

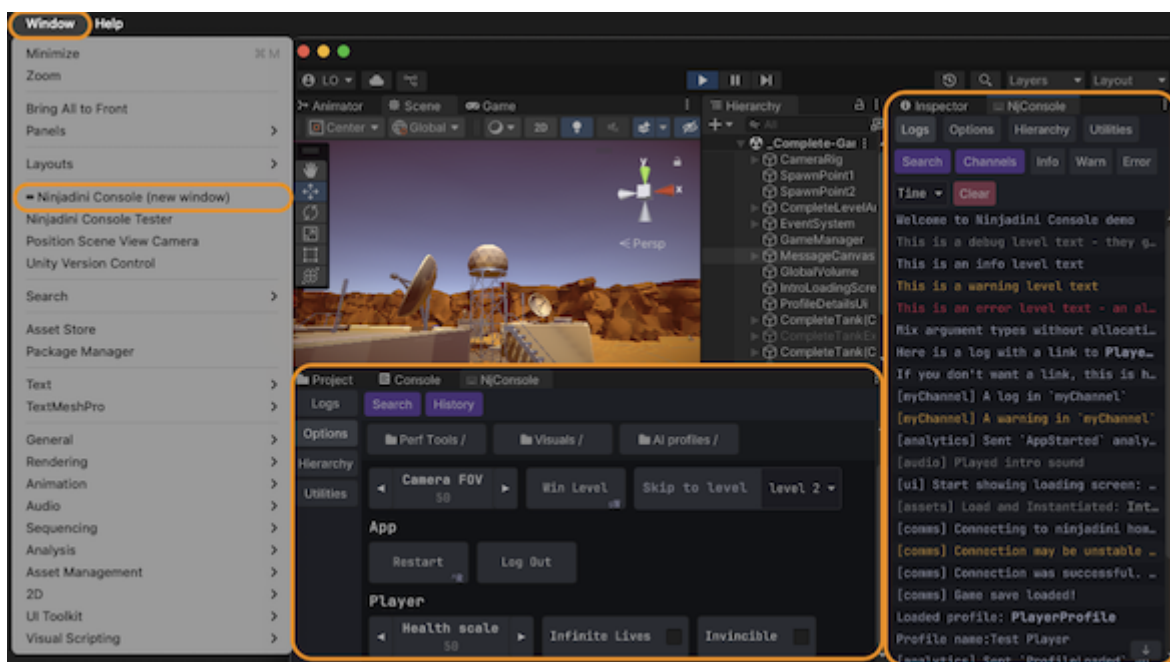
🚀 Getting Started with Ninjadini Debug Console

⚠️ Unity 2022.3 or newer is required

NjConsole relies on Unity's UI Toolkit, which became stable for runtime use in 2022.3 LTS.

🧩 Open console window in editor

- Navigate to: `Windows > = Ninjadini Console`
- You can open multiple console windows by selecting the menu again.



👤 Open console in game view

- **Keyboard:** Press the ``` key (top-left on US keyboard). Press again to close.
- **Mouse:** Hold at the top-left corner of the game screen for 1 second.
- **Mouse (alternative):** Double-tap the top-left corner of the screen.

You can customize these triggers in `Project Settings > Ninjadini = Console`.

This is also where you can set a **passphrase challenge** to prevent unintended access.

👁️ Sidebar Tips (During Play Mode)

- Press and hold any empty area of the sidebar to temporarily peek behind the console.
- On screens with at least 650px width or height, a window mode button appears at the end of the sidebar — allowing you to undock and resize the console overlay.



NjLogger

Unlike `Debug.Log`, which allocates memory and produces expensive stack traces, NjLogger:

