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1. Kopsavilkums

Pārskata periodā (2014-09-01 – 2015-02-28) projekta „Programmatūras izstrādes rezultātu apstrādes un interpretācijas tehnoloģija” (Krabis) aktivitātes "Aplikāciju serveris" ietvaros veikti šādi darbi:

1. Aplikāciju servera prasību analīze.
2. Aplikāciju servera izstrāde, tai skaitā šādu pakotņu izstrāde:
 - a. com.sets.krabis.data.dto
 - b. com.sets.krabis.data.model
 - c. com.sets.krabis.data.model.helper
 - d. com.sets.krabis.data.model.view
 - e. com.sets.krabis.enums
 - f. com.sets.krabis.metamodel
 - g. com.sets.krabis.util
 - h. com.sets.krabis.service
 - i. com.sets.krabis.service.exception
3. Darbs apspriests regulārās projekta sanāksmēs.

2. Ievads

Dokuments uzskaita izstrādātos aplikācija servera elementus aktivitātes ietvaros.

3. Pakotne: com.sets.krabis.data.dto

Pakotne satur datu struktūras datu pārveidei un pārsūtīšanai.

3.1. Klase AuditLogEntry

```
java.lang.Object  
com.sets.krabis.data.dto.AuditLogEntry
```

```
public class AuditLogEntry  
extends Object
```

Audita žurnāla ieraksts papildināts ar formatēšanai nepieciešamajiem datiem.

3.1.1. Konstruktori

- public AuditLogEntry(Log log)

3.1.2. Metodes

- public String getLogEntry()
- public void setLogEntry(String logEntry)
- public String getLogDivision()
- public void setLogDivision(String logDivision)
- public Log getLog()
- public LogMessageType getLogMessageType()
- public Date getLogTimestamp()
- public String getLogProp(LogMessageKey key)
- public String getLpLogObject()
- public String getLpUsername()
- public Map<String, Object> getExtMap()

3.2. Klase AuditLogOptions

```
java.lang.Object  
com.sets.krabis.data.dto.AuditLogOptions
```

```
public class AuditLogOptions  
extends Object
```

Audita Žurnāla ieraksta filtrēšanas uzstādījumi.

3.2.1. Konstruktori

- `public AuditLogOptions()`

3.2.2. Metodes

- `public int getMaxEntries()`
- `public void setMaxEntries(int maxEntries)`
- `public Date getLogDateFrom()`
- `public void setLogDateFrom(Date logDateFrom)`
- `public Date getLogDateTill()`
- `public void setLogDateTill(Date logDateTill)`
- `public LogMessageType[] getLogTypes()`
- `public void setLogTypes(LogMessageType[] logTypes)`

4. Pakotne: `com.sets.krabis.data.model`

Pakotne satur Krabis rīka pamatdatu entītijas.

4.1. Klase `BugTrackingSystem`

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.BugTrackingSystem
```

```
@Entity  
public class BugTrackingSystem  
extends Trackable
```

Klasifikators: kļūdu izsekošanas sistēma.

4.1.1. Konstruktori

- `public BugTrackingSystem()`

4.1.2. Metodes

- `public Long getId()`
- `public void setId(Long id)`
- `public String getName()`
- `public void setName(String name)`
- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`
- `public String toString()`
Overrides: `toString` in class `Object`

4.2. Klase `Build`

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.Build
```

```
@Entity  
public class Build  
extends Trackable
```

Būvējums.

4.2.1. Konstruktori

- public Build()

4.2.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public Build.Status getStatus()
- public void setStatus(Build.Status status)
- public Environment getEnvironment()
- public void setEnvironment(Environment environment)
- public Date getStartTime()
- public void setStartTime(Date startTime)
- public Date getEndTime()
- public void setEndTime(Date endTime)
- public Set<GppRun> getGppRuns()
- public void setGppRuns(Set<GppRun> gppRuns)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.3. Klase Component

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.Component
```

```
@Entity  
public class Component  
extends Trackable
```

Klasifikators: testēšanas komponente.

4.3.1. Konstruktori

- public Component()

4.3.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.4. Klase Contact

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.Contact
```

```
@Entity  
public class Contact  
extends Trackable
```

Kontaktinformācija.

4.4.1. Konstruktori

- public Contact()

4.4.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getEmail()
- public void setEmail(String email)
- public String getFirstName()
- public void setFirstName(String firstName)
- public String getLastName()

- `public void setLastName(String lastName)`
- `public String getName()`
- `public void setName(String name)`
- `public String getFullName()`
- `public Set<GroupPackageProduct> getGpps()`
- `public void setGpps(Set<GroupPackageProduct> gpps)`
- `public Set<User> getUsers()`
- `public void setUsers(Set<User> users)`
- `public Set<Notification> getNotifications()`
- `public void setNotifications(Set<Notification> notifications)`
- `public int hashCode()`
Overrides: hashCode in class Object
- `public boolean equals(Object object)`
Overrides: equals in class Object
- `public String toString()`
Overrides: toString in class Object

4.5. Klase Environment

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.Environment
```

```
@Entity  
public class Environment  
extends Trackable
```

Testšanas vai būvēšanas vide.

4.5.1. Konstruktori

- `public Environment()`

4.5.2. Metodes

- `public Long getId()`
- `public void setId(Long id)`
- `public String getName()`
- `public void setName(String name)`
- `public String getDescription()`
- `public void setDescription(String description)`
- `public Set<Build> getBuilds()`

- `public void setBuilds(Set<Build> builds)`
- `public Set<GppRun> getGppRuns()`
- `public void setGppRuns(Set<GppRun> gppRuns)`
- `public Set<GppEnvironment> getGppEnvironments()`
- `public void setGppEnvironments(Set<GppEnvironment> gppEnvironments)`
- `public Set<EnvironmentProperty> getEnvPropInEnv()`
- `public void setEnvPropInEnv(Set<EnvironmentProperty> envPropInEnv)`
- `public int hashCode()`
Overrides: hashCode in class Object
- `public boolean equals(Object object)`
Overrides: equals in class Object
- `public String toString()`
Overrides: toString in class Object

4.6. Klase EnvironmentProperty

java.lang.Object
com.sets.krabis.data.model.Trackable
com.sets.krabis.data.model.EnvironmentProperty

@Entity
public class EnvironmentProperty
extends Trackable

Klasifikators: vides raksturojums.

4.6.1. Konstruktori

- `public EnvironmentProperty()`

4.6.2. Metodes

- `public Long getId()`
- `public void setId(Long id)`
- `public String getName()`
- `public void setName(String name)`
- `public EnvironmentPropertyType getEnvPropertyType()`
- `public void setEnvPropertyType(EnvironmentPropertyType envPropertyType)`
- `public Set<Environment> getEnvProp()`
- `public void setEnvProp(Set<Environment> envProp)`
- `public int hashCode()`
Overrides: hashCode in class Object

- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`
- `public String toString()`
Overrides: `toString` in class `Object`

4.7. Klase `EnvironmentPropertyType`

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.EnvironmentPropertyType
```

```
@Entity  
public class EnvironmentPropertyType  
extends Trackable
```

Klasifikators: vides raksturojuma veids.

4.7.1. Konstruktori

- `public EnvironmentPropertyType()`

4.7.2. Metodes

- `public Long getId()`
- `public void setId(Long id)`
- `public String getName()`
- `public void setName(String name)`
- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`
- `public String toString()`
Overrides: `toString` in class `Object`

4.8. Klase `Event`

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.Event
```

```
@Entity  
public class Event  
extends Trackable
```

Notikums.

4.8.1. Konstruktori

- public Event()

4.8.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public Date getEventTime()
- public void setEventTime(Date eventTime)
- public EventType getEventType()
- public void setEventType(EventType eventType)
- public String getDescription()
- public void setDescription(String description)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.9. Klase EventType

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.EventType
```

```
@Entity  
public class EventType  
extends Trackable
```

Klasifikators: notikuma veids.

