Enterprise Developer Portal Guideline

1. Scope

This document is the official guideline for maintaining an enterprise-wide Developer Portal experience for addressing reoccurring software engineering problems. The Developer Portal includes a Software Catalog with shared services called “Utilities” and “Enterprise Technology Platforms” that constitute the Software Factory (SWF) framework. SWF is an architecture pattern that all new IT products and legacy system modernization efforts apply to comply with the VA Enterprise Architecture (EA).

2. Context

Product teams need to know where they can identify and select the appropriate tools, services, and platforms in a centralized location. Developers on product teams experience work slow-downs because of the working environment which requires them to switch between machines. Developers need to be able to do their jobs effectively and efficiently to respond to changing business needs. The equipment VA provides, physically and virtually, must enable a frictionless way to contribute to the developer's product.

3. Developer Portal Overview

A Developer Portal represents a gateway that integrates the information from different sources in a single window and provides it to end users. A Developer Portal supports on-boarding, provides a central source for tools and API documentation, and make tools and APIs discoverable. OIT provides the Developer Portal at no cost to the users, and it provides a “guard rail” for the technology stack choices made by local development/integration teams.

The current implementation of a Developer Portal is the Catalog of Developer Essentials (a.k.a. CODE). CODE VA is the internal VA site that helps teams manage their software and share it with other VA teams. It is an instance of Spotify’s Backstage. CODE VA stores metadata about VA software in Yet Another Markup Language (YAML) files and visually renders these files in its catalog. Items, including APIs and documentation, that are added to the CODE VA's catalog make them discoverable for VA teams.

CODE VA is the jumping off point for all VA software developers – contractors and federal employees – surfacing relevant technical documentation and starter guides for shared services and approved software delivery platforms. This internal developer portal also includes platform

quick start guides, machine configuration tips/tricks, integration pattern(s) with internal APIs, and more.

4. Core Principles

- **Centralized but federated governance:** Allow business units or product teams to own their APIs, documentation, and assets, while the central architecture team sets standards, security policies, and lifecycle controls.
- **Developer experience (DX) first:** The portal should reduce friction. Developers should find what they need in 2–3 clicks: APIs, SDKs, patterns, reference architectures, environments, and support.
- **Automation over manual curation:** Integrate with GitHub, CI/CD, IDPs (Internal Developer Platforms), and service catalogs so everything stays updated automatically.
- **Treat the portal as a product**: Assign a product owner, roadmap, KPIs, service level expectations, and regular user research cycles.

5. Software Factory Utilities

The Developer Portal in CODE VA contains approved Software Factory (SWF) Utilities that provide essential and common IT capabilities for application teams. They provide clearly articulated services with a standardized unit of measure at a reasonable cost and are easily accessible to the software factories. Software Factory Utilities are standard, cross-platform, cross-portfolio tools that promote enterprise standards and reuse for VA developers' application teams. Utilities:

1. Provide an *essential and common* feature to teams in any factory at a *lower cost* than building or acquiring their own unique solution
2. Provide a *streamlined experience* to customers, i.e., prioritizing *self-service, automated engagement*
3. Utilities are *centrally documented* and *discoverable*, but are not owned by the SWF Utilities initiative

More information can be found at https://code.va.gov/docs/default/component/utilities-starter-guide. Each of these Utilities is linked to its own page or documentation for more detailed information. This makes the file a handy reference for developers who need to understand what common tools or services are available and what they are used for.

6. Software Factory Platforms

The software development platforms initiative was created to improve the software development experience at OIT across four key dimensions:

1. **Security**: Comprehensive and automated security checks are included in each approved software development platform. Platforms also enable your team to easily attain / maintain Authority to Operate and comply with VA security standards.
2. **Quality**: Software development platforms improve quality of custom development for developers and end-users by improving the accessibility of modern tools and cloud hosting environments. Platforms also automate quality testing (e.g., code smells, unit testing libraries) and accessibility testing to ensure the production code is of the highest quality, with little input from your team.
3. **Maintenance**: Platforms provide access to modern observability, logging, and dashboarding tools, enabling your team to track application performance without any additional setup. Platforms also guarantee uptime and provide dedicated incident response resources.
4. **Velocity**: By automating a substantial portion of the software development process, platforms enable your teams to quickly develop high-quality, compliant, and modern custom applications, without the need to manually set up environments, quality checks, and processes.

At an OIT-wide level, platforms will also help drive greater levels of standardization by encouraging developers to use the most modern technologies and frameworks available. Eventually, this will enable greater degrees of collaboration between teams and reusability of previous development efforts.

For detailed information on basic platform capabilities, please read the platform capabilities section.

7. Enterprise Technology Platforms

The following are the Enterprise Technology Platform types, with corresponding VA systems listed under each and their associated VA Systems Inventory (VASI) ID number. Information about each system is provided in Architect VA. The Custom Application Development Platforms section links to developer guidance provided in CODE VA.

1. Enterprise Automation and Workflow Platforms

- ServiceNow (2231)
- SharePoint Online Platform (2943)
- Dynamics 365 for Government (2539)

- Pega Cloud for Government (2747)
- Salesforce Government Cloud Plus (2671)

2. **Custom Application Development Platforms**
   - VA.gov - Veteran-Facing Services Platform (2103)
   - VA Platform One (2618)
   - Benefits Integration Platform (2295)
   - Lighthouse Delivery Infrastructure (2890)
   - Mobile Application Platform (2313)
   - Clinical Decision Support Platform (2769)
3. **Middleware and Integration Platforms**
   - Benefits Enterprise Platform (1898)
   - DTC Integration Platform (2825)
   - DSS Enterprise (3342)
   - Veterans Data Integration and Federation Enterprise Platform (2238)
4. **Data and Analytics Platforms**
   - Arches (2683)
   - Summit Data Platform (2266)
5. **Cloud Infrastructure Platforms**
   - VAEC Microsoft Azure Gov Service (2437)
   - VAEC Amazon Web Gov Service (2438)
   - VAEC AWS Commercial (2656)
   - VA Enterprise Cloud Microsoft Azure Commercial (2657)

8. Compliance Criteria

The Enterprise Architecture compliance criteria related to using the Software Factory Developer Portal and associated utility and platform services are as follows:

- Only approved utilities and platforms are included in CODE VA and are available via self-service to Product Teams.
- All utilities and platforms provided via CODE VA are subject to official IT policies regarding Software Factory (this document will be kept up to date with applicable references).
- Utilities and platforms documented on CODE VA must maintain decentralized ownership and are not owned by the central utilities' initiative.
- Standardized utilities and platforms provided through CODE VA are accessible to Product Teams and contain at least one entry per category.
- All products will go through the Software Factory Intake process to evaluate the approved components that are available for use to meet requirements.

9. References

1. Software Factory: VA Software Factory
2. Utilities Starter Guide: Utilities Starter Guide | CODE VA
3. Resource Library, including "How To" Guides: Resource Library - VA Software Factory
4. Technology Guidelines: Enterprise Technology Guidelines - Dept of Veterans Affairs-External - Confluence (va.gov)

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