- Avoids GC pressure with zero-allocation argument formatting
- Integrates seamlessly with NjConsole (filtering, channels, object inspection)
- Still captures logs from `Debug.Log()` to appear in NjConsole automatically

```
// These logs will appear in NjConsole with appropriate severity styling
NjLogger.Debug("This is a debug level text – they get auto excluded in release builds");
NjLogger.Info("This is an info level text");
NjLogger.Warn("This is a warning level text");
NjLogger.Error("This is an error level text – an alert shows when an error is logged.");

// Mixing types? No problem. This won't allocate.
NjLogger.Info("Mix argument types without allocation... integer:",123," float:", 123.45f,"
bool:", true);

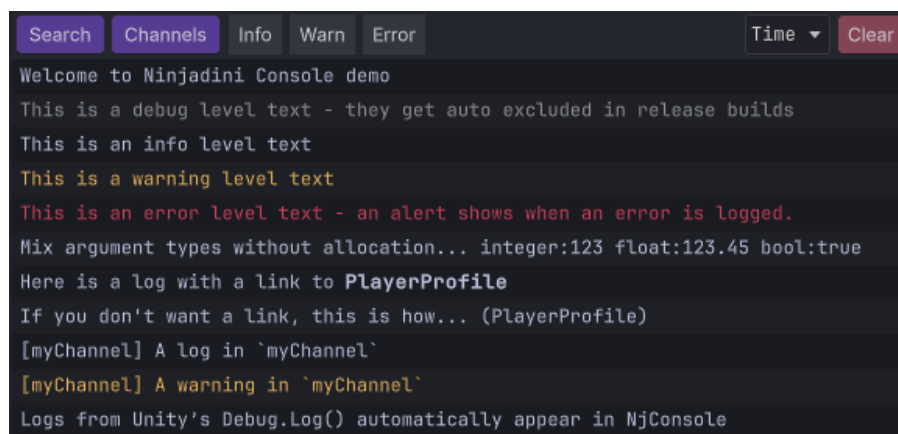
// Link to objects for runtime inspection
var playerObj = GetTestPlayerObj();
NjLogger.Info("Here is a log with a link to ", playerObj.AsLogRef(), " – you can inspect
it");

// Log object as plain string (no link)
NjLogger.Info("If you don't want a link, this is how... ", playerObj.AsString());

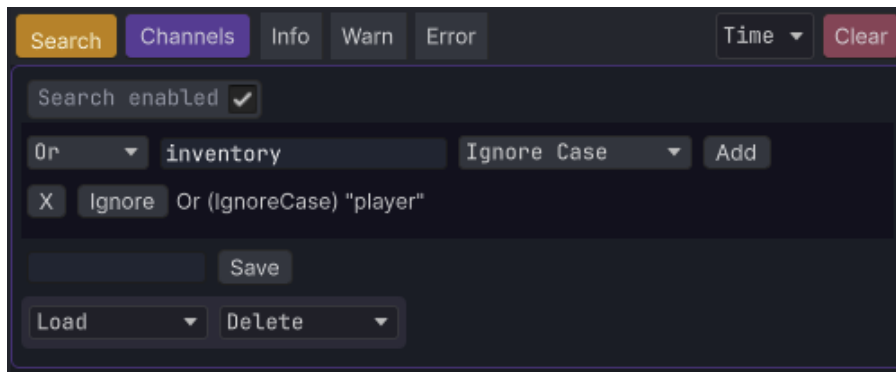
// Use named channels to group logs (recommended to keep as static readonly)
static readonly LogChannel channel = new LogChannel("myChannel");

channel.Info("A log in `myChannel`");
channel.Warn("A warning in `myChannel`");




// Unity's native logs still show up in NjConsole
Debug.Log("Logs from Unity's Debug.Log() automatically appear in NjConsole");
```



Log filtering



NjConsole provides powerful filtering options to help you focus on the logs that matter:

-  **Text Search** Use multiple conditions to refine results.
 - **And** All conditions must match
 - **Or** At least one Or condition must match
 - **Not** Must not match to pass the filter
-  **Channels**
 - [*] Show all logs (no channel filtering)
 - [-] Show logs that have no channel assigned
-  **Log Levels**
 - Filter logs by severity: Info, Warn, Error

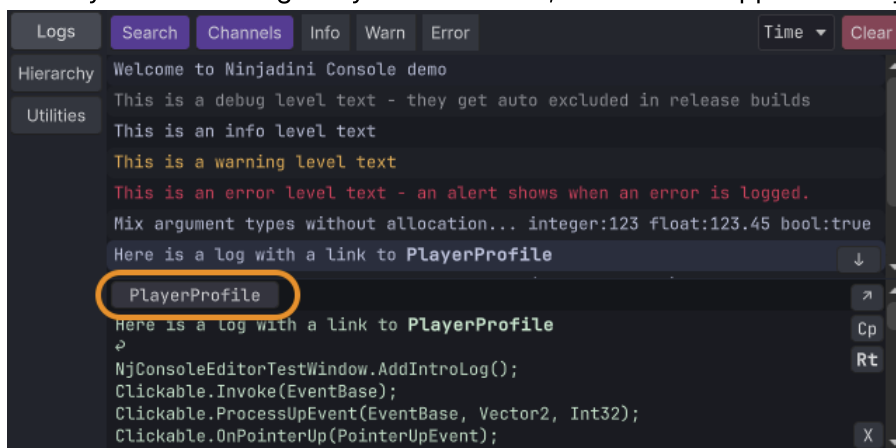
Logs object linking

You can include object references directly in your logs.