4.9.1. Konstruktori

- public EventType()

4.9.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.10. Klase GppEnvironment

```
java.lang.Object  
com.sets.krabis.data.model.GppEnvironment
```

```
@Entity  
public class GppEnvironment  
extends Object  
implements Serializable
```

Sadaļas piesaiste testēšanas videi.

4.10.1. Konstruktori

- public GppEnvironment()

4.10.2. Metodes

- public Long getId()
- public void setId(Long id)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public Environment getEnvironment()
- public void setEnvironment(Environment environment)
- public boolean isActive()
- public void setActive(boolean active)
- public int hashCode()
Overrides: hashCode in class Object

- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.11. Klase GppRun

```
java.lang.Object  
com.sets.krabis.data.model.GppRun
```

```
@Entity  
public class GppRun  
extends Object  
implements Serializable
```

Sadaļas laidniens.

4.11.1. Konstruktori

- public GppRun()

4.11.2. Metodes

- public Long getId()
- public void setId(Long id)
- public Environment getEnvironment()
- public void setEnvironment(Environment environment)
- public GppRun getParent()
- public void setParent(GppRun parent)
- public Build getBuild()
- public void setBuild(Build build)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public Date getRunDate()
- public void setRunDate(Date runDate)
- public String getBenchmarkName()
- public void setBenchmarkName(String benchmarkName)
- public Set<TestRun> getTestRuns()
- public void setTestRuns(Set<TestRun> testRuns)
- public Set<GppStatusCount> getGppStatusCounts()
- public void setGppStatusCounts(Set<GppStatusCount> gppStatusCounts)
- public Set<GppRunOutcome> getGppRunOutcomes()

- public void setGppRunOutcomes(Set<GppRunOutcome> gppRunOutcomes)
- public Set<GppRun> getChildren()
- public void setChildren(Set<GppRun> children)
- public Map<String,Integer> getTestStatusCountMap()
- public Map<String,String> getOutcomeMap()
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.12. Klase GppRunOutcome

java.lang.Object
com.sets.krabis.data.model.GppRunOutcome

```
@Entity  
public class GppRunOutcome  
extends Object  
implements Serializable
```

Sadaļas laidiena iznākums.

4.12.1. Konstruktori

- public GppRunOutcome()

4.12.2. Metodes

- public Long getId()
- public void setId(Long id)
- public GppRun getGppRun()
- public void setGppRun(GppRun gppRun)
- public OutcomeDescription getOutcomeDescription()
- public void setOutcomeDescription(OutcomeDescription outcomeDescription)
- public String getOutcomeValue()
- public void setOutcomeValue(String outcomeValue)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object

- public String toString()
Overrides: toString in class Object

4.13. Klase GppStatusCount

java.lang.Object
com.sets.krabis.data.model.GppStatusCount

```
@Entity  
public class GppStatusCount  
extends Object  
implements Serializable
```

Testa laidienu statusa kopskaits sadaļas laidienā.

4.13.1. Konstruktori

- public GppStatusCount()

4.13.2. Metodes

- public Long getId()
- public void setId(Long id)
- public GppRun getGppRun()
- public void setGppRun(GppRun gppRun)
- public TestStatus getTestStatus()
- public void setTestStatus(TestStatus testStatus)
- public int getCount()
- public void setCount(int count)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.14. Klase GppType

java.lang.Object
com.sets.krabis.data.model.Trackable
com.sets.krabis.data.model.GppType


```
@Entity  
public class GppType  
extends Trackable
```

Klasifikators: sadaļas veids.

4.14.1. Konstruktori

- public GppType()

4.14.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.15. Klase GroupPackageProduct

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.GroupPackageProduct
```

```
@Entity  
public class GroupPackageProduct  
extends Trackable  
implements Comparable<GroupPackageProduct>
```

Sadaļa.

4.15.1. Konstruktori

- public GroupPackageProduct()

4.15.2. Metodes

- public Long getId()
- public void setId(Long id)

Programmatūras izstrādes rezultātu apstrādes un interpretācijas tehnoloģija

- public String getCode()
- public void setCode(String code)
- public String getName()
- public void setName(String name)
- public GppType getGppType()
- public void setGppType(GppType gppType)
- public GroupPackageProduct getParent()
- public void setParent(GroupPackageProduct parent)
- public Component getComponent()
- public void setComponent(Component component)
- public double getWeight()
- public void setWeight(double weight)
- public String getDescription()
- public void setDescription(String description)
- public Contact getContact()
- public void setContact(Contact contact)
- public Set<Issues> getIssuesInGPP()
- public void setIssuesInGPP(Set<Issues> issuesInGPP)
- public Map<String,String> getProps()
- public void setProps(Map<String,String> props)
- public String getProp(GppPropKey prop)
- public void setProp(GppPropKey prop, Object value)
- public Set<GppRun> getGppRuns()
- public void setGppRuns(Set<GppRun> gppRuns)
- public Set<TestGpp> getTestGpps()
- public void setTestGpps(Set<TestGpp> testGpps)
- public Set<TestStatusGpp> getTestStatusGpps()
- public void setTestStatusGpps(Set<TestStatusGpp> testStatusGpps)
- public Set<UserGroupGpp> getUserGroupGpps()
- public void setUserGroupGpps(Set<UserGroupGpp> userGroupGpps)
- public Set<Notification> getNotifications()
- public void setNotifications(Set<Notification> notifications)
- public Set<Event> getEvents()
- public void setEvents(Set<Event> events)
- public Set<GppEnvironment> getGppEnvironments()
- public void setGppEnvironments(Set<GppEnvironment> gppEnvironments)
- public Set<GroupPackageProduct> getChildren()
- public void setChildren(Set<GroupPackageProduct> children)

- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object
- public int compareTo(GroupPackageProduct o) Specified by: compareTo in interface Comparable<GroupPackageProduct>

4.16. Klase Issues

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.Issues
```

```
@Entity  
public class Issues  
extends Trackable
```

Problēmziņojums kļūdu izsekošanas sistēmā.

4.16.1. Konstruktori

- public Issues()

4.16.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getExternalIssueId()
- public void setExternalIssueId(String externalIssueId)
- public String getName()
- public void setName(String name)
- public BugTrackingSystem getBugTrackingSystem()
- public void setBugTrackingSystem(BugTrackingSystem bugTrackingSystem)
- public String getDescription()
- public void setDescription(String description)
- public IssueStatus getIssueStatus()
- public void setIssueStatus(IssueStatus issueStatus)
- public String getUrl()
- public void setUrl(String url)
- public Set<GroupPackageProduct> getGppIssues()

- public void setGppIssues(Set<GroupPackageProduct> gppIssues)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.17. Klase IssueStatus

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.IssueStatus
```

```
@Entity  
public class IssueStatus  
extends Trackable
```

Klasifikators: problēmziņojuma statuss.

4.17.1. Konstruktori

- public IssueStatus()

4.17.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.18. Klase Log

```
java.lang.Object  
com.sets.krabis.data.model.Log
```



```
@Entity  
public class Log  
extends Object  
implements Serializable
```

Audita žurnāla ieraksts.

4.18.1. Konstruktori

- public Log()
- public Log(LogMessageType lmt)

4.18.2. Metodes

- public Long getId()
- public void setId(Long id)
- public Date getLogTimestamp()
- public void setLogTimestamp(Date logTimestamp)
- public LogMessageType getLogMessageType()
- public void setLogMessageType(LogMessageType logMessageType)
- public Map<String,String> getLogProps()
- public void setLogProps(Map<String,String> logProps)
- public String getLogProp(LogMessageKey logProp)
- public void setLogProp(LogMessageKey logProp, Object value)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.19. Klase Notification

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.Notification
```

```
@Entity  
public class Notification  
extends Trackable
```

Notifikācija.

