

Power Canvas Plugin v1.0 - Complete Usage Guide

Comprehensive guide for using the Power Canvas Plugin to create interactive drawings and visual content in Obsidian.

Overview

The Power Canvas Plugin transforms Obsidian into a powerful visual workspace with advanced drawing tools, interactive elements, and professional export capabilities. Create diagrams, sketches, mind maps, and interactive visual content directly within your notes.

Quick Start

Creating Your First Canvas

1. Create New Canvas:

- Right-click in file explorer → “New Power Canvas”
- Command palette: `Ctrl+P` → “Power Canvas: New Canvas”
- Use ribbon icon (if enabled)

2. Basic Drawing:

- Select the Pen tool from the toolbar
- Click and drag to draw freehand
- Use different colors and brush sizes
- Add shapes and text annotations

3. Save Your Work:

- Canvas auto-saves every 30 seconds
- Manual save: `Ctrl+S`
- Export: File menu → Export Canvas

Drawing Tools

Tool Palette

1. Pen Tool

Primary drawing tool for freehand sketching

- **Activation:** Click pen icon or press `P`
- **Options:**
 - Brush size: 1-50px
 - Opacity: 10-100%
 - Pressure sensitivity (if supported)
 - Smoothing: Low/Medium/High

Usage:

Click and drag to draw
 Hold Shift: Draw straight lines
 Hold Ctrl: Constrain to angles (15°, 30°, 45°, etc.)

2. Highlighter Tool

Semi-transparent highlighting for emphasis

- **Activation:** Click highlighter icon or press **H**
- **Features:**
 - Transparency: 20-80%
 - Blend modes: Normal, Multiply, Screen
 - Multiple colors available

Best Practices:

- Use for emphasizing text or diagrams
- Layer over existing content
- Combine with other tools for rich visuals

3. Shape Tools

Geometric shapes for diagrams and layouts

Rectangle Tool

- **Activation:** Press **R**
- **Options:** Fill, stroke, rounded corners
- **Modifiers:** Hold Shift for squares

Circle/Ellipse Tool

- **Activation:** Press **C**
- **Options:** Fill, stroke, perfect circles
- **Modifiers:** Hold Shift for perfect circles

Line Tool

- **Activation:** Press **L**
- **Features:** Straight lines, arrows, connectors
- **Options:** Start/end markers, dash patterns

Arrow Tool

- **Activation:** Press **A**
- **Types:** Single arrow, double arrow, curved
- **Styles:** Various arrowhead styles

4. Text Tool

Add formatted text annotations

- **Activation:** Press **T**
- **Features:**
 - Rich text formatting
 - Multiple fonts and sizes
 - Color and styling options
 - Text boxes with backgrounds

Text Formatting:

```

Bold: Ctrl+B
Italic: Ctrl+I
Underline: Ctrl+U
Font Size: Ctrl+Plus/Minus

```

5. Selection Tool**Select, move, and modify elements**

- **Activation:** Press `V` or `Esc`
- **Functions:**
 - Select individual elements
 - Multi-select with Ctrl+click
 - Area selection with drag
 - Move, resize, rotate elements

Selection Operations:

```

Move: Drag selected elements
Resize: Drag corner handles
Rotate: Drag rotation handle
Delete: Press Delete key
Copy: Ctrl+C
Paste: Ctrl+V

```

6. Eraser Tool**Remove parts of drawings**

- **Activation:** Press `E`
- **Types:**
 - Pixel eraser: Removes pixels
 - Object eraser: Removes entire objects
 - Background eraser: Removes backgrounds

Tool Properties Panel

Each tool has customizable properties:

Pen Properties

```

{
  "size": 3,
  "opacity": 100,
  "color": "#000000",
  "smoothing": "medium",
  "pressureSensitive": true,
  "blendMode": "normal"
}

```

Shape Properties

```
{
  "fill": "#ff0000",
  "stroke": "#000000",
  "strokeWidth": 2,
  "opacity": 100,
  "cornerRadius": 0,
  "dashPattern": "solid"
}
```



Canvas Management

Canvas Settings

Canvas Size and Format

```
{
  "width": 1920,
  "height": 1080,
  "format": "landscape",
  "preset": "A4",
  "dpi": 300,
  "backgroundColor": "#ffffff"
}
```

Common Presets

- **A4:** 210×297mm (2480×3508px at 300 DPI)
- **Letter:** 8.5×11in (2550×3300px at 300 DPI)
- **HD:** 1920×1080px
- **4K:** 3840×2160px
- **Square:** 1080×1080px
- **Custom:** User-defined dimensions

