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VTAS - Vehicle Testing Analyzing System

Foreword



Welcome to the team Phoenix!

This Confluence Space is the central knowledge management of VTAS.

This space is *from* VTAS members *for* VTAS members. Feel free to explore the area. If you miss content please go ahead and create it.

The space contains different sections where each section serves different purposes:

- **Agile Overview:** Information about the **agile** approach in general and further description of events according to SCRUM
- **Business Overview:** General **business** related information about VTAS
- **FAQ:** Frequently asked **questions** divided into business and technical sections
- **Infrastructure** contains information about our **environments** (servers and databases) as well as our **CI Pipeline**.
- **Meetings and Reports** yields **MOM** and various reports
- **Onboarding** is the area for new team members. Also divided into **business** and **technical**.
- **Organizational:** Organizational things regarding the team (Orgchart, personal details and leave calendar).
- **Processes and Definitions:** Definitions of **terms** and **processes**.
- **Technical interfaces** provides a quick overview of interfaces linked to VTAS and their usage.
- **Technical overview** provides and overview about **technical guidelines** and **description of tools**.
- **Working documents:** Documents which are **work in progress**.
- **Document templates:** Templates for all kinds of documents (technical / functional) used in VTAS

Important Links

[VTAS Blog](#)

Search this documentation

- meeting-notes
- retrospective
- container
- docker
- intellij
- jira
- tools
- backlog
- junit
- microservices

Featured Pages

Content by label

There is no content with the specified labels

Popular Topics

Recently Updated Pages

- 2.4.2.7 Dialog "Change mapping for plants to be sent to third parties" about 6 hours ago • updated by Laura Hornung • [view change](#)
- 2.4.2.6 Dialog "Administratate sensor/plant mapping" about 6 hours ago • updated by Laura Hornung • [view change](#)
- 2.4.2.5 Dialog "Change Log Levels" about 6 hours ago • updated by Laura Hornung • [view change](#)
- 2.4.2.4 Dialog "View UI labels in different languages" about 6 hours ago • updated by Laura Hornung • [view change](#)
- 2.4.2.3 Dialog "View values for prefilled category fields" about 6 hours ago • updated by Laura Hornung • [view change](#)

Agile Overview

This overview is meant to explain the agile way of working in VTAS.

This information mostly was also agreed on with the customer.

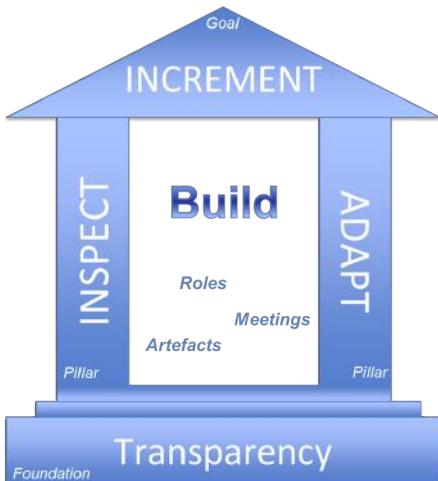
- Agile Introduction
- User stories
- Backlog Estimation

Agile Introduction

- 1 House of Scrum
- 2 The Scrum Framework
- 3 The Scrum process for VTAS
 - 3.1 Filling the Product Backlog
 - 3.2 Refining the Product Backlog
 - 3.3 Definition of Ready
 - 3.4 Grooming and Estimation
 - 3.5 Backlog Estimation and planning poker
 - 3.6 Sprint Planning I
 - 3.7 Sprint Planning II
 - 3.8 Checklist: Ready for the Sprint
 - 3.9 Meeting/Activity structure
 - 3.10 Customer approval of sprint deliverables
 - 3.11 Definition of Done
- Additional information

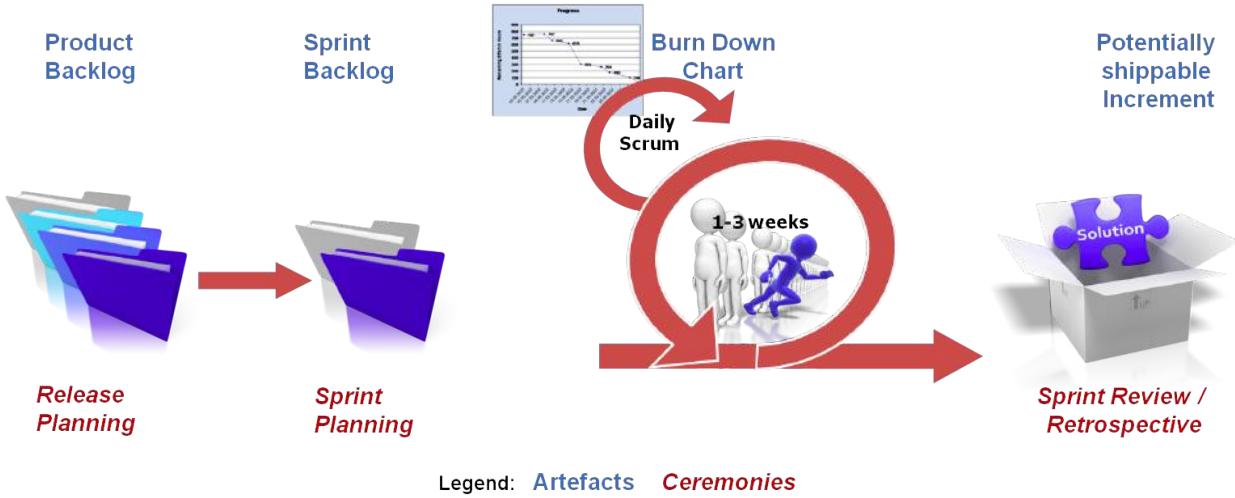
1 House of Scrum

The whole concept of Scrum is based on transparency. So it is absolutely essential that the information and its flow is as transparent as possible. This implies not only the communication within the Scrum team but also the communication with the customer. It allows each and every participant to establish the same understanding of all information. Keeping that in mind we have the two pillars representing the inspection and adaptation. A frequently processed inspection of the artifacts allows to detect variances that do not fit the sprint goal. If this is the case, the adaptation must take place to adjust them as soon as possible, so that further deviation is reduced. The output of the adaptation is a new increment.



2 The Scrum Framework

- The product backlog is a (ordered) list of everything that is needed in the product. It also is the single source of requirements for any changes to be made to the product and is created during the release planning.
- The sprint backlog is a collection of items selected from the product backlog, which is also ordered. In addition a plan on how and what to deliver is provided here and is created during the sprint planning.
- In general a sprint takes 1 to 3 weeks. This is the moment where the team creates the increment by realizing all the items that were put into the sprint backlog.
- During the sprint a daily scrum meeting is held for synchronization of activities and creation of a plan for the next 24 hours.
- After the sprint there is a sprint review and a sprint retrospective. The sprint review is for inspecting and delivering the created increment. The sprint retrospective is to improve the Scrum teams way of working for the upcoming sprints.



Scrum knows no phases, only **Sprints** **3 weeks for VTAS**

- Continuous Backlog Refinement
- Sprint Planning
- Sprint (Daily Scrum, Accomplish 'Definition of Done')
- Sprint Review (Deliver Potentially Shippable Increment)
- Sprint Retrospective

Sprints best have consistent development effort

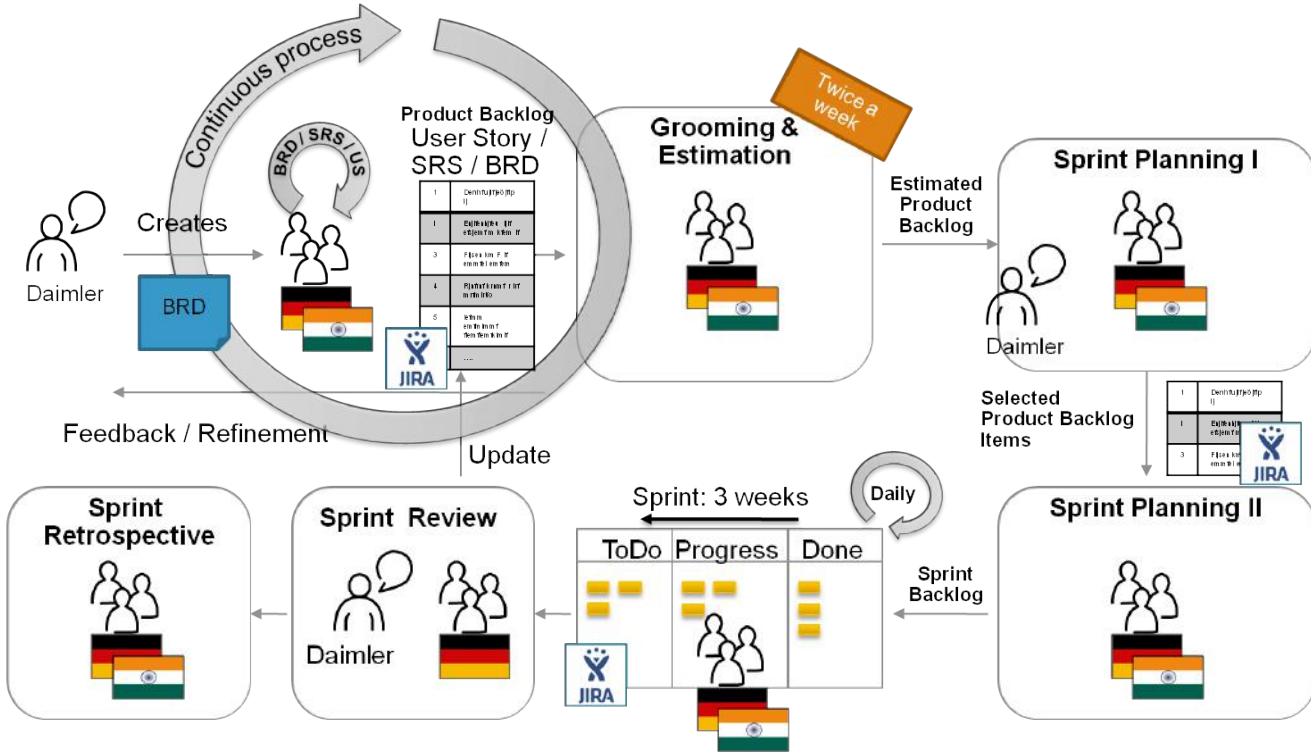
Sprints may be canceled



3 The Scrum process for VTAS

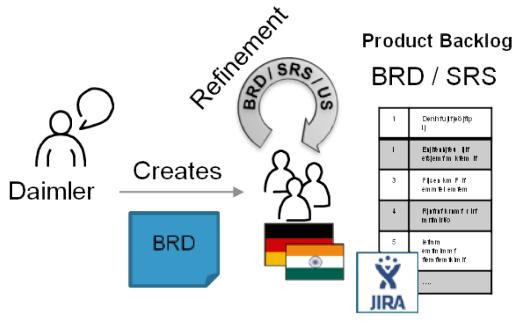
The first step (upper left corner) is the creation of the product backlog with its ordered items (user stories). Those user stories will be prepared during the Grooming and estimated (amount of work) during the Estimation. After that the estimated product backlog will go to the Sprint Planning I where decisions are made of which user stories will go into the first sprints - so the first part of Sprint Backlog creation takes place here. During Sprint Planning II the team creates the final Sprint Backlog at least for the first sprint.

At this point the first sprint takes place (containing a daily scrum) where the first increment will be created. After the end of the first sprint the Sprint Review will be held to inspect and/or deliver the increment. In the same time the Sprint Retrospective will occur for inspection and improvement of the way the team will work in the next sprint. Then the whole process starts from the beginning again but with the second sprint and a new increment.



3.1 Filling the Product Backlog

Filling the product backlog is done by the whole scrum team including the customer. The customer decides on what requirements are needed. Then the Scrum team refines those information by creating estimated user stories (the product backlog) within an iterative process.



Party	Role(s)	Activity
Daimler	Product Owner	Create BRD
Capgemini	SME, BA	Refine BRD, write therefore if needed a SRS document or other specification artifacts
Capgemini	SME, Developer team	Divide BRD in suitable work packages (WP) and estimate these
Capgemini	Product Owner Proxy	Takeover responsibility for the backlog entries and act as proxy between developer team and customer (product owner)

To avoid idle cycles and workflow stuck the backlog should be deep enough, i.e. contain work for multiple sprints. Customer (product owner) has to assure this depth of product backlog.

Best practice is to have User Stories ready for the next 3 Sprints

Product backlog is accessible for all parties and all roles at any time

3.2 Refining the Product Backlog

Best Practice:

- Product Owner with the Development Team
- Refine highest-ordered Product Backlog Items
- Granularize and re-estimate stories for 3 Sprints
- Adding, changing, deleting of Product Backlog Items



3.3 Definition of Ready

See [Definition of Ready](#).

3.4 Grooming and Estimation

The Grooming is where all the BA's will prepare the user stories until they are ready for estimation. During the estimation, where the BA's and the developers are participating, the BA's present the user stories which were prepared within the Grooming to the developers. The developers then are able to estimate the user stories. If this somehow is not possible, the concerned user story will go back to analysis state and will be refined during the Grooming again.



Party	Role(s)	Activity
Capgemini	Developer, BA, TCD, FCD,...	All relevant team members involved in KT and estimation per backlog item
Daimler + Capgemini	Product Owner, Product Owner Proxy	Update product backlog, verify updated product backlog and approve backlog items

Grooming – the product backlog is refined step by step during “Backlog Refinement Meeting” twice per week
(participants: PO, POP and as needed CG Team).

Estimation of new product backlog items is a continuous process with almost complete Capgemini team.

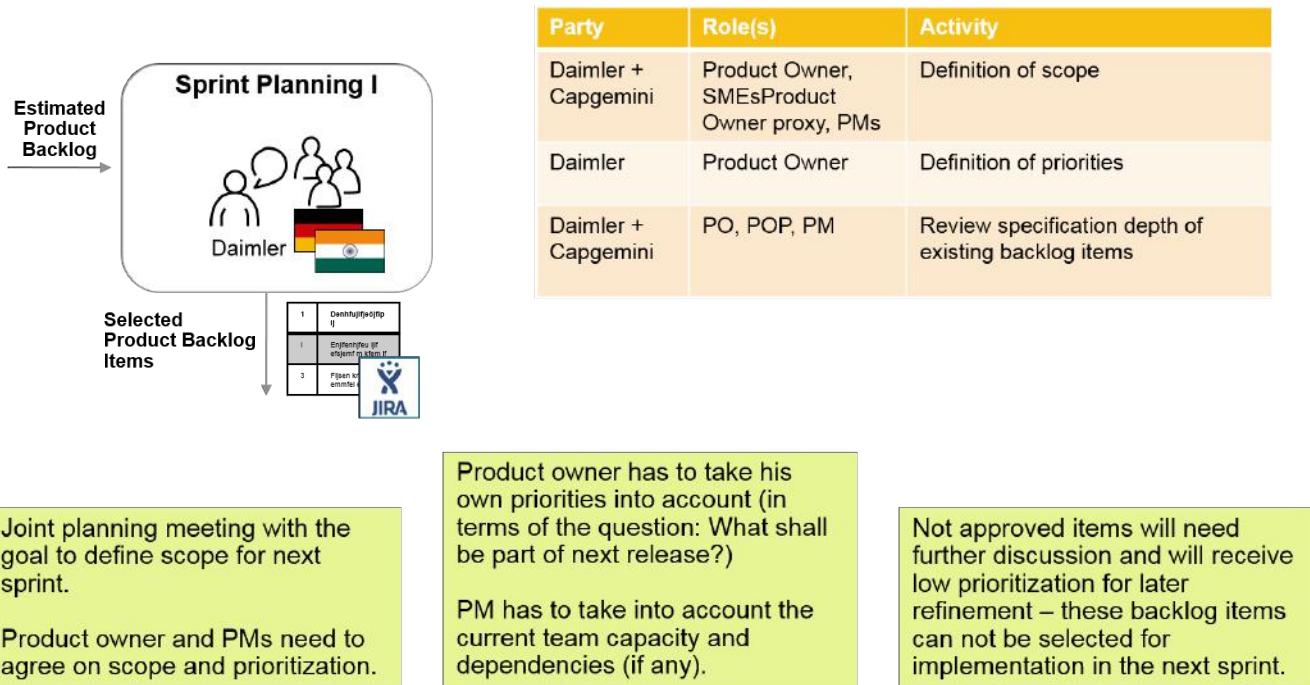
Updated estimation for backlog items needs to be approved by PO.

3.5 Backlog Estimation and planning poker

See [Backlog Estimation](#).

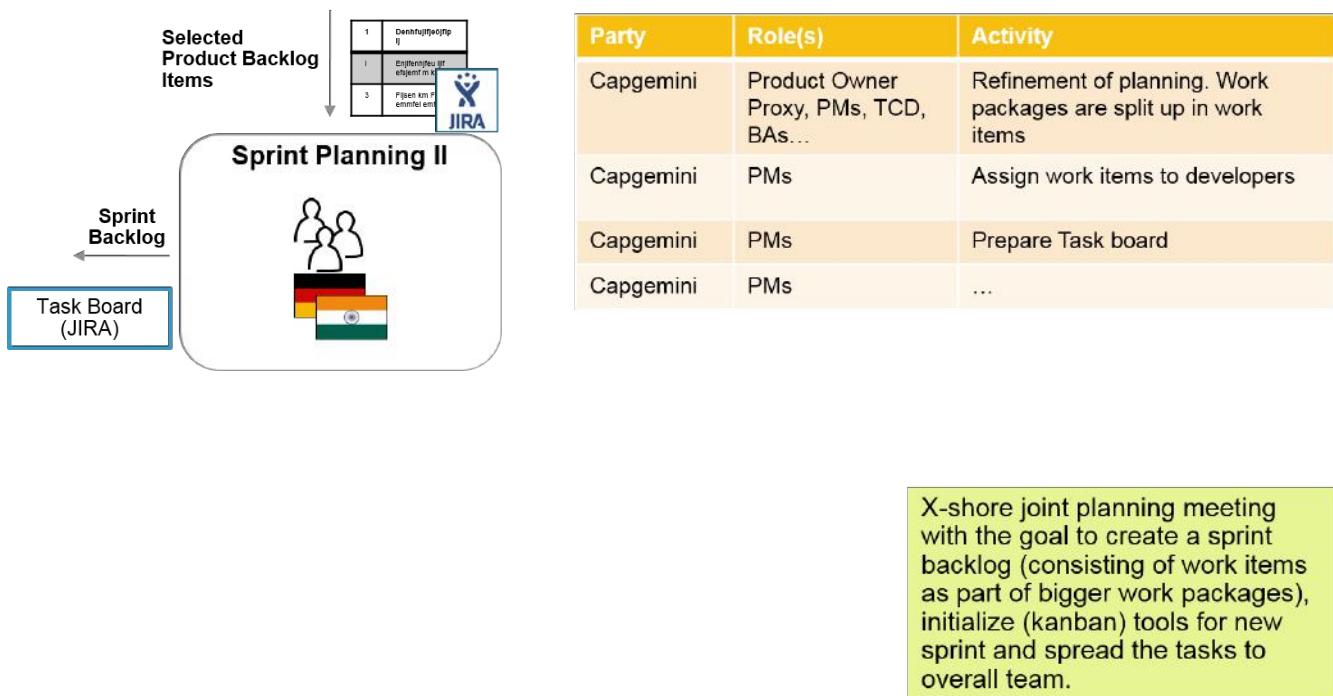
3.6 Sprint Planning I

With all the estimated product backlog items as the input for the sprint planning I, the whole Scrum team as well as the customer will participate in this session. The content of the sprint planning I is deciding which product backlog items should be selected for the next sprint - so the scope for the upcoming sprint must be defined. The most important part here is that the Product Owner decides, depending on his own priorities, what items/user stories/functions the next increment should contain.



3.7 Sprint Planning II

After defining the scope for the upcoming sprint during sprint planning I, the Scrum team takes those selected product backlog items and defines a sprint backlog. Splitting items into work packages and assigning them to the developers also happens during the sprint planning II.



3.8 Checklist: Ready for the Sprint

The Checklist: Ready for the Sprint states all the points that should be checked or fulfilled so that the sprint is ready to start.

Checklist: Ready for the Sprint

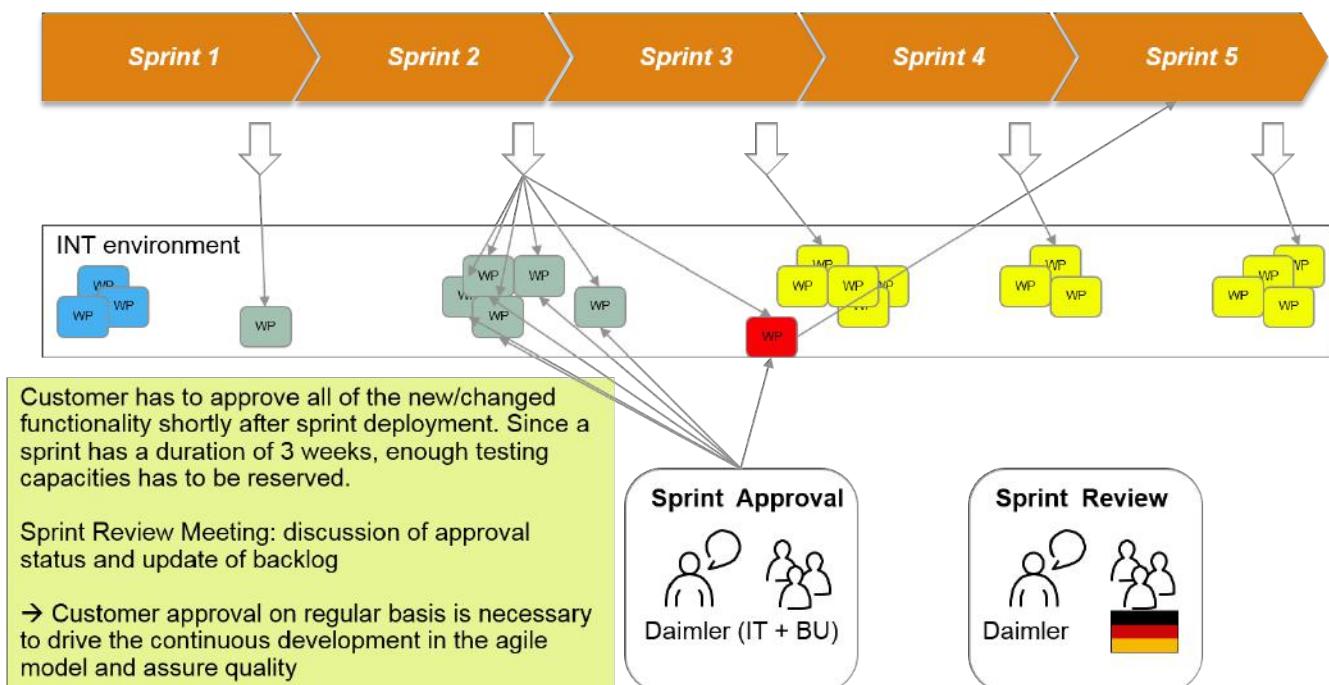
- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | The Product Backlog contains about 3 Sprint's worth of User Stories that are READY |
| <input checked="" type="checkbox"/> | The goal of the Sprint is defined and communicated |
| <input checked="" type="checkbox"/> | Definition of Done is defined and understood by the team |
| <input checked="" type="checkbox"/> | The Sprint Backlog contains all defects, User Stories and work |
| <input checked="" type="checkbox"/> | The Sprint Backlog is prioritized |
| <input checked="" type="checkbox"/> | Optional: The Sprint Backlog contains a buffer of 30% |

3.9 Meeting/Activity structure

See [Meeting structure](#) and also [Meetings and Sprint Ceremonies](#).

3.10 Customer approval of sprint deliverables

With the end of each sprint new or changed functionality will be added to the previous release. Those new or changed functionalities have to be approved by the customer, which will take one week (5 days). The result of that approval will neither be considered in the current sprint nor in the upcoming sprint, but after 2 sprints to prevent disturbance of the planned sprints. A discussion of approval status and update of the backlog takes place during the sprint review by the german scrum team as well as the customer.



3.11 Definition of Done

See [Definition of Done](#).

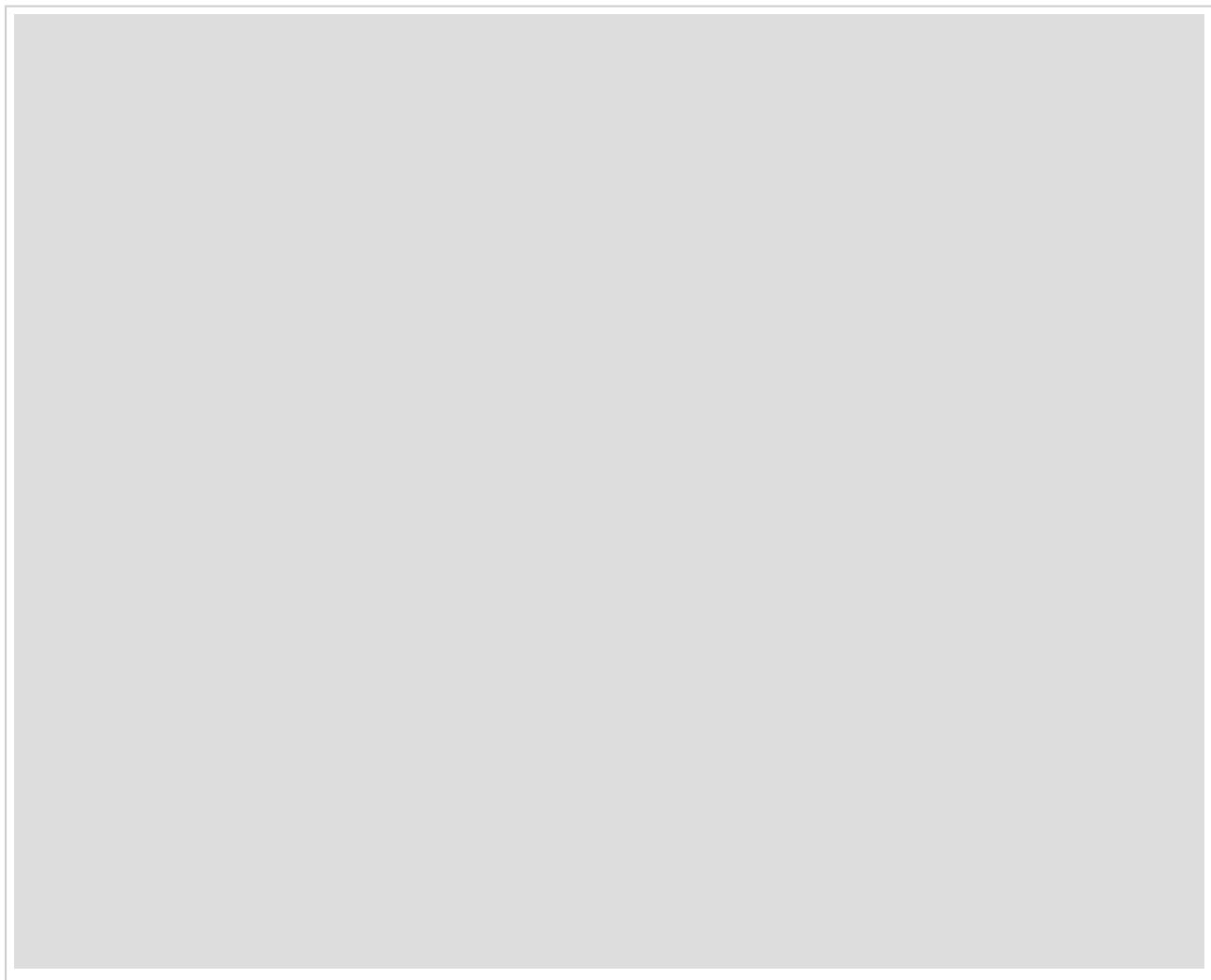
Additional information

The following video describes the Scrum framework very well and can be used to improve the understanding fo Scrum.

YouTube Video „Agile Product Ownership in a Nutshell“ by Henrik Kniberg original in englisch: https://www.youtube.com/watch?v=502ILHjX9EE&feature=player_detailpage

User stories

In agile projects user stories are necessary to describe the business functionality of the requirement. The following presentation gives you an introduction of how a user stories is written and what criteria has to be met for a user story.



Backlog Estimation

- Planning Poker
 - Why do we play Planning Poker?
 - When do we play Planning Poker?
 - How do we play Planning Poker?
- Estimation & Story Point Definition
- Planning Poker – Playing procedure

Planning Poker

Why do we play Planning Poker?

- Every Development Team Member estimates
- Every Development Team Member speaks
- Every Development Team Member shows honesty

When do we play Planning Poker?

- During Grooming / Refining
- During Sprint Planning
- Whenever Product Owner and Development Team agree

How do we play Planning Poker?

- Select item and assign number of points (smallest, medium, biggest)
- Estimate all items relatively
- (Re-iterate)

Estimation & Story Point Definition

1. We will estimate the User Stories relatively to each other.
2. We will estimate in Story Points.
3. One Story Point represents a perfect developer day (7 hours), where a developer is not once disturbed in his work.
4. We will use a modified Fibonacci (0, ½, 1, 2, 3, 5, 8, 13, 20, 40, 100, ?, Pass, break) sequence for the estimation.
5. Every story will be estimated minimum twice:
6. Backlog grooming
7. Sprint Planning

Planning Poker – Playing procedure

1. The BAs are going to explain the User Story to the development team.
2. The Development Team will give their estimation in planningpoker.com
3. The tech. PL and the Architects will support the development team in technical questions.
4. The BAs will support the development team in functional questions.
5. The one with the lowest and the one with the highest estimation will explain their estimate to the development team.
6. We will repeat the estimation until the development team agrees to one number.
7. If the number is too high (13 or higher), the development team will define what needs to be done to downsize the story (8 or lower).
The User Story will be estimated in the next session.

Business Overview

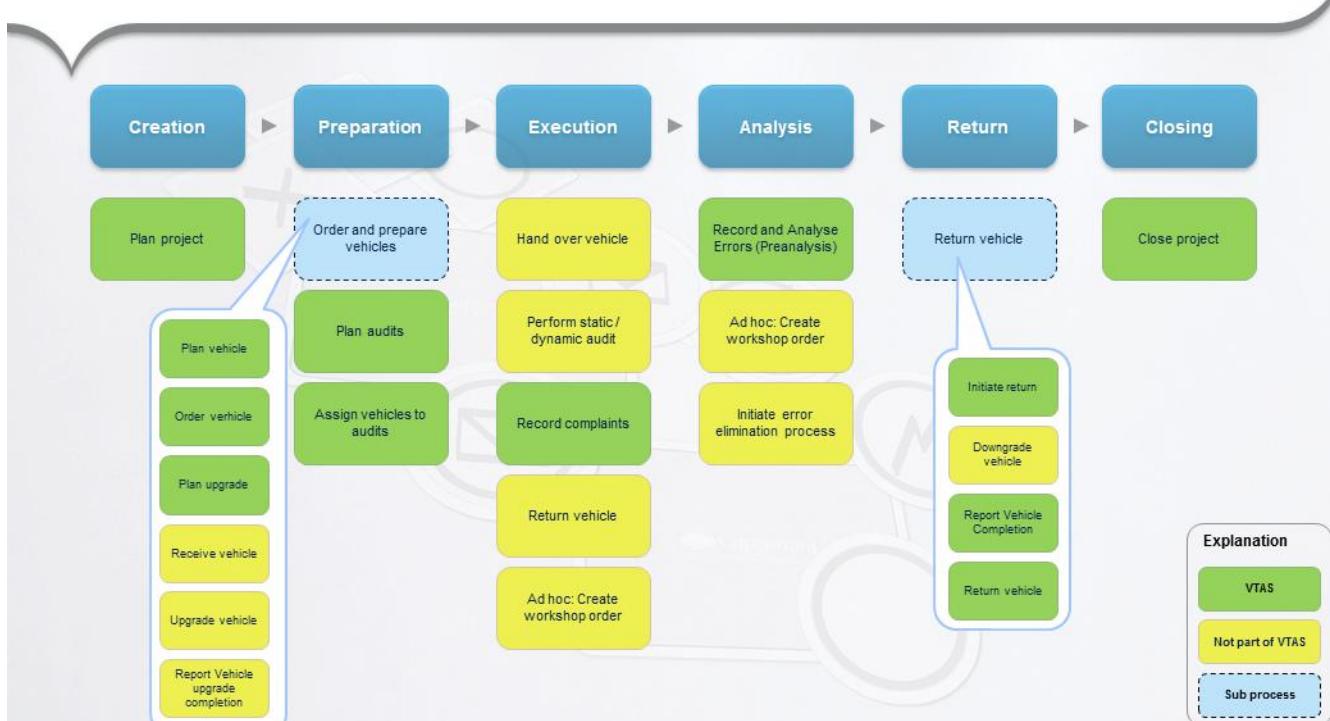
- Functional Business Process Flow in VTAS
- Goals and Vision
- Navigation Flow of pages in VTAS
- VTAS Overview

Functional Business Process Flow in VTAS

- 1. Milestone "Creation"
 - 1.1 Activity "Plan Project"
- 2. Milestone "Preparation"
 - 2.1 Subprocess "Order and Prepare Vehicles"
 - 2.1.1 Activity "Plan Vehicles"
 - 2.1.2 Activity "Order Vehicle"
 - 2.1.3 Activity "Plan Upgrade"
 - 2.1.4 Activity "Receive Vehicle"
 - 2.1.5 Activity "Upgrade Vehicle"
 - 2.1.6 Activity "Report Vehicle Upgrade completion"
 - 2.2 Activity "Assign Vehicles to measures"
 - 2.3 Activity "Plan Audit"
 - 2.4 Activity "Assign Vehicles to Audits"
- 3. Milestone "Execution"
 - 3.1 Activity "Handover Vehicle"
 - 3.2 Activity "Perform Static/Dynamic audit"
 - 3.3 Activity "Record Complaints"
 - 3.4 Activity "Return Vehicle"
 - 3.5 Activity "Create Workshop Order"
- 4. Milestone "Analysis"
 - 4.1 Activity "Record and Analyze Errors"

- 4.2 Activity "Ad hoc:Create Workshop Order"
- 4.3 Activity "Initiate Error Elimination Process"
- 5. Milestone "Return"
 - 5.1 Activity "Initiate Return"
 - 5.2 Activity "Downgrade Vehicle"
 - 5.3 Activity "Report Vehicle completion"
 - 5.4 Activity "Return Vehicle"
- 6. Milestone "Closing"
 - 6.1 Activity "Close Project"
- 7. Attachments
 - 7.1 Process Flow presentation

VTAS – activities of the process



1. Milestone "Creation"

The milestone Creation includes the creation of the project and providing the essential project data in the activity Plan project.

