

FHIR Profiles for  
Condition and Observation Resources:  
Incorporating Architectural Elements  
from The VA-KBS Group  
for Representing Clinical Statements in FHIR

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***DRAFT***

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# 1 Introduction

The Veterans Health Administration Knowledge-Based Systems group (VA-KBS) has specified FHIR profiles for the Condition and Observation resources to incorporate certain architectural elements from the VA-KBS’s work on representing clinical statements and knowledge artifacts. This document provides a guide to these FHIR profiles and their related artifacts.

# 2 Accessing the VA-KBS FHIR Profiles

The FHIR profiles and related artifacts are contained within the accompanying .zip files:

VA-KBS-FHIR-PROFILES\_v2.zip  
VA-KBS-FHIR-EXAMPLE-DATA\_v2.zip

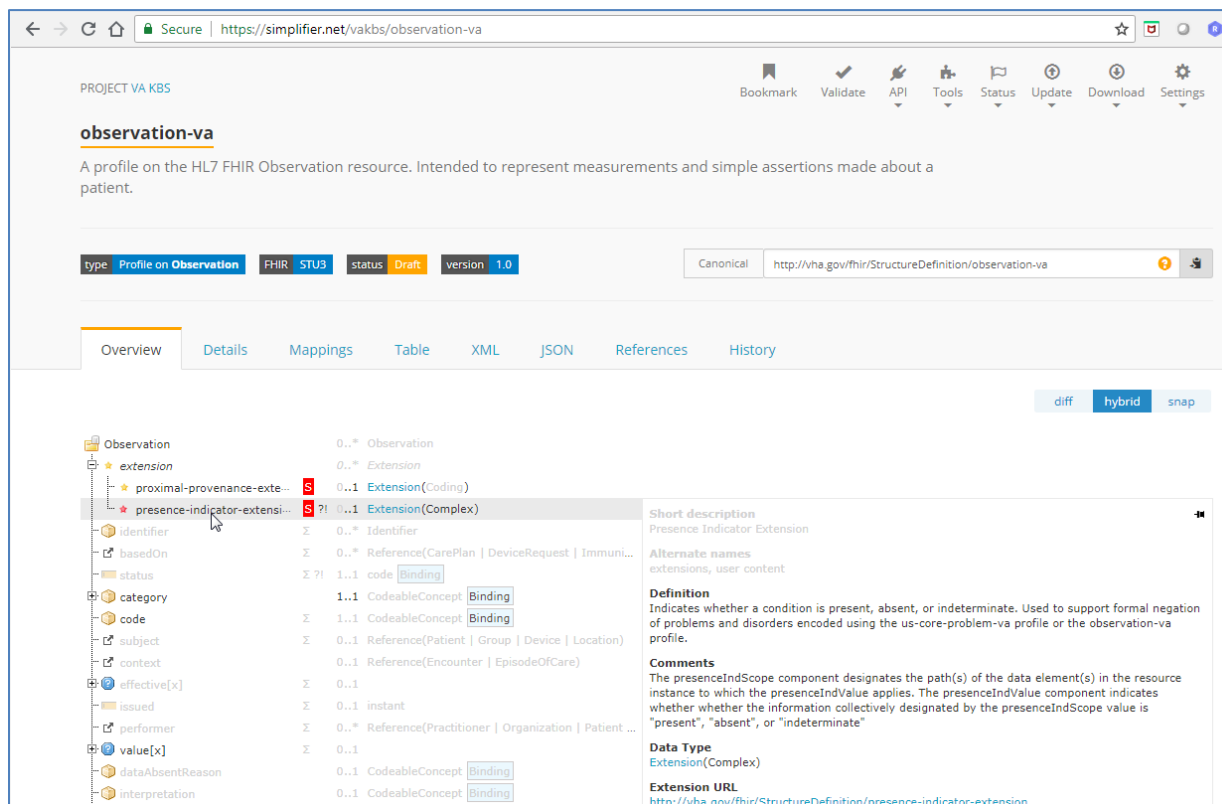
All artifacts within these files are XML-encoded data structures that conform to the HL7 FHIR specifications for representing FHIR profiles and FHIR resources instances. These files may be inspected using a simple text editor (such as [Notepad++](#)), an XML-editing tool (such as [XMLSpy](#)), or a FHIR-profile editing tool (such as [Forge](#)).

In addition, all of the artifacts have also been uploaded to a public online FHIR profile repository called Simplifier.net. This FHIR-profile browser provided by this repository is probably the easiest way to review the contents of the VA-KBS Condition and Observation profiles. The repository can be accessed at the following URL:

<https://simplifier.net/vakbs>

Note that the top-level profiles contained in the repository are named “us-core-condition-va” and “observation-va”. The remaining artifacts support the specification of these two top-level artifacts, and can all be reached and inspected by “drilling down” on the modified data elements within these profiles.

Figure 1. Screenshot of the Observation profile as viewed in the simplifier.net repository



### 3 Documentation

The VA-KBS profiles are internally documented within the profile specifications themselves. The documentation can best be viewed using the [simplifier.net](http://simplifier.net) browser, as shown in Figure 1. Note that the “Hybrid” view highlights the elements of the documentation that have been added as part of specifying the profile (as opposed to underlying documentation of the core HL7 resources on which the profile is based).

### 4 Editing the VA-KBS FHIR Profiles

The FHIR-profile artifacts can be edited directly as XML (using tools such as Notepad++ or XMLSpy), or they may be edited using special FHIR-profiling tools, such as Forge. Forge is a useful tool for profile editing, because it ensures that only valid FHIR profile specifications are created, which can be otherwise challenging given the complexity of the HL7 FHIR profiling mechanisms and syntax. Other FHIR-profile editing and validation tools are also available (see [http://wiki.hl7.org/index.php?title=Profile\\_Tooling](http://wiki.hl7.org/index.php?title=Profile_Tooling) and [http://wiki.hl7.org/index.php?title=FHIR\\_Tools\\_Registry](http://wiki.hl7.org/index.php?title=FHIR_Tools_Registry)).

If one makes modifications to the FHIR profiles and wishes to re-publish them to the [simplifier.net](http://simplifier.net) online repository, it is necessary to log into the [simplifier.net](http://simplifier.net) account created for this project. The login credentials are as follows:

URL: <https://simplifier.net/login>  
Email: [ws94070@gmail.com](mailto:ws94070@gmail.com)  
Pwd: !Komet2018

Profile artifacts may be updated by opening the artifact and selecting the “Update” icon in the upper right corner, and then the “Upload: Update by uploading a file” option. This will launch a dialog box to select and re-upload the XML file that specifies the artifact from the user’s computer. Note that the [simplifier.net](http://simplifier.net) web site can also be used to edit the XML source code for profile artifacts directly. This can be done by opening the artifact and selecting the “Update” icon in the upper right corner, and then the “Edit: Update by editing last version” menu item.

### 5 Testing the VA-KBS FHIR Profiles

A set of example files have been provided that contain instances of FHIR Condition and Observation resources that comply with the `us-core-condition-va` and `observation-va` profiles, respectively. Validation of these files with respect to the profile definitions may be performed using various validation tools that are built into FHIR servers or available as stand-alone utilities. For example, an open-source FHIR instance validator may be downloaded from HL7 at the following URL:

<http://build.fhir.org/validator.zip>

Documentation for this tool is available at [http://wiki.hl7.org/index.php?title=Using the FHIR Validator](http://wiki.hl7.org/index.php?title=Using_the_FHIR_Validator).