Grid and Guides

Grid System

- **Show Grid:** View → Show Grid (**Ctrl+G**)
- **Grid Size:** 10px, 20px, 50px, or custom
- **Snap to Grid:** Enable for precise alignment
- **Grid Color:** Customizable grid line color

Ruler Guides

- **Show Rulers:** View → Show Rulers (**Ctrl+R**)
- **Add Guides:** Click and drag from rulers
- **Guide Snapping:** Elements snap to guides
- **Guide Management:** Right-click guides to modify

Zoom and Navigation

Zoom Controls

Zoom In: Ctrl+Plus or mouse wheel up
 Zoom Out: Ctrl+Minus or mouse wheel down
 Fit to Window: Ctrl+0
 Actual Size: Ctrl+1
 Zoom to Selection: Ctrl+2

Pan and Navigate

Pan: Space+drag or middle mouse drag
 Hand Tool: H key **for** temporary pan mode
 Navigator: Minimap **for** large canvases

Layer Management

Layer System

Layer Panel

Access through View → Layers Panel or **F7**

Layer Operations:

- **Add Layer:** Click “+” button
- **Delete Layer:** Select layer, click trash icon
- **Rename Layer:** Double-click layer name
- **Reorder:** Drag layers up/down

Layer Properties

```
{
  "name": "Layer 1",
  "visible": true,
  "opacity": 100,
  "blendMode": "normal",
  "locked": false,
  "clipping": false
}
```

Layer Types

1. Drawing Layer

- Default layer type for freehand drawing
- Supports all drawing tools
- Raster-based content

2. Shape Layer

- Vector-based geometric shapes
- Scalable without quality loss
- Editable properties

3. Text Layer

- Text content with formatting
- Font and style properties
- Searchable content

4. Image Layer

- Imported images and photos
- Supports PNG, JPG, SVG formats
- Transform and filter options

Layer Blending

Blend Modes

- **Normal:** Default blending
- **Multiply:** Darkens underlying layers
- **Screen:** Lightens underlying layers
- **Overlay:** Combines multiply and screen
- **Soft Light:** Subtle lighting effect
- **Hard Light:** Strong lighting effect
- **Color Dodge:** Brightens colors
- **Color Burn:** Darkens colors

Opacity Control

- **Range:** 0-100%
- **Keyboard:** Number keys (1=10%, 2=20%, etc.)
- **Slider:** Fine control in properties panel

Interactive Elements

Clickable Annotations

Creating Interactive Elements

1. **Select Text or Shape Tool**
2. **Create element on canvas**
3. **Right-click → Add Interaction**
4. **Configure interaction type**

Interaction Types

1. Link to Note

```
{
  "type": "note-link",
  "target": "[[My Note]]",
  "openIn": "current-tab"
}
```

2. External URL

```
{
  "type": "url",
  "target": "https://example.com",
  "openIn": "new-tab"
}
```

3. Canvas Navigation

```
{
  "type": "canvas-jump",
  "target": "canvas-section-2",
  "animation": "smooth-scroll"
}
```

4. Show/Hide Elements

```
{
  "type": "toggle-visibility",
  "targets": ["layer-2", "shape-group-1"],
  "animation": "fade"
}
```

Hover Effects

Tooltip System

```
{
  "tooltip": {
    "text": "This is a tooltip",
    "position": "top",
    "delay": 500,
    "style": "default"
  }
}
```

Hover Animations

- **Scale:** Element grows on hover
- **Glow:** Adds glow effect
- **Color Change:** Changes color on hover
- **Opacity:** Fades in/out on hover

Dynamic Content

Variables and Expressions

```
// Dynamic text content
${date.now}           // Current date
${note.title}         // Current note title
${canvas.layer.count} // Number of layers
${user.name}          // User name
```

Conditional Visibility

```
// Show element based on conditions
visible: ${note.tags.includes('important')}
color: ${theme.isDark ? '#ffffff' : '#000000'}
```



Export System

Export Formats

1. PNG Export

High-quality raster images

```
{
  "format": "png",
  "width": 1920,
  "height": 1080,
  "dpi": 300,
  "quality": 100,
  "transparent": false,
  "backgroundColor": "#ffffff"
}
```

Use Cases:

- Social media graphics
- Presentations
- Print materials
- Web images

2. SVG Export

Scalable vector graphics

```
{
  "format": "svg",
  "includeText": true,
  "embedFonts": true,
  "optimized": true,
  "precision": 2
}
```

Benefits:

- Infinite scalability
- Small file sizes
- Web-friendly
- Editable in other tools

3. PDF Export

Professional document format


```
{
  "format": "pdf",
  "pageSize": "A4",
  "orientation": "portrait",
  "margins": {
    "top": 20,
    "right": 20,
    "bottom": 20,
    "left": 20
  },
  "embedFonts": true
}
```

Features:

- Multi-page support
- Vector and raster content
- Print-ready quality
- Searchable text

4. JSON Export

Canvas data for backup/sharing

```
{
  "format": "json",
  "includeMetadata": true,
  "compressData": true,
  "version": "1.0"
}
```

Batch Export

Export Multiple Canvases

1. **Select Canvases:** Use file explorer multi-select
2. **Configure Export:** Set format and options
3. **Run Batch Export:** Process all selected files

Export Settings

```
{
  "batchExport": {
    "format": "png",
    "naming": "canvas-{name}-{date}",
    "destination": "exports/",
    "overwrite": false,
    "parallel": 3
  }
}
```

Export Quality Settings

High Quality (Print)

```
{
  "dpi": 300,
  "quality": 100,
  "antialiasing": true,
  "colorProfile": "sRGB"
}
```

Web Optimized

```
{
  "dpi": 72,
  "quality": 85,
  "progressive": true,
  "optimize": true
}
```

Fast Preview

```
{
  "dpi": 150,
  "quality": 70,
  "antialiasing": false,
  "fastMode": true
}
```



Templates and Presets

Canvas Templates

Built-in Templates

1. Mind Map Template

- Central topic node
- Branch structure
- Color-coded categories
- Connection lines

2. Flowchart Template

- Decision diamonds
- Process rectangles
- Flow arrows
- Start/end ovals

3. Wireframe Template

- UI elements library
- Grid layout
- Placeholder content
- Annotation tools

4. Diagram Template

- Technical diagrams
- Network layouts
- System architecture
- Component relationships

Creating Custom Templates

1. Design Your Template:

- Create canvas with desired elements
- Set up layers and structure
- Add placeholder content

2. Save as Template:

- File → Save as Template
- Name your template
- Add description and tags

3. Template Configuration:

```
json
{
  "name": "My Custom Template",
  "description": "Template for project planning",
  "category": "Business",
  "tags": ["planning", "project", "business"],
  "thumbnail": "template-thumb.png",
  "variables": {
    "projectName": "string",
    "startDate": "date",
    "teamSize": "number"
  }
}
```

Element Libraries

Shape Libraries

- **Basic Shapes:** Rectangles, circles, lines
- **Arrows:** Various arrow styles and directions
- **Flowchart:** Decision, process, data symbols
- **UML:** Class diagrams, sequence diagrams
- **Network:** Servers, routers, connections
- **UI Elements:** Buttons, forms, layouts

Icon Libraries

- **Material Design:** Google's icon set
- **Font Awesome:** Popular web icons
- **Feather:** Simple, beautiful icons
- **Custom Icons:** Import your own SVG icons

Creating Custom Libraries

1. Design Elements:

- Create reusable elements

- Organize by category
- Set consistent styling

2. **Save to Library:**

- Select elements
- Right-click → Add to Library
- Choose category and name

3. **Library Management:**

- Import/export libraries
- Share with team members
- Version control for libraries

Advanced Features

Scripting and Automation

Canvas Scripts

```
// Example: Auto-arrange elements
function autoArrange() {
  const elements = canvas.getSelectedElements();
  const spacing = 50;

  elements.forEach((element, index) => {
    element.position.x = index * spacing;
    element.position.y = 100;
  });

  canvas.refresh();
}

// Register script
canvas.registerScript('auto-arrange', autoArrange);
```

Event Handlers

```
// Handle element selection
canvas.on('element-selected', (element) => {
  console.log('Selected:', element.id);
  updatePropertiesPanel(element);
});

// Handle canvas changes
canvas.on('canvas-modified', () => {
  markAsUnsaved();
  updateHistory();
});
```

Plugin Integration

Dataview Integration

```
TABLE WITHOUT ID
  file.name as "Canvas",
  PowerCanvas.getElementCount(file) as "Elements",
  PowerCanvas.getLastModified(file) as "Modified"
FROM "Canvases"
WHERE PowerCanvas.isCanvas(file)
```