1.1 Activity "Plan Project"

▼ Figures

Figure 1

Figure 2

The activity Plan project is used to create the project with its basic data. A project serves the purpose to combine audits and vehicles to one or more audit objectives.

The activity includes the following steps:

1. Create a project in VTAS: Insert project data which includes (see Figure 1):
 - Categories (RGA, KNFE and LQS)
 - Schedule (Start date and End date)
 - Basic information (Project ID, cost centre)
 - Project name
2. Document which measures need to be tested within the project (see Figure 2).
3. Create audit objectives for the project which describes which tests need to be done in order to test and validate the measures.

2. Milestone "Preparation"

The milestone Preparation includes all preliminary work that must be done before any audit or analysis can take place. These are the activities for planning audits, vehicle allocation for audits and vehicle ordering and processing.

2.1 Subprocess "Order and Prepare Vehicles"

The activity order and prepare vehicle includes all activities for vehicle selection, ordering and if necessary upgrading of vehicles.

2.1.1 Activity "Plan Vehicles"

The activity plan vehicles is used to define and select all required vehicles per audit objectives for each project on the basis of measures as well as to fill the relevant order forms.

The activity includes the following steps:

1. Plan vehicles and assign them to the project as well as the audit objectives.

Vehicles can be assigned either from the existing vehicle pool of other projects or by ordering new vehicles.

1. Fill the vehicle order form

2.1.2 Activity "Order Vehicle"

The activity order vehicle includes the ordering of the vehicles outside of VTAS. This activity is performed separately for each vehicle order.

Multiple vehicle orders can be processed simultaneously by several purchasers.

The activity includes the following steps:

1. Check vehicle order (outside VTAS).
2. Check the possibility of construction for the ordered vehicles.
3. Optional in the case of a problem with the order, then contact the project planner and correct the order(entry in VTAS)
4. Order vehicle (Handover to the plant-outside of VTAS)
5. Enter feedback in VTAS, which includes order number, production number and production plan date.

2.1.3 Activity "Plan Upgrade"

In the activity plan upgrade, the ordered vehicles are defined as to whether they have to be upgraded before the audits, i.e whether certain components have to be included.

The activity includes the following steps:

1. Information about the corrected vehicle order: The PLQ receives the final vehicle order made by the purchaser and the data of the ordered vehicles are transferred to FLIMS.
2. Determine upgrade information: These includes aim of the upgrade, vehicles to be upgraded and upgrade scopes per vehicle
3. Co-ordinate upgrade dates: It includes communicating the upgrade dates to FLIMS in order to reserve the vehicles for the upgrade dates so that they are not blocked otherwise.

2.1.4 Activity "Receive Vehicle"

In the activity Receive vehicle, the fleet manager receives and registers the produced vehicles. This activity is performed once per vehicle. A project contains 1-n vehicles. After production, the vehicle will be delivered to a predefined parking space.

The activity includes the following steps:

1. Receive, identify and record the vehicle: Vehicles are identified in FLIMS based on the order number and the production number of the purchase order. The chassis number can be queried via FLIMS and then serves as a further identification number of the vehicles.

2.1.5 Activity "Upgrade Vehicle"

In the activity upgrade vehicle, the vehicle is upgraded or changes are made in the workshop.

This activity includes the following steps:

1. Create workshop order and record information such as license plate number, vehicle order number, vehicle production number, engine number, chassis number.

2.1.6 Activity "Report Vehicle Upgrade completion"

In the activity, report vehicle upgrade completion, the vehicle planner receives the upgraded vehicle.

This activity includes the following steps

1. Accept the vehicle after upgrade.
2. Identify the vehicle and enter the vehicle into FLIMS

2.2 Activity "Assign Vehicles to measures"

▼ [Figures](#)

VTAS-130, VTAS-194																											
VTAS - Plan vehicles																											
Home																											
Masterlist						Project information																					
<table border="1"> <thead> <tr> <th>Measure Number</th><th>Measure 1</th><th>Measure 2</th><th>Measure 3</th></tr> </thead> <tbody> <tr> <td>Description</td><td>New tires</td><td>Navigation</td><td>Keyless go</td></tr> <tr> <td>Number Planned</td><td>5 vehicles</td><td>4 vehicles</td><td>6 vehicles</td></tr> <tr> <td>Number Chosen</td><td>2 vehicles</td><td>1 vehicles</td><td>0 vehicles</td></tr> </tbody> </table>												Measure Number	Measure 1	Measure 2	Measure 3	Description	New tires	Navigation	Keyless go	Number Planned	5 vehicles	4 vehicles	6 vehicles	Number Chosen	2 vehicles	1 vehicles	0 vehicles
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2	2343	X167	S-Class	Grey	3000 km		Telematics	abc	b	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																
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VTAS-131, VTAS-195																											

Figure 1

In the activity, Assign vehicles to measures, the vehicle planner starts assigning the vehicles to their respective measures (see Figure 1). They are nothing, but a list of measures saying which components of a car have been changed in production. The change reason might be because of an update in quality, market update or legal update.

This activity includes the following steps:

1. Identify information about measures like, measure number and measure title.
2. Determining the affected models, affected model series and affected codes
3. Determining the amount of vehicles.
4. Segregation between description current state and description future state.

2.3 Activity "Plan Audit"

In the activity, Plan audit, the audit planner determines how many audits need to be made and the test periods for them

This activity includes the following:

1. Create audit period for project: 1-n audit periods can be created per project and it requires following data like model type, project ID, number of days planned, time period (from, to)
2. Schedule audits: This includes planning 1-n audits per audit period, definition of number of vehicles/model series per audit period, transfer the number of audits to FLIMS and initiate the automatic driver mapping in FLIMS.

2.4 Activity "Assign Vehicles to Audits"

In the activity, Assign vehicles to audits, the Audit planner assigns the vehicles to the audits based on the required characteristics in FLIMS. In addition, the driver or auditor assignment takes place in the background.

This activity includes the following:

1. Assign vehicles to audit: Which includes displaying the ordered vehicles, allocating the vehicles to the individual audits; vehicles are booked in FLIMS only for the actual audit periods.
2. Assign auditor
3. Create checklist for each vehicle and audit: These includes performing approximately 1-20 checks per vehicle during the audit period (depending on the equipment to be tested in the vehicle.)

3.Milestone "Execution"

The milestone "Execution" includes all activities of the audit execution as well as documentation of the results from the audits. These activities comprise vehicle handover, audit execution, complaint registration and returning the vehicle.

3.1 Activity "Handover Vehicle"

In the activity *handover vehicle*, the fleet manager transfers the vehicle, the related information and the test order to the auditor.

The activity includes the following:

1. Print test order
2. Create vehicle information folder with additional information
3. Arrange accessories like fuel cards, gate pass etc.

4. Handover the vehicle to the auditor (physically handover the keys)
5. Additionally for LQS: receive the vehicle from the customer, document vehicle mileage and vehicle condition in FLIMS, handover the replacement vehicle to the customer.

3.2 Activity "Perform Static/Dynamic audit"

In the activity *perform static/dynamic audit*, the auditor carries out all the audits which are recorded in the test order.

The activity includes the following steps:

1. Perform audits on the basis of the test order.
2. For LQS: Create vehicle in EFP-vehicle database, execute a static audit in the hall (workshop) according to the checklist, execute the dynamic audit, wash car and refuel the vehicle.

3.3 Activity "Record Complaints"

In the activity *record complaints*, the auditor documents all the abnormalities/deviations (all the things he recognized during the audit that do not seem to be normal) that occurred during the audit.

The activity includes the following steps:

1. Classify complaints on the basis of the given damage keys.
2. Document and specify complaints.
3. Generate and export complaint report.

3.4 Activity "Return Vehicle"

In the activity *return vehicle*, the fleet manager documents the return of the vehicle to the workshop after an audit.

The activity includes the following steps:

1. Return vehicle including accessories.
2. Document return including mileage etc.
3. Check the condition of the vehicle and decide on necessary repairs.
4. Additionally for LQS: Return vehicle to the customer, documentation of the vehicle return in a handover document, take back the replacement vehicle from the customer.

3.5 Activity "Create Workshop Order"

In the activity *create workshop order*, the workshop creates an order to repair the vehicle and executes it. This activity is triggered from the activity *return vehicle* if needed.

The activity includes the following steps:

1. Create workshop order and collect information: number of license plate, vehicle order number, vehicle production number, engine number, workshop order receipt date, title of workshop order.
2. Process the workshop order and block the vehicle in the schedule for repair.

4. Milestone "Analysis"

The milestone "Analysis" includes all activities that deal with the analysis of complaints and errors and their elimination.

4.1 Activity "Record and Analyze Errors"

In the activity "Record and Analyze errors" the analyst verifies the errors detected in MRS and records additional errors via EFA.INPUT.

The activity includes the following:

1. Analysis of the existing errors in MRS for an audit and vehicle (direct integration of MRS. Reports). For a query, one of the following information is needed: production number of the vehicle, vehicle identification number (VIN).
2. Analysis of the open actions for the vehicle from MRS in order to verify complaints and decide whether they are actual error or not.
3. Selection of one specific error for which an error elimination process or a root cause analysis should be triggered. Loading of relevant vehicle and error data from MRS (production number, model series, error description, etc.)
4. There is a shared MRS, in which the errors from all plants are documented and there is a unique error ID, which can be used to access error data in MRS.
5. Record additional errors via EFA.INPUT.

4.2 Activity "Ad hoc:Create Workshop Order"

In the activity "create workshop order" the workshop creates an order for the repair, up- or downgrade of the vehicle and executes it.

The activity includes the following steps:

1. Create workshop order and collect information like number of license plate, vehicle order number, vehicle production number, engine number, mileage, vehicle chassis number, vehicle name.
2. Process the workshop order and block the vehicle in the schedule of repair.

4.3 Activity "Initiate Error Elimination Process"

In the activity "initiate error elimination process" the analyst starts error elimination process for each of the selected errors.

The activity includes the following:

1. Initiate root cause analysis or error elimination process: Root cause analysis is initiated in CAT for production errors where the vehicle is blocked in FLIMS for that duration.
2. Initiate error elimination process (FAP) for design errors in ZEUS.

5. Milestone "Return"

The milestone "Return" includes all activities to downgrade a vehicle and return a vehicle from the project.

5.1 Activity "Initiate Return"

In the activity "initiate return", the PLQ initiates the vehicle's return from the project and decides on the necessary downgrading actions.

The activity includes the following:

1. Determine whether the vehicle needs to be downgraded (vehicles are only be downgraded and returned if they are currently used or planned in another VTAS project in the future)
2. Set of scopes of the downgrading
3. Coordinate downgrading dates

5.2 Activity "Downgrade Vehicle"

The workshop creates a workshop order for the downgrade of the vehicle and executes it in the activity "downgrade vehicle"

This activity includes the following steps:

1. Conduct the downgrade and repair of damage to the vehicle in the workshop. The following information is required like number of license plate, order number of vehicle, production number of vehicle, mileage, vehicle chassis number.
2. The workshop processes the workshop order in the workshop tool and returns the completion of the upgrade work.
3. The workshop representative blocks the vehicle during the period of the workshop stay in FLIMS.

5.3 Activity "Report Vehicle completion"

In the activity "Report vehicle completion",the PLQ receives the downgraded vehicle.

The activity includes the following steps:

1. Receive the vehicle after downgrade
2. Identify the vehicle and document it in FLIMS.

5.4 Activity "Return Vehicle"

In the activity "return vehicle", the fleet manager accepts the return of the vehicle from the project.

The activity includes the following steps:

1. Return the vehicle from the project to FLIMS. The project does not require the vehicle anymore. The checklist for deregistration in order to finally deregister a vehicle, as well as the final return of a vehicle to the fleet is processed by FLIMS

6. Milestone "Closing"

The closing milestone includes the activity close project and serves the final closing of a project after all audits have been completed and all the vehicles of a project have been returned.

6.1 Activity "Close Project"

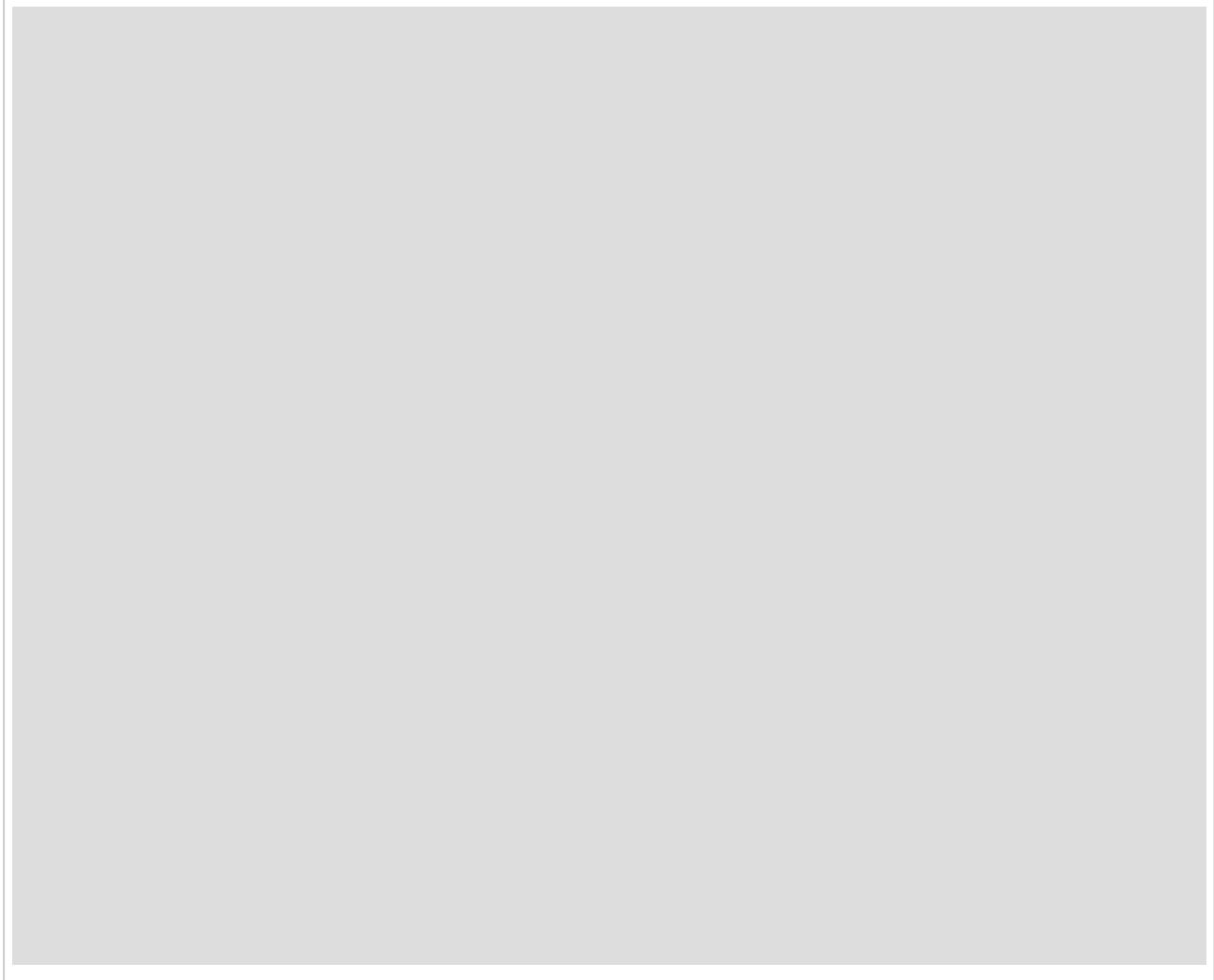
In the activity close project, the project planner produces the final project report and closes the project in the system.

The activity includes the following steps:

1. Creating the final report like status of measure, all errors of a project for a specific model series, complaints per project, number of vehicles per project, used engine variants(diesel or petrol) per project, numbers of audits per month, installation attempts per month.
2. Close project (only possible if all vehicles have been returned).

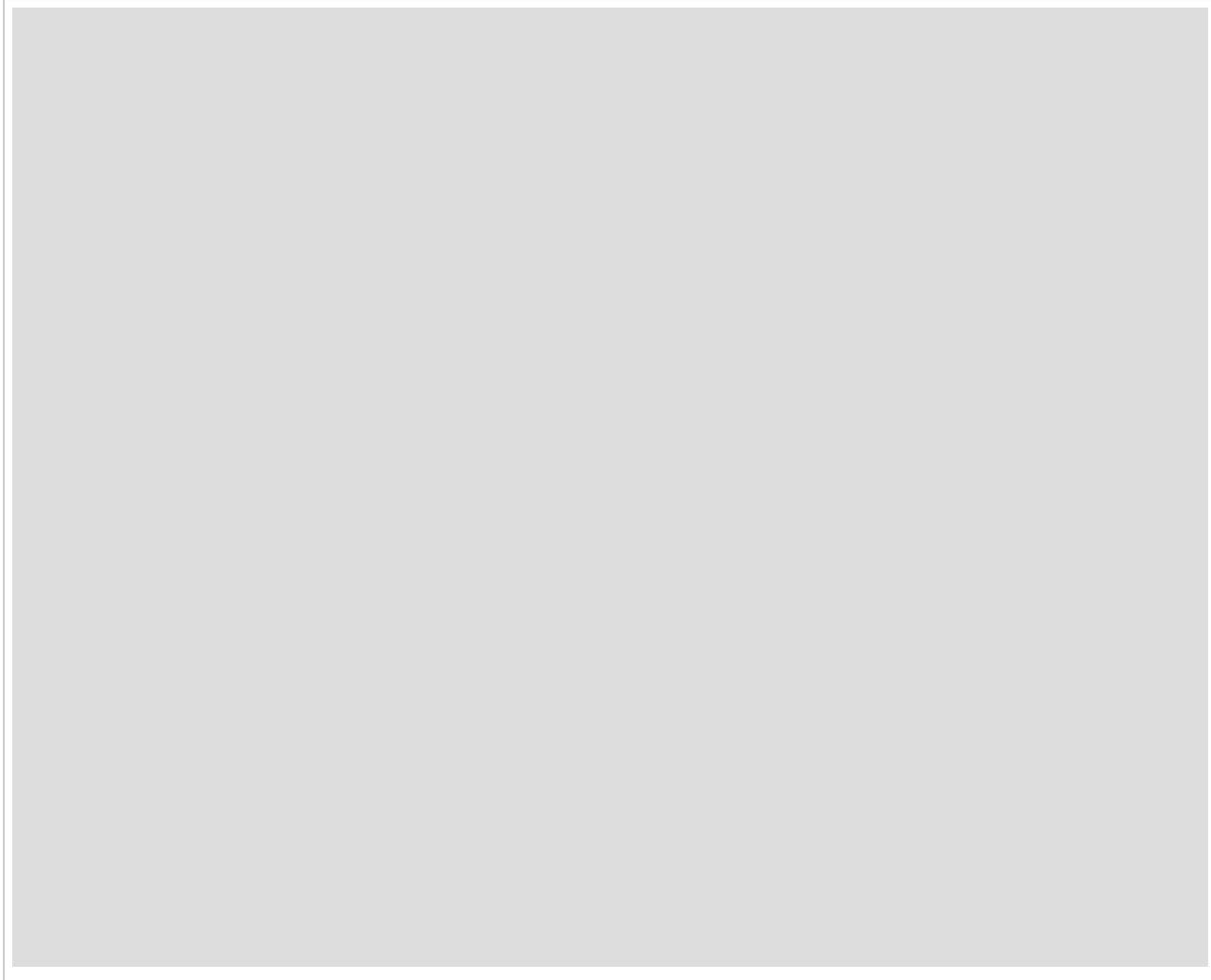
7. Attachments

7.1 Process Flow presentation



Goals and Vision

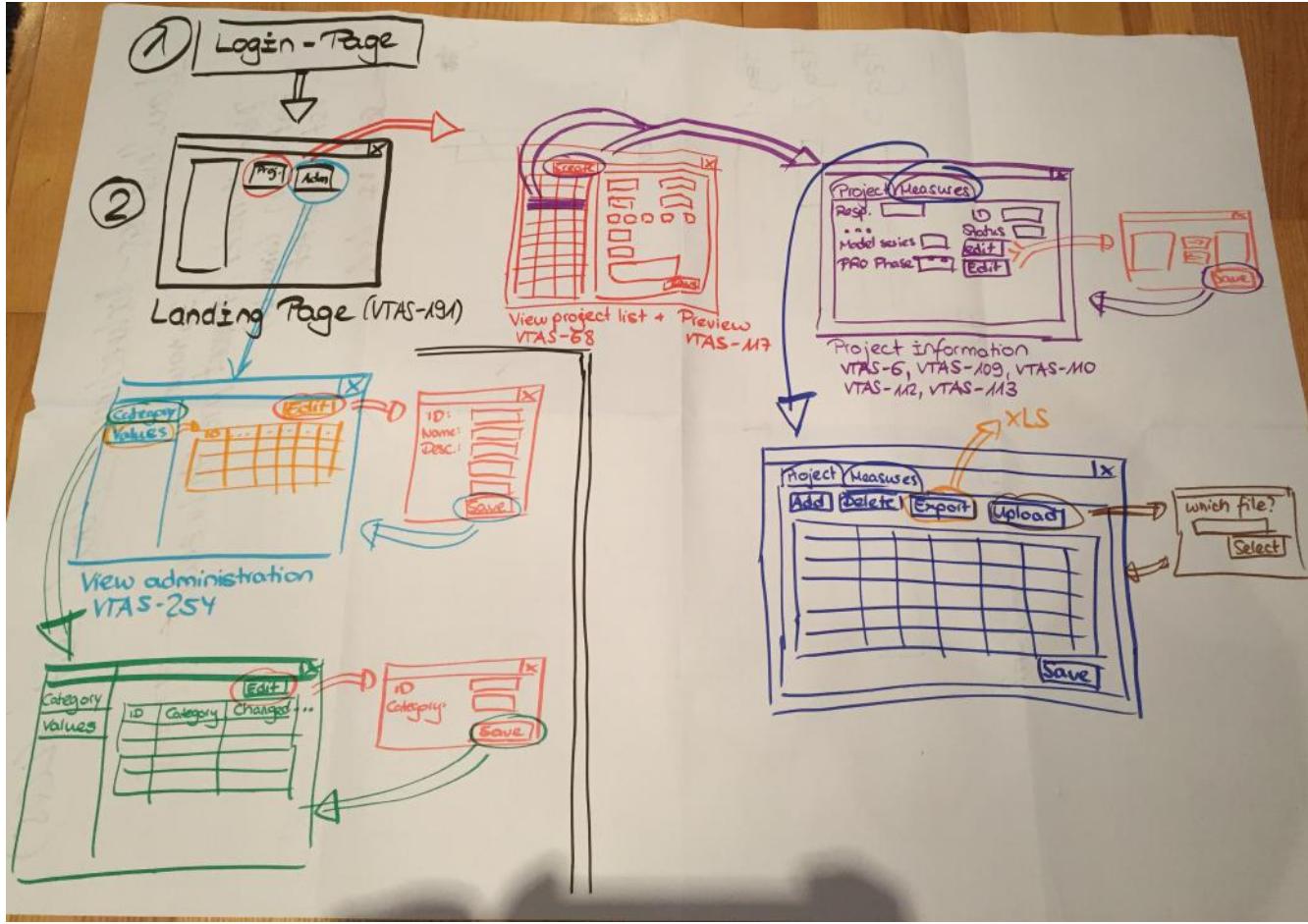
Below you find the VTAS Goals and Vision that we created together with the customer. Also the single roles within the teams are described here.



Navigation Flow of pages in VTAS

Starting from the Login Page you first get to the Landing page (VTAS-191).

1. Clicking on the module "Project Planning" you will be navigated to the Project overview, which consists of the project list (VTAS-68) on the left and a space for a preview on the right (VTAS-117).
 - a. Clicking on the Button "Create" above the Project list or double-clicking on a row in the project list navigates you to the page "Add project information" which consists of two tabs: project and measures
 - i. In the project tab you can click on "Edit model series" which opens a pop-up to select model series
 - ii. In the project tab you can also click on "Edit PRO phases" which opens a pop-up to select pro phases
 - iii. In the measures tab you can click "Add" to add a new and empty row to the table
 - iv. In the measures tab you can click "Delete" to delete the selected measures
 - v. In the measures tab you can click "Export" to Export the measures table to Excel (the exports Excel file is directly opened)
 - vi. In the measures tab you can click "Upload" to upload an Excel file with measures to the table
 - vii. Clicking on save in either one of the tab saves the data.
 - b. Single click on one of the rows displays the preview in the right side of the page.
2. Clicking on the module "Administration" opens the overview of possible administrations containing the menu list on the left side and a space for displaying the contents on the right.
 - a. Clicking on the menu entry "Generic categories" opens the administration page for categories on the right side of the page
 - i. Clicking on the button "Edit" navigates to the editing page for categories (on the right side)
 - b. Clicking on the menu entry "Generic values" opens the administration page for values on the right side of the page
 - i. Clicking on the button "Edit" navigates to the editing page for values (on the right side)



VTAS Overview

Business Need

The Business need is as follows:

- To test the production of new model series and used customer cars
- To develop a status monitoring tool

Current Situation

Three processes are handled:

- Process maturity level assurance (RGA)-Validation of production cars
- Customer oriented driving testing (KNFE)- Validation of production cars
- Long term quality assurance (LQS)-Validation of used vehicles of customers.

Various tools are used to work with the processes, different tools per plant:

- LQS tool
- SAW tool
- Excel lists and Access applications

Future Situation

A new system called VTAS which will be a cross-plant standard system and also will coordinate the RGA, KNFE and LQS processes as one standardized process. VTAS will be integrating the stand-alone interfaces FLIMS, CAT, ZEUS, IFQS, MRS and EFA.INPUT.

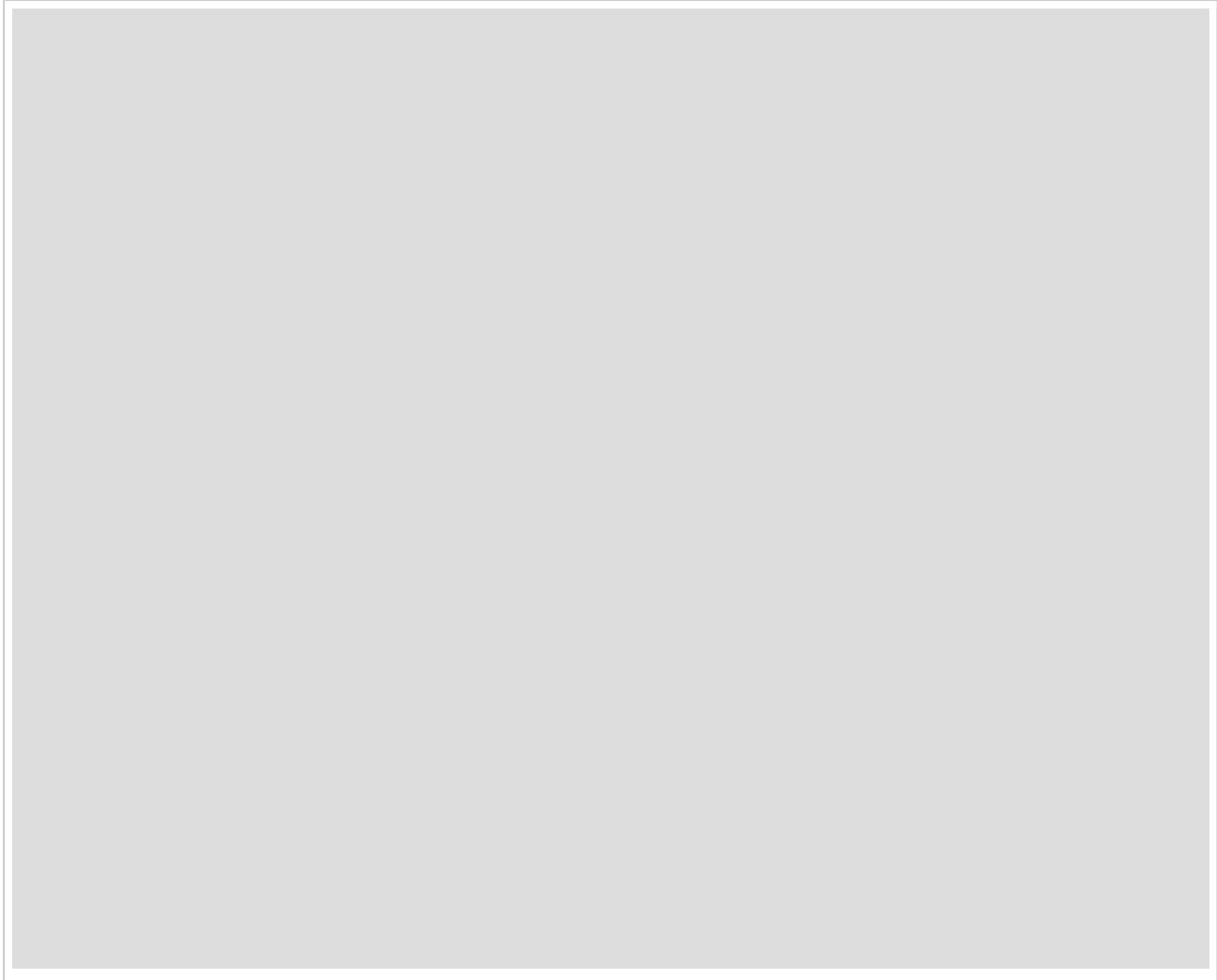
Solution Context

The mentioned processes are used to test the production of new model series of cars, by performing audits with vehicles from the production and customer vehicles. To improve the traceability of the corresponding quality aspects, the audits are grouped in projects. These projects

are used to control and coordinate all associated activities of the above mentioned processes. A consistent reporting on these projects and across project boundaries provides additional opportunities for analysis.

Kickoff presentation

For the VTAS overview see also the kickoff presentation...



FAQ

- Functional FAQ
- Technical FAQ

Functional FAQ

How do we work in the BA Backlog Grooming Sessions?

During the BA Backlog Grooming Sessions we prepare the stories for the Ready state by doing the following things:

1. Work on the highest ranked user stories together, one story after the other
2. Check the user story against the INVEST criteria
3. Check the acceptance criteria for hidden dependencies
 - a. Join depending user stories
4. Work on the questions & answers for each user story
5. Split big user stories into smaller

We prepare the user stories for the upcoming estimation meeting on the same day, so we check:

1. Are the acceptance criteria complete and understandable?

2. Is a mockup prepared if we need one?
3. Have all the questions been answered?
4. Do we need to ask further questions to the customer?
5. Who will present the story in the estimation session?
6. Can we set the status of the story to "For estimation"?

We distribute the work among the BAs by having a look at the next stories and decide who prepares them for the next meeting.

After the meeting we send the list of user stories in status "For estimation" to the estimators/developers.

How many vehicles etc. will be maximum/average per project?