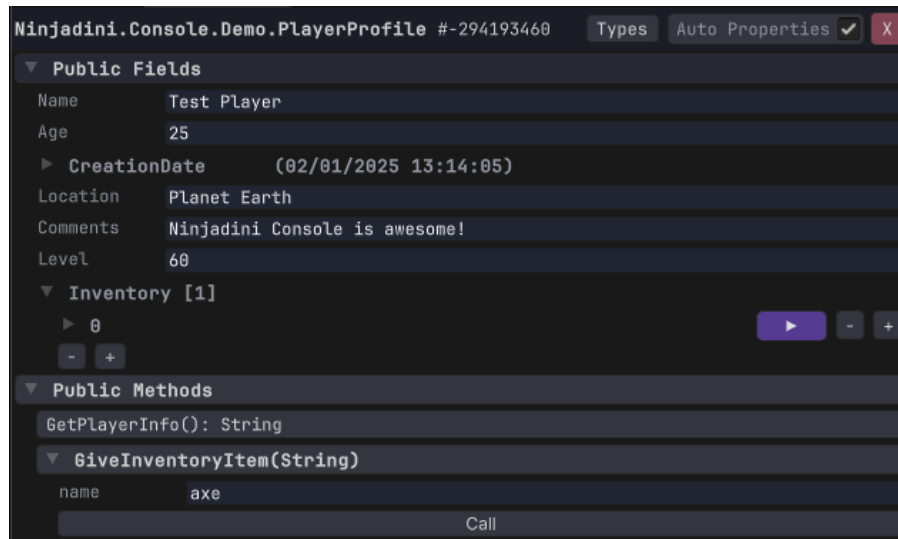
When clicked, they open in the Object Inspector for quick inspection and editing.

```
var playerObj = GetTestPlayerObj();
NjLogger.Info("Here is a log with a link to ", playerObj);
NjLogger.Info("Here is a link to ", playerObj.AsLogRef(), " - mixed in multiple arguments");
```

When you click the log entry in the console, a button will appear for any linked object:



Clicking the button opens the object in the inspector:



Memory-Safe by Design

Object links are held via weak references, so they won't cause memory leaks. However, if the object is garbage collected, the link may expire.

To retain the object for the log's lifetime (as long as it stays in the ring buffer), use a strong reference:

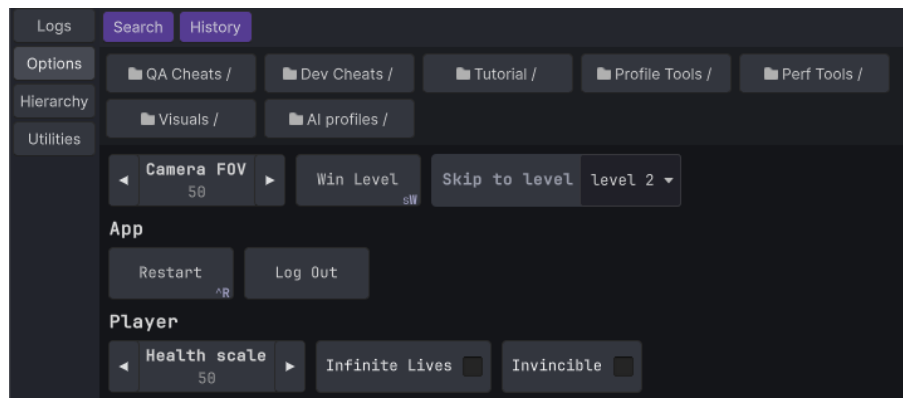
```
NjLogger.Info("A strong object link:", aTestObj.AsStrongLogRef());
```


Limitations

While you can view and modify many fields and properties, not all data types are fully editable (yet).