4.19.1. Konstruktori

- public Notification()

4.19.2. Metodes

- public Long getId()
- public void setId(Long id)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public Contact getContact()
- public void setContact(Contact contact)
- public Notification.MessageType getMessageType()
- public void setMessageType(Notification.MessageType messageType)
- public Notification.TimeInterval getTimeInterval()
- public void setTimeInterval(Notification.TimeInterval timeInterval)
- public Date getActivationDate()
- public void setActivationDate(Date activationDate)
- public Set<NotificOutDescrCond> getNotificationOutDescr()
- public void setNotificationOutDescr(Set<NotificOutDescrCond> notificationOutDescr)
- public Set<NotificStatusCountCond> getNotificationStatusCounts()
- public void setNotificationStatusCounts(Set<NotificStatusCountCond> notificationStatusCounts)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.20. Klase NotificOutDescrCond

```
java.lang.Object  
com.sets.krabis.data.model.NotificOutDescrCond
```

```
@Entity  
public class NotificOutDescrCond  
extends Object  
implements Serializable
```

Notifikācijas nosacījums pēc iznākuma apraksta.

4.20.1. Konstruktori

- public NotificOutDescrCond()

4.20.2. Metodes

- public Long getId()
- public void setId(Long id)
- public OutcomeDescription getOutcomeDescription()
- public void setOutcomeDescription(OutcomeDescription outcomeDescription)
- public ComparisonOperator getComparisonOperator()
- public void setComparisonOperator(ComparisonOperator comparisonOperator)
- public String getValue()
- public void setValue(String value)
- public Notification getNotification()
- public void setNotification(Notification notification)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.21. Klase NotificStatusCountCond

java.lang.Object
com.sets.krabis.data.model.NotificStatusCountCond

```
@Entity  
public class NotificStatusCountCond  
extends Object  
implements Serializable
```

Notifikācijas nosacījums pēc testa laidienu statusu skaita.

4.21.1. Konstruktori

- public NotificStatusCountCond()

4.21.2. Metodes

- public Long getId()
- public void setId(Long id)
- public TestStatus getTestStatus()
- public void setTestStatus(TestStatus testStatus)
- public ComparisonOperator getComparisonOperator()
- public void setComparisonOperator(ComparisonOperator comparisonOperator)
- public double getValue()
- public void setValue(double value)
- public Notification getNotification()
- public void setNotification(Notification notification)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.22. Klase OutcomeDescription

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.OutcomeDescription
```

```
@Entity  
public class OutcomeDescription  
extends Trackable
```

Klasifikators: testa vai sadaļas laidiena iznākuma apraksts.

4.22.1. Konstruktori

- public OutcomeDescription()

4.22.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public OutcomeDescription.Type getType()

- public void setType(OutcomeDescription.Type type)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.23. Klase Test

```
java.lang.Object
com.sets.krabis.data.model.Trackable
com.sets.krabis.data.model.Test
```

```
@Entity
public class Test
extends Trackable
```

Tests.

4.23.1. Konstruktori

- public Test()

4.23.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getCode()
- public void setCode(String code)
- public String getName()
- public void setName(String name)
- public boolean isActive()
- public void setActive(boolean active)
- public String getDescription()
- public void setDescription(String description)
- public Set<TestRun> getTestRuns()
- public void setTestRuns(Set<TestRun> testRuns)
- public Set<TestDependency> getTestId()
- public void setTestId(Set<TestDependency> testId)
- public Set<TestDependency> getTestIdDependsOn()
- public void setTestIdDependsOn(Set<TestDependency> testIdDependsOn)

- `public Set<TestGpp> getTestGpps()`
- `public void setTestGpps(Set<TestGpp> testGpps)`
- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`
- `public String toString()`
Overrides: `toString` in class `Object`

4.24. Klase TestDependency

```
java.lang.Object  
com.sets.krabis.data.model.TestDependency
```

```
@Entity  
public class TestDependency  
extends Object  
implements Serializable
```

Testu atkarība.

4.24.1. Konstruktori

- `public TestDependency()`

4.24.2. Metodes

- `public Long getId()`
- `public void setId(Long id)`
- `public Test getTest()`
- `public void setTest(Test test)`
- `public Test getTestDependsOn()`
- `public void setTestDependsOn(Test testDependsOn)`
- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`
- `public String toString()`
Overrides: `toString` in class `Object`

4.25. Klase TestGpp

```
java.lang.Object  
com.sets.krabis.data.model.TestGpp
```

```
@Entity  
public class TestGpp  
extends Object  
implements Serializable
```

Testa saistība ar sadaļu.

4.25.1. Konstruktori

- public TestGpp()

4.25.2. Metodes

- public Long getId()
- public void setId(Long id)
- public Test getTest()
- public void setTest(Test test)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public int getTestIndex()
- public void setTestIndex(int testIndex)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.26. Klase TestRun

```
java.lang.Object  
com.sets.krabis.data.model.TestRun
```

```
@Entity  
public class TestRun  
extends Object  
implements Serializable
```

Testa laidziens.

4.26.1. Konstruktori

- public TestRun()

4.26.2. Metodes

- public Long getId()
- public void setId(Long id)
- public Test getTest()
- public void setTest(Test test)
- public TestStatus getTestStatus()
- public void setTestStatus(TestStatus testStatus)
- public GppRun getGppRun()
- public void setGppRun(GppRun gppRun)
- public Date getRunDate()
- public void setRunDate(Date runDate)
- public Set<TestRunOutcome> getTestRunOutcomes()
- public void setTestRunOutcomes(Set<TestRunOutcome> testRunOutcomes)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.27. Klase TestRunOutcome

java.lang.Object
com.sets.krabis.data.model.TestRunOutcome

```
@Entity  
public class TestRunOutcome  
extends Object  
implements Serializable
```

Testa laidiena iznākums.

4.27.1. Konstruktori

- public TestRunOutcome()

4.27.2. Metodes

- public Long getId()
- public void setId(Long id)
- public TestRun getTestRun()
- public void setTestRun(TestRun testRun)
- public OutcomeDescription getOutcomeDescription()
- public void setOutcomeDescription(OutcomeDescription outcomeDescription)
- public String getOutcomeValue()
- public void setOutcomeValue(String outcomeValue)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.28. Klase TestStatus

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.TestStatus
```

```
@Entity  
public class TestStatus  
extends Trackable
```

Klasifikators: testa laidiena statuss.

4.28.1. Konstruktori

- public TestStatus()

4.28.2. Metodes

- public Long getId()
- public void setId(Long id)
- public String getName()
- public void setName(String name)
- public int hashCode()
Overrides: hashCode in class Object

- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.29. Klase TestStatusGpp

```
java.lang.Object  
com.sets.krabis.data.model.TestStatusGpp
```

```
@Entity  
public class TestStatusGpp  
extends Object  
implements Serializable
```

Testa laidiena statusa piesaiste sadaļai.

4.29.1. Konstruktori

- public TestStatusGpp()

4.29.2. Metodes

- public Long getId()
- public void setId(Long id)
- public TestStatus getTestStatus()
- public void setTestStatus(TestStatus testStatus)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public double getWeight()
- public void setWeight(double weight)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.30. Klase Trackable

```
java.lang.Object  
com.sets.krabis.data.model.Trackable
```

```
@MappedSuperclass
@indexSubclasses
public class Trackable
extends Object
implements Serializable
```

Virsklase no kuras atvasinātas entītijas, kam nepieciešama izmaiņu monitorēšana.

4.30.1. Lauki

- protected Date modifDate
- protected String modifUser

4.30.2. Konstruktori

- public Trackable()

4.30.3. Metodes

- public Date getModifDate()
- public void setModifDate(Date modifDate)
- public String getModifUser()
- public void setModifUser(String modifUser)

4.31. Klase User¹

```
java.lang.Object
com.sets.krabis.data.model.Trackable
com.sets.krabis.data.model.User
```

```
@Entity
public class User
extends Trackable
```

Lietotājs.