1. Measures per project (average): 100
2. Measures per project (maximum): 150
3. Vehicles per project (average) : 60
4. Vehicles per project (maximum): 150
5. Faults per vehicle (average): 15
 - a. è Faults per project (average) = $15 * 60 = 900$
6. Faults per vehicle (maximum): 40
 - a. Faults per project (maximum) = $40 * 150 = 6000$
7. IRAs per vehicle (average): 15
 - a. IRA per project (average): $15 * 60 = 900$
8. IRAs per vehicle (maximum): 40
 - a. IRAs per project (maximum) = $40 * 150 = 6000$

How to close a Sprint and start another one?

Closing the current Sprint:

1. Do the Sprint Review - show all user stories that are complying to the Definition of Done to the customer.
 - a. Not a power point, the real functionality.
2. Do the Sprint Retrospective - create a Retrospective Page in Confluence:

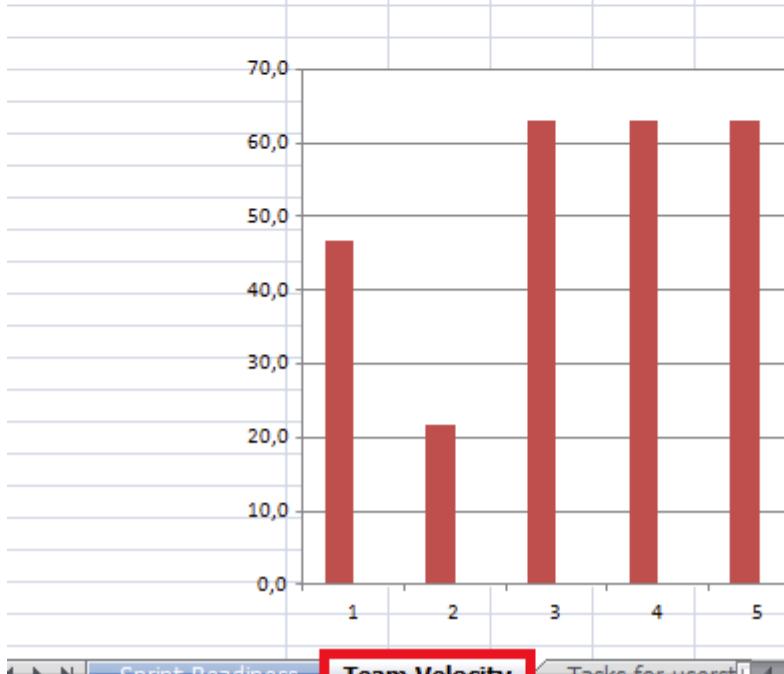
Überschrift	Date	Participants
2017-05-10 Retrospektive - Team Phoenix	10.05.2017	Wüstemann, Stefanie Kosheenikow, Sergej Bansch, Tobias Doher, Gayas Panda, Kiran Kumar Bhat, Vedanarayanan Balakurava, Kalyana Rao Bhardwaj, Bhaskar Pathipati, Niranjan Kanakalaapati, Venkata Devi Prasad

3. Afterwards, move uncompleted User Stories in JIRA to the upcoming sprint.
 - a. Subtasks will automatically also be moved.
4. Close the current sprint in JIRA:

5. Calculate the available Story points for the upcoming sprint:
 - a. Enter the achieved story points from the last sprint into the Sprint Calculation sheet in SVN (00 SVN\03_Sprints\031_Sprint_0)
 - b. Check the available days and enter them in the Sheet
 - i. Keep in mind that we only have 13,5 days available in a sprint without vacation due to the meetings at sprint start and sprint end.
 - ii. Check the Team Leave Calendar -> for each 6 vacation days within the sprint, deduct one working day
 - iii. Check public holidays and deduct them from the capacity.
 - c. Read the available story points for the upcoming sprint from the calculation and enter it into the presentation at 00 SVN\03_Sprints

Team Velocity

Sprint	1	2	3	4	5
Start Date	20.04.17	11.05.17			
End Date	10.05.17	31.05.17	21.06.17		
Team	6	6	6	6	6
Working days	13	13	15	Enter available working days	
Team (SP)	78,0	78,0	90,0	90,0	90,0
Calculated (SP)	78,0	31,2	90,0	90,0	90,0
Sprint Buffer (%)	40%	30%	30%	30%	30%
Sprint Buffer (SP)	31,2	9,4	27,0	27,0	27,0
Available (SP)	46,8	21,8	63,0	This field shows you the available story points	
Delivered (SP)	0,0			Enter the achieved story points here	
Difference (SP)	-46,8	0,0	0,0	0,0	0,0



6. Do the Sprint Planning I, where you decide which user stories to bring into the upcoming sprint.
- Start along the ranking in the backlog from the top, BAs present the stories.
 - Drag and drop the stories into the sprint.
 - Get the commitment of each and every single team member.
7. In Sprint Planning II, check which subtasks need to be created for the chosen User Stories.
8. Create subtasks for the User stories in the new sprint.
- For new user stories create the subtasks
 - For moved user stories just delete the obsolete subtasks
9. Check the estimations against the ones given in Excel during Sprint Planning II.
10. Start the new Sprint in JIRA.

▼ Sprint 3 13 issues -

Start Sprint



Linked pages

How to work with a Daimler hardware token?



01 Vasco token.pdf

How to work with Mockups and Pencil

- General
 - Mockups
 - Where to find?
 - Folder structure
 - File and folder naming convention
 - Creating mockups with Pencil
 - Overview
 - SVN Locks
 - Naming convention
 - Best practices within Pencil
 - Adapt canvas
 - Preferred UI elements to use in mockups
 - Text fonts
 - Reuse contents
 - Export, Upload, Commit

General

This page describes the file and folder structure of our mockups within SVN and how we create the mockups with the tool Pencil. "Mockups" or "Scribbles" are rudimentary prototypes of graphical user interfaces that we use to allow a clearer understanding of what we want to implement.

Mockups

Where to find?

All the mockups we use can be found at [VTAS SVN Root folder\02_UserStories\022_Scribbles](#).

Folder structure

Each folder represents an epic in JIRA. So you can find the mockups of all the user stories of one epic in the corresponding SVN folder.

For example

- VTAS SVN Root folder\02_UserStories\022_Scribbles\0225_Reportng

contains the Pencil file

- **Reporting.ep**

and the exported mockup images

- **VTAS 144 - View reporting.png**
- **VTAS 145 - Create report of projects per period.png**

but also other files like Excel tables there were needed to explain a user story

- **VTAS-200.xlsx**

The only exception we have in this structure are the following two folders:

- 0221_Add project information
- 0223_Project overview

They both represent the JIRA epic:

- Project Planning

File and folder naming convention

The folders are just consecutively numbered, for example:

- 0224_Vehicle planning
- 0225_Reporting
- 0226_Audit planning

In case of adding a new folder just go on with the same procedure. There is no specific order or sorting that the folders need to apply.

The files are named after their user stories in JIRA and have to contain the following parts in the given order:

- "VTAS-
- User story number, e.g.: "112"
- Separator: " - "
- User story title, e.g.: "Add approval date to the project"

For example: VTAS-112 - Add approval date to the project.png

Sometimes we have multiple mockups for one user story. In that case we either added a consecutive number at the end of the title or (the better solution) a short information about what is shown in the mockup.

For example:

- "VTAS-112 - Add approval date to the project - Details dialog.png"
- "VTAS-112 - Add approval date to the project - Security question.png"

Files containing the full name have up and down sides. You have to keep the names up to date but you are able to recognize faster what the images are about.

Creating mockups with Pencil

Overview

Files to work with Pencil can be found at VTAS SVN Root folder\02_UserStories\022_Scribbles\Epic_Folder and have the file extension ".ep".

To be able to create or modify mockups you have to

- start the Pencil application,
- go to **Document**, **Open** and
- navigate to a .ep file (for example Vehicle Planning.ep),
- click **Open**.

After loading you can see a couple of tabs where each tab represents exactly one mockup and usually stands also for one user story.

Sometimes we need more than one mockup per user story. In that case we create as many tabs as we need for one user story.

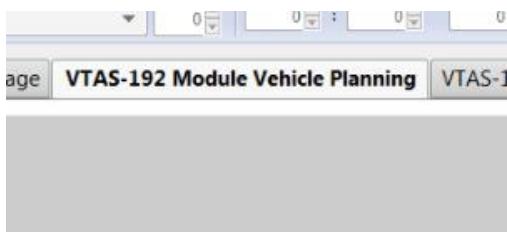
SVN Locks

Please do not forget to lock and unlock the .ep files in SVN that you are working on!

Naming convention

Please check the **File and folder naming convention** in the upper part of this document.

Apply the name to the mockup by double clicking on the tab.



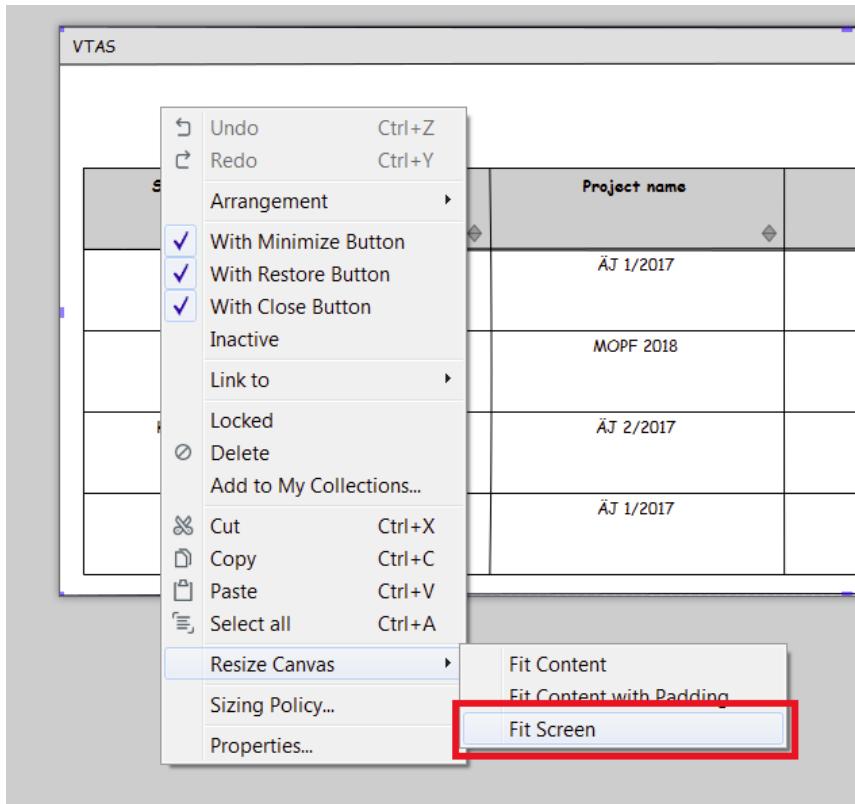
A new dialog will open where you can enter the name.

Best practices within Pencil

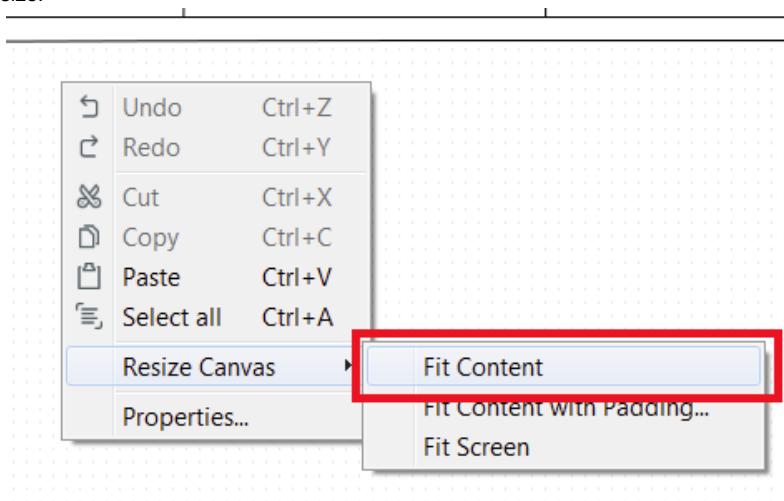
Adapt canvas

Adapting the canvas can make life easier:

- When you are working on a mockup you can increase the canvas size, so you are able to move and resize the UI elements around easier.



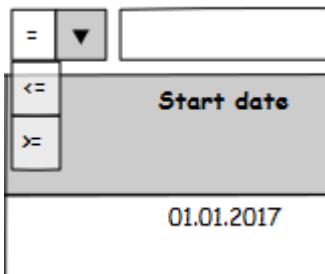
- When you are done with modifying a mockup and are about to save the image, so you can upload it to JIRA -> Reduce the canvas size!



Preferred UI elements to use in mockups

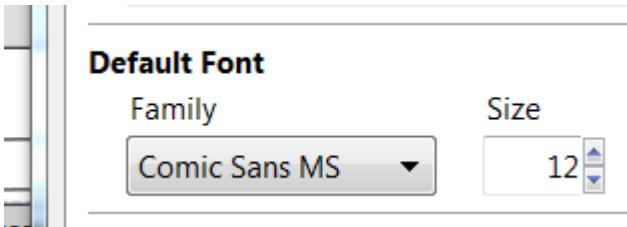
When you are working with pencil, try to avoid using "real" UI elements within our mockups. Better try working with "scribble"-like buttons, text fields, comboboxes, etc.

The reason why is that we do not want to create a perfectly accurate UI. We just want to create a prototype and stay negotiable within our team and the customer.



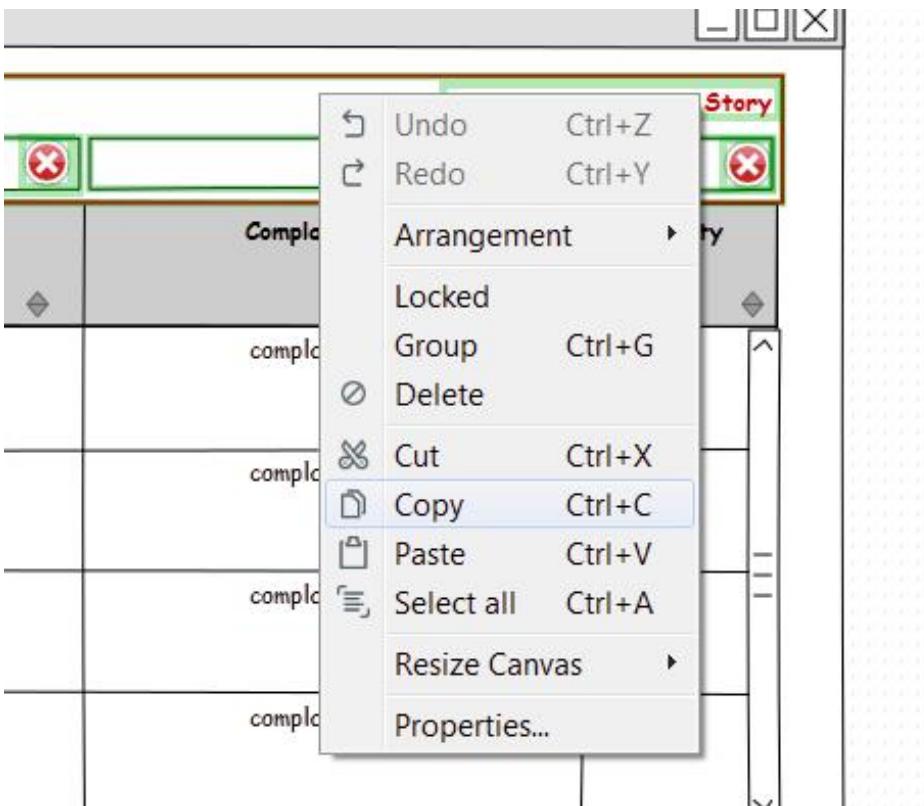
Text fonts

Wherever it is possible keep using the "Comic Sans MS" text font with (mostly) size 12.



Reuse contents

During the time we developed a more or less consistent look and feel for our mockups. Try to stick to that look and feel by reusing already existing content. When you are creating a new mockup for an existing .ep file, just take a look at the previous tabs if there are some of the UI elements you would actually need. Then just copy those elements and insert them into your mockup. You can slightly edit them but try to keep the existing "look and feel" and save you some of the work already done by someone else.



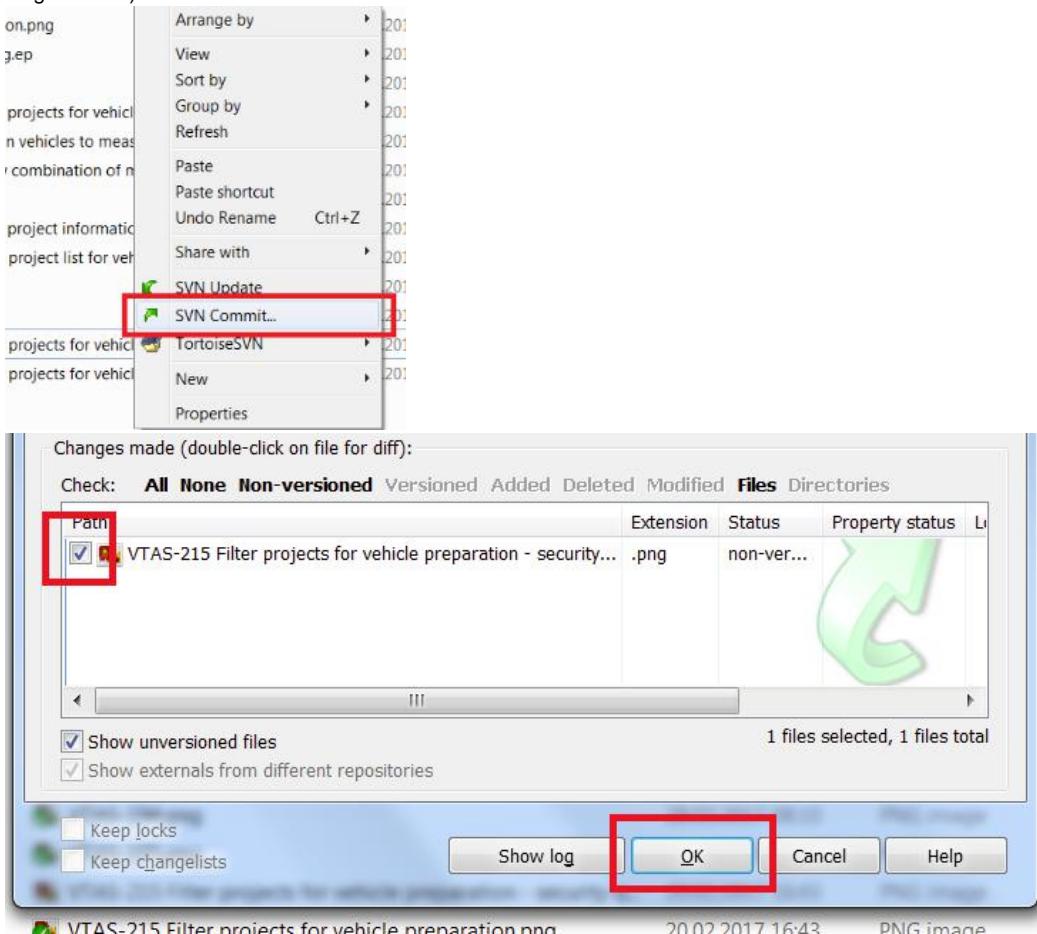
Export, Upload, Commit

When you are done with creating your mockup, you might want to add those images to a user story in JIRA.

1. The first thing to do is to **save the changes you made** on this .ep file.
2. View/click the tab you want to export and press **CTRL+E**, a save-dialog will open. (Or go to "**Document**", and click on "**Export as**

PNG")

3. The new dialog will suggest the name of the tab as the actual file name. Please **keep that file name!**
4. **Save** the file to the corresponding location (see "Folder structure" section in this document)
5. **Upload** the newly created image to JIRA (if required in that moment)
6. **Don't forget to commit your changes in SVN!** (Check the checkbox of newly added images when in committing dialog of SVN; See images below)



How to work with User Stories

- Introduction
- Guidelines
 - User story title
 - User story description
 - Attachments
 - JIRA Comment section
- The usual lifecycle of our user stories
- Complete example of one JIRA user story

Introduction

The creation and adaptation of user stories within JIRA follows a couple of guidelines. Those guidelines were established during the project to maintain a consistent look and feel of the user stories.

As the most important result of this, each team member is able to understand, modify and create user stories more efficiently. Since user stories have a vital role in the VTAS project we should maintain and continuously improve the quality of them.

Guidelines

Our default overview when working with user stories is the **Agile Board**.

The default language for all of our user stories is english. We also provide a german translation but with lower priority.

Independent of the content provided in this document, please check the SVN:\04_Agile Training\ folder for exact definitions and explanations on how to write user stories and acceptance criteria.

User story title

The complete title consists of

- the Project name (will be assigned automatically)
- the absolute user story number (will be assigned automatically)
- and a short name of what that story does.

For example:

- VTAS-6 Add project information
- VTAS-125 Configure categories for values

User story description

The description of a user story in JIRA contains

- The user story itself,
- all acceptance criteria
- **and a proper use of text-formatting**

A user story is based on the following sentence:

"As a WHO I want to WHAT, so that I can WHY."

Who => The VTAS user role that is allowed to execute that user story.

What => What do I want to do?

Why => What is the reason for what I want to do?

For example: **As an Admin I want to edit the possible categories, so that I can adapt them to the current status or add new categories.**

After the user story we provide the acceptance criteria. The acceptance criteria describe what details must be included before a user story can be considered as complete.

Keep it in simple language and use only one row per acceptance criteria.

For example:

Acceptance Criteria:

1. Possibility to configure the categories via a list
2. A button "Add" is available
3. A button "Edit" is available
4. Only one single row is selectable at one time
5. A scroll functionality is available in case the list gets bigger

Make use of text formatting like shown in the 2 examples above:

- "#" for enumerations
- "-" or "--" for bulletpoints (with or without the space after the minus)
- "**" for bold text e.g.: "someText" will appear bold
- "+" for underlined text e.g. +someText+ will appear underlined

Attachments

Attachments can be added by clicking on "More" (upper row; within a user story), then "Add files" in JIRA. We usually add mockups made with the tool called Pencil and other relevant content like examples of excel files.

JIRA Comment section

The comments section in JIRA has proven to be very useful when it comes to setting up a new user story or collecting questions and answers.

Sometimes it is important to distribute tasks to different team members. This can be done within the comment section by entering @name wh

ere "name" is replaced by the name of the person (autocomplete should appear).

Questions:

We always create at least one comment that contains all the questions we found for a particular user story. Those questions will be brought to the BA groomings, to the customer and to the estimation sessions.

The following format is used:

```
+Questions:+  
# Question..  
# Question..  
# Question..
```

Answers:

When we can answer one of the questions, we add the answer right below the question and use "==>" before the answer.

```
+Questions:+  
# Question..  
==> Answer...  
# Question..
```

Backing up fresh and raw information:

When we receive "raw" information from the customer that is relevant to the particular user story but cannot be included into the description yet, then we can put it into a separate comment (just as it is, without any formatting).

This helps to build the basis of the user story description.

Comments can and should be deleted after everyone is

- aware of the information
- it is included into acceptance criteria
- it is obsolete/wrong
- and it will not help during the estimation sessions

The usual lifecycle of our user stories

1. Setting up a raw user story of information that is currently available (usually provided by the customer)
2. Prepare a basis by formatting the text and set the state to **Analysis**
3. Collect questions within or between BA groomings in the comment section
4. Try to answer the questions with information given by the customer; **No assumptions!**
5. Refinement of the user story with newly received information from the customer by adapting the user story description
6. Repeat step 3 to 5 until we decide it is ready for estimation
7. Estimate the story points of that user story within a estimation meeting with the development team. Set state to **For estimation**.
8. If estimation succeeds: Enter estimated story points in JIRA; Set state to **Ready**.
9. If estimation fails: Back to step 3.
10. When a user story is closed, a comment is given, why it was closed.

Complete example of one JIRA user story

The following example contains all elements a user story in JIRA has to have. Please also be aware of the text formatting.

Expert: Fr. Bertele

EN:

As an *Admin* I want to *edit the possible categories*, so that I *can adapt them to the current status or add new categories.*

```
+Acceptance criteria:+  
# Possibility to configure the categories via a list  
# A button "Add" is available  
# A button "Edit" is available  
# The read-only list is displayed with the following columns (as shown in the mockup):  
-ID (generated ID of the value)  
-Category (Category for the attribute value)  
-Key (key for the category)  
-Changed on (date and time the entry was changed the last time; initial date is the creating date)  
-Changed by (user, who made the last changed)
```

Each and every column can be sorted ascending or descending (respective to the alphabet or date)
 # You can only sort one column at the same time
 # Initial sorting: lowest ID at the top
 # All already entered values are displayed in the list
 # Each row is selectable with a checkbox.
 # Only one single row is selectable at one time
 # A scroll functionality is available in case the list gets bigger

What to keep in mind when creating tasks in JIRA for Sprint Planning 2?

When creating the tasks for a User Story during Sprint Planning 2:

1. Prepare the sub-tasks for a User Story.
 - a. Please use the following template for preparing which tasks you need:
 - b. Please distribute the estimate from the User Story to the tasks (not more than the estimate of the User Story)
2. Present your prepared task to the architects and update them if needed.
3. Create the sub-tasks in JIRA:
 - a. Create them as "Sub-task" for the User Story
 - b. Naming convention: < Task name> (so we can see easily in the JIRA board to which user story the sub-task belongs)
 - c. If not already assigned, assign the sub-task to the upcoming sprint
 - d. Make sure the estimates are entered for each sub-task in JIRA
4. Give a hint to the project management (Kiran/Steffi) once all sub-tasks are created so we can start the Sprint in JIRA.

The following are the standard sub-tasks that we need for each User Story, please do not delete them from the template:

SNO	Tasks	Description
1	Analysis/LLD	Creating or Updating the technical design documents with the design for the story
2	Code Review	Review code by the reviewer
3	System documentation preparation & validation	Prepare system documentation (user manual, ...)
4	Preparation for Sprint Review	Setup data and environment to showcase the demo for internal and client
5	QA - Story analysis	Analysing the stories for finding the test scenarios
6	QA - Test Design	Design and write the test cases for the story
7	QA - Peer Review	Peer review of test scenarios by QA
8	QA - External Review	External review of test scenarios by BA
9	QA - Rework and incorporation	Rework after the Reviews
10	QA - Test Execution	Execute the test cases

Technical FAQ

Devon Framework

For the development environment we are using Devon distribution of Capgemini which uses OASP4J as lean open source architecture blueprint.

Devon Framework Environment Setup :

The Devonfw environment contains all software and tools necessary to develop applications with

Devonfw.

Pre-requisites

In order to setup the environment, following are the pre-requisites:

- Internet connection (including details of your proxy configuration, if necessary)

- 2GB of free disk space
- The ZIP containing the latest Devonfw distribution.

Download latest Devonfw distribution from below link

<https://troom.capgemini.com/sites/vcc/devon/getstarted.aspx>

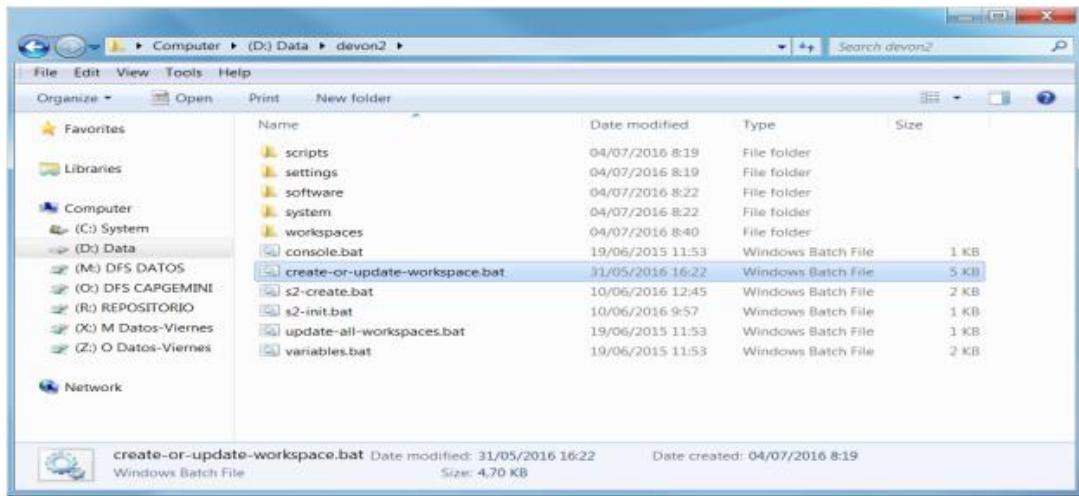
Go to “**Getting started**” tab --> Go to Step 3 and download development environment.

3 Download the distribution

You can download from Teamforge the [devonfw 2.1 distribution](#), the [devonfw development environment \(1Gb ZIP file\)](#).

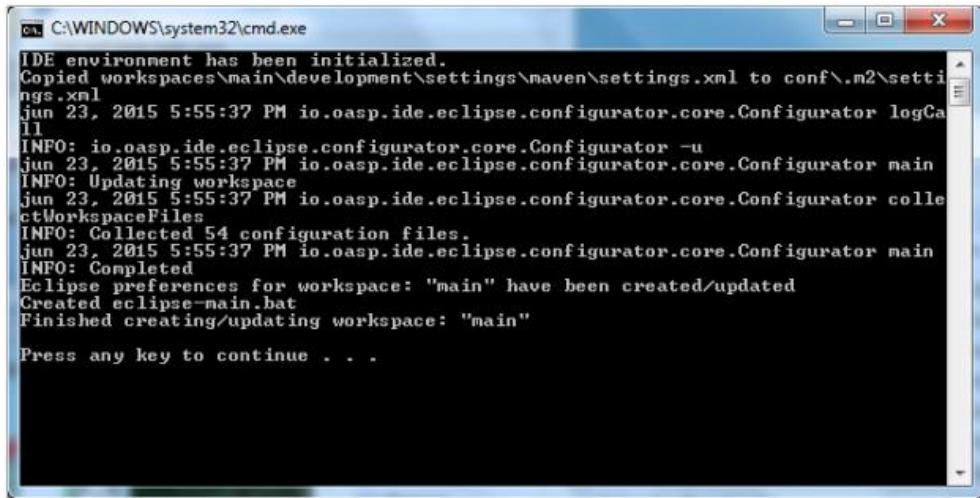
1. Unzip the Devonfw distribution into a directory of your choice. The path to the Devonfw distribution directory should contain no spaces, to prevent problems with some of the tools.

2. Run the batch file "create-or-update-workspace.bat".



This will configure the included tools like Eclipse with the default settings of the Devonfw distribution.

The result should be as seen below



```

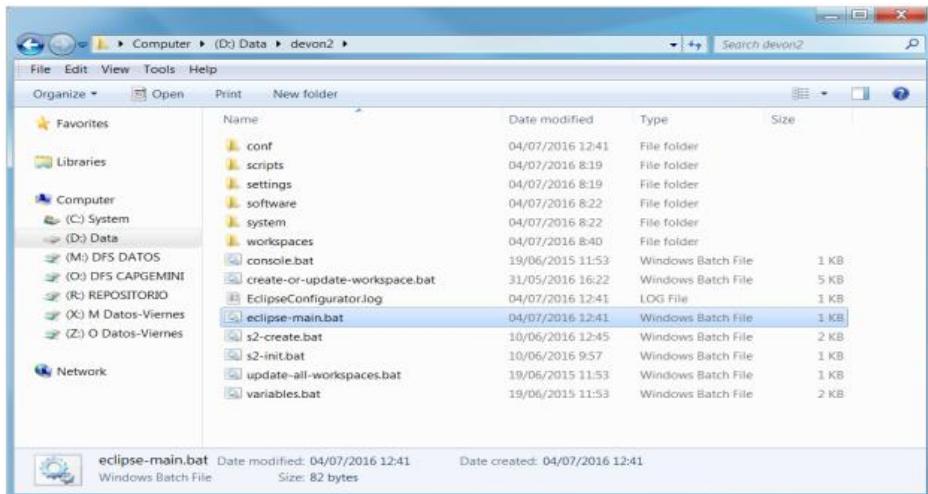
IDE environment has been initialized.
Copied workspaces\main\development\settings\maven\settings.xml to conf\.m2\settings.xml
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator logConfig
INFO: io.oasp.ide.eclipse.configurator.core.Configurator -u
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator main
INFO: Updating workspace
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator collectWorkspaceFiles
INFO: Collected 54 configuration files.
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator main
INFO: Completed
Eclipse preferences for workspace: "main" have been created/updated
Created eclipse-main.bat
Finished creating/updating workspace: "main"

Press any key to continue . . .

```

Eclipse

Open eclipse by executing "eclipse-main.bat".



The working Devonfw environment is ready!.

Support Requests

VTAS project is paying an industrialization fee, i.e. we are a project that can create tickets in [Insere](#) without additional costs. The devonfw services are located at "*IPROD -> Standard Frameworks as a Service (SFaaS)*". Support requests can be raised in category "*Devon fw Coaching and Support*". The service's description reads as follows:

The purpose of this Work Order is to provide a place for requests or questions about the SFaaS offer:

- Questions related to the use of the service, devonfw and the offer in general
- Environment configuration
- Possible issues or bugs in devonfw
- Application deployment

Technical questions related to devonfw are also welcomed. However, the purpose of the service is not to give support to solve technical problems due to a lack of knowledge by the developers using devonfw technologies.