Options Menu / Cheats

You can build interactive menus for in-game tools, debug settings, or cheat features — great for prototyping or QA workflows.



 Two Ways to Add Options

Add Option Items with [ConsoleOption] Attribute

You can easily register fields, properties or methods as menu items using the attribute.

Call this during setup to register all [ConsoleOption] entries on a class:

```
void Start()
{
    NjConsole.Options.CreateCatalogFrom(this, "TestOptions");
    // ^ second param `TestOptions` is optional, it puts all the items inside the
    `TestOptions` folder in this example.
    // If 'this' is a MonoBehaviour, options will auto-remove when `OnDestroy()`
}
```

⚠ To add static members, you need to pass the type instead.

```
NjConsole.Options.CreateCatalogFrom(typeof(DemoNjConsole));
```

The separation exists because the static nature means it can persist without having an instance alive.

Buttons

```
[ConsoleOption]
void SayHello() {
    Debug.Log("Hello");
}

// directory / folder
[ConsoleOption("ChildFolder/My Second Button")]
void AnotherButton() {
```

```

        Debug.Log("Clicked my second [ConsoleOption] button");
    }

    // header
    [ConsoleOption("A button inside a header",
        header:"My Header")]
    void AButtonInsideHeader() {
        Debug.Log("Clicked my second [ConsoleOption] button");
    }

    // key binding - Shift + W to call WinLevelCheat() in playmode
    [ConsoleOption(key:Key.W,
        keyModifier:ConsoleKeyBindings.Modifier.Shift)]
    void WinLevelCheat() {
        Debug.Log("Clicked WinLevelCheat");
    }

    // auto close console overlay
    [ConsoleOption(autoClose:true)]
    void AutoCloseConsole() {
        Debug.Log("Console overlay should be closed now that you clicked a button with auto
        close flag");
    }

```

✔ Toggles

```

[ConsoleOption()]
bool InfiniteLives;

[ConsoleOption()]
bool InfiniteAmmo {get; set;}

```

Warning: Keybinding feature only works for buttons and toggles.

12 34 Numbers

```

[ConsoleOption]
int Health;

[ConsoleOption]
int HealthProperty {get; set;}

// With left and right step buttons
[ConsoleOption(increments:0.5f)]
float Speed;

// Range clamping
[ConsoleOption()]
[Range(1, 5)] // FYI: If you use a version before Unity 6, RangeAttribute can not be used in
properties
int Strength;

```

Text fields

```
[ConsoleOption]
[Multiline] // if you need multiline text entry, put [Multiline] attribute.
string UserCommentMessage;

[ConsoleOption]
void SaySomething(string receivedText)
{
    Debug.Log("You said: " + receivedText);
}
```

Enum Dropdown

```
[ConsoleOption]
DeviceOrientation preferredOrientation;
```

Command Line fallback for unsupported options

Members marked with `[ConsoleOption]` that the Options Menu can't render are hidden (e.g. requiring multiple parameters or use unsupported types).

Hidden options are still callable via the Command Line.

A notice like "3 hidden item(s)" and a button to open Command Line will display.

See [online documentation](#) more details about Command Line.

Add Option Items Programmatically

Use this method for full control and dynamic setup.

```
var catalog = NjConsole.Options.CreateCatalog();
```

Catalogs are useful because when you no longer need a set of option menus, you can just call `catalog.RemoveAll()`.

Buttons

```
catalog.AddButton("My First Button", () => Debug.Log("Clicked my first button"));

// directory / folder
catalog.AddButton("A Folder / Child Folder / Child Button", () => Debug.Log("Child button
was clicked"));

// header sub-grouping
catalog.AddButton("A button in a header sub-group", () => {})
    .SetHeader("My Header");

// key binding to space key
catalog.AddButton("My Space Key Bound Button", () => Debug.Log("Clicked my Space key bound
button"))
```

```

        .BindToKeyboard(KeyCode.Space);

// auto close console overlay
catalog.AddButton("My auto close button", () => Debug.Log("Console overlay should be closed
now that you clicked a button with auto close flag"))
        .AutoCloseOverlay();

```

Toggles

```

var toggle1 = false;
var toggle2 = false;

catalog.AddToggle("My First Toggle", (v) => toggle1 = v, () => toggle1);

// folder + key binding + auto close
catalog.AddToggle("A Folder / My T key Bound Toggle", (v) => toggle2 = v, () => toggle2);
        .BindToKeyboard(KeyCode.T)
        .AutoCloseOverlay();

```

Both buttons and toggles can be bound to a keyboard key via `...BindToKeyboard(KeyCode.Space)`. Shift + Ctrl + E style combo can be done via `...BindToKeyboard(KeyCode.E, ConsoleKeyBindings.Modifier.Shift | ConsoleKeyBindings.Modifier.Ctrl)`.
 ⚠ Only one keybinding per item.