4.31.1. Konstruktori

- public User()

¹ Daļa no metodēm izstrādātas 5.1 un 5.2 ietvaros.

4.31.2. Metodes

- public String getUsername()
- public void setUsername(String userName)
- public String getPassword()
- public void setPassword(String password)
- public Map<String,String> getPrefs()
- public void setPrefs(Map<String,String> prefs)
- public Contact getContact()
- public void setContact(Contact contact)
- public GroupPackageProduct getDefaultGpp()
- public boolean isActive()
- public void setActive(boolean active)
- public void setDefaultGpp(GroupPackageProduct defaultGpp)
- public Set<UserGroup> getUserGroups()
- public void setUserGroups(Set<UserGroup> userGroups)
- public String getAuditName()
- public boolean isSuperUser()
- public boolean isAdminUser()
- public boolean isWriteUser()
- public String getPref(UserPrefKey pref)
- public String getPref(UserPrefKey pref, Object psfx)
- public void setPref(UserPrefKey pref, Object value)
- public void setPref(UserPrefKey pref, Object psfx, Object value)
- public int hashCode()
 - Overrides: hashCode in class Object
- public boolean equals(Object object)
 - Overrides: equals in class Object
- public String toString()
 - Overrides: toString in class Object

4.32. Klase UserGroup

```
java.lang.Object
com.sets.krabis.data.model.Trackable
com.sets.krabis.data.model.UserGroup
```

```
@Entity
public class UserGroup
extends Trackable
```


Lietotāju grupa.

4.32.1. Ligzdotas klases

- static class UserGroup.Group

4.32.2. Konstruktori

- public UserGroup()

4.32.3. Metodes

- public Long getId()
- public void setId(Long id)
- public User getUser()
- public void setUser(User user)
- public UserGroup.Group getGroup()
- public void setGroup(UserGroup.Group group)
- public Set<UserGroupGpp> getUserGroupGpps()
- public void setUserGroupGpps(Set<UserGroupGpp> userGroupGpps)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object
- public String toString()
Overrides: toString in class Object

4.33. Klase UserGroupGpp²

```
java.lang.Object  
com.sets.krabis.data.model.Trackable  
com.sets.krabis.data.model.UserGroupGpp
```

```
@Entity  
public class UserGroupGpp  
extends Trackable
```

² Klases metodes izstrādātas 5.2 ietvaros.

Lietotāja piesaiste sadaļai.

4.33.1. Konstruktori

- `public UserGroupGpp()`

4.33.2. Metodes

- `public Long getId()`
- `public void setId(Long id)`
- `public UserGroup getUserGroup()`
- `public void setUserGroup(UserGroup userGroup)`
- `public GroupPackageProduct getGpp()`
- `public void setGpp(GroupPackageProduct gpp)`
- `public int hashCode()`
Overrides: hashCode in class Object
- `public boolean equals(Object object)`
Overrides: equals in class Object
- `public String toString()`
Overrides: toString in class Object

5. Pakotne: `com.sets.krabis.data.model.helper`

Pakotne satur palīgklases entītiņu satura papildināšanai.

5.1. Klase `GppRunHelper`

```
java.lang.Object  
com.sets.krabis.data.model.helper.GppRunHelper
```

```
@Named  
@ViewScoped  
public class GppRunHelper  
extends Object
```

Papildina sadaļas laidienu ar papildu datiem.

5.1.1. Ligzdototas klases

- `static class GppRunHelper.OutcomeMap`
- `static class GppRunHelper.TestStatusCountMap`

5.1.2. Konstruktori

- `public GppRunHelper()`

6. Pakotne: `com.sets.krabis.data.model.view`

Pakotne satur entītijas, kas attēlo datubāzes skatus.

6.1. Interfeiss `RecursionView<T>`

```
public interface RecursionView<T>
```

Interfeiss, kas apraksta rekursīvu skatu.

6.1.1. Metodes

- `T getChild()`
- `T getParent()`

6.2. Klase `FullGEId`

```
java.lang.Object  
com.sets.krabis.data.model.view.FullGEId
```

```
@Embeddable  
public class FullGEId  
extends Object  
implements Serializable
```

Saliktais identifikators sadaļas vides skatam.

6.2.1. Konstruktori

- `public FullGEId()`

6.2.2. Metodes

- `public Long getGppId()`
- `public void setGppId(Long gppId)`
- `public Long getEnvironmentId()`
- `public void setEnvironmentId(Long environmentId)`
- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`

6.3. Klase FullGppEnvironment

```
java.lang.Object  
com.sets.krabis.data.model.view.FullGppEnvironment
```

```
@Entity  
public class FullGppEnvironment  
extends Object  
implements Serializable
```

Sadaļas saistība ar vidi, var būt mantota no virssadaļas.

6.3.1. Konstruktori

- public FullGppEnvironment()

6.3.2. Metodes

- public FullGEId getId()
- public void setId(FullGEId id)
- public boolean isActive()
- public void setActive(boolean active)
- public Environment getEnvironment()
- public void setEnvironment(Environment environment)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object

6.4. Klase FullTestStatusGpp

```
java.lang.Object  
com.sets.krabis.data.model.view.FullTestStatusGpp
```

```
@Entity  
public class FullTestStatusGpp  
extends Object  
implements Serializable
```

Sadaļas saistība ar vidi, var būt mantota no virssadaļas.

6.4.1. Konstruktori

- public FullTestStatusGpp()

6.4.2. Metodes

- public FullTSGId getId()
- public void setId(FullTSGId id)
- public double getWeight()
- public void setWeight(double weight)
- public TestStatus getTestStatus()
- public void setTestStatus(TestStatus testStatus)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object

6.5. Klase FullTSGId

java.lang.Object
com.sets.krabis.data.model.view.FullTSGId

```
@Embeddable  
public class FullTSGId  
extends Object  
implements Serializable
```

Saliktais identifikators sadaļas testu laidien statusu skatam.

6.5.1. Konstruktori

- public FullTSGId()

6.5.2. Metodes

- public Long getGppId()
- public void setGppId(Long gppId)
- public Long getTestStatusId()
- public void setTestStatusId(Long testStatusId)

- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object

6.6. Klase FullUGGIId

```
java.lang.Object  
com.sets.krabis.data.model.view.FullUGGIId
```

```
@Embeddable  
public class FullUGGIId  
extends Object  
implements Serializable
```

Saliktais identifikators sadaļas lietotāju grupas skatam.

6.6.1. Konstruktori

- public FullUGGIId()

6.6.2. Metodes

- public Long getGppId()
- public void setGppId(Long gppId)
- public String getUsername()
- public void setUsername(String username)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object

6.7. Klase FullUserGroupGpp

```
java.lang.Object  
com.sets.krabis.data.model.view.FullUserGroupGpp
```

```
@Entity  
public class FullUserGroupGpp  
extends Object  
implements Serializable
```

Sadaļas saistība ar lietotāju grupu, var būt mantota no virssadaļas.

6.7.1. Konstruktori

- public FullUserGroupGpp()

6.7.2. Metodes

- public FullUGGId getId()
- public void setId(FullUGGId id)
- public UserGroup.Group getGroup()
- public void setGroup(UserGroup.Group group)
- public User getUser()
- public void setUser(User user)
- public GroupPackageProduct getGpp()
- public void setGpp(GroupPackageProduct gpp)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object

6.8. Klase GppParentId

java.lang.Object
com.sets.krabis.data.model.view.GppParentId

```
@Embeddable  
public class GppParentId  
extends Object  
implements Serializable
```

Saliktais identifikators sadaļas virssadaļas skatam.