There are additional channels to reach out to the devonfw team and get support:

- Teamforge: https://coconet.capgemini.com/sf/discussion/do/listForums/projects.apps2_devon/discussion
- Yammer: https://www.yammer.com/capgemini.com/#/threads/inGroup?type=in_group&feedId=5030942
- Devonfw OS (OASP) GitHub: <https://github.com/oasp/>
- Devonfw IP GitHub (granted access is required): <https://github.com/devonfw>
- Troom (Get Started): <https://troom.capgemini.com/sites/vcc/devon/getstarted.aspx>
- OASP Documentation: <http://oasp.github.io/oasp4j/2.1.0/OASP4J.pdf>

How to create 12 factor App

1. **Code Base** – One code base tracked in revision control, many deploys

That means should have a single repository which maintains a versioning for base code (Application Code), any version of base code can deploy on any environment like Prod/Staging/Test/Dev.
For example: Base Code v1.1 can deploy on Dev Environment, Base Code v1.1 can deploy on Test Environment and Base Code v1.0 can deploy on prod Environment

2. **Dependency** – Explicitly declare and isolate dependencies

One benefit of explicit dependency declaration is that it simplifies setup. Dependency declaration and isolation must always be used together – only one or the other is not sufficient to satisfy twelve-factor.
For example:
a) To run our web application in any environment it requires some libraries. Instead of putting all the libraries in the project workspace, keep all the dependent libraries at one place and make it available at compile time or deploy.
b) Web application should have separate properties file respective to their Dev/Staging/Prod/local environments. Any information should not hard code like DB details.

3. **Configuration** - Store config in the environment

Configuration is anything that may vary between different environments.
For example, DB details differ from environment to environment and that should not hard code in the application. If it hard codes that leads to risk in the application. To avoid such kind of situations we have to keep all configuration data in a separate place from the code, and read in by the code at run-time. For example keep the DB details in properties files.

4. **Backing Services** - Treat backing services as attached resources

A backing service is any service the app consumes over the network as part of its normal operation. For example Data stores DB2, Oracle, MySQL and etc), application can connect to any data store

5. **Build, Release and Run** - Strictly separate build and run stages

This can be accomplished by using existing tools to fully automate your build process. A tool like Github can be used to tag your latest build, while Jenkins can be used to automate your release stage

6. **Process** - Execute the app as one or more stateless processes

Twelve-factor processes are stateless and share-nothing. Any data that needs to persist must be stored in a stateful backing service, typically a database.
It's likely an application can run on many servers, because that makes it more fault tolerant, and because it reduce more network traffic. As a rule, we have each of those instances of running code to be stateless.

7. **Port Binding** - Export services via port binding

All application services should be accessible via a URL. For web applications, this process happens automatically.
The idea is that, just like all the backing services you are consuming, our application can also interfaces to the world using a simple URL.
And we can export our application services with different end point URLs.

8. **Concurrency** – Scale out via the process mode

Every process inside your application should be treated as a first-class citizen. That means that each process should be able to scale, restart, or clone itself when needed.
This approach will improve the sustainability and scalability of your application as a whole.

9. **Disposability** - Maximize robustness with fast startup and graceful shutdown

The application should be good enough to handle unexpected, non-graceful terminations as well.
Processes should also be robust against sudden death, in the case of a failure in the underlying hardware.
Similarly application should quickly startup all the services, but startup and shutdown processes can take up to several minutes depending on their size

10. **Dev /Prod parity** - Keep development, staging, and production as similar as possible

Consistency is key for meeting this factor. When your environments are similar, testing and developing gets much simpler.

Similar environments means ensuring that areas such as your infrastructure stack, config management processes, software and runtime versions and deployment tools are the same everywhere

11. Log - Treat logs as event streams

Logging is important for debugging and checking up on the general health of our application.

At the same time, your application shouldn't concern itself with the storage of this information. Instead, these logs should be treated as a continuous stream that is captured and stored by a separate service.

12. Admin Process - Run admin/management tasks as one-off processes

One-off admin processes are essentially data collection jobs that are used to gather key information about your application.

This information will be needed to assess the state of your production environment, so it's important to ensure these one-off processes occur in your production environment.

How to create a new Microservice Project

Under Construction
This page is under construction

- Creation of Eclipse Project
- Build Process
 - Integration of Gradle
 - Integration of JenkinsFile
 - Integration of Springboot
- Java Frameworks Integration
 - Integration of Logging Framework
 - Integration of Hibernate Framework
 - Integration of Exception Handling Framework

Creation of Eclipse Project

Build Process

Integration of Gradle

- plugin flyway
- task flyway: flywayParameters

Integration of JenkinsFile

- generic Jenkinsfile

Integration of Springboot

- create application.yml for all environments (e.g. application-PreDEV-master.yml, application-DEV.yml)

Java Frameworks Integration

Integration of Logging Framework

VTAS Logging

Integration of Hibernate Framework

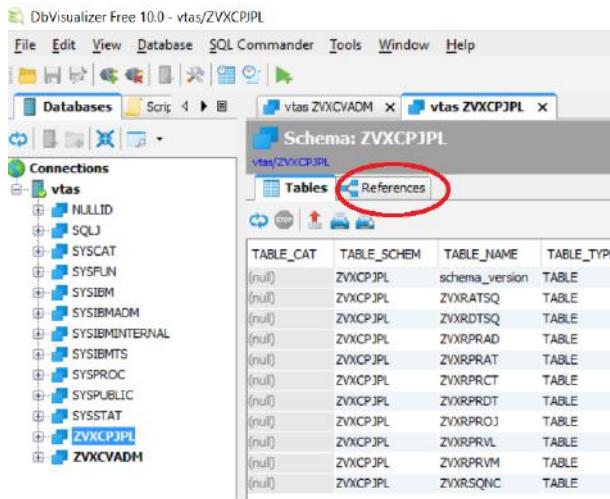
Database Entities (Naming Strategy)

Integration of Exception Handling Framework

Exception Handling with I18N

How to create Data model from the existing database (reverse engineering)?

1. Install DbVisualizer Free.
2. Create a database connection, wizard will be asking the required parameters in the first run of DbVisualizer
3. Double click on Schema from the left side tree and then click on references.



how to create Microservices (best practices)

- Use the Single Responsibility Principle(SRP): Having a limited and a focused business scope for a microservice helps us to meet the agility in development and delivery of services.
- Each microservice can have a private database to persist the data that requires to implement the business functionality offered from it.
- During the design phase of the microservices, find their boundaries and align them with the business capabilities – bounded context
- Make sure the microservices design ensures the agile/independent development and deployment of the service.
- Start with relatively broad service boundaries to begin with, refactoring to smaller ones (based on business requirements) as time goes on.
- In some business scenarios, you might have to update several database for a single transaction. In such scenarios, the databases of other microservices should be updated through its service API only
- Ability to deploy/un-deploy independently of other microservices.
- Must be able to scale at each microservices level (a given service may get more traffic than other services).
- Failure in one microservice must not affect any of the other services.
- The NFRs like end user authentication, throttling, monitoring etc has to be implemented at each and every microservice level. As a result of duplicating common functionalities, each micro service implementation become complex.
- There is no control what so ever on the communication between the services and clients (even for monitoring, tracing or filtering)
- Often the direct communication style is considered as microservice anti-pattern for large scale microservice implementations.
- Rather than having a point to point connectivity or a central ESB, use a light weight central messaging bus (API Gateway) which can provide an abstraction layer for microservices and that can be used to implement various NFRs.
- Keep domain knowledge out of the gateway. The gateway should handle and route client requests without any knowledge of the business rules or domain logic. Otherwise, the gateway becomes a dependency and can cause coupling between services.

Related articles

<https://medium.com/@WSO2/guidelines-for-designing-microservices-71ee1997776c>

- how to create Microservices (best practices)
- Microservices: Why an API Gateway

How to design Microservices

Microservices best practices

How to raise a ticket for PlaaS support?

1. Go to [this link](#)
2. Select **Incident**

The screenshot shows the INSERE Industrial Service Request portal interface. The top navigation bar includes links for HOME, INFORMATION & SUPPORT, INCIDENT (which is highlighted in yellow), and MY REQUESTS. Below the navigation is a breadcrumb trail: Service Catalog > Incident > Troubleshooting. The main content area is titled "Troubleshooting". It contains a table for SLA rules with columns for Priority, Deadline to start, and Fulfillment time. There are input fields for Title (containing "Get it down") and Description, which includes a rich text editor. A note says "Please take a look at the Gerard instance of vTAS PlaaS. It's currently not available." Below the text area is a section for attachments with a placeholder "Click here to add an attachment (the maximum file size is 10 Mb.)". There are dropdown menus for Engagement Code (set to DAI-POS-UMS 2015 - DAI-POS-UMS 2015) and Impact (set to 1 - High). The Type dropdown is set to Application, and the Production Line dropdown is set to Production Line. At the bottom right is a "Submit" button.

3. Fill out the **required** fields
- a. Title
- b. Description
- c. Engagement Code: **100121876_9**
- d. Impact: *depends on your perception. Unavailability of a certain service is **high***
- e. Type: **Application**
- f. Application: **Production Line**

How to validate Form Input in backend

plz check the following Guide: <https://spring.io/guides/gs/validating-form-input/>

Microservices: Why an API Gateway

- The API gateway will be the entry point for every new request that is being executed by the app.
- The API Gateway can collapse all the responses from the micro services into one response.
- The API gateway centralize all of the authentication, logging, transformations, and traffic control that you need to implement in your

- app.
- API gateway take responsibilities like monitoring, load balancing, caching, request shaping and management and static response handling.
 - The API gateway can implement things like circuit breakers, which means that after a specific threshold, the API gateway will stop sending data to the component that's failing.

Related articles

<https://www.nginx.com/blog/microservices-api-gateways-part-1-why-an-api-gateway/>

- how to create Microservices (best practices)
- Microservices: Why an API Gateway

Replicated Caching using RMI (EHCache)

Introduction

Replicated caching using RMI is desirable because:

- RMI is the default remoting mechanism in Java
- it allows tuning of TCP socket options
- Element keys and values for disk storage must already be Serializable, therefore directly transmittable over RMI without the need for conversion to a third format such as XML.
- it can be configured to pass through firewalls

To set up replicated caching with RMI you need to configure the CacheManager with:

- a PeerProvider
- a CacheManagerPeerListener

Only Serializable Elements are suitable for replication

Configuring the Peer Provider

Peer Discovery

Specify the class attribute of cacheManagerPeerProviderFactory as net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory in the ehcache.xml configuration file.

Automatic Peer Discovery

To set automatic peer discovery, specify the properties attribute of cacheManagerPeerProviderFactory as follows:

```
peerDiscovery=automatic  
multicastGroupAddress=multicast address / multicast host name  
multicastGroupPort=port  
timeToLive=0-255 (See below in common problems before setting this)
```

hostName=*the hostname or IP of the interface to be used for sending and receiving multicast packets*

Example

Suppose you have two servers in a cluster, server1 and server2. You wish to distribute sampleCache11 and sampleCache12. The configuration required for each server is identical, so the configuration for both server1 and server2 is the following:

```
<cacheManagerPeerProviderFactory  
    class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"  
    properties="peerDiscovery=automatic, multicastGroupAddress=230.0.0.1,multicastGroupPort=4446,  
    timeToLive=32"/>
```

Manual Peer Discovery

Specify the properties attribute of cacheManagerPeerProviderFactory as follows:

```
peerDiscovery=manual  
rmiUrls=//server:port/cacheName, ...
```

The rmiUrls is a list of the cache peers of the server being configured. Do not include the server being configured in the list.

Example

Suppose you have two servers in a cluster, server1 and server2. You wish to distribute sampleCache11 and sampleCache12.

The following is the configuration required for server1:

```
<cacheManagerPeerProviderFactory  
    class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"  
    properties="peerDiscovery=manual,  
    rmiUrls=//server2:40001/sampleCache11|//server2:40001/sampleCache12"/>
```

The following is the configuration required for server2:

```
<cacheManagerPeerProviderFactory  
    class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"  
    properties="peerDiscovery=manual,  
    rmiUrls=//server1:40001/sampleCache11|//server1:40001/sampleCache12"/>
```

Configuring the CacheManagerPeerListener

The attributes of cacheManagerPeerListenerFactory are:

- class - a fully qualified factory class name
- properties - comma separated properties having meaning only to the factory.

```
<cacheManagerPeerListenerFactory  
    class="net.sf.ehcache.distribution.RMICacheManagerPeerListenerFactory"  
    properties="hostName=localhost, port=40001, socketTimeoutMillis=2000"/>
```

Valid properties are:

- hostName (optional) - the hostName of the host the listener is running on.
- port (mandatory) - the port the listener listens on.
- socketTimeoutMillis (optional) - the number of seconds client sockets will wait when sending messages to this listener until they give up. By default this is 2000ms.

Configuring Cache Replicators

Each cache that will be replicated needs to set a cache event listener which then replicates messages to the other CacheManager peers.

```

<!-- Sample cache named sampleCache2. -->

<cache name="sampleCache2" maxEntriesLocalHeap="10" eternal="false" timeToIdleSeconds="100"
timeToLiveSeconds="100" overflowToDisk="false">

<cacheEventListenerFactory
class="net.sf.ehcache.distribution.RMICacheReplicatorFactory"
properties="replicateAsynchronously=true, replicatePuts=true,
replicateUpdates=true,replicateUpdatesViaCopy=false, replicateRemovals=true "/>

</cache>

```

class - use net.sf.ehcache.distribution.RMICacheReplicatorFactory

The factory recognises the following properties:

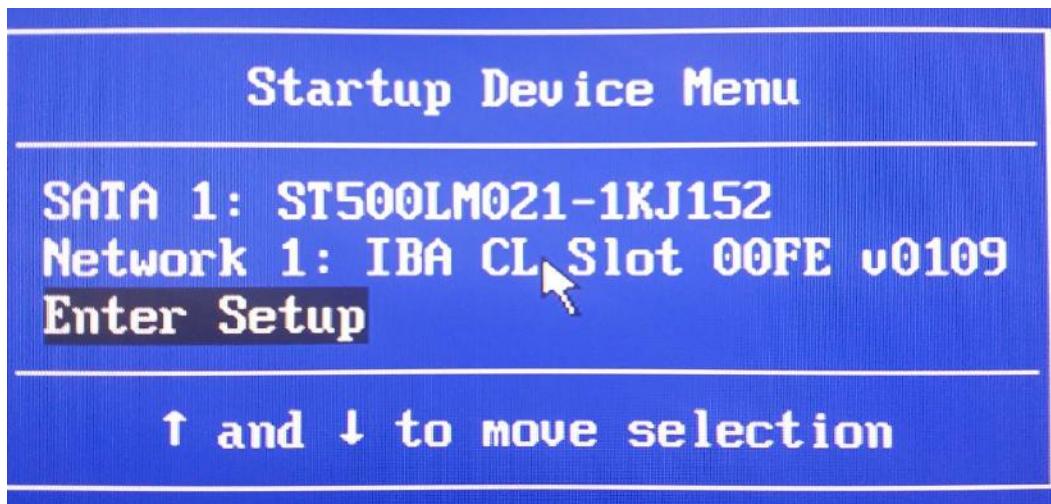
- replicatePuts=true | false - whether new elements placed in a cache are replicated to others. Defaults to true.
- replicateUpdates=true | false - whether new elements which override an element already existing with the same key are replicated. Defaults to true.
- replicateRemovals=true - whether element removals are replicated. Defaults to true.
- replicateAsynchronously=true | false - whether replications are asynchronous (true) or synchronous (false). Defaults to true.
- replicateUpdatesViaCopy=true | false - whether the new elements are copied to other caches (true), or whether a remove message is sent. Defaults to true.

Resolving common issues

1. Before starting Docker quick start terminal we should enable virtual environment in the Bios setup. Otherwise we will get error when we start the docker terminal.

Steps to enable BIOS setup

a. Power on the machine and open BIOS setup. Usually it can be done by pressing F12 button, click on Enter Setup



b. Navigate to Advanced tab and select CPU setup and click Enter

Main	Devices	Advanced	Power	Security	Startup	Exit
► CPU Setup						
► Intel(R) Manageability						
Intel(R) SIPP Support			[Enabled]			
CPU CRID Support			[Enabled]			
Chipset CRID Support			[Enabled]			
Active Protection System			[Enabled]			
Dust Shield Alert			[Disabled]			

c. Enable Intel Virtualization Technology or AMD-V depends on the brand of the processor.

Advanced		CPU Setup	Help Message
EIST Support		[Enabled]	
Core Multi-Processing		[Enabled]	
Intel(R) Virtualization Technology		[Enabled]	Intel(R) Virtualization Technology allows PC platforms to run multiple applications and operating systems simultaneously in independent partitions, to help to manage and protect the multi-functional capabilities of PCs.
VT-d		[Disabled]	Select whether to enable or disable Intel(R) Virtualization Technology.
TxT		[Disabled]	
C1E Support		[Enabled]	
C State Support		[C1C3C6C7C8]	
Turbo Mode		[Enabled]	
CPU ID	506E3		
Microcode Revision (MM/DD/YYYY)	0000009E (06/22/2016)		

d. Select save and exit.

2. While modifying the existing db scripts getting checksum error. Need inputs here.

3. In order to deploy our local changes we have to restart the docker every time.

Steps to export specific (or,custom) pages from confluence

To export pages to HTML, XML, or PDF:

1. Go to the space and choose Space tools > Content Tools from the bottom of the sidebar Choose Export
2. Select either HTML, XML, or PDF, then choose Next
3. Select either a **normal** or **custom export** for HTML or PDF, or a Full or Custom XML export
4. Choose Export

Note:

- Normal export will export the whole of VTAS pages
- Custom export will export only the specific pages
- Anyone with either admin or user privileges can export the pages.

Steps to push gerrit review patch

Consider a commit is pushed for review in gerrit

```
git push origin HEAD:refs/for/master
```

```
nipatip@DIN39001260 MINGW64 ~/git/testingGit (master)
$ git push origin HEAD:refs/for/master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 432 bytes | 0 bytes/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1)
remote: Processing changes: new: 1, refs: 1, done
remote:
remote: New Changes:
remote: https://vtas.s2-eu.capgemini.com/gerrit/33 [VTAS-000]: Testing commit of a gerrit review change
remote:
To https://vtas.s2-eu.capgemini.com/gerrit/p/testingGit.git
 * [new branch]      HEAD -> refs/for/master
```

Opening the gerrit UI for a commit which is sent for review...

<https://vtas.s2-eu.capgemini.com/gerrit/33>

The screenshot shows the Gerrit web interface for a code review. At the top, there are navigation links for All, My, Projects, People, Documentation, Changes, Drafts, Draft Comments, Edits, Watched Changes, Starred Changes, and Groups. A search bar is also present.

The main content area displays a "Change 33 - Needs Verified" page. The commit details are as follows:

- Author: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
- Committer: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
- Commit: b4a5b09489aa7f4847e08f109dd640c81e70a5c4 (gitweb)
- Parent(s): 46581c7b10fb0a5fd82fc214983d563cb487c73 (gitweb)
- Change-Id: lc7df10d495acf149b2ee3979bf5c150ca285a47b

A modal window is open for adding reviewers, with "Kiran Kumar Panda" listed as a suggestion. Below the commit details, there are buttons for Cherry Pick, Rebase, Abandon, and Follow-Up.

The "Code-Review" section shows a status of "Verified".

The "Files" section lists the file "niranjan_file.txt" with a "Comments Size" of 2 (+1, -1).

The "History" section shows "Niranjan Pathipati" uploaded patch set 1.

Let's assume reviewer gives a comment suggesting changes to a particular file.

The screenshot shows a detailed view of a code review comment. The left pane shows the commit history for "testingGit/niranjan_file.txt". The right pane shows the "Patch Set 1" details, specifically the "Comment" section. A yellow box highlights a comment from "Kiran Kumar Panda" dated Apr 10, 2017 7:10 PM:

: Added by Niranjan.
: Checking for gerrit issues.
: 5 Checking for file changes
1 How to push patch changes for a specific commit under review?

Advised few suggestions to incorporate into the file|

At the bottom of the comment, there are "Reply" and "Edit" buttons.

Reviewer replies the team member to look in to review comment.

All My Projects People Plugins Documentation

Changes Drafts Draft Comments Edits Watched Changes Starred Changes Groups

Search term

Change 33 - Needs Verified

[VTAS-000]: Testing commit of a gerrit review change

Change-Id: 1c7df10d495afc149b2ee3979bf5c150ca285a47b

Reply...
Pls incorporate the suggestions!

-2 -1 0 +1 +2
Code-Review No score
Verified No score

niranjan_file.txt
Line 5: Advised few suggestions to incorporate into the file

Post Cancel

Verified

Author Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
Committer Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
Commit b4a5b09489ea7f4847e00f109d640c81e70a5c4
Parent(s) 46581c7b0fb0a5f62fc214983d563cb487e73
Change-Id 1c7df10d495afc149b2ee3979bf5c150ca285a47b

Files Open All Diff against: Base Edit
File Path Commit Message niranjan_file.txt
Comments Size drafts: 1 2 +1, -1

History Expand All
Niranjan Pathipati Uploaded patch set 1 7:12 PM

Team member receives an email with all the changes suggested by the reviewer.

Change in testingGit[master]: [VTAS-000]: Testing commit of a gerrit review change

Kiran Kumar Panda (Code Review) [gerrit2@095126e00255]

Extra line breaks in this message were removed.

Sent: Mon 4/10/2017 7:21 PM

To: Pathipati, Niranjan

Kiran Kumar Panda has posted comments on this change.

Change subject: [VTAS-000]: Testing commit of a gerrit review change

Patch Set 1:

(1 comment)

Pls incorporate the suggestions

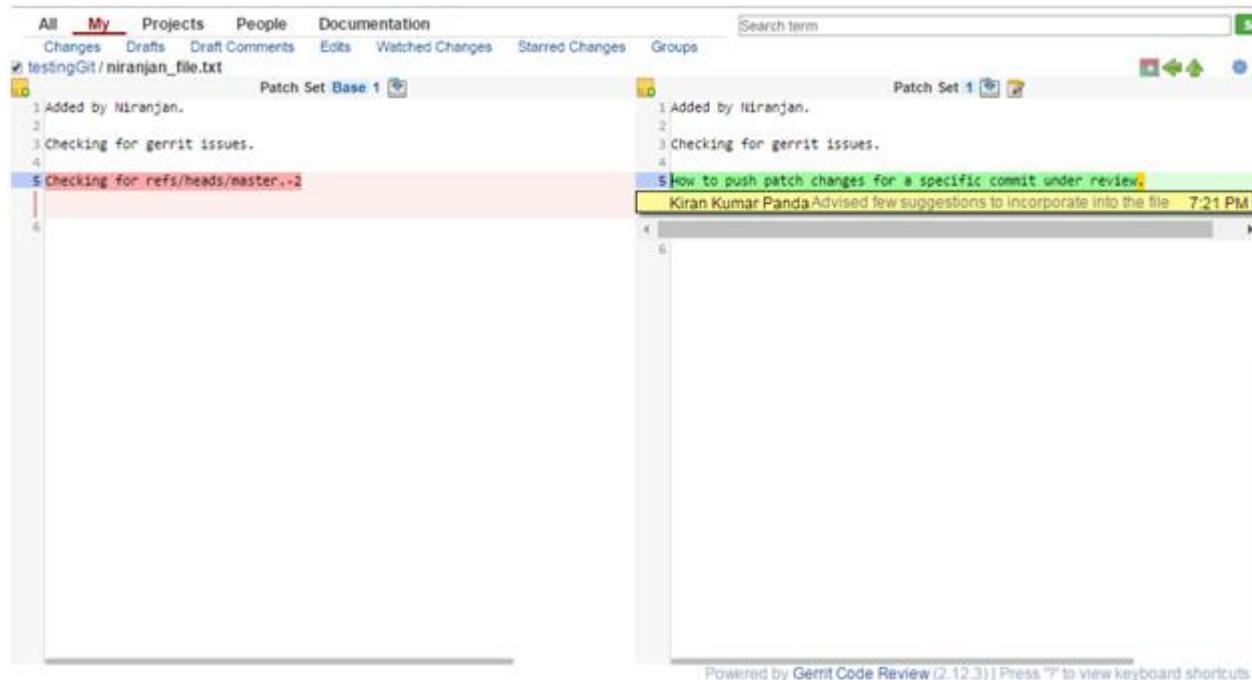
https://vtas.s2-eu.capgemini.com/gerrit/#/c/33/1/niranjan_file.txt
File niranjan_file.txt:

PS1, Line 5: .

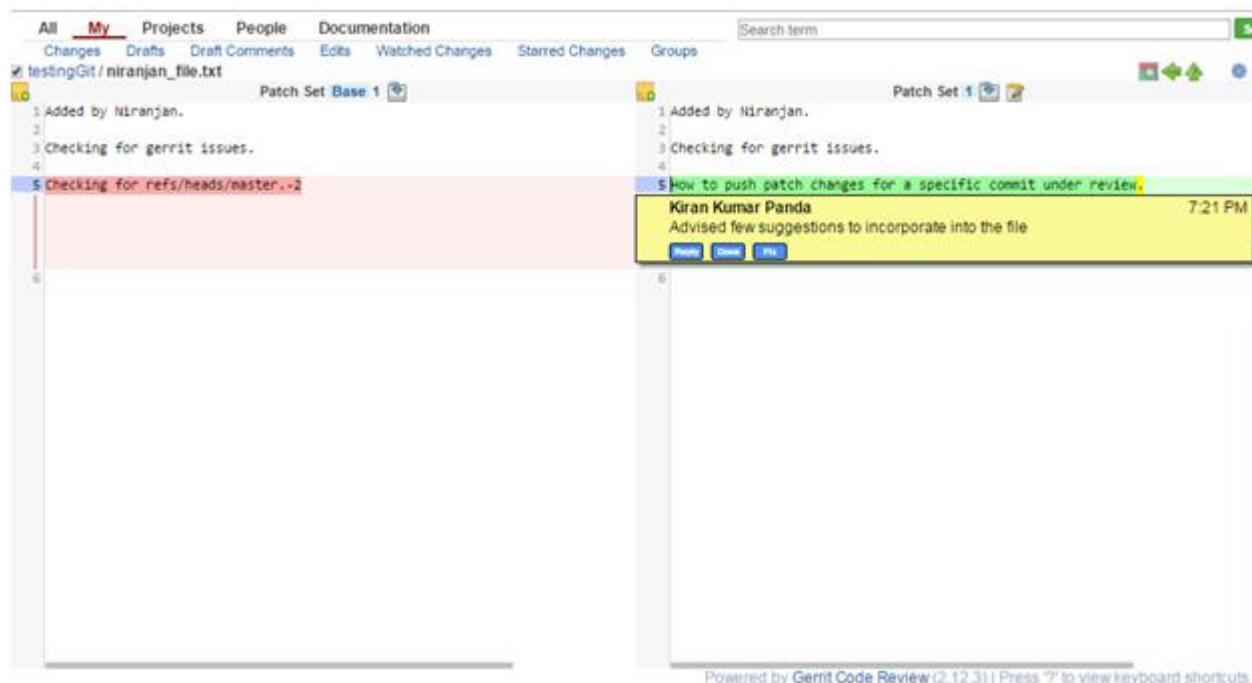
Advised few suggestions to incorporate into the file

--
To view, visit <https://vtas.s2-eu.capgemini.com/gerrit/33>
To unsubscribe, visit <https://vtas.s2-eu.capgemini.com/gerrit/settings>

Click on each file related link in the email to view the review comments of that file.



If team member wants to justify his code without any code changes, he needs to update the comments by clicking on the review comment and then reply.



If team member needs to incorporate the changes suggested by reviewer, first checkout the changes only related to a commit by using a commit id which can be found on gerrit UI or git CMD tool.

Change 33 - Needs Verified

[VTAS-000]: Testing commit of a gerrit review change

Change-Id: Ic7df10d495afc149b2ee3979bf5c150ca285a47b

Owner: Niranjan Pathipati
Reviewers: Kiran Kumar Panda

Project: testingGit
Branch: master
Topic:
Strategy: Merge If Necessary
Updated: 16 minutes ago

Cherry Pick | Rebase | Abandon | Follow-Up

Code-Review
Verified

Author: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
Committer: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
Commit: b4a5b09489aa7f4847e08f109dd640c81e70a5c4
Parents: 4c50111bd06a51021c21150d353c040fc15
Change-Id: Ic7df10d495afc149b2ee3979bf5c150ca285a47b

Or, by using git log command,

```
git log
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit (master)
$ git log
commit b4a5b09489aa/f484/e08f109dd640c81e/0a5c4
Author: Niranjan Pathipati <niranjan.pathipati@capgemini.com>
Date: Mon Apr 10 19:10:24 2017 +0530

[VTAS-000]: Testing commit of a gerrit review change

Change-Id: Ic7df10d495afc149b2ee3979bf5c150ca285a47b
```

```
git checkout b4a5b09489aa7f4847e08f109dd640c81e70a5c4
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit (master)
$ git checkout b4a5b09489aa/f484/e08f109dd640c81e/0a5c4
Note: checking out b4a5b09489aa/f484/e08f109dd640c81e/0a5c4'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -b with the checkout command again. Example:

  git checkout -b <new-branch-name>

HEAD is now at b4a5b09... [VTAS-000]: Testing commit of a gerrit review change
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
```

Then, modify the file according to the reviewer comments. We can see the files are ready to be added to staging.

```
git status
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git status
HEAD detached at b4a5b09
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

    modified:  niranjan_file.txt

no changes added to commit (use "git add" and/or "git commit -a")
```

Add the files to local repository.

```
git add -A
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git add -A

nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git status
HEAD detached at b4a5b09
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    modified:   niranjan_file.txt
```

Then commit the changes using git amend as below:

```
git commit --amend
```

A commit window gets opened. Modify the existing commit message if we need otherwise save the commit.

```
VTAS-000: Testing commit of a gerrit review change
Change-Id: 1c7df10d495afc149b2ee3979bf5c150ca285a47b
Please enter the commit message for your changes. Lines starting
with '#' will be ignored, and an empty message aborts the commit.
Date: Mon Apr 10 19:10:24 2017 +0530
HEAD detached at b4a5b09
Changes to be committed:
  modified:   niranjan_file.txt
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git commit --amend
[detached HEAD 85f9961] [VTAS-000]: Testing commit of a gerrit review change
  Date: Mon Apr 10 19:10:24 2017 +0530
  1 file changed, 3 insertions(+), 1 deletion(-)
```

Now, push these patch changes again to gerrit for review..

