



05 - FHIR Client (Peer-to-Peer)

Test Driven Development II - Advanced - Exercise

Track: Test Driven Development II - Advanced

Track lead: Richard Ettema

Email: richard.ettema@aegis.net

During this hands-on session of the Test Driven Development I - Intro tutorial we will explore FHIR Client or Peer-to-Peer testing capabilities within the Touchstone Project environment. This exercise examines a series of TestScripts that each focus on a single FHIR operation (create, update, read, history, vread, search and delete) where the FHIR Client system is external to Touchstone.

TestScripts for this exercise are in the **FHIRSandbox/AEGIS/FHIR3-0-1-DevDays18/TDD-2-Advanced/05-FHIRClient Test Definitions.*

Related online document: Touchstone User Guide, Section 'Client-side (Peer-to-Peer) Testing'.

TestScripts

All TestScripts for this exercise:

Features

- ❖ Use the Patient resource type
- ❖ Define and use a single Origin and Destination FHIR system
- ❖ Where appropriate, Touchstone is used to initiate read or search operations for validation
- ❖ Use the FHIR resource base profiles; *asserts invoke the FHIR Validation Engine using profiles*
- ❖ Use both static and dynamic variables
- ❖ Use Rules and Rulesets that support complex asserts for conditional FHIR specification features

TDD-2-Adv-05-FHIRClient-01a-patient-create-client-id-[xxx]

Test an external FHIR Client creating a static Patient fixture containing a client-assigned resource id.

TDD-2-Adv-05-FHIRClient-01b-patient-create-server-id-[xxx]

Test an external FHIR Client creating a static Patient fixture that generates a server-assigned resource id.

TDD-2-Adv-05-FHIRClient-02-patient-update-[xxx]

Test an external FHIR Client updating a known Patient resource; the resource id is entered in the Test Setup.

TDD-2-Adv-05-FHIRClient-03-patient-read-[xxx]

Test an external FHIR Client reading a known Patient resource; the resource id is entered in the Test Setup.

TDD-2-Adv-05-FHIRClient-04-patient-history-[xxx]

Test an external FHIR Client retrieval of a known Patient's history; the resource id is entered in the Test Setup.

TDD-2-Adv-05-FHIRClient-01a-patient-search-[xxx]

Test an external FHIR Client search of Patient resources; the search parameters are entered in the Test Setup.

TDD-2-Adv-05-FHIRClient-01a-patient-delete-[xxx]

Test an external FHIR Client delete of a known Patient resource; the resource id is entered in the Test Setup.



★ Key Concept: FHIR Client Test Setup

- An Origin as well as a Destination FHIR system must now be selected
- There may be additional items to select or fill-in; i.e. dynamic variables
- FHIR Client systems that are not publicly accessible (internet) will require the use of USER_KEY or ORG_KEY

★ Key Concept: TestScript Dynamic Variables

- A TestScript variable definition without an expression and source must have its value dynamically assigned (prompted for) by the FHIR Test Engine before the TestScript is executed

★ Key Concept: USER_KEY and ORG_KEY (Special) Placeholders

- USER_KEY and ORG_KEY may be used to assist Touchstone in identifying the external FHIR Client system(s) used in a test execution.
- They MUST be used when a FHIR Client system is not publicly accessible; e.g. when the FHIR Client system sits behind a firewall or proxy, or may only have a locally assigned IP address.
- The USER_KEY value is found on the My Placeholders page accessed from your user's "{\$} My Placeholders" menu item.
 - The value may be regenerated as a randomly generated alphanumeric 20-character string
 - The value may be entered manually
 - When saved (updated), the value will be verified as unique among all existing Touchstone users
- The ORG_KEY value is found on the My Placeholders page accessed from your user's "{\$} My Placeholders" menu item, or on your Edit Organization page.
 - The value may be regenerated as a randomly generated alphanumeric 20-character string
 - The value may be entered manually
 - When saved (updated), the value will be verified as unique among all existing Touchstone organizations

Have fun! And, remember to ask for help if you get stuck.

Please note:

- The exercises can be made in the hands-on area, where each track has its own table, indicated with a track sign. The track lead will be present for guidance and review.
- Exercises will only be discussed or reviewed during the HL7 FHIR DevDays 18 in Boston
- Any questions or remarks after the conference can be addressed in the FHIR chat on Zulip:
<https://chat.fhir.org>