6.8.1. Konstruktori

- public GppParentId()

6.8.2. Metodes

- public Long getId()
- public void setId(Long id)
- public Long getParentGppId()
- public void setParentGppId(Long parentGppId)

- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`

6.9. Klase `GppParentRunId`

```
java.lang.Object  
com.sets.krabis.data.model.view.GppParentRunId
```

```
@Embeddable  
public class GppParentRunId  
extends Object  
implements Serializable
```

Saliktais identifikators sadaļas laidiena virslaidiena skatam.

6.9.1. Konstruktori

- `public GppParentRunId()`

6.9.2. Metodes

- `public Long getId()`
- `public void setId(Long id)`
- `public Long getParentGppRunId()`
- `public void setParentGppRunId(Long parentGppRunId)`
- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`

6.10. Klase `GppParents`

```
java.lang.Object  
com.sets.krabis.data.model.view.GppParents
```

```
@Entity  
public class GppParents  
extends Object  
implements RecursionView<GroupPackageProduct>, Serializable
```

Sadaļas saistība ar virssadaļu, var būt mantota no virssadaļas.

6.10.1. Konstruktori

- public GppParents()

6.10.2. Metodes

- public GppParentId getId()
- public void setId(GppParentId id)
- public GroupPackageProduct getChild() Specified by: getChild in interface RecursionView<GroupPackageProduct>
- public void setChild(GroupPackageProduct child)
- public GroupPackageProduct getParent() Specified by: getParent in interface RecursionView<GroupPackageProduct>
- public void setParent(GroupPackageProduct parent)
- public int hashCode()
Overrides: hashCode in class Object
- public boolean equals(Object object)
Overrides: equals in class Object

6.11. Klase GppRunParents

java.lang.Object
com.sets.krabis.data.model.view.GppRunParents

```
@Entity  
public class GppRunParents  
extends Object  
implements RecursionView<GppRun>, Serializable
```

Sadaļas laidiena saistība ar virslaidienu, var būt mantota no virslaidiena.

6.11.1. Konstruktori

- public GppRunParents()

6.11.2. Metodes

- public GppParentRunId getId()
- public void setId(GppParentRunId id)
- public GppRun getChild() Specified by: getChild in interface RecursionView<GppRun>
- public void setChild(GppRun child)

Programmatūras izstrādes rezultātu apstrādes un interpretācijas tehnoloģija

- `public GppRun getParent()` Specified by: `getParent` in interface `RecursionView<GppRun>`
- `public void setParent(GppRun parent)`
- `public int hashCode()`
Overrides: `hashCode` in class `Object`
- `public boolean equals(Object object)`
Overrides: `equals` in class `Object`

7. Pakotne: `com.sets.krabis.enums`

Pakotne satur dažādus enumeratorus.

7.1. Enumerators `ComparisonOperator`

```
java.lang.Object  
java.lang.Enum<ComparisonOperator>  
com.sets.krabis.enums.ComparisonOperator
```

```
public enum ComparisonOperator  
extends Enum<ComparisonOperator>
```

Salīdzināšanas operatori filtriem.

7.1.1. Uzskaitījuma konstantes

- `public static final ComparisonOperator EQ`
- `public static final ComparisonOperator GE`
- `public static final ComparisonOperator GT`
- `public static final ComparisonOperator LE`
- `public static final ComparisonOperator LT`

7.1.2. Metodes

- `public static ComparisonOperator valueOf(String name)`
Returns the enum constant of this type with the specified name.
- `public static ComparisonOperator[] values()`
Returns an array containing the constants of this enum type, in the order they are declared.

7.2. Enumerators `GppPropKey`

```
java.lang.Object  
java.lang.Enum<GppPropKey>  
com.sets.krabis.enums.GppPropKey
```

```
public enum GppPropKey  
extends Enum<GppPropKey>
```

Sadaļu īpašības.

7.2.1. Uzskaitījuma konstantes

- `public static final GppPropKey audit_attribute`

7.2.2. Metodes

- `public static GppPropKey valueOf(String name)`
Returns the enum constant of this type with the specified name.
- `public static GppPropKey[] values()`
Returns an array containing the constants of this enum type, in the order they are declared.

7.3. Enumerators LogMessageKey

```
java.lang.Object  
java.lang.Enum<LogMessageKey >  
com.sets.krabis.enums.LogMessageKey
```

```
public enum LogMessageKey  
extends Enum<LogMessageKey >
```

Audita žurnāla ierakstu parametri.

7.3.1. Uzskaitījuma konstantes

- `public static final LogMessageKey ref_user`
- `public static final LogMessageKey logObject`
- `public static final LogMessageKey key`
- `public static final LogMessageKey value`
- `public static final LogMessageKey id`
- `public static final LogMessageKey code`
- `public static final LogMessageKey name`
- `public static final LogMessageKey type`
- `public static final LogMessageKey status`
- `public static final LogMessageKey active`
- `public static final LogMessageKey weight`
- `public static final LogMessageKey description`
- `public static final LogMessageKey firstName`
- `public static final LogMessageKey lastName`
- `public static final LogMessageKey email`
- `public static final LogMessageKey url`
- `public static final LogMessageKey ref_BugTrackingSystem`

- public static final LogMessageKey ref_Component
- public static final LogMessageKey ref_GppType
- public static final LogMessageKey ref_IssueStatus
- public static final LogMessageKey ref_EnvironmentProperty
- public static final LogMessageKey ref_EnvironmentPropertyType
- public static final LogMessageKey ref_EventType
- public static final LogMessageKey ref_OutcomeDescription
- public static final LogMessageKey ref_TestStatus

7.3.2. Metodes

- public static LogMessageKey valueOf(String name)
Returns the enum constant of this type with the specified name.
- public static LogMessageKey[] values()
Returns an array containing the constants of this enum type, in the order they are declared.

7.4. Enumerators LogMessageType

```
java.lang.Object  
java.lang.Enum<LogMessageType>  
com.sets.krabis.enums.LogMessageType
```

```
public enum LogMessageType  
extends Enum<LogMessageType>
```

Audita žurnāla ierakstu veidi.

7.4.1. Uzskaitījuma konstantes

- public static final LogMessageType user_add
- public static final LogMessageType user_upd
- public static final LogMessageType user_del
- public static final LogMessageType user_invite
- public static final LogMessageType user_login
- public static final LogMessageType user_logout
- public static final LogMessageType plugin_add
- public static final LogMessageType plugin_read_XMLFile
- public static final LogMessageType plugin_error
- public static final LogMessageType scheduler_start
- public static final LogMessageType scheduler_error

7.4.2. Metodes

- public static LogMessageType valueOf(String name)
Returns the enum constant of this type with the specified name.
- public static LogMessageType[] values()
Returns an array containing the constants of this enum type, in the order they are declared.

7.5. Enumerators LogObject

```
java.lang.Object  
java.lang.Enum<LogObject>  
com.sets.krabis.enums.LogObject
```

```
public enum LogObject  
extends Enum<LogObject>
```

Auditējamo objektu veidi.

7.5.1. Uzskaitījuma konstantes

- public static final LogObject undefined
- public static final LogObject User
- public static final LogObject Contact
- public static final LogObject UserGroupGpp
- public static final LogObject UserGroup
- public static final LogObject GroupPackageProduct
- public static final LogObject GppType
- public static final LogObject Component
- public static final LogObject Environment
- public static final LogObject EnvironmentProperty
- public static final LogObject EnvironmentPropertyType
- public static final LogObject GppEnvironment
- public static final LogObject Test
- public static final LogObject TestDependency
- public static final LogObject TestGpp
- public static final LogObject OutcomeDescription
- public static final LogObject TestStatus
- public static final LogObject TestStatusGpp
- public static final LogObject Build
- public static final LogObject TestRun

- public static final LogObject TestRunOutcome
- public static final LogObject GppRun
- public static final LogObject GppRunOutcome
- public static final LogObject GppStatusCount
- public static final LogObject Notification
- public static final LogObject NotificOutDescrCond
- public static final LogObject NotificStatusCountCond
- public static final LogObject BugTrackingSystem
- public static final LogObject Issues
- public static final LogObject IssueStatus
- public static final LogObject Event
- public static final LogObject EventType

7.5.2. Metodes

- public static LogObject valueOf(String name)
Returns the enum constant of this type with the specified name.
- public static LogObject[] values()
Returns an array containing the constants of this enum type, in the order they are declared.