Set console overlay to auto close after you press the button via `...AutoCloseOverlay()`.

Numbers

```

var aFloat = 12.34f;
catalog.AddNumberPrompt("A Number", (v) => aFloat= v, () => aFloat);

// clamped int number
var int0To100 = 50;
catalog.AddNumberPrompt("0 to 100", (v) => int0To100 = Mathf.Clamp(v, 0, 100), () =>
int0To100);

// Number prompt with left and right step buttons
var steppedNumber = 10;
catalog.AddNumberPrompt("Stepped number", (v) => steppedNumber = v, () => steppedNumber, 2);

```

Text fields

```

var text = "Initial text";
catalog.AddTextPrompt("My Text Prompt", (v) => text = v, () => text);

// Text prompt with submission validation and input restriction
var text2 = "Initial text";
catalog.AddTextPromptWithValidation("My validated text",
    getter: () => text2,
    setter: v => {

```



```

        if(v.All(char.IsUpper)) // in this example we only accept capital letters
        {
            text2 = v;
            return true; // return true to accept the input and close the prompt.
        }
        return false; // Return false to block user from closing the dialog due to invalid
value.
    },
    validator: (v) => {
        if (v.Length > 5) v = v.Substring(0, 5); // Trim out invalid characters (or length)
and return the valid version (optional)
        return v;
    } );

```

▼ Dropdown choices

```

var choices = new List<string>() { "A", "B", "C", "D" };
var index = 0;
catalog.AddChoice("A Choice List", choices, () => index, (v) => index = v);

// An enum choice:
var platform = RuntimePlatform.OSXEditor;
options.AddEnumChoice("A Choice Enum", () => platform, (v) => platform = v);

```

💡 Use grouped paths (like "Category / Subgroup / Option") to keep menus organized and easier to navigate:

```
catalog.AddButton("App / Utilities / Reload Scene", () => ReloadScene());
```

🤔 Should You Use [ConsoleOption] or Add Programmatically?

Use [ConsoleOption] when:

- You want a quick and declarative way to expose instance values and methods
- You want automatic cleanup when the object is destroyed (MonoBehaviour only)

Use programmatic registration when:

- You want fine-grained control over when and how options appear
- You want slightly faster setup (bypassing reflection)
- You need dynamic options (e.g. buttons generated per inventory item):

```

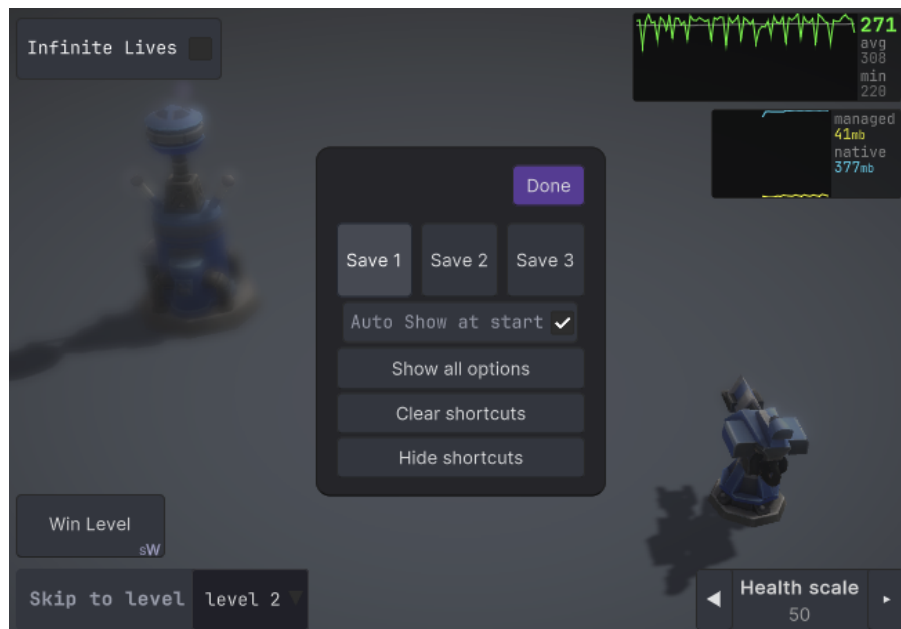
foreach (var itemType in inventoryItemTypes)
{
    var local = itemType;
    catalog.AddButton("Inventory/Give " + itemType.Name, () => GiveItem(local));
}

```

Shortcuts

You can create runtime shortcut buttons for quick access to options.