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((85f9961...))
$ git push origin HEAD:refs/for/master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 456 bytes | 0 bytes/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1)
remote: Processing changes: updated: 1, refs: 1, done
remote:
remote: Updated Changes:
remote: https://vtas.s2-eu.capgemini.com/gerrit/33 [VTAS-000]: Testing commit of a gerrit review change
remote:
To https://vtas.s2-eu.capgemini.com/gerrit/p/testingGit.git
 * [new branch]      HEAD -> refs/for/master
```

Reviewer gets notified about your changes.

Infrastructure

- Credentials
- Developer Machine
- Environments
- Production Line
- DB2 Roles Concept
- Automation
- EDC Maintenance Windows

Credentials

Credentials are stored in SVN: https://seu.sdm.de/pu/daimlervtas/svn/repository/08_Infrastructure/04_KeePass/vtas_keepass.kdbx

Please refer to [Patrick Kissling](#) or [Gayass Daher](#) for the KeePass password.

Developer Machine

- DB2
- Eclipse
- IntelliJ (outdated)

DB2

- General Concept
 - Docker Image
 - Creating a Container
 - Summary
- Usage
 - Run DB2 in your IDE
 - Wipe DB2
- Roles

General Concept

Docker Image

We use the DB2 Docker image which comes directly from IBM: <https://hub.docker.com/r/ibmcom/db2express-c/>

Creating a Container

In order to create a container from the image, we have a `docker-compose.yml` file.

In this file we define how the container needs to be build:

docker-compose.yml

```
version: "2"

services:
  db2_database:
    build:
      context: .
      dockerfile: Dockerfile-db2
    ports:
      - "50000:50000"
    # mount the db2_datastore (declared below)
    volumes:
      - db2_datastore:/home/db2inst1

  # this is a container where data of db2 (tables / content) is stored.
  volumes:
    db2_datastore:
```

- **Line 9:** The database shall be exposed to port: 50000
- **Line 12:** We define a dedicated volume (**db2_datastore**) which mounts `/home/db2inst1`. Within this folder the actual database is being stored.
This approach (separation of container & volumes) makes sure that we don't lose database in our database, since volumes are eternal - **Unless explicitly deleted.** (Todo reference)
- **Line 6:** Here we refer to a dockerfile (**Dockerfile-db2**). In this file we define how the container is being created.

Dockerfile-db2

```
#use a DB2 image from the Docker repository
FROM ibmcom/db2express-c:10.5.0.5-3.10.0

# set environment variables
ENV DB2INST1_PASSWORD=*****
ENV LICENSE=accept

# copy sh/sql scripts into the container and make it executable
COPY db2/sql /vtas_ddls
COPY db2/startAndMigrateDb2.sh /startAndMigrateDb2.sh
RUN chmod +x /vtas_ddls/*
RUN chmod +x /startAndMigrateDb2.sh

# add db users and passwords on os level
RUN useradd vtasrw01
RUN echo *****| passwd vtasrw01 --stdin
RUN useradd vtasr01
RUN echo *****| passwd vtasr01 --stdin
RUN useradd vtasadm
RUN echo *****| passwd vtasadm --stdin
RUN useradd vtassuperuser
RUN echo ***** | passwd vtasadm --stdin
RUN useradd vtasanalyst
RUN echo VTA$$_ANALYST | passwd vtasadm --stdin

# enter docker container
ENTRYPOINT [ "/entrypoint.sh", "db2start" ]

# start db2 and execute ddls
RUN ./startAndMigrateDb2.sh
```

- **Line 5-6:** setting required parameters
- **Line 9-12:** Copying files into container and making it executable
- **Line 15-24:** Add DB2 users on OS level and set passwords.
- **Line 27-30:** Start DB2 and execute the shell script
The shell script will then execute all existing SQL scripts (create database, bufferpools, tablespaces roles, etc) in alphabetical order.
<https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-main.git;a=tree;f=src/main/docker/db2/sql;h=7bf322ee8bf491e8be75555ec24b0977583cc2c4;hb=HEAD>

Summary

The docker-compose.yml refers to a Dockerfile-db2. The combination of both scripts will create and execute the container, as well as start the DB2 and execute the existing DDLs.

Usage

Run DB2 in your IDE

Eclipse#RunDB2DockerContainer

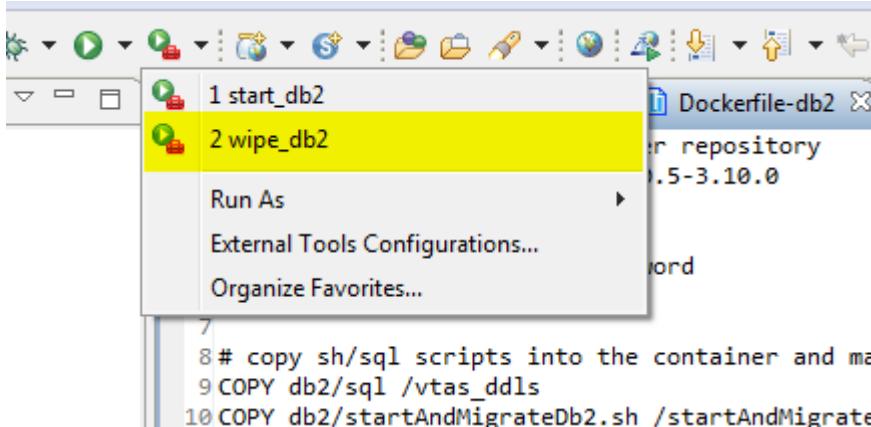
Wipe DB2

At any time you can wipe your local DB2 database and create a new one from scratch. **Automatically!**

In order to do so, please follow the steps:

1. Open IDE

2. Go to **Run Configuration** and execute **wipe_db2**. This step will wipe all data in your local database!



3. Via **Console** you can see that the Database is being wiped. (The process may take ~1 minute)

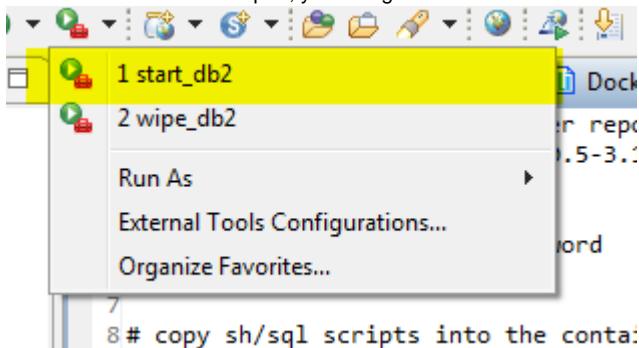
The screenshot shows the Eclipse IDE's 'Console' tab. The output of the 'wipe_db2' command is displayed:

```

<terminated> wipe_db2 [Program] C:\tools\devon_eclipse\workspaces\main\vtas-main\.settings\run_configurations\wipe_db2.bat
(default) Check network to re-create if needed...
(default) Waiting for an IP...
Machine "default" was started.
Waiting for SSH to be available...
Detecting the provisioner...
Started machines may have new IP addresses. You may need to re-run the `docker-machine env` command.
---- CONFIGURING DOCKER ----
Regenerating TLS certificates
Waiting for SSH to be available...
Detecting the provisioner...
Copying certs to the local machine directory...
Copying certs to the remote machine...
Setting Docker configuration on the remote daemon...
---- DB2 WIPE COMPLETED. YOU MAY START THE DB2 CONTAINER NOW VIA SCRIPT start_db2.bat ----

```

4. Once the Database was wiped, you can go ahead and **start** the DB2 container as usual



5. Via **Console** you can see that the database is then being created. Once the database was created, you will see the following output below.

Subsequent starts of the database will be much faster, thanks to docker layering.

The screenshot shows the Eclipse IDE's 'Console' tab. The output of the 'start_db2' command is displayed, showing the creation of a new database:

```

<terminated> start_db2 [Program] C:\tools\devon_eclipse\workspaces\main\vtas-main\.settings\run_configurations\start_db2.bat
DB20000I The SQL command completed successfully.

TERMINATE
DB20000I The TERMINATE command completed successfully.

---- END SCRIPT: /vtas_ddls/04_create_schema.sql ----
---- MIGRATION FINISHED ----
---- DB2 STARTED ----
--> f22020b146a9
Removing intermediate container 10b1502d3382
Successfully built f22020b146a9
Image for service db2_database was built because it did not already exist. To rebuild this
Creating docker_db2_database_1
--- DB2 STARTED ----

```

Eclipse

- 1 Foreword
- 2 Installation
 - 2.1 Download Devon Distribution (Eclipse)
 - 2.2 Download & Install Docker
 - 2.3 Extract and setup Eclipse
 - 2.4 Checkout PAI Tomcat Binaries from GIT
 - 2.5 Change AnyConnect configuration
- 3 Setup
 - 3.1 Java
 - 3.2 Install Gradle for Eclipse
 - 3.3 Import first Project
 - 3.4 Point Tomcat 8 to PAI Binaries
 - 3.5 Check Tomcat configuration in Eclipse
 - 3.6 Access the application
 - 3.7 Synchronize Rules in Sonar with Eclipse
 - 3.7.1 Update SonarLint Plugin
 - 3.7.2 Setup projects
 - 3.7.3 Using SonarLint
 - 3.8 Set Default Git Hook
 - 3.9 Read and Understand the Documentation
- 4 Deploy
 - 4.1 Run DB2 Docker Container
 - 4.2 Run the application

Foreword

Why did we choose Eclipse over IntelliJ?

The Community (free) version of IntelliJ does not support Application Server such as Tomcat at all. We found a fancy workaround for this by wrapping the Tomcat into a Docker container. Eventually we were able to deploy the application in the PAI Tomcat Server via IntelliJ.

However there were some disadvantages coming with this solution:

- **Yet another layer of abstraction:** Application was hosted in a virtual linux environment. Access to logfiles was hindered and finding the flaw in an unsuccessful deployment was quiet difficult.
- **No hot code replacement:** In my opinion the biggest disadvantage as this heavily hinders development speed. Any code changes requires a complete deployment lifecycle (including compilation of the entire application, creation of a docker container and starting the Tomcat server within the Docker container.)
- **Capgemini CSD uses Eclipse by default**
- **IntelliJ Ultimate version is not free:** IntelliJ would be able to handle Tomcat Application Server, however a license must be purchased.

So finally we decided to go for the Eclipse solution; now following you find instruction in order to install and run Eclipse.

Installation

Download Devon Distribution (Eclipse)

Link (https://coconet.capgemini.com/sf/frs/do/downloadFile/projects.apps2_devon/frs.devon_distribution.current_version/frs54537?dl=1)

Download & Install Docker

Download docker toolbox for windows: <https://download.docker.com/win/stable/DockerToolbox.exe>

Run the installer follow all the steps (Important to do a Full installation and to install all device software's)

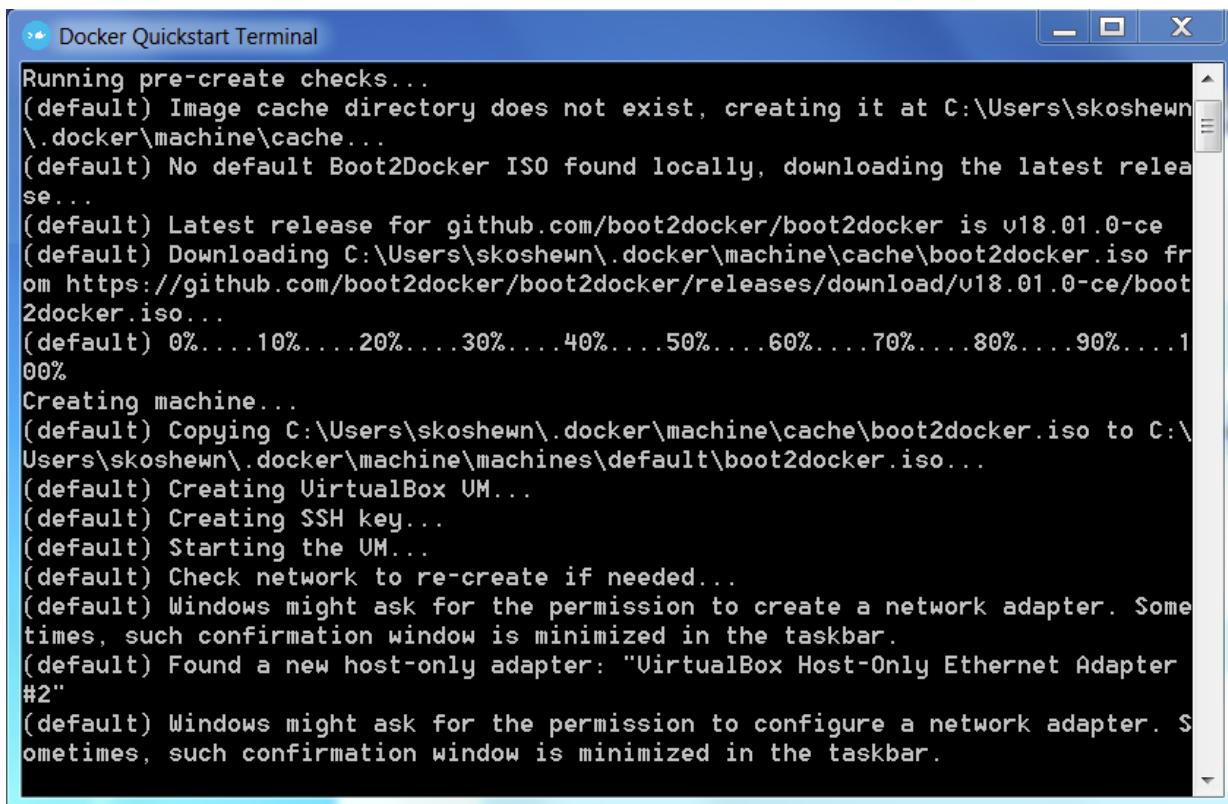
When getting an error while executing DockerToolbox:

```
Error creating machine: Error in driver during machine creation: This computer doesn't have  
VT-X/AMD-v enabled. Enabling it in the BIOS is mandatory.
```

Activate your VT-X/AMD-v in BIOS.

<https://www.itworld.com/article/2981515/virtualization/virtualbox-diagnose-and-fix-vt-xamd-v-hardware-acceleration-errors.html>

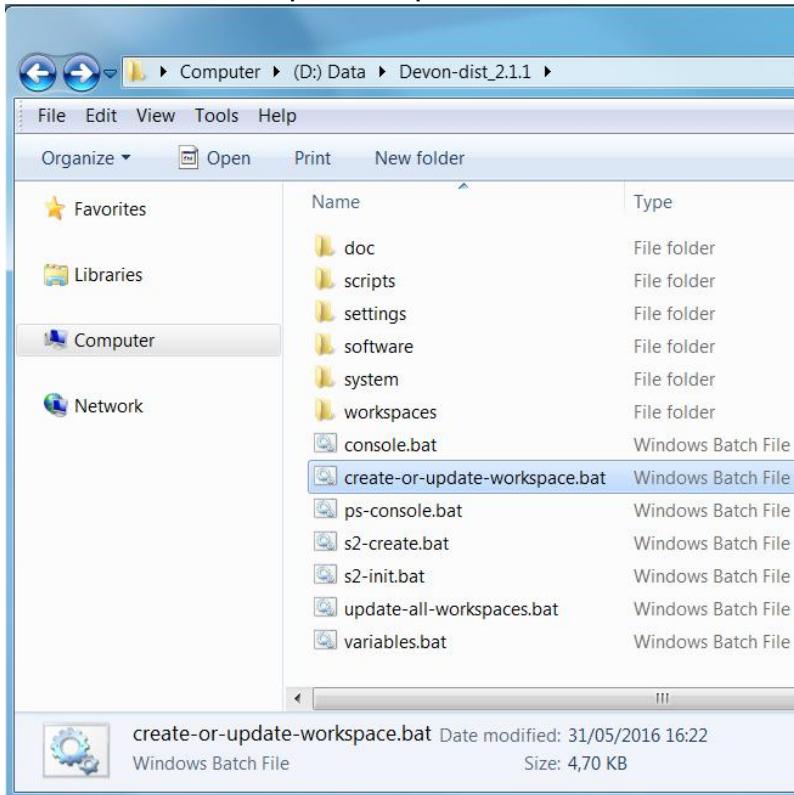
After completing the installation execute "Docker Quickstart Terminal" which should be located on the desktop. Docker will do some default configurations and creates a default docker container which is needed for the next steps. If you encounter problems concerning IP configuration when executing the Docker Quickstart Terminal, retry without active VPN connection.



```
Running pre-create checks...
(default) Image cache directory does not exist, creating it at C:\Users\skoshewn\.docker\machine\cache...
(default) No default Boot2Docker ISO found locally, downloading the latest release...
(default) Latest release for github.com/boot2docker/boot2docker is v18.01.0-ce
(default) Downloading C:\Users\skoshewn\.docker\machine\cache\boot2docker.iso from https://github.com/boot2docker/boot2docker/releases/download/v18.01.0-ce/boot2docker.iso...
(default) 0%....10%....20%....30%....40%....50%....60%....70%....80%....90%....100%
Creating machine...
(default) Copying C:\Users\skoshewn\.docker\machine\cache\boot2docker.iso to C:\Users\skoshewn\.docker\machine\machines\default\boot2docker.iso...
(default) Creating VirtualBox VM...
(default) Creating SSH key...
(default) Starting the VM...
(default) Check network to re-create if needed...
(default) Windows might ask for the permission to create a network adapter. Sometimes, such confirmation window is minimized in the taskbar.
(default) Found a new host-only adapter: "VirtualBox Host-Only Ethernet Adapter #2"
(default) Windows might ask for the permission to configure a network adapter. Sometimes, such confirmation window is minimized in the taskbar.
```

Extract and setup Eclipse

1. Unzip the Devonfw distribution into a directory of your choice i.e. C:\tools\eclipse. The path to the Devonfw distribution directory should contain no spaces to prevent problems with some of the tools.
2. Run the batch file "**create-or-update-workspace.bat**".

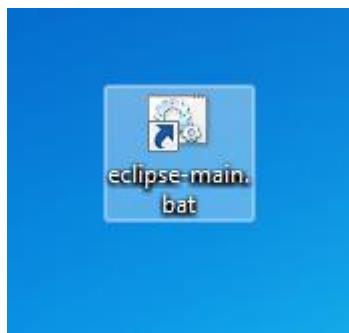


This will configure the included tools like Eclipse with the default settings of the Devonfw distribution.
The result should be as seen below

```
C:\WINDOWS\system32\cmd.exe
IDE environment has been initialized.
Copied workspaces\main\development\settings\maven\settings.xml to conf\.m2\settings.xml
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator logConfig
INFO: io.oasp.ide.eclipse.configurator.core.Configurator -u
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator main
INFO: Updating workspace
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator collectWorkspaceFiles
INFO: Collected 54 configuration files.
jun 23, 2015 5:55:37 PM io.oasp.ide.eclipse.configurator.core.Configurator main
INFO: Completed
Eclipse preferences for workspace: "main" have been created/updated
Created eclipse-main.bat
Finished creating/updating workspace: "main"

Press any key to continue . . .
```

3. Now you can start eclipse via "eclipse-main.bat". Consider placing a shortcut of this batch script on your desktop, as this script starts Eclipse.



Checkout PAI Tomcat Binaries from GIT

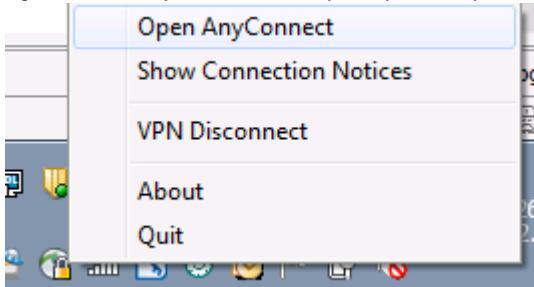
1. Open CMD
2. Navigate to a proper folder where you can checkout a repository i.e. C:\git
3. execute: **git clone https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-infrastructure.git**

```
C:\WINDOWS\system32\cmd.exe
C:>cd git
C:\git>git clone https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-infrastructure.git
Cloning into 'vtas-infrastructure'...
remote: Counting objects: 1007, done
remote: Finding sources: 100% <1007/1007>
remote: Total 1007 (delta 303), reused 1007 (delta 303)
Receiving objects: 100% <1007/1007>, 15.78 MiB / 1.99 MiB/s, done.
Resolving deltas: 100% <303/303>, done.
Checking connectivity... done.
C:\git>
```

Change AnyConnect configuration

If you are using AnyConnect to establish a VPN tunnel to the Daimler network, you need to apply a workaround in order to make Docker available for your machine while VPN is connected.

1. Disconnect VPN if currently active.
2. Right click the AnyConnect icon in your system tray



3. Click "Open Anyconnect"
4. Click "Settings"



5. Preferences
6. **Activate:** Allow local (LAN) access when using VPN (if configured)
7. Reconnect VPN.

Setup

Java

Oracle SDK 1.8.0 64 Bit which you can download from <http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

Install Gradle for Eclipse

1. Go to Eclipse Marketplace (Help -> Eclipse Marketplace)
2. Search for "**Buildship**".
3. Install Buildship.

Eclipse Marketplace

Select solutions to install. Press Finish to proceed with installation.
Press the information button to see a detailed overview and a link to more information.

Search Recent Popular Favorites Installed February Newsletter (Eclipse Marketplace)

Find: buildship All Markets All Categories Go

Buildship Gradle Integration 2.0
Extend your Eclipse IDE to support building software using Gradle. This solution is provided by the Eclipse Foundation. [more info](#)
by [Eclipse Buildship Project](#), EPL
[fileExtension_gradle](#)

148 installs: 159K (16.627 last month) Install

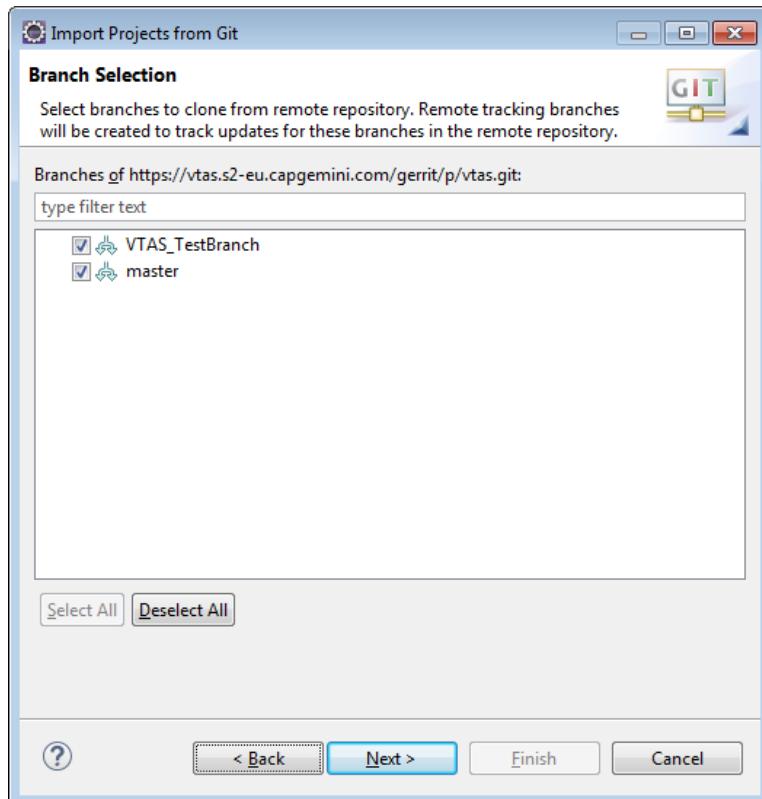
Minimalist Gradle Editor 1.0.1
<https://github.com/Nodeclipse/GradleEditor> Minimalist Gradle Editor for build.gradle files with highlight for keywords, strings and matching brackets and android... [more info](#)
by [Nodeclipse/Enide](#), GPL
[gradle_editor](#) [highlight](#) [build](#) [android](#) ...

22 installs: 29,2K (2.355 last month) Install

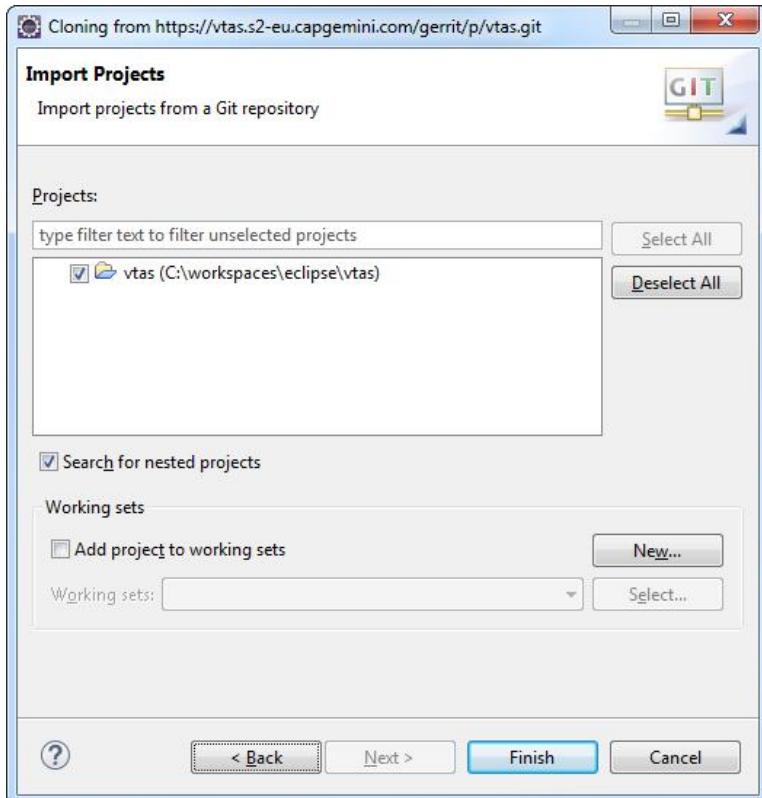
4. Restart Eclipse

Import first Project

1. File -> Import -> Git -> Projects from Git -> Clone URI
URI: <https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-main.git>
Authentication: Gerrit Username + Password (Gerrit for Git)
2. Click "Next".
3. Select all branches and click "Next"



4. Determine the checkout destination i.e. C:\workspaces\eclipse\vtas
5. Select "Import existing Eclipse projects"
6. Click "Next"
7. Keep the default settings and hit "Finish"

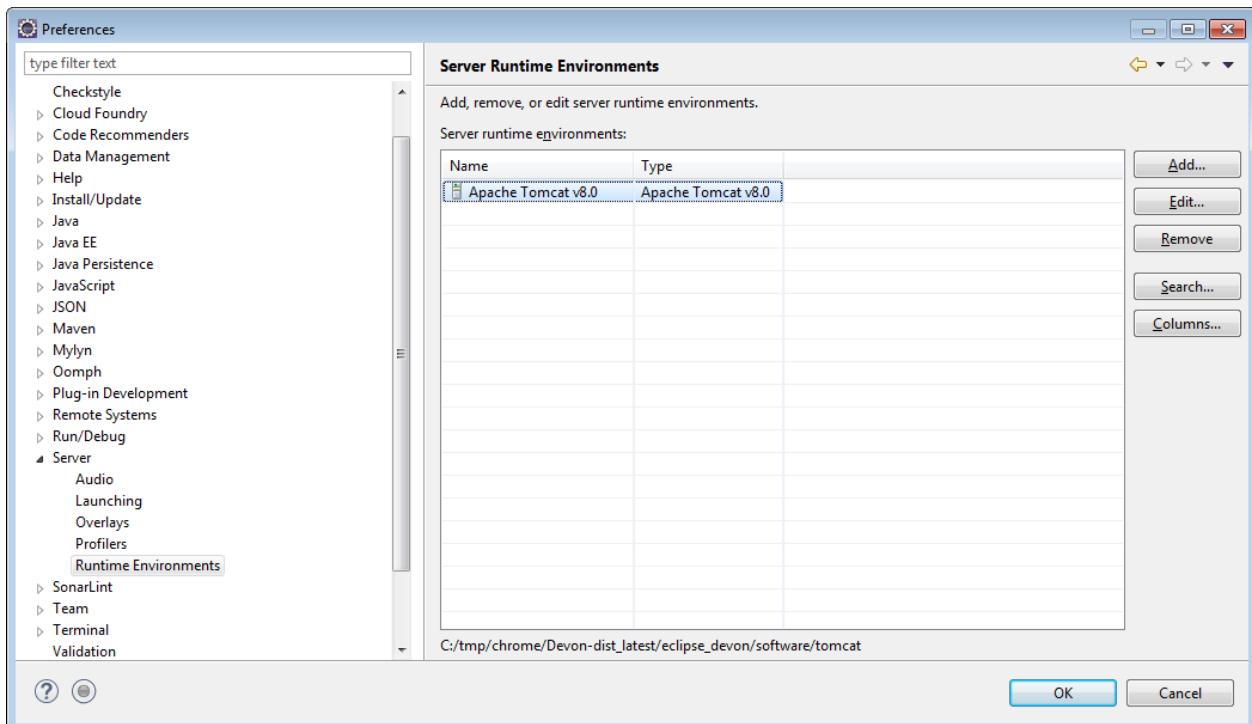


8. Repeat those steps also for project VTAS-ProjectPlanning (<https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-projectplanning.git>), so that you will have **at least two projects** imported in your workspace.

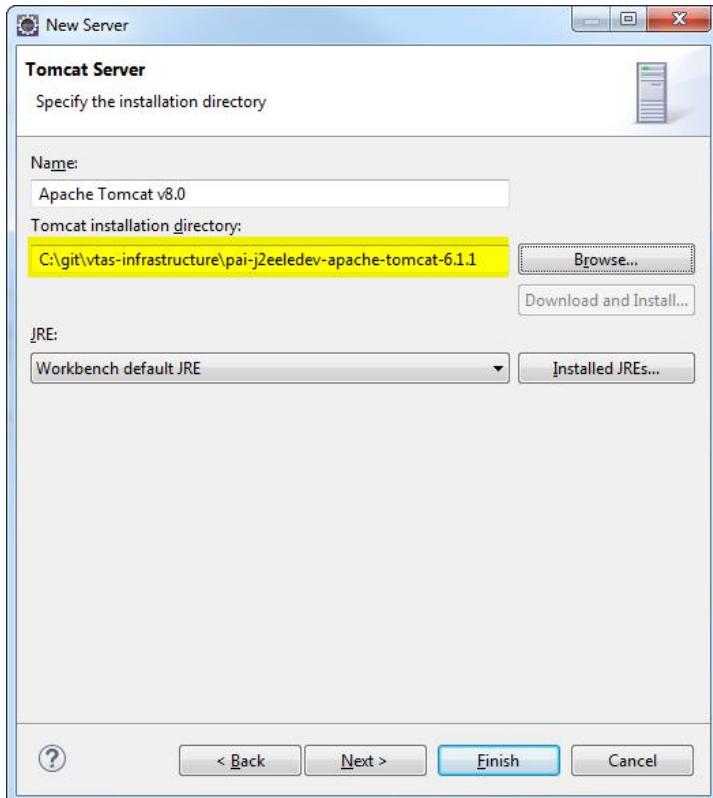
If you want to import more projects, repeat those steps. A list of all repositories (projects) can be found here: [Production Line#Repositories \(https://d3.ce.capgemini.com/confluence/display/VTAS/Production+Line#ProductionLine-Repositories\)](https://d3.ce.capgemini.com/confluence/display/VTAS/Production+Line#ProductionLine-Repositories)

Point Tomcat 8 to PAI Binaries

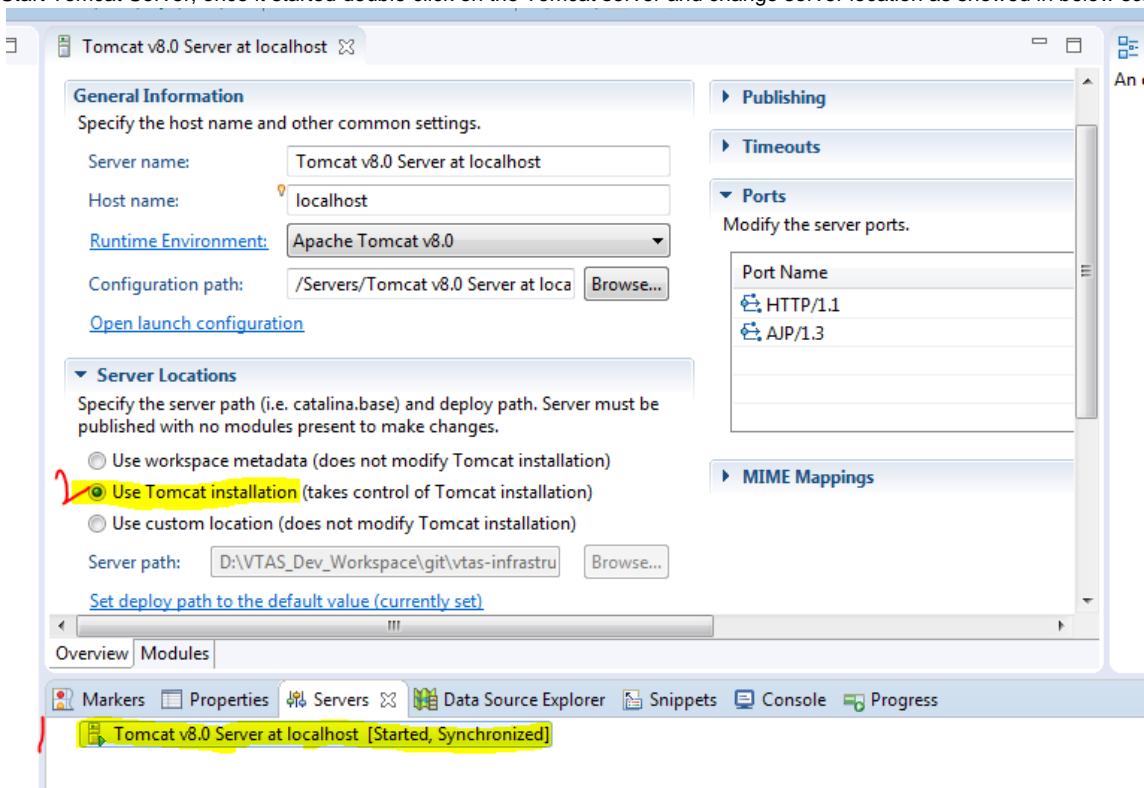
1. Go to Window-> Preferences -> Server -> Runtime Environments
2. Select Apache Tomcat V8.0 and click Edit



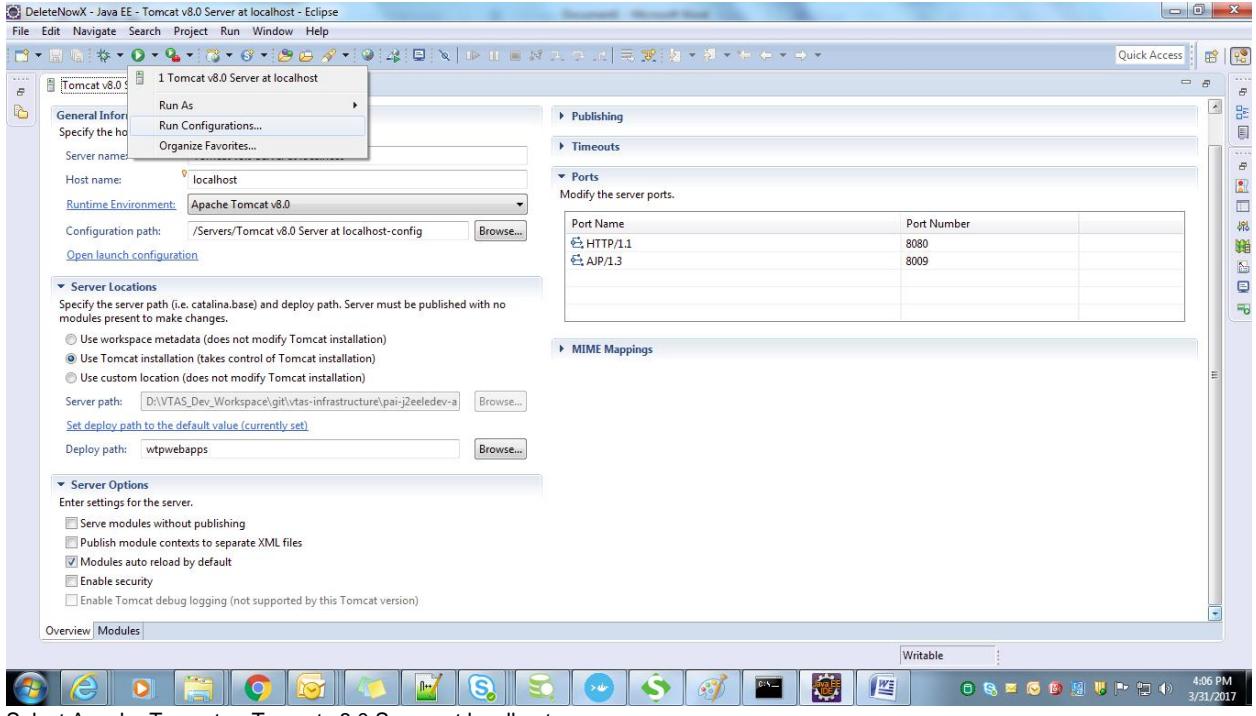
3. Now you have to point to the PAI Tomcat binaries which have been check out in [this step](#):



4. Start Tomcat Server, once it started double click on the Tomcat server and change server location as showed in below screen



5. Click on Run Configuration



6. Select Apache Tomcat -> Tomcat v8.0 Server at localhost

Select Arguments -> VM arguments

Add the below arguments for the existing arguments.

-Djava.security.auth.login.config=<path of jass.config>

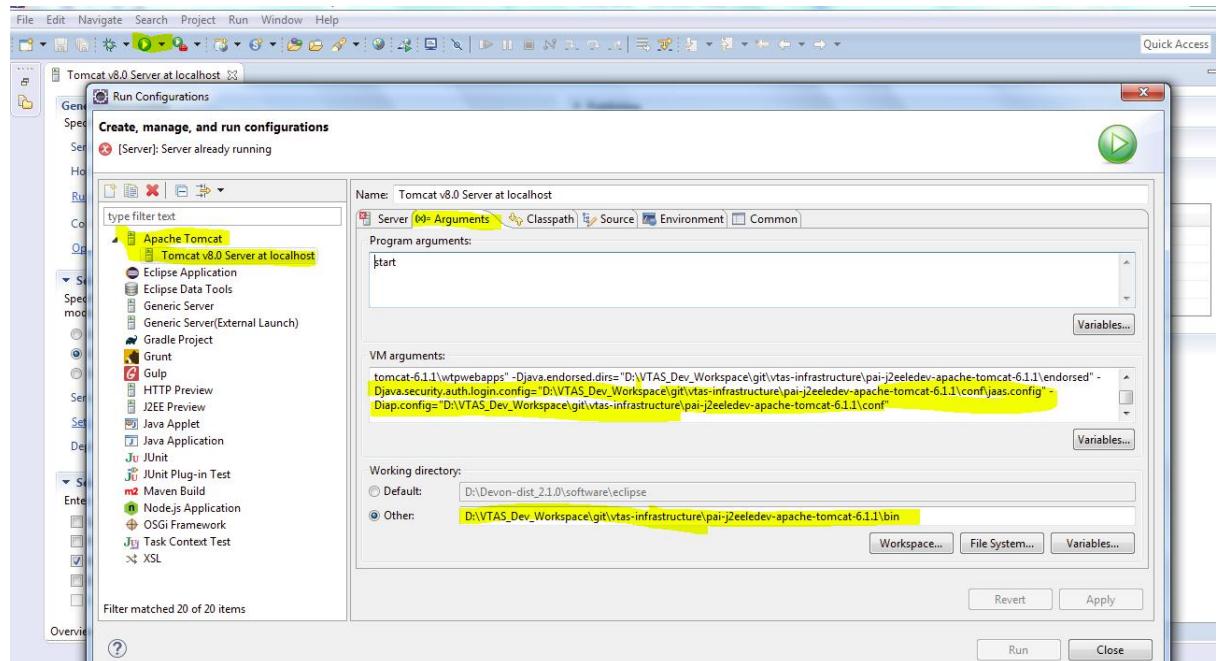
-Diap.config=<path of conf folder>

Example shown as below

