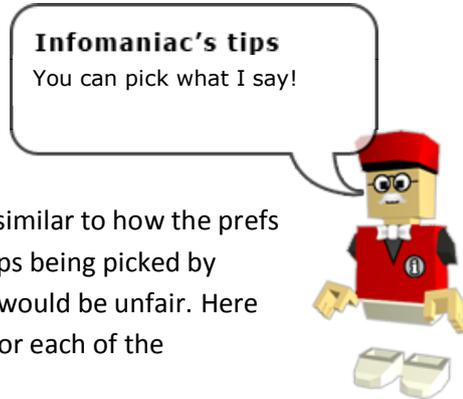
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Info Tips

You are probably familiar with the Infomaniac who lives on your loading screen. He gives out a number of default tips but he also accepts tips about add-ons that the user has installed. You can register as many as you like.

The size of the Infomaniac's speech bubble will automatically resize to fit larger messages you enter.



Registering an Info Tip

Again, there is a command to register info tips and it is very similar to how the prefs are registered. You can increase the chance of one of your tips being picked by registering it multiple times, although doing this excessively would be unfair. Here is the code used to register an info tip, and the explanation for each of the parameters in the function.

```
RTB_addInfoTip(  
    "Tip Text",  
    "No-Bind Tip Text",  
    "Category");
```

Here's a rundown of what each parameter means.

Tip Text

This is the text displayed in the info bubble. It can contain TorqueML formatting and also a special new TorqueML tag which will be explained further down.

Example: Save often! Don't let your build get lost!

No-Bind Tip Text

If you include the bind ML tag (see below) and it is not bound to a key, this text will be displayed instead of the original text.

Example: I noticed you don't have the key bound to use tools, you might want to!

Category

Not yet used but in the future will allow users to only show tips from certain categories.

Example: General Tips

Bind ML Tag Usage

RTB adds a new ML Tag for Info Tips, which is the <key> tag. See usage below.

```
Press <key:showPlayerList> to bring up the player trust box.
```

The value it uses is the function called by the keybind.

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Colorsets

Although you could always change colorsets in Blockland before RTB, there is now a new feature to let you do this without directly editing files.

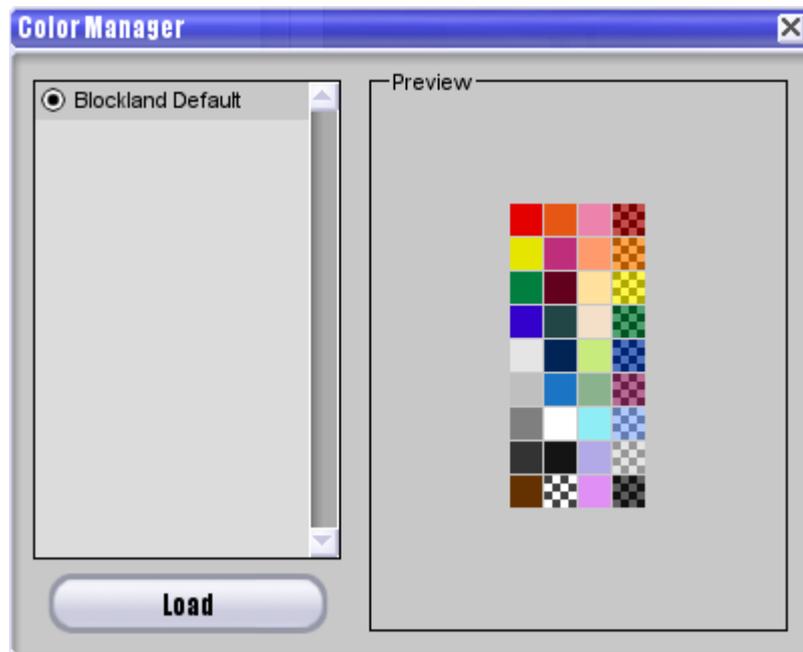


Figure 2: Colorset Manager

RTB introduces a standard by which to pack your colorset. Essentially it just consists of sticking the colorSet.txt into a zip with a valid description.txt file. It will then show up in this list which is accessible from the Start a Server menu and will show an auto-generated preview of the colorset when you select it.

To clarify, the colorSet.txt must be placed in a zip starting with Colorset_ and it must contain a valid description.txt file with a Title and Author field.