7.6. Enumerators TimePeriod

```
java.lang.Object  
java.lang.Enum<TimePeriod>  
com.sets.krabis.enums.TimePeriod
```

```
public enum TimePeriod  
extends Enum<TimePeriod>
```

Laika uzstādījumi.

7.6.1. Uzskaitījuma konstantes

- public static final TimePeriod Day
- public static final TimePeriod Week
- public static final TimePeriod Month
- public static final TimePeriod Year

7.6.2. Metodes

- `public static TimePeriod valueOf(String name)`
Returns the enum constant of this type with the specified name.
- `public static TimePeriod[] values()`
Returns an array containing the constants of this enum type, in the order they are declared.

7.7. Enumerators UserPrefKey

```
java.lang.Object  
java.lang.Enum<UserPrefKey>  
com.sets.krabis.enums.UserPrefKey
```

```
public enum UserPrefKey  
extends Enum<UserPrefKey>
```

Lietotāja uzstādījumu veidi.

7.7.1. Uzskaitījuma konstantes

- `public static final LogObject lang`
- `public static final LogObject gadget`

7.7.2. Metodes

- `public static UserPrefKey valueOf(String name)`
Returns the enum constant of this type with the specified name.
- `public static UserPrefKey[] values()`
Returns an array containing the constants of this enum type, in the order they are declared.

8. Pakotne: com.sets.krabis.metamodel

Pakotne satur entītijas attēlojuma visparīgo modeli.

8.1. Klase ColumnFilter

```
java.lang.Object
com.sets.krabis.data.model.view.ColumnFilter

public class ColumnFilter
extends Object
implements Comparable<ColumnFilter>, Serializable
```

Klase apraksta entītijas lauka filtra attēlošanu.

8.1.1. Ligzdototas klases

- static class ColumnFilter.CondOp

8.1.2. Konstruktori

- public ColumnFilter()

8.1.3. Metodes

- public DisplayColumn.FilterMode getMode()
- public void setMode(DisplayColumn.FilterMode mode)
- public String getGroup()
- public void setGroup(String group)
- public Class getRecursionClass()
- public void setRecursionClass(Class recursionClass)
- public ColumnFilter.CondOp getOp()
- public void setOp(ColumnFilter.CondOp op)
- public void setDefaultOp(Class type)
- public int compareTo(ColumnFilter o)
Specified by: compareTo in interface Comparable<ColumnFilter>

8.2. Klase ColumnModel

```
java.lang.Object  
com.sets.krabis.data.model.view.ColumnModel
```

```
public class ColumnModel  
extends Object  
implements Comparable<ColumnModel>, Serializable
```

Klase apraksta entītijas lauka attēlošanu tabulas kolonnās.

8.2.1. Konstruktori

- public ColumnModel(String property)
- public ColumnModel(String property, String subProperty, String name)
- public ColumnModel(String property, String subProperty, String name, boolean visible)

8.2.2. Metodes

- public String getWidth()
- public void setWidth(String width)
- public String getProperty()
- public void setProperty(String property)
- public String getSubProperty()
- public void setSubProperty(String subProperty)
- public int getPosition()
- public void setPosition(int position)
- public boolean isInTable()
- public void setInTable(boolean inTable)
- public boolean isEdit()
- public void setEdit(boolean edit)
- public String getDropDownClass()
- public void setDropDownClass(String dropDownClass)
- public boolean isHasFilter()
- public ColumnFilter getFilter()
- public void setFilter(ColumnFilter filter)
- public javax.persistence.TemporalType getTempType()
- public void setTempType(javax.persistence.TemporalType tempType)
- public boolean isVisible()
- public void setVisible(boolean visible)

- public String getName()
- public void setName(String name)
- public int compareTo(ColumnModel o)
Specified by: compareTo in interface Comparable<ColumnModel>

8.3. Klase TableModel

java.lang.Object
com.sets.krabis.data.model.view.TableModel

```
public class TableModel  
extends Object
```

Klase apraksta entītijas attēlošanu tabulā.

8.3.1. Konstruktori

- public TableModel()

8.3.2. Metodes

- public String getWidth()
- public void setWidth(String width)
- public int getEditColumns()
- public void setEditColumns(int editColumns)

8.4. Anotācija Classifier

```
@IndexAnnotated  
@Retention(value=RUNTIME)  
@Target(value=TYPE)  
public @interface Classifier
```

Pazīme, ka entīcija ir klasifikators.

8.5. Anotācija DefaultSortColumn

```
@Target(value=FIELD)  
@Retention(value=RUNTIME)  
public @interface DefaultSortColumn
```


Pazīme, ka tabula sākotnēji jākārtoti pēc anotētā lauka vērtībām.

8.6. Anotācija DisplayColumn

```
@Target(value={METHOD,FIELD})  
@Retention(value=RUNTIME)  
@Repeatable(value=DisplayColumns.class)  
public @interface DisplayColumn
```

Anotētā lauka attēlošanas parametri.

8.6.1. Neobligātie elementi

- public abstract DisplayColumn.Presentation presentation
Default: com.sets.krabis.metamodel.DisplayColumn.Presentation.Full
- public abstract String width
Default: ""
- public abstract int position
Default: -1
- public abstract String property
Default: ""
- public abstract DisplayColumn.EditMode editMode
Default: com.sets.krabis.metamodel.DisplayColumn.EditMode.Default
- public abstract DisplayColumn.FilterMode filterMode
Default: com.sets.krabis.metamodel.DisplayColumn.FilterMode.None
- public abstract boolean recursive
Default: false
- public abstract String filterGroup
Default: ""

8.7. Anotācija DisplayColumns

```
@Target(value={METHOD,FIELD})  
@Retention(value=RUNTIME)  
public @interface DisplayColumns
```

Pieļauj viena lauka attēlošanu vairākas kolonnās.

8.7.1. Obligātie elementi

- public abstract DisplayColumn[] value

8.8. Anotācija DisplayTable

```
@Target(value=TYPE)
@Retention(value=RUNTIME)
public @interface DisplayTable
```

Anotētās klases attēlošanas parametri.

8.8.1. Neobligātie elementi

- public abstract String width
Default: ""
- public abstract int editColumns
Default: 1

8.9. Anotācija GlobalGppFilter

```
@Target(value={METHOD,FIELD})
@Retention(value=RUNTIME)
public @interface GlobalGppFilter
```

Norāda, ka entīcija piesaistīta lietotāja tiesībam caur testa sadaļu.

8.9.1. Neobligātie elementi

- public abstract boolean indirect
Default: false

8.10. Anotācija Recursive

```
@Target(value=TYPE)
@Retention(value=RUNTIME)
public @interface Recursive
```

Norāda ka entīcija atsaucas pati uz sevi.

8.10.1. Obligātie elementi

- public abstract Class<? extends RecursionView> recursionView

9. Pakotne: com.sets.krabis.util

Pakotnē apkopotas dažāda veida palīgklases.

9.1. Klase EntityHelper

```
java.lang.Object  
com.sets.krabis.util.EntityHelper
```

```
public class EntityHelper  
extends Object
```

Klase satur dažādas entītiņu palīgfunkcijas.

9.1.1. Lauki

- public static final String modelPackage

9.1.2. Konstruktori

- public EntityHelper()

9.1.3. Metodes

- public static Map<String,String> getLogParams(Object value)
- public static TableModel getTableModel(Class type)
- public static String getDefaultSort(Class type)
- public static List<ColumnModel> getColumns(Class type)
- public static Class getPropertyType(Class type, String prop)
- public static String getPropertyByType(Class type, String propType)
- public static int sortSpecial(Object s1, Object s2)
- public static Class getIdType(Class type)
- public static Object getId(Class type, Object entity)

9.2. Klase EZMap<T>

```
java.lang.Object  
com.sets.krabis.util.EZMap<T>
```

```
public class EZMap<T>  
extends Object
```

Rīks, kas ļauj veidot Map literāļus.