```
-Djava.security.auth.login.config="D:\VTAS_Dev_Workspace\git\vtas-infrastructure\pai-j2eeledev-apache-tomcat-6.1.1\conf\jaas.config" -Diap.config="D:\VTAS_Dev_Workspace\git\vtas-infrastructure\pai-j2eeledev-apache-tomcat-6.1.1\conf"
```

7. Under working directory please add bin folder path of pai-j2eeledev-apache-tomcat.

For example: D:\VTAS_Dev_Workspace\git\vtas-infrastructure\pai-j2eeledev-apache-tomcat-6.1.1\bin

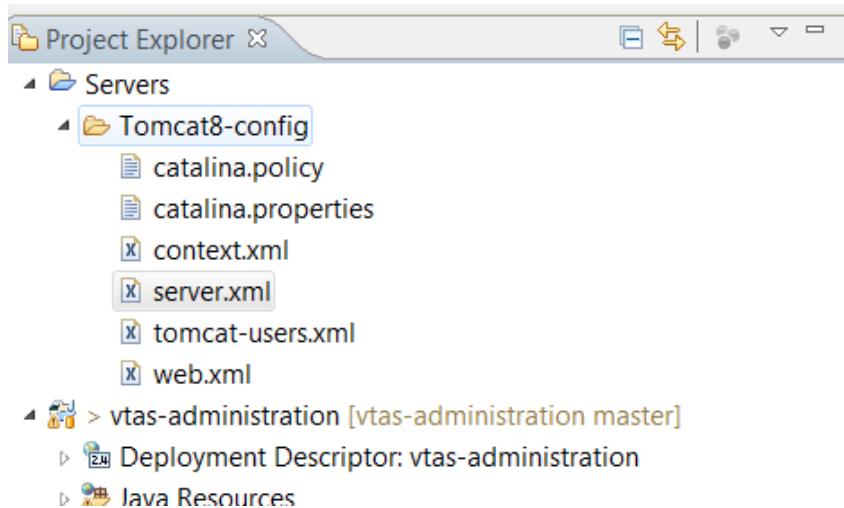


Check Tomcat configuration in Eclipse

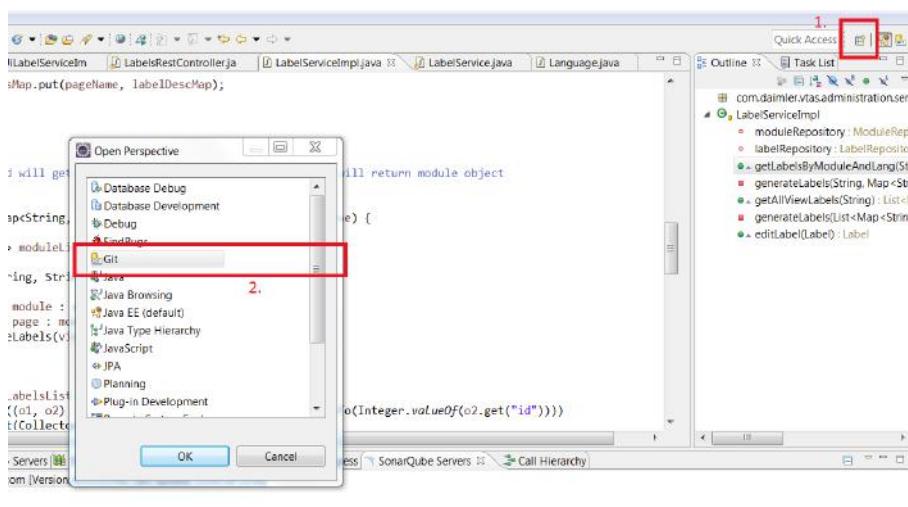
- Move to \vtas-infrastructure\pai-j2eeledev-apache-tomcat-6.1.1\conf folder and copy the content of the following files

- catalina.policy
- catalina.properties
- context.xml
- server.xml
- tomcat-users.xml
- web.xml

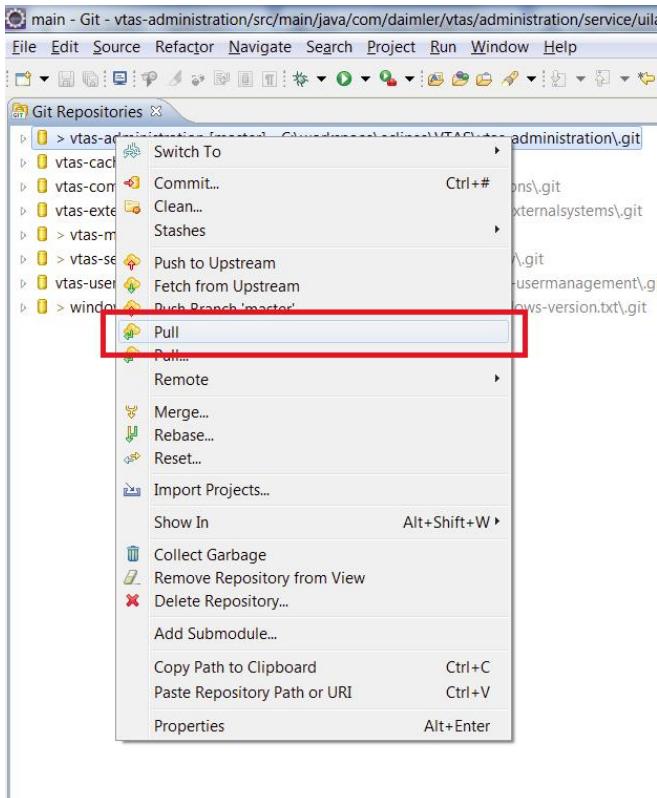
and replace it with the content of those files located in Eclipse. Also check if the ldap_data.properties file in conf folder is up to date.



2. Add the Git view in Eclipse by clicking the "Add view" button. Select "Git" and accept.



3. Switch to Git view, check if you added all the Git repositories and "Pull" the most current version from servers.



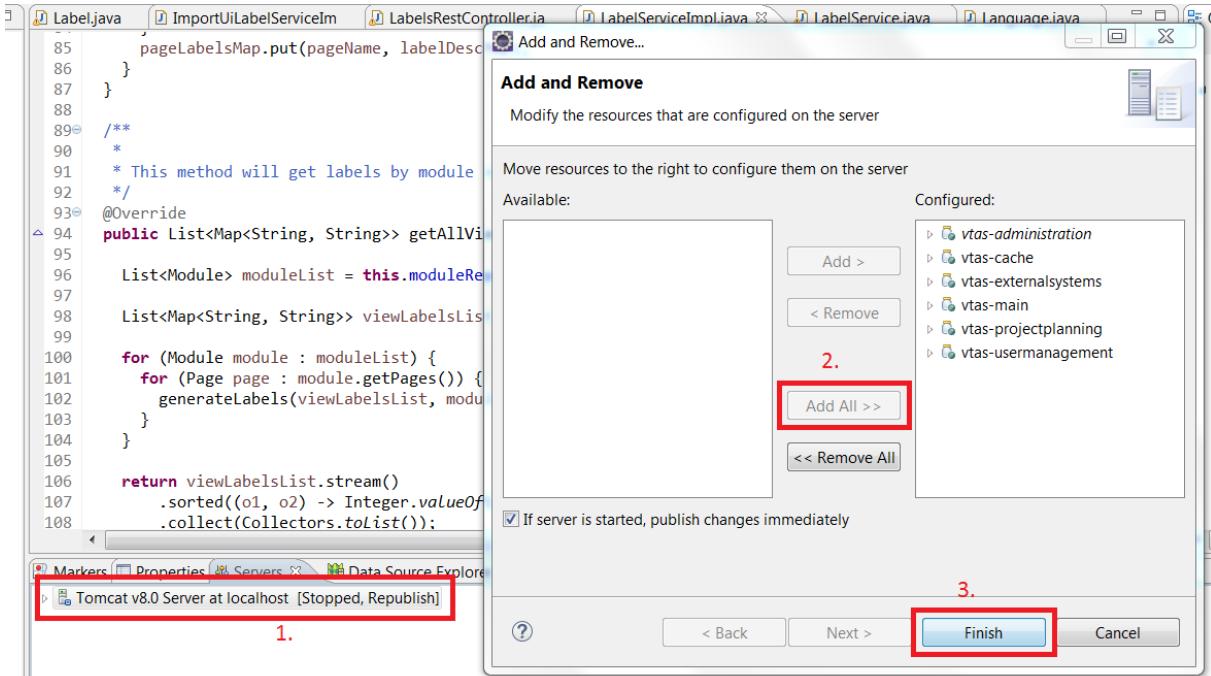
4. Configure all the projects in Eclipse.

- Rightclick on project, go to "Gradle" and click "Add Gradle nature".
- Rightclick on project, go to "Configure" and click "Convert to Faceted form"
- Do this for all VTAS projects you added to Eclipse

5. Rightclick the tomcat server and click "Add and remove...". Make sure that you "Remove all" and close the dialog.

Rightclick on the tomcat server one more time and execute a "Clean".

Now go back to "Add and remove...", add all the VTAS ressources to the server and accept by clicking on "Finish". You can now start the server. Also make sure that the database is running (Script: start_db2 in Eclipse).



Access the application

1. After provide all arguments click on Apply and Close.

Start/ Restart tomcat server. <http://localhost:8080>

Click on Manager App to view all deployed applications.

Select **j2eeletestapp** to access the application

Click on Security Verification

The screenshot shows a web browser window with the URL localhost:8080/j2eeletestapp/page/application/overview. The page title is "DAIMLER". At the top, there are tabs: Application, Security Verification, GUS - Group and User Service, and Monitoring. The "Security Verification" tab is highlighted with a red arrow pointing to it. Below the tabs, there are four categories: Application, Security Verification, GUS - Group and User Service, and Monitoring. Each category has a brief description. The "Application" section says "The J2EE Light Test Application to verify PAI and J2EE security." The "Security Verification" section says "The J2EE Light Test Application to verify PAI and J2EE security." The "GUS - Group and User Service" section says "Group and User Service (GUS) Tests". The "Monitoring" section says "The J2EE Light Test Application to verify Monitoring in Tomcat".

2. Provide login details

Name: IAPX0001

Password: IAPx0001

Click on Login

The screenshot shows a web browser window with the URL localhost:8080/j2eeletestapp/page/securityverification/securityroles. The page title is "DAIMLER". At the top, there are tabs: Application, Security Verification, GUS - Group and User Service, and Monitoring. The "Security Verification" tab is highlighted with a red arrow pointing to it. Below the tabs, there is a "Login" form. It has a placeholder "Please type in your user name and password". There are two input fields: "Name:" and "Password:", each with a corresponding text input box. Below the input fields is a "Login" button.

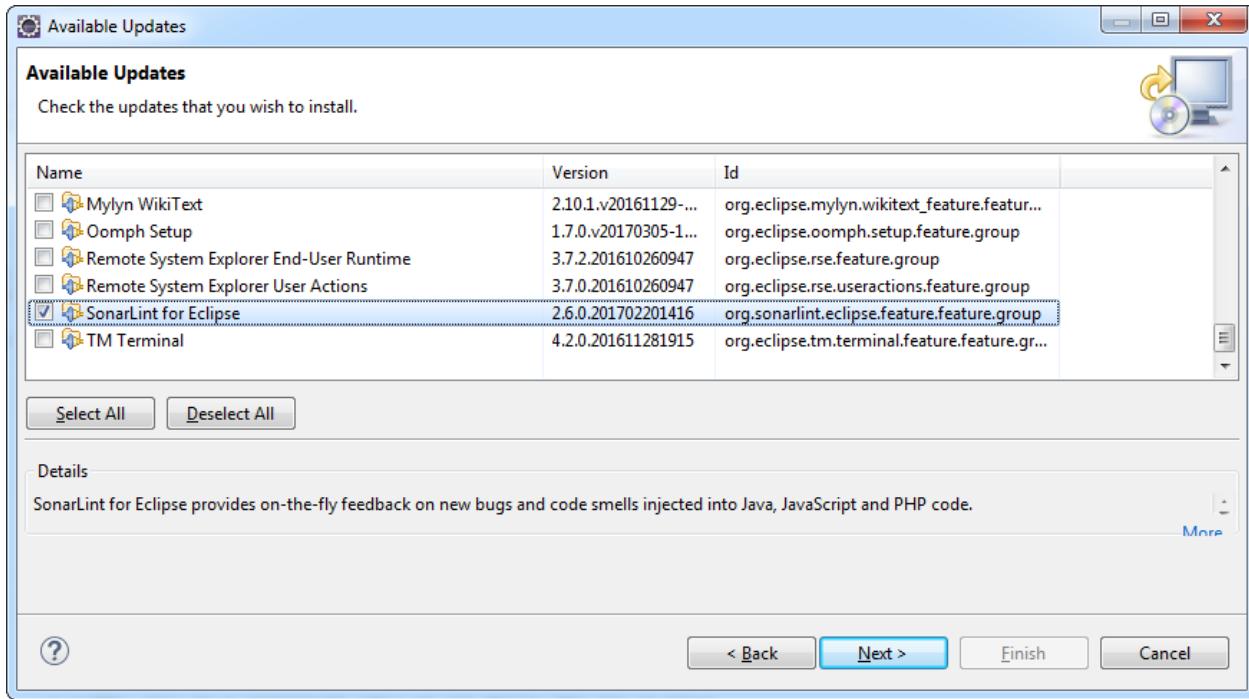
Synchronize Rules in Sonar with Eclipse

Wiki page for Sonar: [SonarQube](#)

Update SonarLint Plugin

Firstly we need to update the SonarLint plugin:

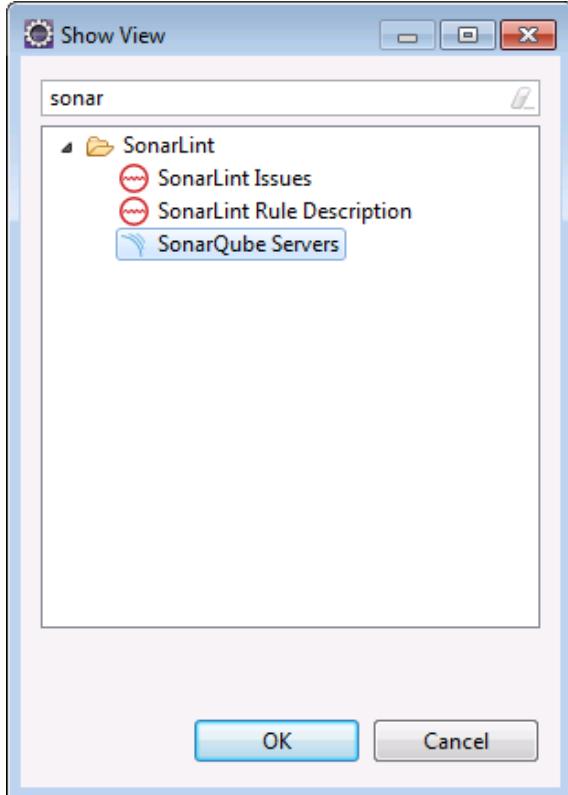
1. Go to **Help -> Check for Updates**
2. Click **Deselect all**
3. Locate **SonarLint for Eclipse** and **select** this entry.



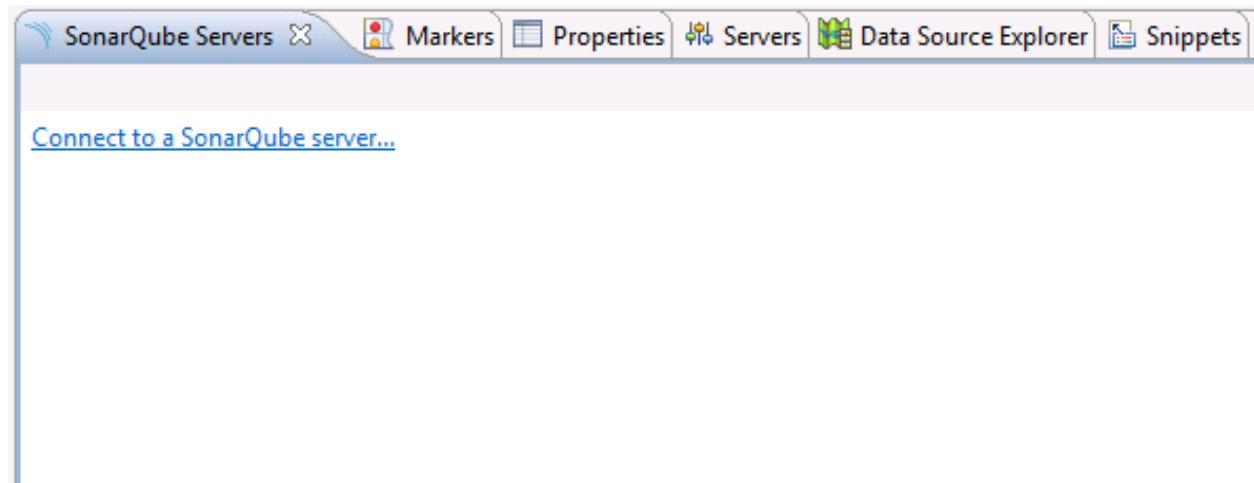
4. Click **Next**.
5. Click **Next** again.
6. **Accept** the license agreement.
7. Hit **Finish**.
8. Throughout the process of installation you will be asked to **restart** Eclipse. Please do so.

Setup projects

1. Go to **Window -> Show View -> Other**
2. Search for **Sonar**
3. Select **SonarQube Servers** and hit **OK**



4. Click **Connect to a SonarQube server** in the corresponding view



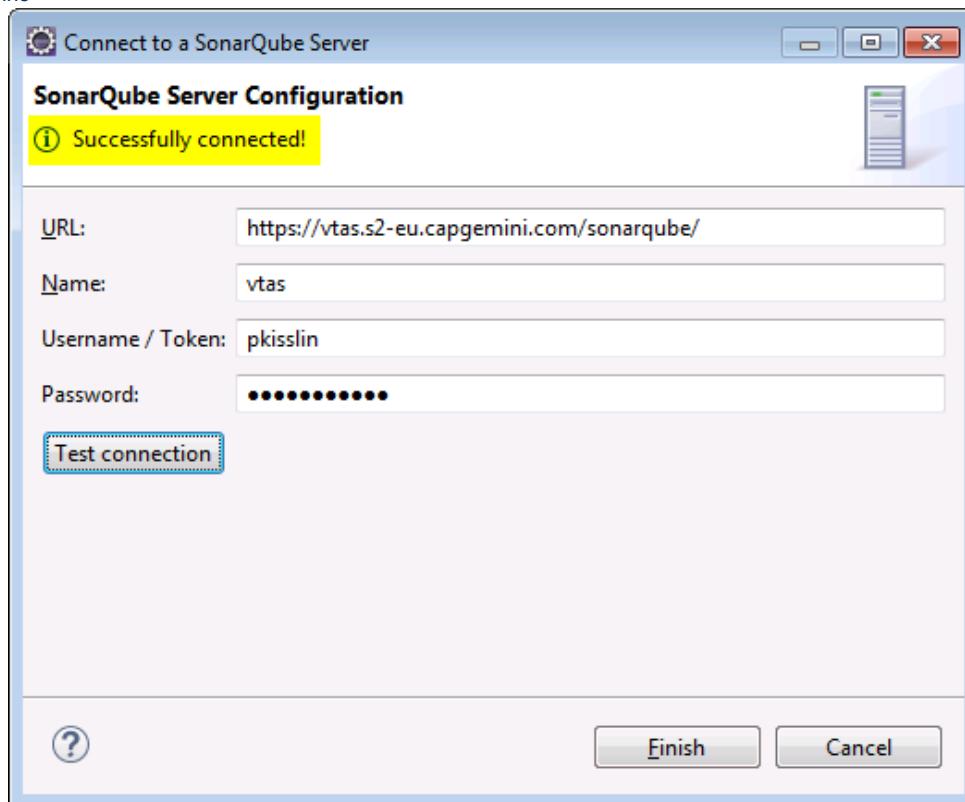
5. A popup will appear. Please provide the following details:
 - a. **URL:** <https://vtas.s2-eu.capgemini.com/sonarqube/>
 - b. **Username:** Your CORP username
 - c. **Password:** Your CORP password
 - d. **Name:** vtas (*Please use this exact name!*)

In case of problems while connection to Sonarqube:

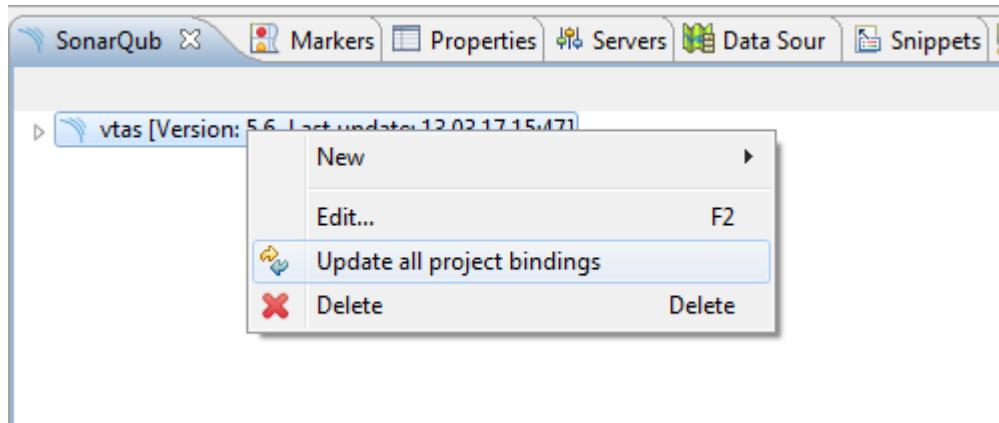
Configure your CORP password in LAM (LAM -> Edit your User -> Press "Set Password" -> Enter your CORP Password there (This is the password you need for your Notebook) -> Press "OK" -> Press "Save".

Afterwards you should be able to connect to your SQ Server using your CORP username and password.

6. Hit **Test Connection** and check if the connection was successful. If not, please refer to [LAM#GrantingUsersAccessstotheProductionLine](#)



7. Go back to the **SonarQube Servers** view, right click on the recently created server and select **Update all project bindings**.



Using SonarLint

- In the **Markers** view you will then see the Sonar violations.

0 errors, 273 warnings, 431 others (Filter matched 234 of 704 items)

Description	
▷	i Checkstyle Problem (21 items)
▷	i HTML Problem (100 of 245 items)
▷	i Java Problems (13 items)
◀	SonarLint (100 of 425 items)
i	"message" is already a string, there's no need to call "toString()" on it.
i	%n should be used in place of \n to produce the platform-specific line separator.
i	A "Set<Class>" cannot contain a "Class"
i	A "Set<Class>" cannot contain a "Class"
i	Add a default case to this switch.
i	Add a default case to this switch.
i	Add a nested comment explaining why this method is empty, throw an UnsupportedOperationException.
i	Add a nested comment explaining why this method is empty, throw an UnsupportedOperationException.
i	Add a nested comment explaining why this method is empty, throw an UnsupportedOperationException.
i	Add a private constructor to hide the implicit public one.
i	Add a private constructor to hide the implicit public one.
i	Add a private constructor to hide the implicit public one.
i	Add a validation filter to this "web.xml".
i	Add a validation filter to this "web.xml".
i	Add some tests to this class.
i	Add some tests to this class.
i	Annotate the "PersonRepository" interface with the @FunctionalInterface annotation (sonar.java.source)
i	Annotate the "PersonRepository" interface with the @FunctionalInterface annotation (sonar.java.source)
i	Annotate the "TickListener" interface with the @FunctionalInterface annotation (sonar.java.source)
i	At most one statement is allowed per line, but 2 statements were found on this line.
i	At most one statement is allowed per line, but 2 statements were found on this line.
i	At most one statement is allowed per line, but 2 statements were found on this line.
i	At most one statement is allowed per line, but 2 statements were found on this line.

- Sonar violations in code will now be displayed curly underlined. Hovering over the violations will then yield detailed information.

```

1 package com.daimler.vtas.poc.rest;
2
3 import com.daimler.vtas.poc.repository.PersonRepository;
4
5 @RestController
6 public class VtasRestController {
7
8     @Autowired
9     private PersonRepository personRepository;
10
11     @RequestMapping("/")
12     public String index() {
13         StringBuffer stringBuffer = new StringBuffer("Following entries found in database table 'person' \n");
14         stringBuffer.append(personRepository.findAll().toString());
15         return stringBuffer.toString();
16     }
17
18 }
19
20
21 }

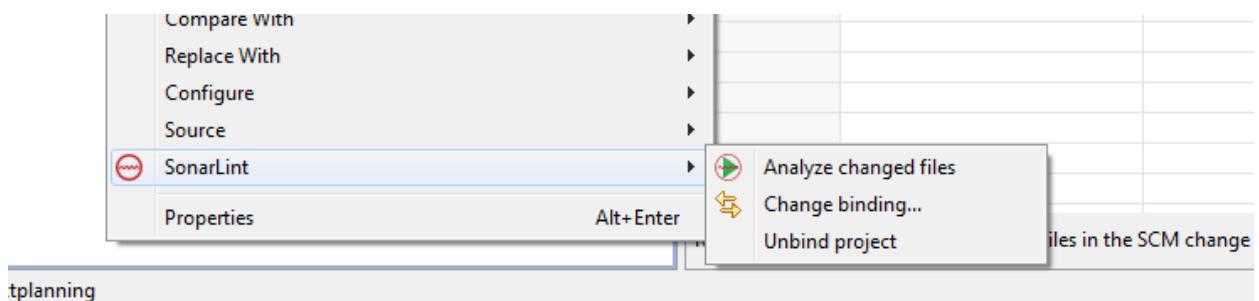
@RequestMapping("/")
public String index() {
    StringBuffer stringBuffer = new StringBuffer("Following entries found in database table 'person' \n"
        + "Replace the synchronized class "StringBuffer" by an unsynchronized one such as "StringBuilder".
    }
}

```

Press 'F2' for focus

- You can find Sonar violations for changed code by **right clicking the corresponding project -> SonarLint -> Analyze changed files**

This step should be done before every commit!



Set Default Git Hook

Please make sure that you have set the HTTP password for Gerrit correctly. Please make sure that the login to Gerrit is working

1. Download the commit hook from our repository: https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure.git;a=blob_plain;f=hooks/commit-msg;hb=HEAD (right click "Save link as")
2. Rename file to **commit-msg**
3. Navigate to
 - a. 32 Bit C:\Program Files (x86)\Git\mingw32\share\git-core\templates\hooks
 - b. 64 Bit C:\Program Files\Git\mingw64\share\git-core\templates\hooks
 - c. Any other path where Git was installed
4. Navigate to the VTAS repositories (C:\workspace\vtas & C:\workspace\vtas-projectplanning), open the command line, and execute **git init**.
5. Make sure that **each** repository contains a file named **commit-msg** in folder **.git/hooks**.