Note: Shortcuts are available only in runtime overlay mode, not in the editor window.



How to Create a Shortcut






- Press and hold on any option item or folder in the options menu.
- Drag it to a screen corner to create a shortcut.

Shortcuts will align to one of four corners:

- Items fill horizontally or vertically based on your drag position.
- For example: top-left corner can fill right or down depending on where you drop.

Shortcut Edit Mode

Once you drop your first shortcut, you'll enter shortcut edit mode:

-  Drag & drop existing items to reposition them.
-  Switch between 3 different shortcut layouts (slots 1–3).
-  Toggle Auto Show at Start to display shortcuts on game launch.
-  Shortcuts sync with menu visibility — they appear/disappear as the linked options do.
-  If you pressed `hide shortcuts`, use: Console > Options > Show Shortcuts to reopen edit mode.

Command Line


NjConsole's Command Line lets you run user-defined and built-in commands through text input.

Commands are registered the same way as the **Options Menu** (via `[ConsoleOption]` or programmatically).

► Basic Usage

- **Show Command Line:** Press any key while focused on the Logs panel.
- **Autocomplete:** Suggestions appear as you type.
 - `Tab` accepts the first suggestion.
 - `Shift+↑` / `Shift+↓` to navigate suggestions, `Tab` or `Enter` to accept.
- **History:** `↑` / `↓` cycles through previous commands.
- **Hide:** `Esc` closes the Command Line.

On Mobile (no physical keyboard)

- Tap the **Logs** button again to show the Command Line.
- The input field uses a text-prompt style with autocomplete.
- Tap the  button to toggle between prompt and normal input.

Command Structure & Syntax

```
<command> <parameters seperated by space ` ` or comma `,`>
```

Built-in commands appear under `/`.

Example: `/help` lists all commands.

String params can be wrapped in quotes (`"`) to include spaces or commas. Escape `"` with `\`.

Notes:

- Command names are case-insensitive. Conflicts in casing will show in autocomplete suggestions but may not execute correctly.
- Names can contain spaces; `/` creates grouped folders, like in the Options Menu.
- Method overloads are **not** supported. Each command must be unique — add a suffix to avoid collisions.

💡 Command Line Examples

```
[ConsoleOption]
void SayHello() {
    Debug.Log("Hello");
}
```

Command: `sayhello`

```
[ConsoleOption("profile/name")]
public string Name;
```

Get Command: `profile/name`

Set Command: `profile/name "My name here"`

```
[ConsoleOption("demo/introduce")]
void IntroducePerson(string name, int age) { ... }
```

Command: `demo/introduce Ninjadini 30`

or `demo/introduce "Ninjadini", 30`

🏗️ Advanced Parameters - Constructor Arguments

If a parameter is an object that requires constructor arguments, group them in parentheses:

```
[ConsoleOption("math / vector multiply")]
static Vector3 MultiplyV(Vector3 a, float b) => a * b;
```

Command: `math/vector multiply (1 2 3) 1`


or `math/vector multiply (1,2,3),1`

For other topics about Command Line such as:

- Nested constructors
- Return Values
- Storage commands / \$ variables
- Scopes
- Accessing Logged & Hierarchy Objects
- Separating Command Catalogs
- Input Prompt Takeover
- Adding a Custom Executor


Please see [online documentation](#).

Ready for More?

 For advanced topics such as:

- Creating custom modules and panels
- Advanced Command Line features
- Building editor-bound options menus
- Accessing log history and writing custom log handlers
- Customizing log timestamp formats
- Creating shortcut-style overlays (e.g. FPS monitor)
- Setting up access challenges
- Tailoring player builds by enabling/disabling features

...and more!

 Refer to the online manual for full documentation:

<https://ninjadini.github.io/njconsole/>