Templater Integration

```
// Templater script for canvas creation
<%*
const canvasName = await tp.system.prompt("Canvas name:");
const template = await tp.system.suggester(
  ["Mind Map", "Flowchart", "Wireframe"],
  ["mindmap", "flowchart", "wireframe"]
);

await tp.file.create_new(
  `${canvasName}.canvas`,
  `power-canvas-template:${template}`
);
%>
```

Performance Optimization

Large Canvas Handling

```
{
  "performance": {
    "virtualRendering": true,
    "levelOfDetail": true,
    "maxElements": 1000,
    "cacheSize": "100MB",
    "backgroundProcessing": true
  }
}
```

Memory Management

- **Automatic cleanup** of unused resources
- **Lazy loading** of off-screen elements
- **Efficient caching** of rendered content
- **Memory monitoring** and alerts

Use Cases and Examples

1. Mind Mapping

Creating a Mind Map

1. **Start with Central Topic:**
 - Add text element in center

- Use large, bold font
- Apply distinctive color

2. Add Main Branches:

- Draw lines from center
- Add topic labels
- Use consistent colors per branch

3. Add Sub-branches:

- Extend from main branches
- Use smaller text
- Apply hierarchical styling

Mind Map Best Practices

- **Color Coding:** Use colors to categorize topics
- **Visual Hierarchy:** Size and style indicate importance
- **Consistent Layout:** Maintain visual balance
- **Interactive Elements:** Add links to related notes

2. Flowcharts and Diagrams

Process Flowchart

Start (Oval) → Decision (Diamond) → Process (Rectangle) → End (Oval)

Diagram Elements

- **Shapes:** Consistent shape meanings
- **Arrows:** Clear flow direction
- **Labels:** Descriptive text
- **Colors:** Status or category indication

3. UI/UX Wireframes

Wireframe Components

- **Layout Grids:** Structure and alignment
- **Placeholder Content:** Lorem ipsum text
- **Interactive Elements:** Buttons, forms, menus
- **Annotations:** Notes and specifications

Design Process

1. **Low-fidelity sketches** for concept exploration
2. **Medium-fidelity wireframes** for structure
3. **High-fidelity mockups** for final design
4. **Interactive prototypes** for user testing

4. Educational Content

Concept Diagrams

- **Scientific processes:** Step-by-step illustrations
- **Mathematical concepts:** Visual representations
- **Historical timelines:** Chronological layouts

- **Language learning:** Visual vocabulary

Interactive Learning

- **Clickable elements** for exploration
- **Progressive disclosure** of information
- **Quiz elements** with immediate feedback
- **Multimedia integration** with audio/video

Customization and Settings

Interface Customization

Toolbar Configuration

```
{
  "toolbar": {
    "position": "top",
    "size": "medium",
    "tools": [
      "select", "pen", "highlighter", "shapes",
      "text", "eraser", "zoom", "layers"
    ],
    "customizable": true,
    "shortcuts": true
  }
}
```

Panel Layout

```
{
  "panels": {
    "properties": { "position": "right", "width": 300 },
    "layers": { "position": "right", "width": 250 },
    "library": { "position": "left", "width": 200 },
    "navigator": { "position": "bottom", "height": 150 }
  }
}
```

Theme Integration

Dark Mode Support

```
/* Dark theme canvas styles */
.power-canvas.theme-dark {
  --canvas-bg: #1e1e1e;
  --canvas-grid: #333333;
  --canvas-text: #ffffff;
  --canvas-selection: #007acc;
}
```

Custom Themes

```
{
  "theme": {
    "name": "Custom Theme",
    "colors": {
      "background": "#f5f5f5",
      "grid": "#e0e0e0",
      "selection": "#ff6b6b",
      "text": "#333333"
    },
    "fonts": {
      "ui": "Inter",
      "canvas": "Roboto"
    }
  }
}
```

Keyboard Shortcuts

Default Shortcuts

Tools:

- V - Select tool
- P - Pen tool
- H - Highlighter tool
- R - Rectangle tool
- C - Circle tool
- L - Line tool
- A - Arrow tool
- T - Text tool
- E - Eraser tool

Canvas:

- Ctrl+N - New canvas
- Ctrl+S - Save canvas
- Ctrl+Z - Undo
- Ctrl+Y - Redo
- Ctrl+A - Select all
- Delete - Delete selected
- Ctrl+D - Duplicate
- Ctrl+G - Group elements
- Ctrl+Shift+G - Ungroup elements