9.2.1. Metodes

- public static <R> Map<String,R> hashMap(Function<Object,R>... entries)
- public static <R> Map<String,R> treeMap(Function<Object,R>... entries)

9.3. Klase NaturalOrdering

```
java.lang.Object  
com.sets.krabis.util.NaturalOrdering
```

```
public class NaturalOrdering  
extends Object  
implements org.eclipse.persistence.config.DescriptorCustomizer
```

Nodrosina daubāzes lauku veidošanu no entītijas noteiktā kārtībā.

9.3.1. Konstruktori

- public NaturalOrdering()

9.3.2. Metodes

- public void customize(org.eclipse.persistence.descriptors.ClassDescriptor descriptor) throws Exception
Specified by: customize in interface
org.eclipse.persistence.config.DescriptorCustomizer
Throws: Exception

9.4. Klase SpecialComparator

```
java.lang.Object  
com.sets.krabis.util.SpecialComparator
```

```
public class SpecialComparator  
extends Object  
implements Comparator<Object>
```

Nodrošina valodas atkarīgu tekstu kārtošānu pēc alfabeta.

9.4.1. Konstruktori

- public SpecialComparator()

9.4.2. Metodes

- public int compare(Object o1, Object o2)
Specified by: compare in interface Comparator<Object>

9.5. Klase TrackableListener

java.lang.Object
com.sets.krabis.util.TrackableListener

```
public class TrackableListener  
extends Object
```

Nodrošina izmaiņu monitorēšanu entītijās.

9.5.1. Konstruktori

- public TrackableListener()

9.6. Klase Utils

java.lang.Object
com.sets.krabis.util.Utils

```
public class Utils  
extends Object
```

Dažādas palīgfunkcijas.

9.6.1. Konstruktori

- public Utils()

9.6.2. Metodes

- public static <T extends Comparable<? super T>> T max(T a, T b)
- public static <T extends Comparable<? super T>> T min(T a, T b)
- public static javax.enterprise.inject.spi.BeanManager getBeanManager()

9.7. Anotācija AppProp

```
@Qualifier  
@Retention(value=RUNTIME)  
@Target(value={FIELD,PARAMETER,METHOD,TYPE})  
public @interface AppProp
```

Kvalifikators aplikācijas parametriem.

9.7.1. Obligātie elementi

- public abstract AppProp.Key value

9.8. Anotācija UserProp

```
@Qualifier  
@Retention(value=RUNTIME)  
@Target(value={FIELD,PARAMETER,METHOD,TYPE})  
public @interface UserProp
```

Kvalifikators lietotāja parametriem.

9.8.1. Obligātie elementi

- public abstract UserProp.Key value

10. Pakotne: com.sets.krabis.service

Pakotne satur datu manipulācijas servisu klases. Visi servisi ir nedefinēti kā Stateless EJB, kas nodrošina transakciju vadību. Servisu metodes izsauc no lietotāju saskarnes kontrolleriem vai citiem servisiem.

10.1. Klase AuditService

```
java.lang.Object  
com.sets.krabis.service.AuditService
```

```
public class Class  
extends AuditService
```

Žurnāla ierakstu apstrādes serviss ieraksta, nolasa, atfiltrē un saformatē žurnāla ierakstus.

10.1.1. Konstruktori

- public AuditService()

10.1.2. Metodes

- public void addLog(com.sets.krabis.data.model.Log auditLog)
- public void addUserAudit(com.sets.krabis.data.model.Log auditLog)
- public void addUserAudit(com.sets.krabis.enums.LogMessageType logMessageType, Object obj)
- public List<com.sets.krabis.data.dto.AuditLogEntry> readLogs(com.sets.krabis.data.dto.AuditLogOptions options)

10.2. Klase DeleteResultService

```
java.lang.Object  
com.sets.krabis.service.DeleteResultService
```

```
public class DeleteResultService  
extends Object
```

Serviss nodrošina datu dzēšanu atbilstoši sistēmā nedefinētajiem uzstādījumiem.

10.2.1. Konstruktori

- public DeleteResultService()

10.2.2. Metodes

- public void deleteResult()

10.3. KlaseEntityHelperService

```
java.lang.Object  
com.sets.krabis.service.EntityHelperService
```

```
public class EntityHelperService  
extends Object
```

Datu lasīšanas serviss, kas nodrošina lietotājam piesaistīto datu filtrāciju.

10.3.1. Lauki

- @Inject
protected com.sets.krabis.util.SpecialComparator sc

10.3.2. Konstruktori

- public EntityHelperService()

10.3.3. Metodes

- public <T> List<T> list(Class<T> clazz, String orderBy)
- public <F> List<F> listField(Class<?> clazz, String field)
- public <T> List<T> listByFilter(Class<T> clazz,
List<com.sets.krabis.metamodel.ColumnModel> filterFields,
Map<String, Object> filter, Map<String, Boolean> filterRecurseFlag,
Map<String, Object> depFilter, String orderBy)
- public javax.persistence.criteria.Predicate globalFilter(Class<?> clazz,
javax.persistence.criteria.CriteriaBuilder cb, javax.persistence.criteria.Predicate
exPred, javax.persistence.criteria.From from)

10.4. KlaseEnvironmentService

```
java.lang.Object  
com.sets.krabis.service.EnvironmentService
```

```
public class EnvironmentService  
extends Object
```

Serviss lasa testa un būvēšanas vides un to parametrus.

10.4.1. Konstruktori

- public EnvironmentService()

10.4.2. Metodes

- public List<com.sets.krabis.data.model.view.FullGppEnvironment>
readGPPActiveEnvironments(com.sets.krabis.data.model.GroupPackageProduct
gpp)
- public List<com.sets.krabis.data.model.EnvironmentProperty>
readGPPActiveEnvProps(com.sets.krabis.data.model.GroupPackageProduct gpp)

10.5. KlaseGenericService

```
java.lang.Object  
com.sets.krabis.service.GenericService
```

```
public class GenericService  
extends Object
```

Serviss nodrošina vispārīgās datu manipulācijas darbības.

10.5.1. Lauki

- protected com.sets.krabis.util.SpecialComparator sc

10.5.2. Konstruktori

- public GenericService()

10.5.3. Metodes

- public void addAndLogUserAudit(Object obj)
- public void deleteAndLogUserAudit(Object obj)
- public <T> T updateAndLogUserAudit(T obj)
- public void add(Object obj)
- public void delete(Object obj)
- public <T> T update(T obj)
- public <T> List<T> list(Class<T> clazz)
- public <T> List<T> list(Class<T> clazz,
javax.persistence.metamodel.SingularAttribute<T,?> orderBy)
- public <T> List<T> list(Class<T> clazz, String orderBy)
- public <F> List<F> listField(Class<?> clazz, String field)

- `public <T> T findById(Class<T> clazz, Object id)`
- `public <T,F> List<T> listByFldArray(Class<T> clazz, javax.persistence.metamodel.SingularAttribute<T,F> field, F[] vals)`
- `public <T> List<T> findByField(Class<T> clazz, javax.persistence.metamodel.SingularAttribute<T,?> field, Object value)`
- `public <T> List<T> findByField(Class<T> clazz, String field, Object value)`
- `public <T> T findByUniqueField(Class<T> clazz, String field, Object value)`
- `public <T> T findByUniqueField(Class<T> clazz, javax.persistence.metamodel.SingularAttribute<T,?> field, Object value)`
- `public <T> boolean existsByField(Class<T> clazz, String field, String id, Object value)`

10.6. Klase GPPRunService³

```
java.lang.Object  
com.sets.krabis.service.GPPRunService
```

```
public class GPPRunService  
extends Object
```

Serviss lasa un filtrē sadaļu laidienus un ar tiem saistītos datus.