```
C:\WINDOWS\system32\cmd.exe
C:\workspaces\eclipse\vtas-projectplanning>git init
Reinitialized existing Git repository in C:/workspaces/eclipse/vtas-projectplann
ing/.git/
C:\workspaces\eclipse\vtas-projectplanning>cd .git\hooks
C:\workspaces\eclipse\vtas-projectplanning\.git\hooks>dir
 Volume in drive C is System
 Volume Serial Number is 303B-6D34

 Directory of C:\workspaces\eclipse\vtas-projectplanning\.git\hooks

23.03.2017  13:38    <DIR>        .
23.03.2017  13:38    <DIR>        ..
23.03.2017  13:38                478 applypatch-msg.sample
23.03.2017  13:38                5.500 commit-msg
23.03.2017  13:38                896 commit-msg.sample
23.03.2017  13:38                189 post-update.sample
23.03.2017  13:38                424 pre-applypatch.sample
23.03.2017  13:38                1.642 pre-commit.sample
23.03.2017  13:38                1.348 pre-push.sample
23.03.2017  13:38                4.951 pre-rebase.sample
23.03.2017  13:38                1.239 prepare-commit-msg.sample
23.03.2017  13:38                3.610 update.sample
               10 File(s)      20.277 bytes
               2 Dir(s)   15.942.029.312 bytes free

C:\workspaces\eclipse\vtas-projectplanning\.git\hooks>_
```

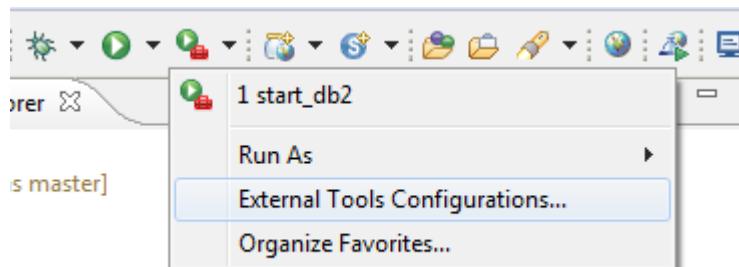
Read and Understand the Documentation

1. CTRL + Shift + R
2. Search for: **README.md**
3. Read and understand the documentation.

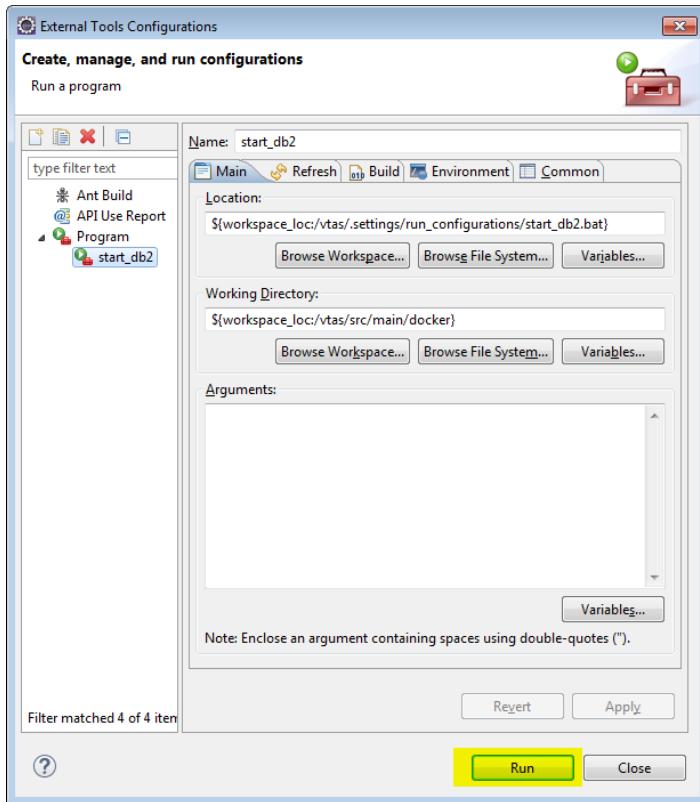
Deploy

Run DB2 Docker Container

1. Go to "Run External Tools" and select the small arrow.
2. Select **External Tools Configurations...**



3. Expand the **Program** menu, select **start_db2** and hit **Run**.



A batch script will be executed which starts a DB2 container. This container is later used by the VTAS application deploy in Tomcat.

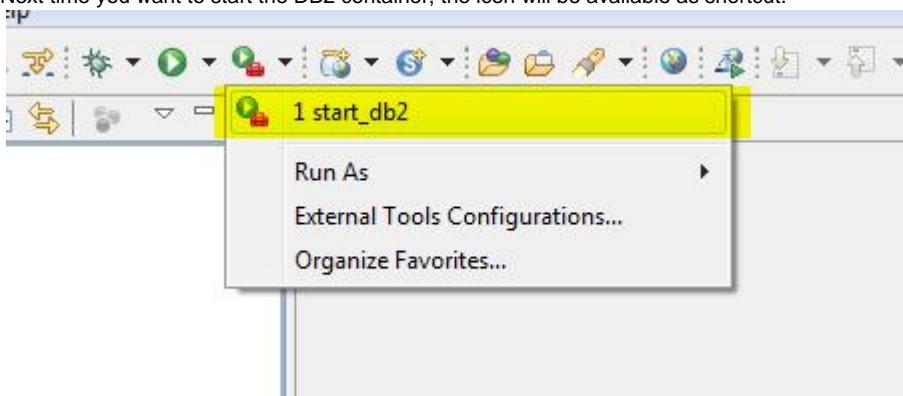
4. In the **Console** can you now see that the DB2START was successfully executed.

```
start_db2 [Program] C:\Users\pkisslin\git\vtas\.settings\run_configurations\start_db2.bat
C:\Users\pkisslin\git\vtas\src\main\docker>rem start docker
C:\Users\pkisslin\git\vtas\src\main\docker>docker-machine start default
Starting "default"...
Machine "default" is already running.

C:\Users\pkisslin\git\vtas\src\main\docker>rem set environment variables for docker
C:\Users\pkisslin\git\vtas\src\main\docker>rem start db2 service

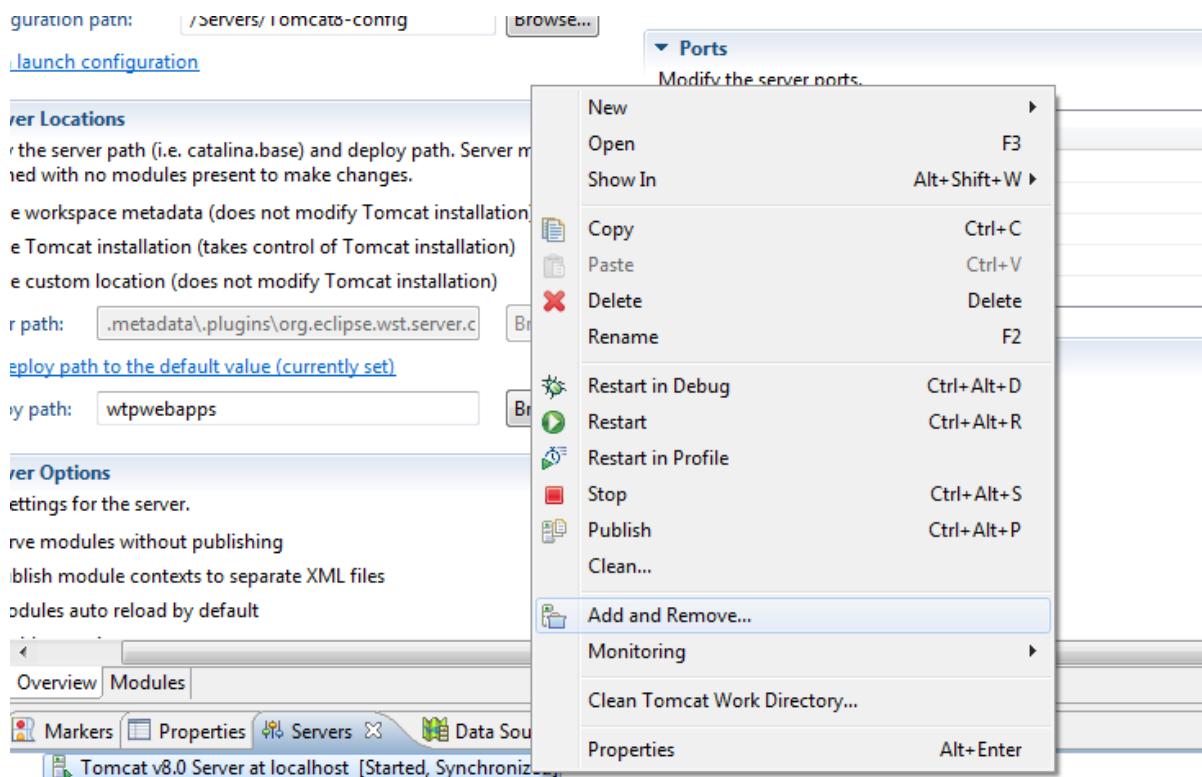
C:\Users\pkisslin\git\vtas\src\main\docker>docker-compose up db2_database
Recreating docker_db2_database_1
Attaching to docker_db2_database_1
[36mdb2_database_1] 1m New password: Retype new password: Changing password for user db2inst1.
[36mdb2_database_1] 1m passwd: all authentication tokens updated successfully.
[36mdb2_database_1] 1m libnuma: Warning: /sys not mounted or invalid. Assuming one node: No such file or directory
[36mdb2_database_1] 1m SQL1063N DB2START processing was successful.
[36mdb2_database_1] 1m Could not load host key: /etc/ssh/ssh_host_rsa_key
[36mdb2_database_1] 1m Could not load host key: /etc/ssh/ssh_host_ecdsa_key
[36mdb2_database_1] 1m Could not load host key: /etc/ssh/ssh_host_ed25519_key
```

5. Next time you want to start the DB2 container, the icon will be available as shortcut.

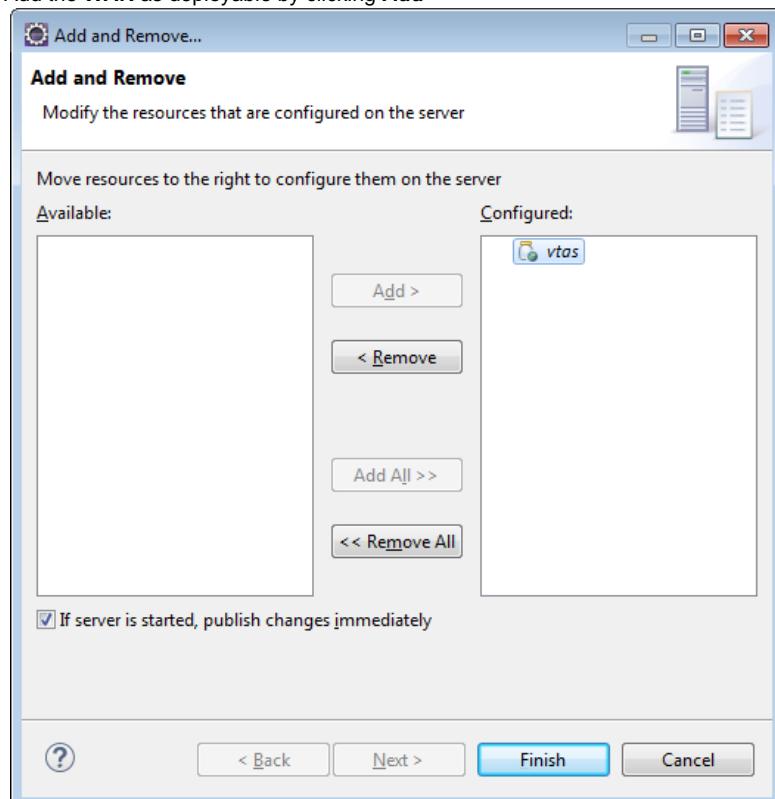


Run the application

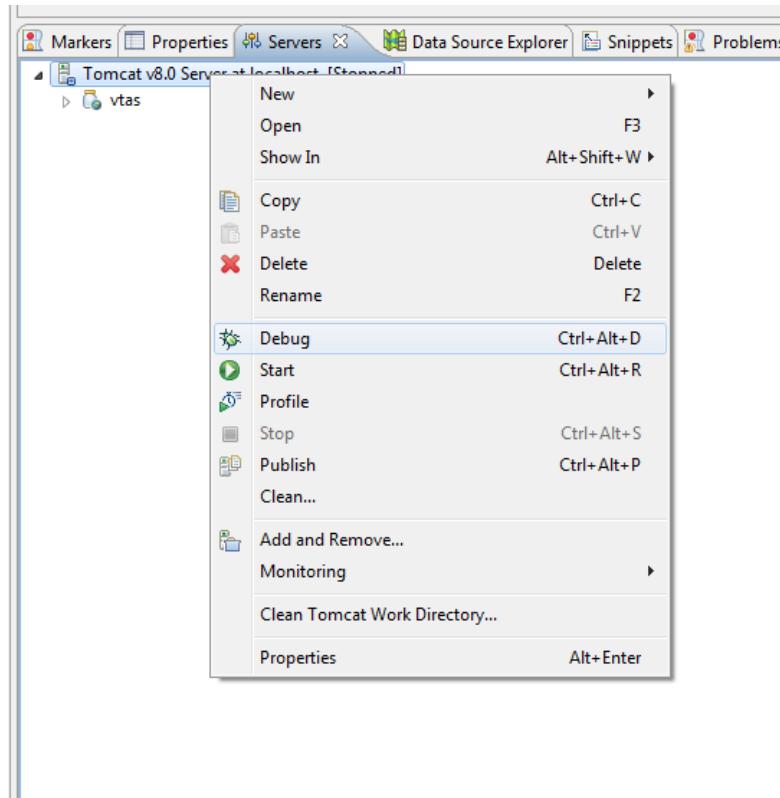
1. Navigate to the **Servers** view and right click the **Tomcat Server** and hit **Add and Remove...**



2. Add the WAR as deployable by clicking **Add**



3. Hit **Finish**.
4. Again navigate to the **Servers** view and right click the **Tomcat Server** hit **Start or Debug**.



5. The application will now be deployed in Tomcat.
6. Once the application is started, you can access the application via: <http://localhost:8080/vtas-main/>

IntelliJ (outdated)

This page is outdated.

This page is outdated. We use Eclipse as our IDE. Please refer to [this link](#) if you want to setup your IDE.

- 1 Installation
 - 1.1 [Install IntelliJ Community Edition](#)
 - 1.2 [Install Docker](#)
 - 1.3 [Install Docker Integration for IntelliJ](#)
 - 1.4 [Change AnyConnect configuration](#)
- 2 Setup
 - 2.1 [Java](#)
 - 2.2 [Setup Docker Plugin](#)
 - 2.3 [Import Sample Project](#)
 - 2.4 [Add Toolbar](#)
 - 2.5 [Read and Understand the Documentation](#)
 - 2.6 (Optional) [Change Keymap to Eclipse](#)
 - 2.7 [Resolve Gradle Dependencies](#)
- 3 Deploy
 - 3.1 [Run Docker](#)
 - 3.2 [Run the application](#)
- 4 Git Configuration
 - 4.1 [Set Default Git Hook](#)

Installation

Install IntelliJ Community Edition

[click me](#)

Install Docker

Download docker toolbox for windows: <https://download.docker.com/win/stable/DockerToolbox.exe>

Run the installer follow all the steps (Important to do a Full installation and to install all device software's)

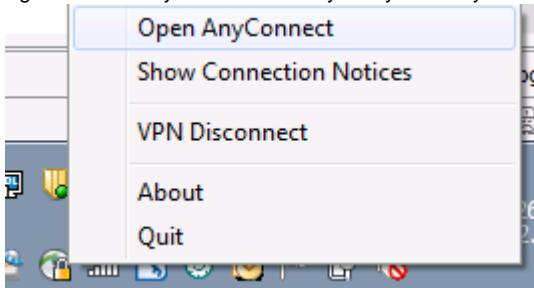
Install Docker Integration for IntelliJ

1. Start IntelliJ
2. CTRL + ALT + S
3. Plugins -> Browse Repositories
4. Search for: **Docker Integration**
5. Install
6. Restart IntelliJ

Change AnyConnect configuration

If you are using AnyConnect to establish a VPN tunnel to the Daimler network, you need to apply a workaround in order to make Docker available for your machine while VPN is connected.

1. Disconnect VPN if currently active.
2. Right click the AnyConnect icon in your system tray



3. Click "Open Anyconnect"
4. Click "Settings"



5. Preferences
6. **Activate:** Allow local (LAN) access when using VPN (if configured)
7. Reconnect VPN.

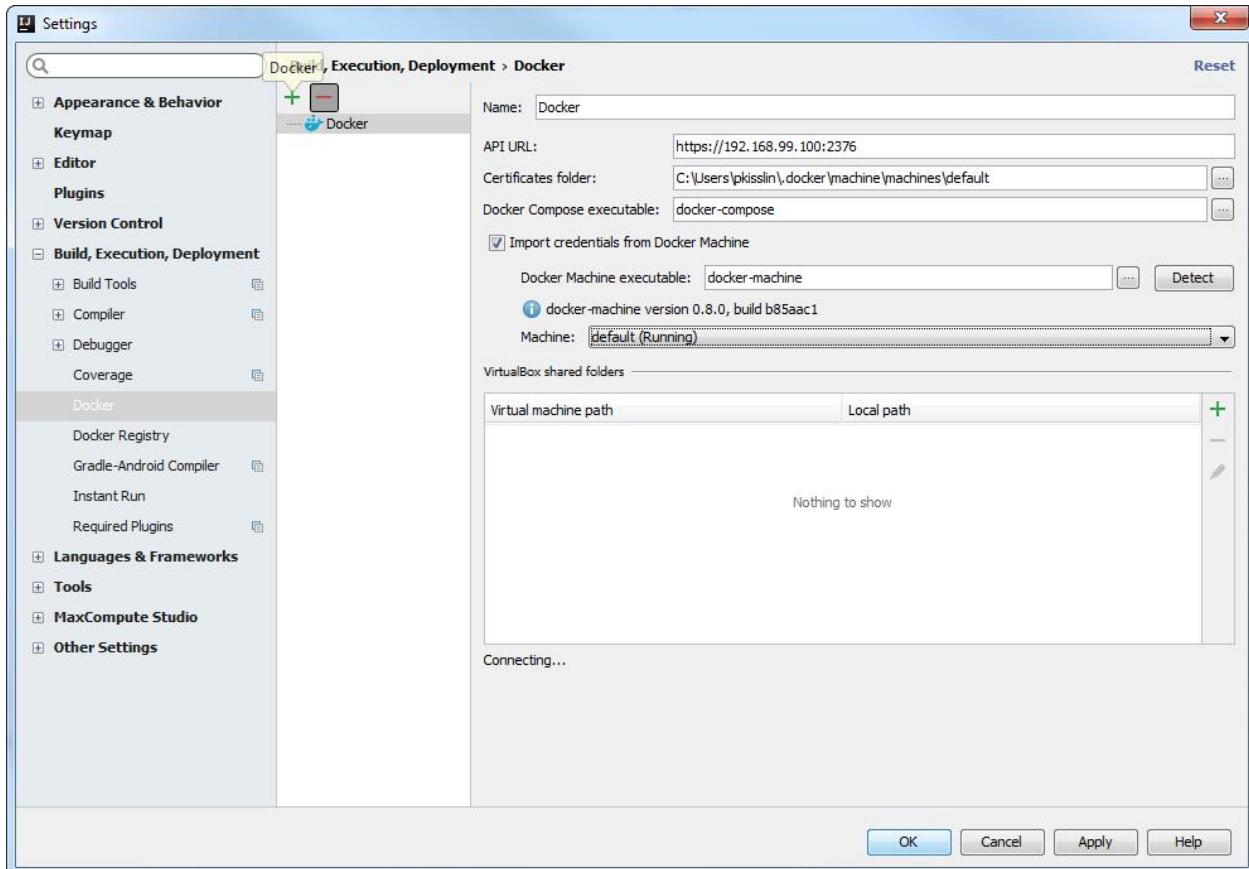
Setup

Java

Oracle SDK 1.8.0 64 Bit which you can download from <http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

Setup Docker Plugin

1. CTRL + ALT + S
2. Build, Execution & Deployment -> Docker
3. Add new Docker



- Click 'OK'

Import Sample Project

- File -> New -> Project from Version Control -> Git
URL: <https://vtas.s2-eu.capgemini.com/gerrit/p/vtas.git>
Destination: C:\workspace\vtas
- Click "Checkout"
- After the git clone process, you should open the project.

Add Toolbar

- View -> Toolbar
- View -> Tool Buttons

Read and Understand the Documentation

- CTRL + Shift + M
- Search for: **README.md**
- Read and understand the documentation.

(Optional) Change Keymap to Eclipse

This makes IntelliJ have the same shortcuts than Eclipse.

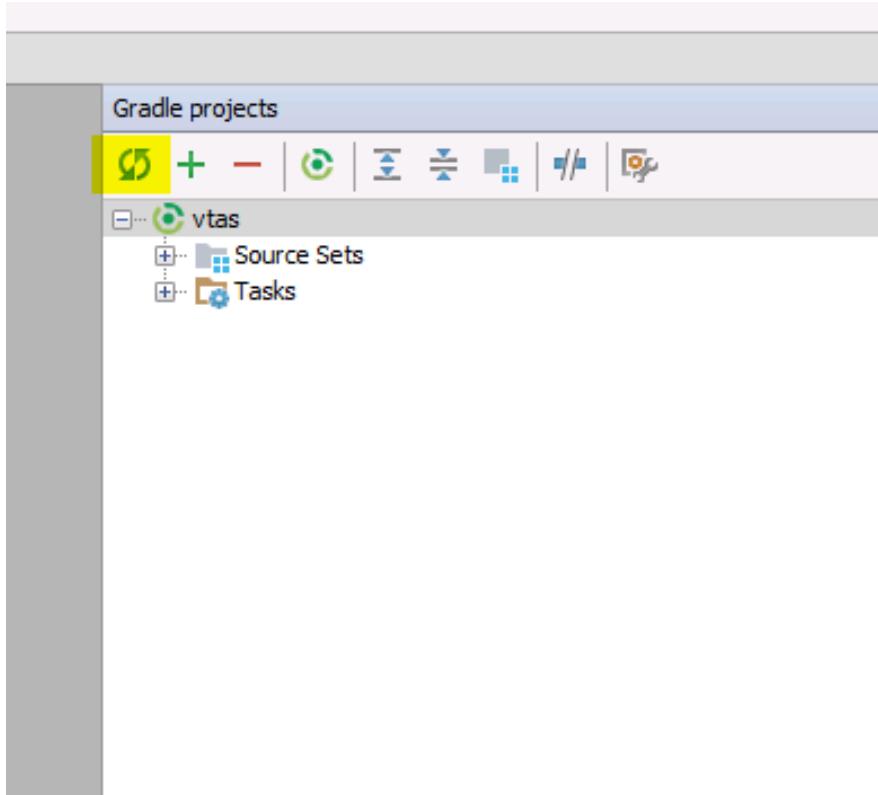
- CTRL + Shift + M
- Search for: **Keymap**
- Hit **Enter**
- Select **Eclipse** (position 9)

Resolve Gradle Dependencies

- Navigate to the Toolbar on the right hand side of the screen and open **Gradle**



2. Select project **VTAS** and hit **Refresh all gradle projects**

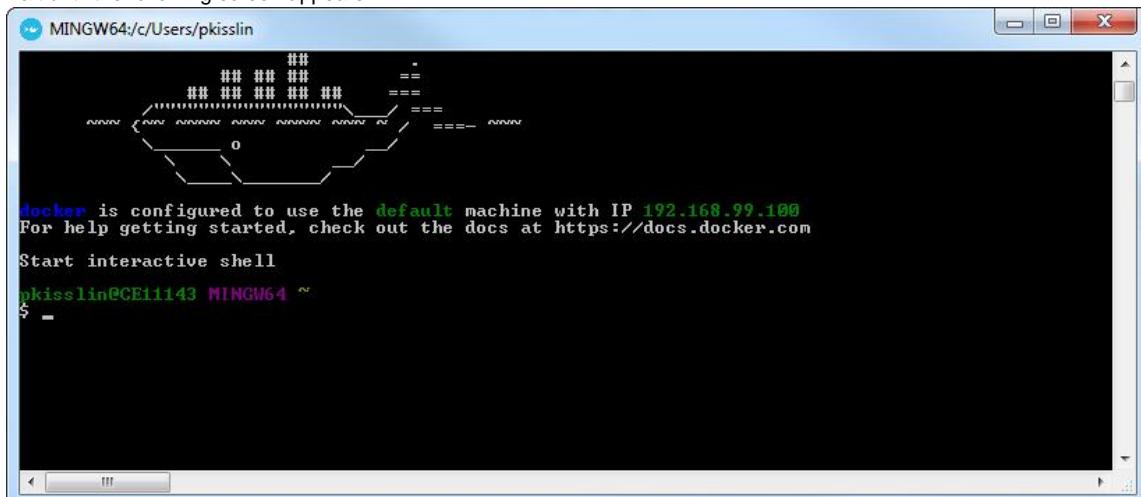


3. This will now import all dependencies (similar to mvn dependency:resolve)

Deploy

Run Docker

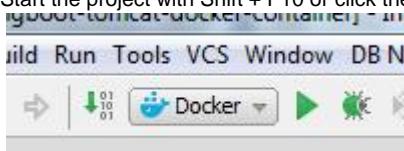
1. Search for "Docker Quickstart Terminal" in Windows.
2. Start this tool.
3. Wait until the following screen appears:



4. Minimize this window and keep it running in background.

Run the application

1. Start the project with Shift + F10 or click the 'Play' button after selecting the configuration **Docker**.

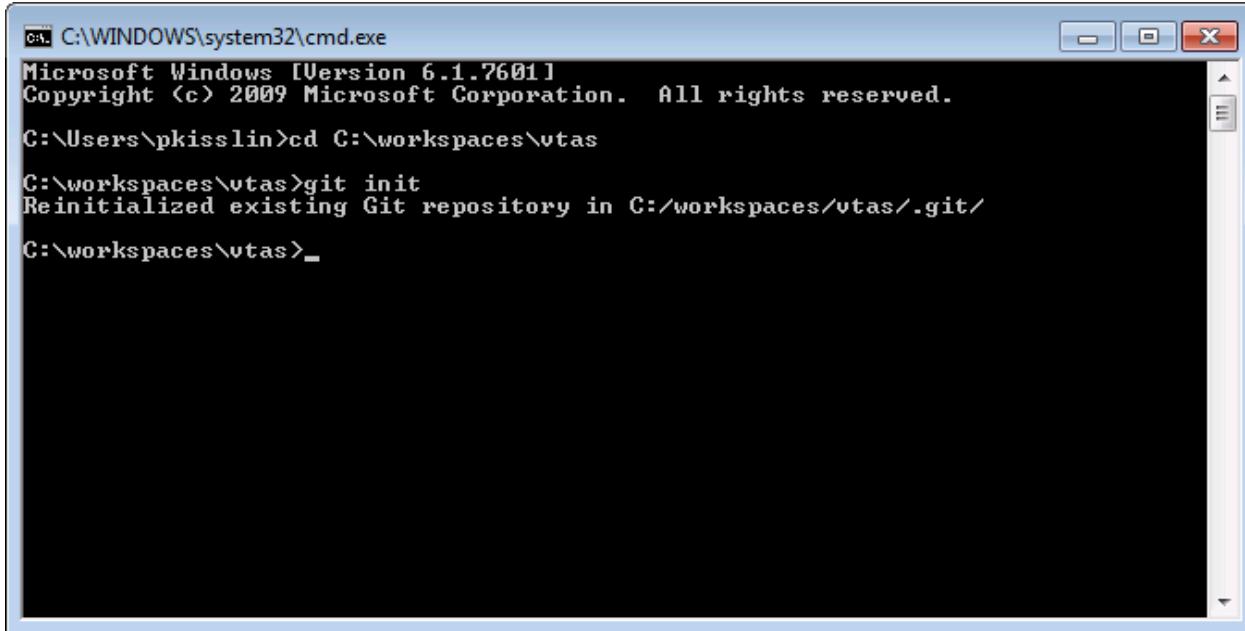


2. The application will now be compiled and afterwards deployed in Docker containers. Upon the first start, Docker images need to be downloaded which will take some minutes. The IDE will keep you posted.
3. Once the containers are started, you can access the application via: <http://192.168.99.100:8080/vtas/>

Git Configuration

Set Default Git Hook

1. Download the commit hook from our repository: [https://vtas.s2-eu.cappgemi.com/gerrit/gitweb?p=vtas-infrastructure.git;a=blob_plain;f=hooks/commit-msg;hb=HEAD](https://vtas.s2-eu.cappgemi.com/gerrit/gitweb?p=vtas-infrastructure.git;a(blob_plain;f=hooks/commit-msg;hb=HEAD) (right click "Save link as")
2. Rename file to **commit-msg**
3. Navigate to
 - a. 32 Bit C:\Program Files (x86)\Git\mingw32\share\git-core\templates\hooks
 - b. 64 Bit C:\Program Files\Git\mingw64\share\git-core\templates\hooks
 - c. Any other path where Git was installed
4. Navigate to the VTAS repository (C:\workspace\vtas), open the command line, and execute **git init**



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright <c> 2009 Microsoft Corporation. All rights reserved.

C:\Users\pkisslin>cd C:\workspaces\vtas

C:\workspaces\vtas>git init
Reinitialized existing Git repository in C:/workspaces/vtas/.git/
C:\workspaces\vtas>
```

Environments

VTAS Environments Overview

Daimler EDC

DEV

Application Server - sedcavta0010

Purpose

This server is used to deploy the **VTAS** application to DEV Server

Installed Software

- Tomcat (PAI Light 6.1.1)

Directories

External JARs

/usr/share/java/tomcat/*.jar

Logs

/srv/jas/logs/vtas/AppServer/vtas-member0/

Application

/srv/jas/data/vtas/AppServer/vtas-member0/webapps/

Technical Information

Server name	sedcavta0010.emea.isn.corpintr.net
LogViewer	https://edc-logviewer.e.corpintr.net/sedcavta0010.emea.isn.corpintr.net/
IP	53.71.41.144
Authentication	via Private/Public Key
Type	Application Server (Tomcat)
Database	DB2 Server - sedcbvta0010

Configs

/srv/jas/app/vtas/AppServer/vtas-member0/conf/

context.xml

```
<?xml version='1.0' encoding='utf-8'?>
<Context useHttpOnly="true">

<WatchedResource>WEB-INF/web.xml</WatchedResource>

<Realm allRolesMode="authOnly"
className="com.daimler.iap.paz.adapter.Tomcat
DirectoryRealmAdapter"
directoryService="pai/server/vtas/LDIServiceL
ink"/>
<ResourceLink
name="pai/server/vtas/LDIServiceLink"
global="pai/server/vtas/GlobalLDIService" />
<ResourceLink
name="pai/server/vtas/GUServiceLink"
global="pai/server/vtas/GlobalGUService" />
<Valve
className="com.daimler.iap.paz.adapter.Tomcat
DirectoryAuthenticatorAdapter"/>
</Context>
```

