

Gridsmith

API & Agent Guide — Pixel grid → crisp SVG

This document explains how to use the public **pixelate** API on **martialgames.net** to turn a pixel grid into a scalable SVG sprite. It is written for humans and automated agents. No source-repo access is required.

Quick links

What	URL
Gridsmith (visual editor)	https://martialgames.net/tools/gridsmith/
Tools hub	https://martialgames.net/tools/
API (POST / discover)	https://martialgames.net/api/pixelate
This guide (PDF)	https://martialgames.net/tools/gridsmith/Gridsmith-API-Guide.pdf

What the API does

You send a JSON description of a rectangular pixel grid. The server returns a complete SVG document with `shape-rendering="crispEdges"`, suitable for browser games, HTML, and CSS. Empty cells stay transparent. Same-color horizontal runs are merged into fewer rectangles by default (smaller files).

Typical flow: build a palette-limited grid (by hand, script, or Gridsmith export JSON) → POST to the API → save the SVG response as a game asset.

1. Discover the schema (GET)

Call GET with no body. Response is JSON describing allowed fields and an example.

```
curl -sS "https://martialgames.net/api/pixelate"
# → application/json schema + example
```

Use this when an agent needs to refresh the contract without reading any other docs.

2. Convert a grid (POST)

Send Content-Type: `application/json`. Successful responses are `image/svg+xml` with filename hint in Content-Disposition and grid size in X-Pixel-Grid.

```
curl -sS -X POST "https://martialgames.net/api/pixelate" \
  -H "Content-Type: application/json" \
  -d @sprite-grid.json \
  -o hero-idle.svg
```

Minimal example body

```
{
  "width": 2,
```

```

    "height": 2,
    "pixels": ["#ff004d", null, null, "#29adff"],
    "title": "dot"
  }

```

That grid is row-major: row 0 = red, empty · row 1 = empty, blue. Max dimension: **256 × 256**. Total pixels length must equal width × height.

Request fields

Field	Required	Description
width	yes	Integer 1–256. Grid columns.
height	yes	Integer 1–256. Grid rows.
pixels	yes	Array of length width×height, row-major. Each entry is a hex color string (e.g. #ff004d) or null / "" / "transparent" for empty.
title	no	String used in SVG <title> and download filename (sanitized). Default: pixel-{w}x{h}.
unit	no	Number 1–64. SVG size of one logical pixel (viewBox units). Default 1.
background	no	Hex fill for full canvas plate. Omit or null for transparent.
mergeRuns	no	Boolean. Merge horizontal same-color runs into wider rects. Default true.
copyright	no	Creator name. Only if set is a copyright line embedded.
copyrightYear	no	Year string/number. Defaults to current year when copyright is set.
license	no	Short license text for metadata when copyright is set.
copyrightUrl	no	Optional creator URL in metadata when copyright is set.

Interchange JSON (from Gridsmith)

Gridsmith can download or copy grid JSON in this shape. The same object (plus optional export fields) is valid for POST:

```

{
  "width": 8,
  "height": 8,
  "pixels": [null, "#ff004d", "..."],
  "format": "pixel-studio-v1"
}

```

The format key is informational; the API keys on width, height, and pixels.

Full POST example with options

```

{
  "width": 16,
  "height": 16,

```

```

    "pixels": [ /* 256 entries, row-major */ ],
    "title": "hero-idle",
    "unit": 1,
    "background": null,
    "mergeRuns": true,
    "copyright": "Jane Doe",
    "copyrightYear": "2026",
    "license": "All rights reserved",
    "copyrightUrl": "https://example.com"
  }

```

Responses & errors

Status	Body	Meaning
200	SVG XML	Success. Content-Type: image/svg+xml; charset=utf-8.
400	JSON { "error": "..." }	Bad grid: size, length, or color type.
204	empty	OPTIONS preflight success (CORS).

CORS: responses include Access-Control-Allow-Origin: * so browser tools and agents can call the API cross-origin.

SVG output conventions

- `shape-rendering="crispEdges"` on the root `<svg>`.
- Colors grouped under `<g fill="..." data-color="...">` for easy recolor.
- Only opaque cells emit rectangles; empty cells are omitted (transparent).
- Optional copyright appears as an XML comment and metadata only when you supply copyright.

Using the SVG in a game

CSS for crisp scaling:

```

.sprite {
  image-rendering: pixelated;
  image-rendering: crisp-edges;
}

```

You can use ``, CSS background, or `drawImage` after loading. Prefer one master SVG and scale with width/height or CSS rather than exporting many sizes.

Grid size budgets (guidance)

Size	Good for
8–16	Tiny UI icons, status dots
16–32	Pickups, small enemies, cards
32–64	Character idle / portrait

Size	Good for
64–128	Detailed props, tiles
128–256	Large masters (keep color count low)

Martial Strike character art family often targets ≤ 15 colors per sprite for consistency. The API itself does not enforce a color count.

Agent checklist

1. Decide width/height and build a row-major pixels array (hex or null).
2. Optional: GET /api/pixelate to confirm the contract.
3. POST JSON; write the SVG body to a file.
4. Spot-check in a browser at 1× and 4× with pixelated CSS.
5. Ship the SVG with your game assets (not this PDF).

If you need a human-friendly paint UI (import image, palette extract, draw, export), open **Gridsmith** at the URL on page 1. The API is for grids you already have in memory or JSON.

Hotkeys in Gridsmith (editor only)

Key	Action
H / V	Hand (pan)
B	Pencil
E	Eraser
G	Fill
I	Eyedropper
1 / 2 / 3	Brush size
' / ;	Toggle pixel grid overlay
Space (hold)	Temporary pan
Scroll	Zoom
■/Ctrl+Z	Undo
■/Ctrl+Shift+Z or Y	Redo

Default 16-color retro palette (optional)

Gridsmith's default drawing set matches a well-known PICO-8-style hex list (commonly treated as free to use). Not affiliated with Lexaloffle. The API accepts any hex colors; this list is only a convenient default.

```
#000000 #1d2b53 #7e2553 #008751
#ab5236 #5f574f #c2c3c7 #fff1e8
```

#ff004d #ffa300 #ffec27 #00e436
#29adff #83769c #ff77a8 #ffc0aa

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Published at martialgames.net — this guide is the canonical public API reference.