

Package Authentication

Tech preview

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*How I learned to stop worrying
and love writing auth code.*

*This is a tech preview.
Everything presented might
change when released.*

Disclaimer

Package Authentication

Unifies external authentication and NSO packages.

Background

Several methods for authentication customizations today.

External authentication,
token validation,
challenge response,
auth callbacks

Motivation

Emerged from the Single Sign-On work.

Wanted a general mechanism for using several custom auth methods.

Ideally reuse existing code, i.e. extauth scripts, with minimal changes.

Behold: Package Authentication

Why yet another auth method?

Already possible to use external auth and an NSO package.

However, only possible to use a single extauth script.

Package Authentication enables using several self-contained packages.

Limitations

Only parts required by Single Sign-On are implemented.

Only available for webui and JSON-RPC.

Future work

Make Package Authentication a feature on its own.

Support RESTCONF, will also enable SSO!

Support all interfaces.

Authentication packages explained

Internals of an Authentication Package

An NSO Package

Executable
scripts/authenticate

The executable follows the
packageauth API on
stdin/stdout.

Needs to be executable in the
NSO environment.

scripts/authenticate stdin

```
[user;password;orig_request;request;headers;body;src-ip;src-port;ctx;proto;]\n
```

Example input, some values requires base64 encoding

```
[;;;R0VUIC9yZXN0Y29uZgo=;;;127.0.0.1;59226;webui;https;]\n
```

For clarity, contents base64 decoded

```
[;;;GET /restconf HTTP/1.1;;;127.0.0.1;54321;webui;https;]\n
```

scripts/authenticate stdout

```
accept_username $USER $groups $uid $gid $supplementary_gids $HOME\n
```

Example output

```
accept_username bob admin wheel 1000 1000 100 /home/bob\n
```

scripts/authenticate stdout

Other output values

accept \$groups \$uid \$gid \$supplementary_gids \$HOME

unknown 'reason'

content 'content-type' 'content'

redirect 'url'

reject 'reason'

abort

The background is a dark blue gradient with a faint, repeating pattern of light blue geometric shapes. These shapes include clusters of small circles connected by thin lines, resembling a network or molecular structure, as well as various mathematical symbols like brackets, dots, and the Greek letter theta.

Demo

JSON Web Token Authentication Package

Authenticate RESTCONF with JWT



The bridge to possible

Use this slide for
transitions

*“Design is the silent
ambassador of your brand.”*

Paul Rand

Package Authentication

- Unified
- Keep bullet points brief
- Adjust font sizes as needed to fill the space

