CORE FRAMEWORK UPDATES
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ABOUT ME

- Henning Treu
- Eclipse SmartHome committer
- htreu
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CORE FRAMEWORK UPDATES

LICENSE

- Eclipse SmartHome license upgrade to EPL 2.0
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MQTT SUPPORT

- Embedded broker
- MQTT bridge
  - System broker connection
  - Thing broker connection
- Generic MQTT topic thing
- Homie 3 & Home Assistant support with auto discovery
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SEMANTIC METADATA

- Predefined ontology
- Semantics based on tags
- Hierarchy provides meaning
  - Tag “Kitchen” implies Room, Indoor, Location
- Built-in synonyms on types
- Custom synonyms on instances (Items)
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NEW BINDINGS

- Bose Soundtouch
- OneWire
- Homematic (moved from openHAB)
- Generic Bluetooth LE support
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BLUETOOTH LE SUPPORT

- Generic Bluetooth binding
- Extensible by specific device bindings
  - *BlueGiga* for USB dongles with BLED112 chip
  - *blueZ* for linux blueZ stack supported USB dongles.
  - *Blukii* for Blukii SmartBeacons
AUTHENTICATION

- OAuth2 client
  - Supports various OAuth authentication flows
- HTTP Authentication & Authorisation
  - HTTP handler chain for authentication, authorisation, and redirection.
  - AuthenticationManager validating Credentials
- Highly customisable
- Provides HTTP basic auth implementation
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HTTP & WEBSOCKET CLIENT

- Common HTTP & WebSocket Client
  - Reduces Thread count
  - Own thread pool
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UNITS OF MEASUREMENT

- Built-in unit conversion
- Locale based default units
- Full DSL script support
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UOM - UNIT CONVERSION

20.125°C >>> 20.125°C >>> 68.2 °F

SITEMAP
"%.0f K"

ITEM
"%.1f °F"

RULES

293 K

68.2 °F

68.2 °F

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UOM - LOCALE BASED CONVERSION

Locale: en_US

20.125°C → 20.125°C → 68.2 °F

SITEMAP
"%.0f %unit%"

ITEM
"%.1f %unit%"

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UOM - LOCALE BASED CONVERSION

20.125°C → BINDING → 20.125°C → FRAMEWORK → 20.1°C → ITEM "%.1f %unit%"

Locale: fr_FR

SITEMAP "%.0f %unit%"

20 °C

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UOM - DSL SCRIPT SUPPORT

// define a QuantityType variable
var myTemperature = 20|°C

// convert a quantity state into a different unit:
var fahrenheit = myTemperature.toUnit(“°F”)

// calculations
var velocity = 100|km / 1|h
var acceleration = velocity / 1|h

// comparison
var truthy = 20|“°C” == 20|°C
var colder = new QuantityType(“50 °F”) < 20|°C
CODING STYLE #1

- Builder pattern for core model classes
  - Channel[Type]Builder, Thing[Type]Builder, BridgeBuilder, ChannelGroupTypeBuilder, ChannelDefinitionBuilder, ...
  - Allows simple & safe API extension & immutable instances
- Exposed to bindings via BaseThingHandler & ThingHandlerCallback:
  - #editThing
  - #createChannelBuilder[s], #editChannel
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CODING STYLE #2

- No more Groovy
  - All tests were converted to Java
  - Base test classes: JavaTest & JavaOSGiTest
- Java 11 support
  - Still: warnings about illegal reflective access

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OUTLOOK

- Separate ThingHandler & device configuration
- Introduce start levels
- New scheduler
ESH COMMUNITY ROCKS.
THANK YOU!

htreu

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