10.6.1. Konstruktori

- `public GPPRunService()`

10.6.2. Metodes

- `public com.sets.krabis.data.model.GppRun readLastGppRun(com.sets.krabis.data.model.GroupPackageProduct gpp)`
- `public List<com.sets.krabis.data.model.GppRun> readLastNGppRuns(com.sets.krabis.data.model.GroupPackageProduct gpp, int cnt)`
- `public com.sets.krabis.data.model.GppRun readLastGppRun(com.sets.krabis.data.model.GroupPackageProduct gpp, com.sets.krabis.data.model.Environment env)`

³ Daļa servisa izstrādāta 5.2 ietvaros.

- `public List<com.sets.krabis.data.model.GppRun>
readLastNGppRuns(com.sets.krabis.data.model.GroupPackageProduct gpp,
com.sets.krabis.data.model.Environment env, int cnt)`
- `public List<com.sets.krabis.data.model.GppRun>
readLastNGppRuns(com.sets.krabis.data.model.GroupPackageProduct gpp,
Long[] envPropIds, int cnt)`
- `public List<com.sets.krabis.data.model.GppRun>
readLastNBenchmarkedGppRuns(com.sets.krabis.data.model.GroupPackageProduct gpp, int cnt)`
- `public List<com.sets.krabis.data.model.GppRun>
readLastGppRunsAllEnv(com.sets.krabis.data.model.GroupPackageProduct gpp)`
- `public List<com.sets.krabis.data.model.GppRun>
readGppRuns(List<com.sets.krabis.data.model.GroupPackageProduct> gpp)`
- `public List<com.sets.krabis.data.model.GppRun>
readLastBuildGppRuns(List<com.sets.krabis.data.model.GroupPackageProduct> gpp)`
- `public List<com.sets.krabis.data.model.GppRun>
read2LastBuildGppRuns(List<com.sets.krabis.data.model.GroupPackageProduct> gpp)`
- `public List<com.sets.krabis.data.model.GppRun>
readLastButOneBuildGppRuns(List<com.sets.krabis.data.model.GroupPackageProduct> gpp)`
- `public List<com.sets.krabis.data.model.GppRun>
readLastBenchmarkGppRuns(com.sets.krabis.data.model.GroupPackageProduct gpp)`
- `public List<String> readBenchmarks(Long[] gppIds)`

10.7. KlaseGPPService⁴

```
java.lang.Object  
com.sets.krabis.service.GPPService
```

```
public class GPPService  
extends Object
```

Serviss lasa sadaļas un ar tām saistītos datus.

⁴ Daļa servisa izstrādāta 5.2 ietvaros.

10.7.1. Konstruktori

- public GPPService()

10.7.2. Metodes

- public List<com.sets.krabis.data.model.GroupPackageProduct> readGPPs(com.sets.krabis.data.model.User user)
- public List<Long> readVisibleGppIds(com.sets.krabis.data.model.User user)
- public Map<com.sets.krabis.data.model.GroupPackageProduct, com.sets.krabis.data.model.UserGroup.Group> getUserGppRightsMap(com.sets.krabis.data.model.User user)

10.8. KlaseImportService⁵

```
java.lang.Object  
com.sets.krabis.service.ImportService
```

```
public class ImportService  
extends Object
```

MS Excel importa spraudņa serviss.

10.8.1. Konstruktori

- public ImportService()

10.8.2. Metodes

- public List<com.sets.krabis.data.model.Log> checkImportFile(InputStream is)
- public void importBuidsAndRuns(InputStream is, boolean addArtifacts) throws ImportException
Throws: ImportException

10.9. KlaseMailService

```
java.lang.Object  
com.sets.krabis.service.MailService
```

⁵ Serviss izstrādāts 1.6 ietvaros


```
public class MailService
extends Object
```

E-pasta vēstuļu sūtīšanas serviss.

10.9.1. Konstruktori

- public MailService()

10.9.2. Metodes

- public void sendUserInvitation(String addressTo, String uuid)

10.10. Klase SchedulerDeleteService

```
java.lang.Object
com.sets.krabis.service.SchedulerDeleteService
```

```
public class SchedulerDeleteService
extends Object
```

Datu dzēšanas plānotāja serviss.

10.10.1. Konstruktori

- public SchedulerDeleteService()

10.10.2. Metodes

- public void processDeleteResult()

10.11. Klase TestStatusService

```
java.lang.Object
com.sets.krabis.service.TestStatusService
```

```
public class TestStatusService
extends Object
```

Testa laidieņu statusu lasīšanas serviss.

10.11.1. Konstruktori

- public TestStatusService()

10.11.2. Metodes

- `public List<com.sets.krabis.data.model.view.FullTestStatusGpp>
readTestStatusGPPs(com.sets.krabis.data.model.GroupPackageProduct gpp)`

10.12. KlaseUserService⁶

```
java.lang.Object  
com.sets.krabis.service.UserService
```

```
public class UserService  
extends Object
```

Serviss nodrošina lietotāju un to piesaistes datu objektiem pārvaldību.

10.12.1. Konstruktori

- `public UserService()`

10.12.2. Metodes

- `public List<com.sets.krabis.data.model.User>
listInvites(com.sets.krabis.data.model.User admin)`
- `public List<com.sets.krabis.data.model.User>
listAdministrableUsers(com.sets.krabis.data.model.User admin)`
- `public List<com.sets.krabis.data.model.User>
readPendingUsers(com.sets.krabis.data.model.User admin, long gppId, int
olderThan)`
- `public com.sets.krabis.data.model.User createUser(String email, boolean
superuser, Map<com.sets.krabis.data.model.GroupPackageProduct,
com.sets.krabis.data.model.UserGroup.Group> rights)`
- `public void updateRights(com.sets.krabis.data.model.User editUser, boolean
superuser, Map<com.sets.krabis.data.model.GroupPackageProduct,
com.sets.krabis.data.model.UserGroup.Group> rights)`
- `public com.sets.krabis.data.model.User
mergeUsers(com.sets.krabis.data.model.User oldUser,
com.sets.krabis.data.model.User newUser)`

⁶ Serviss izstrādāts 5.2 ietvaros.

11. Pakotne: com.sets.krabis.service.exception

Pakotne satur īpašus izņēmumus, kas var rasties darbinot servisu.

11.1. Izņēmums ImportErrorException

```
java.lang.Object  
java.lang.Throwable  
java.lang.Exception  
com.sets.krabis.service.exception.LoggableException  
com.sets.krabis.service.exception.ImportException
```

```
public class ImportException  
extends LoggableException
```

Izņēmums, kas var rasties MS Excel importa procesā.

11.1.1. Ligzdototas klases

- static class ImportException.Code

11.1.2. Konstruktori

- public ImportException()
- public ImportException(ImportException.Code code, Map params)
- public ImportException(com.sets.krabis.data.model.Log logEntry)

11.1.3. Metodes

- public ImportException.Code getCode()
- public void setCode(ImportException.Code code)

11.2. Izņēmums LoggableException

```
java.lang.Object  
java.lang.Throwable  
java.lang.Exception  
com.sets.krabis.service.exception.LoggableException
```

```
public class LoggableException  
extends Exception
```

Izņēmums, kas jāieraksta audita žurnālā.

11.2.1. Konstruktori

- `public LoggableException()`
- `public LoggableException(com.sets.krabis.enums.LogMessageType type, Map params)`
- `public LoggableException(com.sets.krabis.data.model.Log logEntry)`

11.2.2. Metodes

- `public String getMessage()`
Overrides: `getMessage` in class `Throwable`

12. Rezultāti

Aktivitātes ietvaros ir izstrādāts aplikāciju serveris un tā komponentes.