View:

- Ctrl+0 - Fit to window
- Ctrl+1 - Actual size
- Ctrl+Plus - Zoom **in**
- Ctrl+Minus - Zoom out
- F7 - Toggle layers panel
- F8 - Toggle properties panel

Custom Shortcuts

```
{
  "shortcuts": {
    "quick-export": "Ctrl+E",
    "toggle-grid": "Ctrl+G",
    "toggle-rulers": "Ctrl+R",
    "new-layer": "Ctrl+Shift+N",
    "merge-layers": "Ctrl+Shift+M"
  }
}
```

Troubleshooting

Common Issues

Performance Problems

Symptoms: Slow drawing, lag, freezing

Solutions:

1. **Reduce Canvas Size:** Use smaller dimensions
2. **Limit Elements:** Keep element count reasonable
3. **Optimize Images:** Compress imported images
4. **Clear Cache:** Reset canvas cache
5. **Update Hardware:** Ensure adequate GPU/RAM

Export Issues

Symptoms: Failed exports, corrupted files

Solutions:

1. **Check File Permissions:** Ensure write access
2. **Reduce Export Size:** Lower DPI or dimensions
3. **Simplify Content:** Remove complex elements
4. **Update Obsidian:** Use latest version
5. **Clear Temp Files:** Clean temporary directories

Tool Problems

Symptoms: Tools not working, missing features

Solutions:

1. **Restart Plugin:** Disable and re-enable
2. **Check Settings:** Verify tool configuration
3. **Reset Preferences:** Restore default settings
4. **Update Plugin:** Install latest version
5. **Check Conflicts:** Disable other plugins temporarily

Error Messages

“Canvas Too Large”

```
Error: Canvas dimensions exceed maximum size (8192x8192)
```

Fix: Reduce canvas width/height in settings

“Export Failed”

Error: Unable to export canvas - insufficient memory

Fix: Close other applications, reduce export quality

“Tool Not Available”

Error: Selected tool **is** not available **in** current mode

Fix: Switch to appropriate canvas mode or tool

Debug Information

Enable Debug Mode

```
{
  "debug": {
    "enabled": true,
    "logLevel": "verbose",
    "showPerformance": true,
    "trackMemory": true
  }
}
```

Debug Console Commands

```
// Canvas information
PowerCanvas.getCanvasInfo();

// Performance metrics
PowerCanvas.getPerformanceStats();

// Memory usage
PowerCanvas.getMemoryUsage();

// Element debugging
PowerCanvas.debugElement(elementId);
```



Additional Resources

Learning Resources

- **Video Tutorials:** Step-by-step guides
- **Example Canvases:** Download sample files
- **Community Gallery:** User-created content
- **Best Practices:** Tips from experienced users

Integration Guides

- [Power Redact Integration](#) (INTEGRATION_GUIDE.md)
- [Templater Scripts](https://github.com/memorymusicllc/power.components/wiki/Templater) (https://github.com/memorymusicllc/power.components/wiki/Templater)
- [Dataview Queries](https://github.com/memorymusicllc/power.components/wiki/Dataview) (https://github.com/memorymusicllc/power.components/wiki/Dataview)
- [CSS Customization](https://github.com/memorymusicllc/power.components/wiki/CSS) (https://github.com/memorymusicllc/power.components/wiki/CSS)

Community

- **Discord Server:** Real-time help and discussion
- **GitHub Discussions:** Feature requests and feedback
- **Reddit Community:** r/ObsidianMD power canvas posts
- **YouTube Channel:** Tutorial videos and tips



Quick Reference

Essential Shortcuts

Select: V	Pen: P	Text: T
Shapes: R/C/L/A	Zoom: Ctrl+0/1	Save: Ctrl+S
Undo: Ctrl+Z	Redo: Ctrl+Y	Export: Ctrl+E

Tool Properties

- **Size:** Brush/stroke width
- **Opacity:** Transparency level
- **Color:** Fill and stroke colors
- **Blend Mode:** How layers interact

Export Formats

- **PNG:** High-quality images
- **SVG:** Scalable vectors
- **PDF:** Print-ready documents
- **JSON:** Canvas data backup

Ready to create? Check out the [Integration Guide](#) (INTEGRATION_GUIDE.md) to learn how to combine Power Canvas with Power Redact for secure visual workflows.