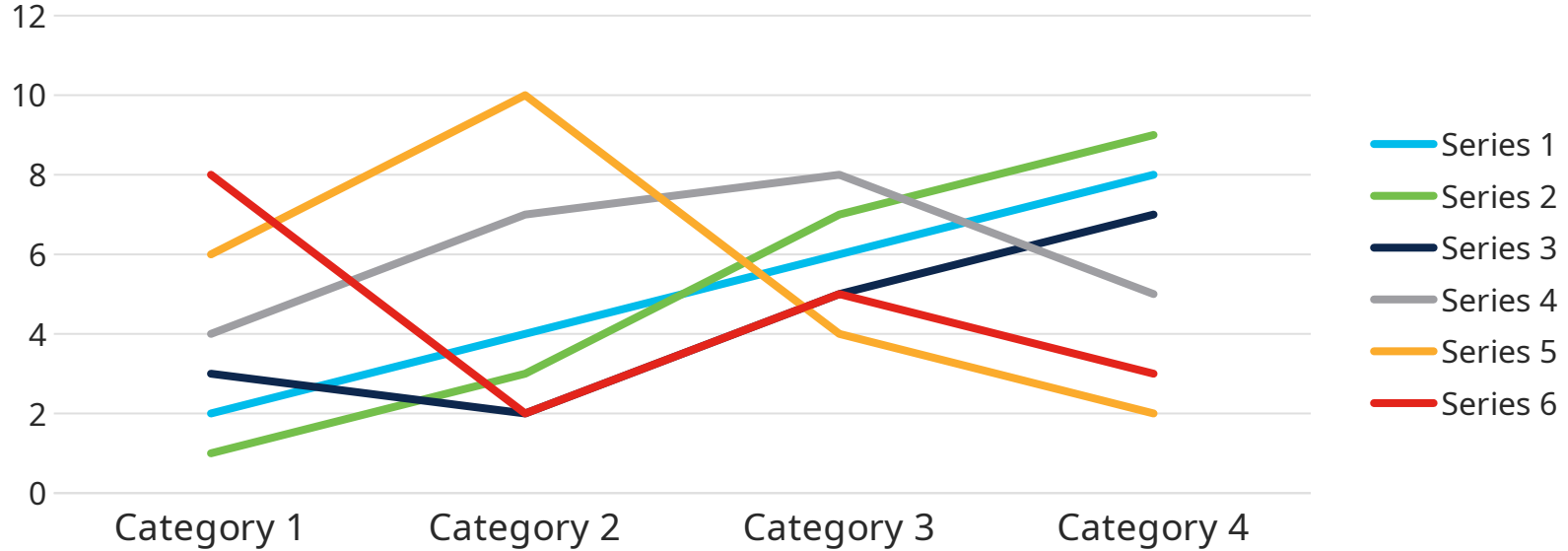
This is a sample
headline

Instead of bullet points,
you can use a few words
here if needed.

Keep sentences short
and use no more than
three.

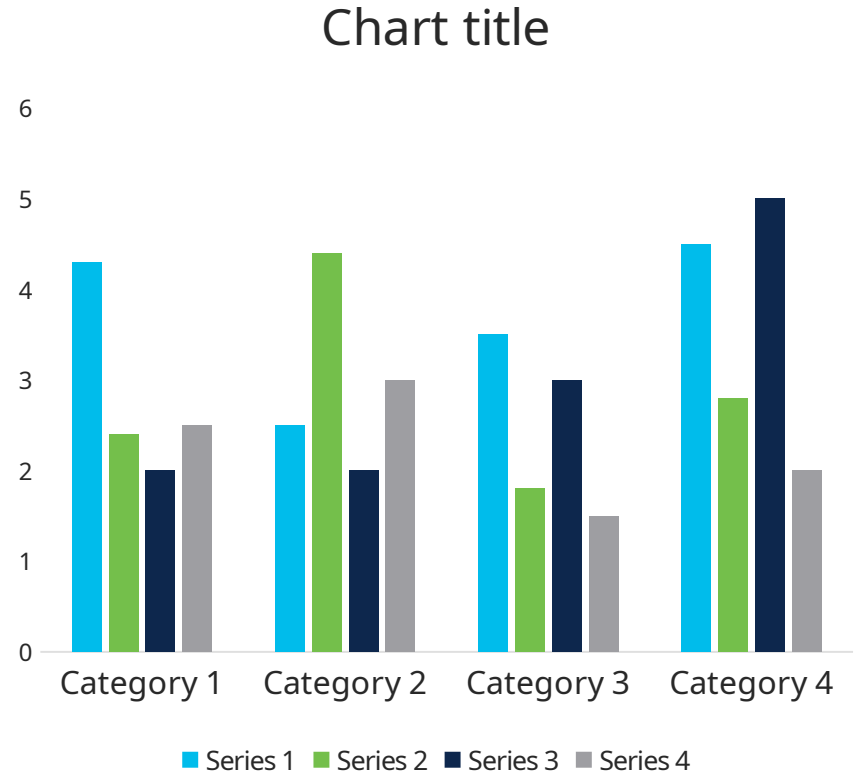
Audiences should be
able to take them in at
a glance.

Line charts



Enter source information here

This is a sample headline



Use this layout
when pairing
words with a
picture.



Seven tips for better presentations

1. Tell a story—make them care
2. Start with what's most important to them
3. Keep it simple, and short
4. Use more slides with less on them, and cut any slides that you can
5. Use clear, natural language
6. Make it a conversation and leave time to listen
7. Tell them what to do next—get them to act