- Purpose
- Installed Software
- Directories
 - External JARs
 - Logs
 - Application
 - Configs
 - context.xml
 - |
 - server.xml
 - tomcat.con
f
- Technical Information

server.xml

```
<?xml version='1.0' encoding='utf-8'?>
<Server port="${tomcat.shutdown.port}"
shutdown="le@veP00rPaiJ2eeL!ghtA!!A!!one">

<Listener
className="org.apache.catalina.core.AprLifecycle
Listener" SSLEngine="on" />

<Listener
className="org.apache.catalina.core.JreMemory
LeakPreventionListener" />
<Listener
className="org.apache.catalina.mbeans.JmxRemo
teLifecycleListener"
rmiRegistryPortPlatform="8880"
rmiServerPortPlatform="8881" />
<Listener
className="org.apache.catalina.mbeans.GlobalR
esourcesLifecycleListener" />
<Listener
className="com.daimler.iap.papi.adapter.Tomca
tLifecycleListenerAdapter"/>

<GlobalNamingResources>
```

```
<Resource auth="Container"

factory="com.daimler.iap.papi.adapter.NamingServiceFactoryAdapter"
    name="pai/private/GlobalSMIService"

type="com.daimler.iap.smi.SiteMinderIntegrationService"
    agentName="${tsmt.agent}"
    hostConfFileName="${hostconf}"/>

<Resource auth="Container"

factory="com.daimler.iap.papi.adapter.NamingServiceFactoryAdapter"

name="pai/server/vtas/GlobalLDIService"

type="com.daimler.iap.ldi.DirectoryService"

ldapUrl="ldap://cd-appstest.bg.daimlerchrysler.com:3892"
    bindDn="cn=VTAS,ou=bindusers,o=iapdir"
    bindPassword="XXX"
    appId="VTAS"/>

<Resource
    name="pai/server/vtas/GlobalGUService"

type="com.daimler.iap.gus.GroupAndUserService"
    ">

directoryService="pai/server/vtas/GlobalLDISe
rvice"

factory="com.daimler.iap.papi.adapter.NamingServiceFactoryAdapter"
    />

</GlobalNamingResources>

<Service name="Catalina">
    <Connector port="${tomcat.http.port}"
protocol="HTTP/1.1"
    connectionTimeout="20000"

redirectPort="${environment.https.redirect.port}"
    server="Apache" />

    <Connector

protocol="org.apache.coyote.http11.Http11NioProtocol"
    port="${tomcat.https.port}"
maxThreads="200"
    scheme="https" secure="true"
```

```
SSLEnabled="true"
    keystoreFile="keystore"
keystorePass="changeit"
    clientAuth="false"
sslProtocol="TLS"/>

    <Connector port="${tomcat.ajp.port}"
protocol="AJP/1.3"
redirectPort="${environment.https.redirect.port}"
connectionTimeout="${tomcat.ajp.timeout}"/>

    <Engine name="Catalina"
defaultHost="localhost"
jvmRoute="${servername}">

    <Valve

className="com.daimler.iap.pan.adapter.Tomcat
SiteMinderAuthenticationValveAdapter"

siteMinderService="pai/private/GlobalSMIServi
ce" />

    <Host name="localhost"
appBase="${tomcat.webapp.dir}"
    unpackWARs="true"
autoDeploy="false" deployOnStartup="true"
    xmlValidation="false"
xmlNamespaceAware="false">

    <Context docBase="vtas-main"
path="/vtas-main" reloadable="true"
source="org.eclipse.jst.j2ee.server:vtas-main
" />
    </Host>
```

```
    </Engine>
  </Service>
</Server>
```

tomcat.conf

```
JAVA_HOME="/usr/lib64/jvm/jre-1.8.0-ibm"

CATALINA_BASE="/srv/jas/app/vtas/AppServer/vtas-member0"
CATALINA_HOME="/usr/share/tomcat"
JASPER_HOME="/usr/share/tomcat"
CATALINA_TMPDIR="/srv/jas/app/vtas/AppServer/vtas-member0/temp"
TOMCAT_CFG="/etc/sysconfig/tomcat-pai-vtas_vtas-member0"
TOMCAT_LOG="/srv/jas/logs/vtas/AppServer/vtas-member0/catalina.out"

JAVA_OPTS="-Dcom.daimler.iap.logging.config=/srv/jas/app/vtas/AppServer/vtas-member0/conf/com.daimler.iap.logging.settings.properties
-Dlogging.root=/srv/jas/logs/vtas/AppServer/vtas-member0
-Djava.library.path=/usr/lib:/usr/lib64
-Xdump:heap:label=/srv/jas/coredumps/vtas/AppServer/vtas-member0/heapdump.%Y%m%d.%H%M%S.%pid.%seq.phd
-Xdump:system:label=/srv/jas/coredumps/vtas/AppServer/vtas-member0/core.%Y%m%d.%H%M%S.%pid.%seq.dmp
-Dspring.profiles.active=DEV
-Diap.config=$CATALINA_BASE/conf"

CATALINA_OPTS="-Dcom.sun.management.jmxremote.password.file=/srv/jas/app/vtas/AppServer/vtas-member0/conf/jmxremote.password
-Dcom.sun.management.jmxremote.access.file=/srv/jas/app/vtas/AppServer/vtas-member0/conf/jmxremote.access"

TOMCAT_RUN_USER="tomcat000"
TOMCAT_GROUP="tcgroup"

TOMCAT_RUN_UMASK=077

TOMCAT_SHELL=/bin/sh

SECURITY_MANAGER="false"

SHUTDOWN_WAIT="30"

SHUTDOWN_VERBOSE="false"

NAME="vtas_vtas-member0"

CONNECTOR_PORT="8080"
```

DB2 Server - sedcbvta0010

Purpose

This server is used as database for the **VTAS** Application on DEV Server.

users

	username	password
admin user	vtasadm	Credentials
read/write user	vtasrw01	Credentials
read user	vtasr01	Credentials

Technical Information

Server name	sedcbvta0010.emea.isn.corpintra.net
IP	53.71.48.31
Port	60000
Authentication	via Private/Public Key
Type	DB2 Server

Installed Software

- DB2 10.5

URLs

<jdbc:db2://sedcbvta0010.emea.isn.corpintra.net:60000/ZVXXAD01>

- Purpose
- users
- Installed Software
- URLs
- Technical Information

Web Server - sedcivta0010

Purpose

This server is used to deploy the static content of the **VTAS** application to DEV Server

Installed Software

URLs

<https://vtas-dev.e.corpintra.net/>

Technical Information

Server name	sedcivta0010.emea.isn.corpintra.net
IP	53.71.38.33
Authentication	via Private/Public Key
Type	Web Server

- Purpose
- Installed Software
- URLs
- Technical Information

INT

Application Server 1 - sedcavta0020

Purpose

This server is used to deploy the **VTAS** application to INT Server

Installed Software

- Tomcat (PAI Light 6.1.1)

Loadbalancer

vtas-int.emea.isn.corpintra.net

Technical Information

Server name	sedcavta0020.emea.isn.corpintra.net
LogViewer	https://edc-logviewer.e.corpintra.net/sedcavta0020.emea.isn.corpintra.net/
IP	53.71.41.58

JARs

	JARs in tomcat folder /usr/share/java/tomcat	Authenticatio n	-
1	annotations-api.jar	Type	Application Server (Tomcat)
2	catalina.jar		
3	catalina-ant.jar		
4	catalina-ha.jar		
5	catalina-jmx-remote.jar		
6	catalina-storeconfig.jar		
7	catalina-tribes.jar		
8	commons-collections.jar -> ..//commons-collections.jar		
9	commons-dbcp.jar -> ..//commons-dbcp2.jar		
10	commons-lang.jar		
11	commons-pool.jar -> ..//commons-pool2.jar		
12	cryptoj.jar		
13	directoryaccess.jar		
14	ecj.jar		
15	gup.jar		
16	iap-gus-api.jar		
17	iap-gus-ldi.jar		
18	iap-ldi-api.jar		
19	iap-ldi-gup.jar		
20	iap-pan-api.jar		
21	iap-pan-smt.jar		
22	iap-paz-api.jar		
23	iap-paz-dir.jar		
24	iap-props-api.jar		
25	iap-props-papi.jar		
26	iap-smi-api.jar		
27	iap-smi-spa.jar		
28	iap-tomcat-cdi-initializer.jar		
29	jasper.jar		
30	jasper-el.jar		
31	jasper-jdt.jar -> ..//ecj.jar		
32	javax.el.jar		
33	log4j.jar -> ..//log4j.jar		
34	logging.jar		
35	monitoring.jar		
36	operationssupporttomcat.jar		
37	securityplatformaccess.jar		
38	smagentapi.jar		

- Purpose
- Installed Software
- Loadbalancer
- JARs
- Technical Information

39	tomcat-api.jar
40	tomcat-coyote.jar
41	tomcat-dbcp.jar
42	tomcat-el-3.0-api.jar -> ../tomcat-el-3.0-api.jar
43	tomcat-i18n-es.jar
44	tomcat-i18n-fr.jar
45	tomcat-i18n-ja.jar
46	tomcat-jdbc.jar
47	tomcat-jni.jar
48	tomcat-jsp-2.3-api.jar ->/tomcat-jsp-2.3-api.jar
49	tomcat-juli.jar -> ../../tomcat/bin/tomcat-juli.jar
50	tomcat-servlet-3.1-api.jar ->/tomcat-servlet-3.1-api.jar
51	tomcat-util.jar
52	tomcat-util-scan.jar
53	tomcat-websocket.jar
54	util.jar
55	websocket-api.jar
56	weld-se.jar

Application Server 2 - sedcavta0030

Purpose

This server is used to deploy the **VTAS** application to INT Server

Installed Software

- Tomcat (PAI Light 6.1.1)

Loadbalancer

vtas-int.emea.isn.corpintra.net

Technical Information

Server name	sedcavta0030.emea.isn.corpintra.net
LogViewer	https://edc-logviewer.e.corpintra.net/sedcavta0030.emea.isn.corpintra.net/
IP	53.71.41.31
Authentication	-
Type	Application Server (Tomcat)
Database	DB2 Server - INT

- Purpose
- Installed Software
- Loadbalancer
- Technical Information

DB2 Server - INT

Purpose

This server is used as database for the **VTAS** Application on INT Server.

users

	username	password
admin user	vtasadm	Credentials
read/write user	vtasrw01	Credentials
read user	vtasr01	Credentials

Technical Information

Server name	sedcbvta0020.emea.isn.corpintra.net
IP	53.71.48.27
Port	60000
Authentication	only from INT server reachable
Type	DB2 Server

Installed Software

- DB2 11.1

URLs

<jdbc:db2://53.71.48.27:60000/ZVXXAI01>

- Purpose
- users
- Installed Software
- URLs
- DB Name
- Technical Information

DB Name

ZVXXAI01

Web Server - sedcivta0020

Purpose

This server is used to deploy the static content of the **VTAS** application to INT Server

Installed Software

URLs

<https://vtas-int.e.corpintra.net/vtas-main/>

Technical Information

Server name	sedcivta0020.emea.isn.corpintra.net
Logviewer	https://edc-logviewer.e.corpintra.net/sedcivta0020.emea.isn.corpintra.net/
Authentication	?
Type	Web Server

- Purpose
- Installed Software
- URLs
- Technical Information

PROD

Application Server 1 - sedcavta0040

Purpose

This server is used to deploy the **VTAS** application to PROD Server

Installed Software

- Tomcat (PAI Light 6.1.1)

Technical Information

Server name	sedcavta0040.emea.isn.corpintra.net
-------------	-------------------------------------

Loadbalancer

<https://vtas-prod.emea.isn.corpintra.net>

LogViewer	https://edc-logviewer.e.corpintra.net/sedcavta0040.emea.isn.corpintra.net/
IP	53.71.41.88
Authentication	-
Type	Application Server (Tomcat)
Database	DB2 Server - PROD

- Purpose
- Installed Software
- Loadbalancer
- Technical Information

Application Server 2 - sedcavta0050

Purpose

This server is used to deploy the **VTAS** application to PROD Server

Installed Software

- Tomcat (PAI Light 6.1.1)

Loadbalancer

<https://vtas-prod.emea.isn.corpintra.net>

Technical Information

Server name	sedcavta0050.emea.isn.corpintra.net
LogViewer	https://edc-logviewer.e.corpintra.net/sedcavta0050.emea.isn.corpintra.net/
IP	53.71.41.32
Authentication	-
Type	Application Server (Tomcat)
Database	DB2 Server - PROD

- Purpose
- Installed Software
- Loadbalancer
- Technical Information

DB2 Server - PROD

Purpose

This server is used as database for the **VTAS** Application on PROD Server.

users

	username	password
admin user	vtasadm	Credentials
read/write user	vtasrw01	Credentials
read user	vtasr01	Credentials

Technical Information

Server name	sedcbvta0030.emea.isn.corpintra.net
IP	53.71.48.27
Port	60000
Authentication	only from PROD Server reachable
Type	DB2 Server

Installed Software

- Purpose

- DB2 11.1

URLs

<jdbc:db2://53.71.48.27:60000/ZVXXAP01>

- users
- Installed Software
- URLs
- DB Name
- Technical Information

DB Name

ZVXXAP01

Web Server - sedcivta0030

Purpose

This server is used to deploy the static content of the **VTAS** application to PROD Server

Installed Software

URLs

<https://vtas.e.corpintra.net/vtas-main/>

Technical Information

Server name	sedcivta0030.emea.isn.corpintra.net
LogViewer	https://edc-logviewer.e.corpintra.net/sedcivta0030.emea.isn.corpintra.net/
Authentication	?
Type	Web Server

- Purpose
- Installed Software
- URLs
- Technical Information

Overview Versions

Database

Environment	Database Name	Current Version	Desired Version
Local database	ZVXXAD01	DB2 10.5(Docker Container)	DB2 10.5(Docker Container)
PreDEV database master DB2 Server - de-muc-vtasaddb2-1	ZVXXAD01	DB2 11.1	DB2 11.1
PreDEV database feature branch DB2 Server - de-muc-vtasaddb2-1	ZVXXAD02	DB2 11.1	DB2 11.1
PreDEV database x-tech DB2 Server - de-muc-vtasaddb2-1	ZVXXAD03	DB2 11.1	DB2 11.1
DEV database DB2 Server - sedcbvta0010	ZVXXAD01	DB2 10.5	DB2 11.1
INT database DB2 Server - INT	ZVXXAI01	?	DB2 11.1
PROD database DB2 Server - PROD	ZVXXAP01	?	DB2 11.1

Applicationserver

Environment	Current Version	Desired Version	JIRA Ticket
Local application	PAI 6.1.1 LE	PAI 6.1.2 LE	

PreDEV feature branch Application Server - de-muc-vtasadb01	PAI 6.1.1 LE	PAI 6.1.2 LE	XTECH-322 31 - Upgrade the PAI tomcat to 6.1.2 version in VTAS Pre-DEV Branch server de-muc-vtasadb01 CLOSED
PreDEV master Application Server - de-muc-vtasadb01	PAI 6.1.1 LE	PAI 6.1.2 LE	
DEV Application Server - sedcavta0010	PAI 6.1.1 LE	PAI 6.1.2 LE	
INT Application Server 1 - sedcavta0020	?	PAI 6.1.2 LE	
INT Application Server 2 - sedcavta0030	?	PAI 6.1.2 LE	
PROD Application Server 1 - sedcavta0040	?	PAI 6.1.2 LE	
PROD Application Server 2 - sedcavta0050	?	PAI 6.1.2 LE	

Pre-DEV

- Application Server - de-muc-vtasadb01
- Application Server - de-muc-vtasadb01
- DB2 Server - de-muc-vtasadb2-1
- Installation

Application Server - de-muc-vtasadb01

Purpose

This server is used to deploy the **feature branches** of VTAS.

Naming

de	Germany
muc	Munich
vtas	Project Name
ad	Application Development
pd	Pre DEV
b	branch
01	Server 01

Technical Information

Server name	de-muc-vtasadb01
IP	10.44.247.85
Authentication	via PPK
Type	Application Server (Tomcat)
Logviewer	http://de-mucxtech05:3000/dashboard/db/vtas-logview User/ PW: genuser
Database	ZVXXAD02
Jenkins Job	Click me

Installed Software

- Tomcat (PAI Light 6.1.1)

- Purpose
- Naming
- Installed Software
- Documentation
- URLs
- Database
- Technical Information

Documentation

- Installation
- X-Tech Ticket
- PAI

URLs

- Tomcat Console
- VTAS Application
- Secure VTAS Application

Database

DB2 Server - de-muc-vtasaddb2-1#de-muc-vtasaddb2-1-ZVXXAD02

Application Server - de-muc-vtasadpdm01

Purpose

This server is used to deploy the **master branch** of VTAS.

Naming

de	Germany
muc	Munich
vtas	Project Name
ad	Application Development
pd	Pre DEV
m	Master
01	Server 01

Technical Information

Server name	de-muc-vtasad pdm01
IP	10.44.247.84
Authentication	via PPK
Type	Application Server (Tomcat)
Logviewer	http://de-mucxtech05:3000/dashboard/db/vtas-logview User/ PW: genuser
Database	ZVXXAD01
Jenkins Job	click me

Installed Software

- Tomcat (PAI Light 6.1.1)

Documentation

- Installation
- X-Tech Ticket
- PAI

- Purpose
- Naming
- Installed Software
- Documentation
- URLs
- Database
- Technical Information

URLs

- Tomcat Console
- VTAS Application
- Secure VTAS Application

Database

DB2 Server - de-muc-vtasaddb2-1#de-muc-vtasaddb2-1-ZVXXAD01

DB2 Server - de-muc-vtasaddb2-1

General Information

JDBC Connection String

`jdbc:db2://10.44.247.86:50001/###` (Replace '###' with Database name)

Technical Information

Server name	de-muc-vtasad db2-1
IP	10.44.247.86

Databases

ZVXXAD01

Used by Application Server - de-muc-vtasadpdm01

ZVXXAD02

Used by Application Server - de-muc-vtasadpdm01

Authentication	via PPK
Type	Database Server (DB2)
JDBC Users	DB2 Roles Concept#Users
Port	50001
SSH User	zvxxad01

Setup

User creation

Users need to be created on OS level via SSH (root required).

```
sudo useradd username
sudo passwd username
```

- General Information
 - JDBC Connection String
- Databases
 - ZVXXAD01
 - ZVXXAD02
- Setup
 - User creation
 - Required Users
 - DDLs

Once a user has been added it will be available for all databases, since all our databases are running on the same OS.

Required Users

See DB2 Roles Concept#RequiredUsers

DDLs

https://seu.sdm.de/pu/daimlervtas/svn/repository/08_Infrastructure/02_Database/Template

Installation

- DB2 10.1 (PAI J2EE LE 6.1.1)
- Tomcat Installation (PAI J2EE LE 6.1.1)

DB2 10.1 (PAI J2EE LE 6.1.1)

Installation step:

To install DB2, complete the following steps:

1. Log in as a user ID with root authority.
2. use command db2lls to check what all DB2 products are installed on the server.
3. Install the DB2 Manager.
 - a. Create a temporary directory (for example, db2temp) to hold the DB2 installer tar file and untarred files. These files require 1-2 gigabytes of hard drive space.
 - b. Copy or download the DB2 installer into db2temp. The name of the file varies depending on the location from where the file is downloaded or copied and the language to which it is associated.
 - c. (optional) Use the appropriate unzipping tool to unzip the DB2 installer file if it is compressed. For example, ,if the name of the file is v10.5fp8_linuxx64_server_t.tar.gz, type **gunzip v10.5fp8_linuxx64_server_t.tar.gz**. In this example, v10.5fp8_linuxx64_server_t.tar appears in the db2temp directory.
 - d. Un-tar the DB2 installer file. For example, of the name of the installer file is v10.5fp8_linuxx64_server_t.tar, type **tar -xvf .v10.5fp8_linuxx64_server_t.tar**. After untar 1 folder will be created. (generally named as server)
 - e. Go to the directory that were created after the untar command.
 - f. Execute the command line installer. Type **./db2_install**.
 - g. Then it will ask for the path for db2 installation(default is /opt/ibm/db2). If you want path other then default then mention it,
 - h. Select the product to install: DB2.ESE/AESE/WSE((depending on your requirement). A number of messages appear in the command window. The Installation Summary eventually appears and indicates a successful installation. DB2 is installed in /opt/IBM/db2.
4. Use command db2lls to check whether the DB2 product which you have installed is reflecting on the server or not.
5. Use db2licm command to check the license of the DB2.

DB set up :

For DB set up we have executed the file provided to us. using the command : db2 -tvf <filename> -l <log filenmae>

Tomcat Installation (PAI J2EE LE 6.1.1)

PAI J2EE LE is based on the Apache HTTP Server combined with Apache Tomcat. The PAI J2EE LE offers a reliable, lightweight, secure and scalable infrastructure for developing and running Java based Web Applications.

Please refer the following steps for an installation of PAI LE 6.1.1 tomcat(Developer Edition).

STEP 1:Install a JAVA SDK.

-We are using an Oracle SDK 1.8.0 64 Bit which you can download from the below URL,

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

- Create one folder having name Test under root directory for downloading SDK 1.8.0 64 bit install-able.

-Download a SDK installation using following command,

rpm jdk-8u131-linux-x64.rpm

-Extract a SDK installation using following command,

rpm -ivh jdk-8u131-linux-x64.rpm

STEP 2:Install Development Edition on a server.

-You can download J2EE_LE_6.1.1_PAI_DEV_TOOLING.zip file from PAI Download area.Command for the downloading it given below,

wget http://de-dai-xtech-ls:82/JEE_LE_6.1.1/J2EE_LE_6.1.1_PAI_DEV_TOOLING.zip

-Create one folder having name tomcat_6.1.1 under /opt for for downloading J2EE_LE_6.1.1_PAI_DEV_TOOLING.zip install-able using MKDIR command.

-To install it, just unpack it into an arbitrary directory. You should end up with a below folder structure
platforms/J2EE/software/res/j2eeledev/pai-j2eeledev-apache-tomcat.zip

Command for unpacking the installable:-**unzip J2EE_LE_6.1.1_PAI_DEV_TOOLING.zip**

STEP3:-Set the JAVA_HOME path.

-First check for .bashrc file in root location.If **.bashrc** is not there , please create it and set JAVA_HOME path in it.

-Creation of .bashrc file

touch .bashrc

-verification of .bashrc file(cd /root)

ls -lart .bashrc

-For setting JAVA_HOME as environment variable please Open .bashrc file and update file with below command,

export JAVA_HOME=Path of JAVA_HOME

export JAVA_HOME=/usr/java/jdk1.8.0_131/jre

STEP 4: Check if the environment variable JAVA_HOME, containing the JDK installed directory

To verify execute **echo \$JAVA_HOME** which will give installed JDK directory.

STEP 5:-Setup the developer edition's test application in the Linux server.

-First We replace the pai-j2eeledev-apache-tomcat.zip file with this pai-j2eeledev-apache-tomcat-6.1.1.zip file using WINSCP tool.

Location of the file is \\DE-MUCXTECHBLD\Pre_configuredTomcat_VTAS. The pai-j2eeledev-apache-tomcat-6.1.1 file preconfigured Tomcat archive.

-Unzip the pai-j2eeledev-apache-tomcat-6.1.1.zip to Extracted location using follwing command.

```
unzip J2EE_LE_6.1.1_PA1_DEV_TOOLING.zip -d /opt/tomcat_6.1.1_E
```

Before extracting create on folder under /opt having name tomcat_6.1.1_E.

-All the scripts in the Location “/opt/tomcat_6.1.1_E/pai-j2eeledev-apache-tomcat-6.1.1/bin” should have the permission to run.Below is the command to change the permission of scripts,

```
chmod 0755 *.sh
```

STEP 6:Start the Tomcat

To **start** the Tomcat server, open a new "Terminal"

Navigate to /opt/tomcat_6.1.1_E/pai-j2eeledev-apache-tomcat-6.1.1/bin and execute any of the following commands:

```
$ ./startup.sh
```

```
$ ./catalina.sh run
```

```
$ ./catalina.sh start
```

10.To **shutdown** the Tomcat server, you can simply press control-c on the tomcat console, or execute below commands:

Navigate to /opt/tomcat_6.1.1_E/pai-j2eeledev-apache-tomcat-6.1.1/bin and execute any of the following commands:

```
$ ./shutdown.sh
```

```
$ ./catalina.sh stop
```

STEP 7: DOS2UNIX conversion.

-If you face any issue during execution of any file then convert it to in unix format using DOS2UNIX conversion.

-For DOS2UNIX conversion,first step is to download all DOS formatted files on your local using WINscp tool.

-Open all those file in Notepad++

-Right click on Dos\Windows and change it to UNIX format.

-Save those file and replace it with Windows formatted which are present on the server.

Command to convert from DOS2UNIX:

we will use "find" command to list out the files and apply "xargs" command to modify files from dos2unix format. Please find the below command for the same.

```
find /opt/tomcat_6.1.1_E/pai-j2eeledev-apache-tomcat-6.1.1/ -type f -print0 | xargs -0 dos2unix
```

Command to convert single file from DOS2UNIX :

```
awk '{ sub("\r$," ""); print }' abc.txt > xyz.txt
```

STEP 7: Verify the test application

To verify if the test application is running, enter the URL "http://localhost:8080/j2eeletestapp" in the browser.

Eg.<http://de-muc-vtasadpdm01:8080/j2eeletestapp/page/securityverification/securityroles>

USERNAME:-IAPX0010

PASSWORD:-IAPx0010

Production Line

- Production Line Instance
 - Access to Server & Services
 - User Management
- Repositories
- Maintenance
- Support Team
- Gerrit for Git
- Jenkins
- LAM
- Nexus Repository
- SonarQube
- Technical User for PlaaS

Production Line Instance

VTAS's CI/CD pipeline is hosted within an instance of the Production Line. It currently sports the following tools & services:

- Gerrit for Git
- Jenkins
- Sonarqube
- Nexus
- LAM

Access to Server & Services

Project members can log in to the Production Line portal at <https://vtas.s2-eu.capgemini.com> using their CORP-ID. Services are available via drop down menu at the top of the page.

User Management

login to the Production Line and **switching to lam**. Each Production Line hosts an LDAP server that is connected to the Capgemini Corporate Directory. Access can be granted to any Capgemini employee by adding their CORP-ID to this LDAP.

how to add users? see: [LAM](#)

Repositories

Project	URL	Java Project
Infrastructure	https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-infrastructure.git	No
VTAS UI/Main	https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-main.git	Yes
VTAS ProjectPlanning	https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-projectplanning.git	Yes
VTAS Commons	https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-commons.git	Yes
VTAS Security	https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-security.git	Yes
VTAS Administration	https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-administration.git	Yes
VTAS External Systems	https://vtas.s2-eu.capgemini.com/gerrit/vtas-externalsystems.git	Yes

VTAS User Management	https://vtas.s2-eu.capgemini.com/gerrit/vtas-usermanagement.git	Yes
VTAS Cache	https://vtas.s2-eu.capgemini.com/gerrit/vtas-cache.git	Yes

Maintenance

Each service of the Production Line is running in its own Docker container. Services can be added by adding additional Docker containers to the Docker Compose configuration used to initialize the Production Line. Since DiVa is considered a Production Line Pilot Project we can get developer support on short notice.

The tool `docker-compose` is used in order to start & stop the whole Production Line. Navigate to `/data/productionline/diva` and execute one of the commands below:

action	command	remark
start	<code>docker-compose up -d</code>	Parameter <code>-d</code> will detach the shell from the start process. The Production Line will be terminated if you forget that parameter and exit your terminal session.
stop	<code>docker-compose down</code>	
reboot	<code>docker-compose restart</code>	
start single container	<code>docker-compose start \$service</code>	\$service out of jenkins, gerrit ... defined in the docker-compose file
stop single container	<code>docker-compose stop \$service</code>	\$service out of jenkins, gerrit ... defined in the docker-compose file

Location of the `docker-compose.yml` file:

- [http://de-diva2020-bld.corp.capgemini.com/gerrit/gitweb?p=diva_infrastructure.git;a=bl
ob;f=production-line/docker-compose.yml;hb=HEAD](http://de-diva2020-bld.corp.capgemini.com/gerrit/gitweb?p=diva_infrastructure.git;a=blob;f=production-line/docker-compose.yml;hb=HEAD)

Support Team

How to raise a ticket for PlaaS support?

Gerrit for Git

- Setting HTTP Password for Gerrit
- Installing a Client-Side Commit Hook
- [Gerrit Access Controls](#):

Team members must be in one of the following groups. As long as we do not use Gerrit for code review purposes there is no technical difference between Contributors and Developers. Groups are intended to differentiate between team members working on the code in the first place (Developers) and members who want to participate in the review process for QA but do not implement features themselves (Contributors). Administrators are able to manage any Gerrit internal configuration.

Administrators	Gerrit Site Administrators
Contributors	
Developer	

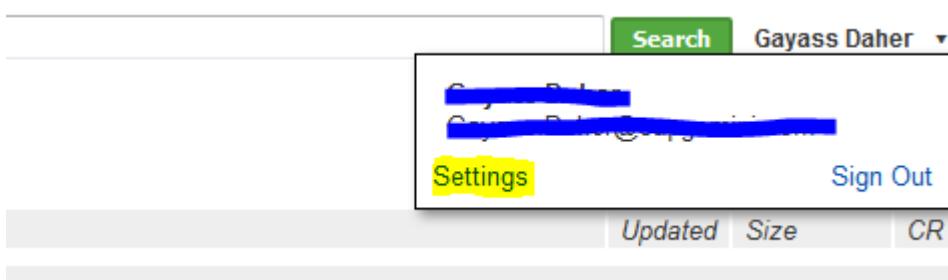
Setting HTTP Password for Gerrit

Gerrit serves two purposes in VTAS:

- GUI for creating and managing of Git repositories
- Code review tool for commits to the repositories

To provide the latter functionality it intercepts calls to the underlying Git repository. Therefore Gerrit credentials are needed to clone and push to the remote origin.

After logging in to the Production Line and **switching to Gerrit** you need to enter the *Settings* page by clicking the link in the drop down menu on the top right of the page:



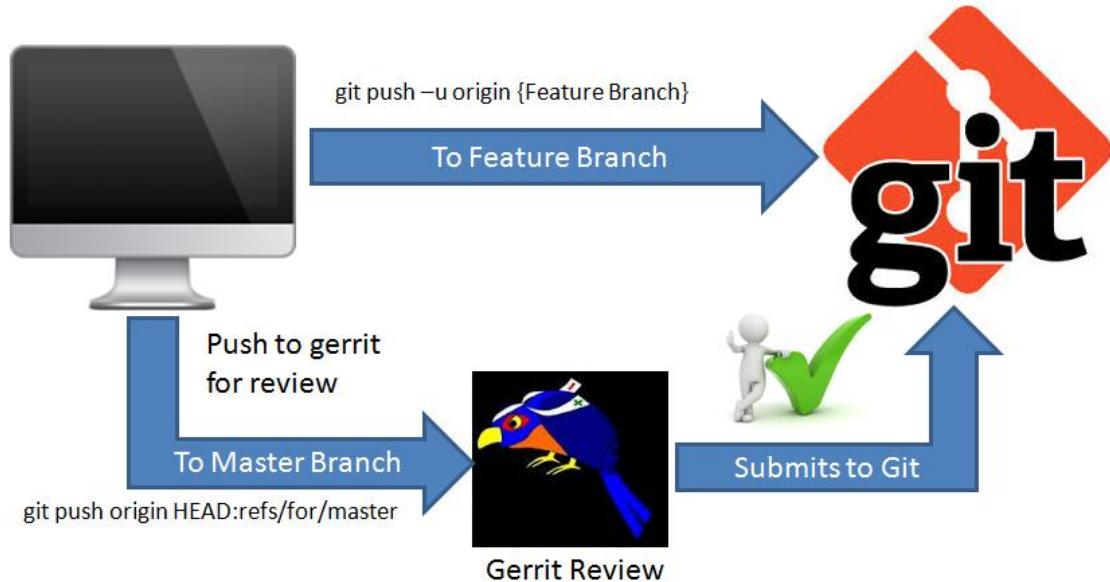
Choose *HTTP Password* and generate a password. You will use this password to authenticate at the remote origin of the Git repository. Using a credentials store (see e.g. <https://help.github.com/articles/caching-your-github-password-in-git/>) is highly recommended to avoid copy & pasting the password on each commit 😊

Installing a Client-Side Commit Hook

Eclipse#SetDefaultGitHook

Gerrit Access Controls:

What we follow



Push commands

- **Master Branch:**

Pushing delta to master branch should happen only via gerrit review. Command to be used is

```
git push origin HEAD:refs/for/master
```

- **Feature Branch:**

Delta on feature branches can be pushed directly using the below command.

```
git push -u origin VTAS-XXX
```

Note: Feature branch name should be like VTAS-XXXX where XXXX can be alphanumeric. Feature branches not following this naming convention are not allowed to push to Git.

Access Controls

Action	Developer	Admin
Direct push to feature branches	Yes	Yes
Direct push to master branch	No	Yes
Push via Gerrit Review in feature branch	Yes	Yes
Push via Gerrit Review in master branch	Yes	Yes
Create a branch	No	Yes
Delete a branch	No	Yes

Jenkins

Access to Jenkins is granted for each user registered in the ProductionLine instances. It serves as continuous integration pipeline to evaluate changes submitted for review, build all changes committed to major development branches and deploy the application to EDC.

TODO add documentation on the pipeline plugin when this feature is used in the future.

Build Process

- Prerequisite
- Build Process

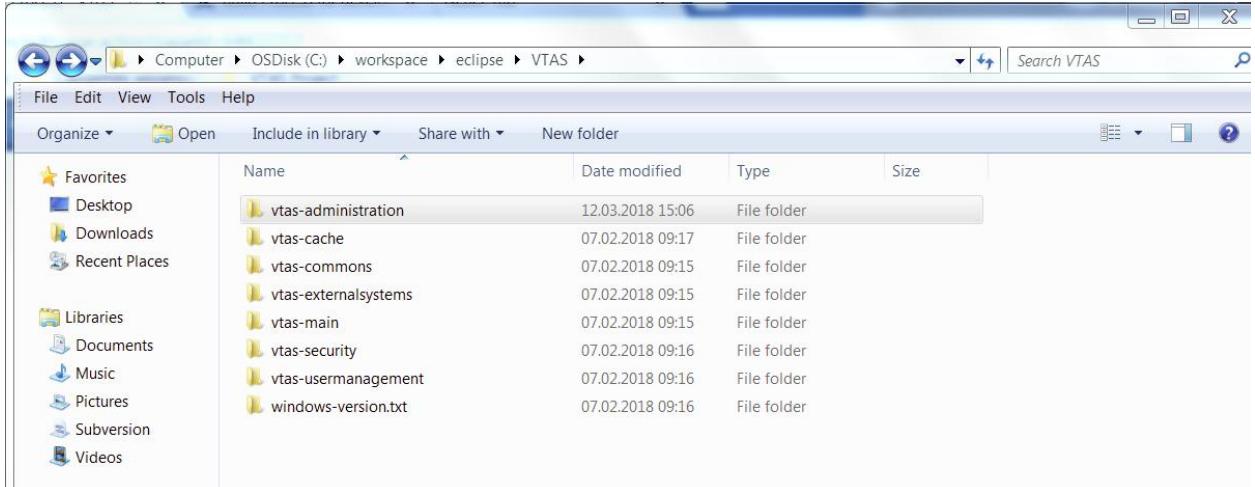
This document describes how to create deployable artifacts for each of the microservices.

Prerequisite

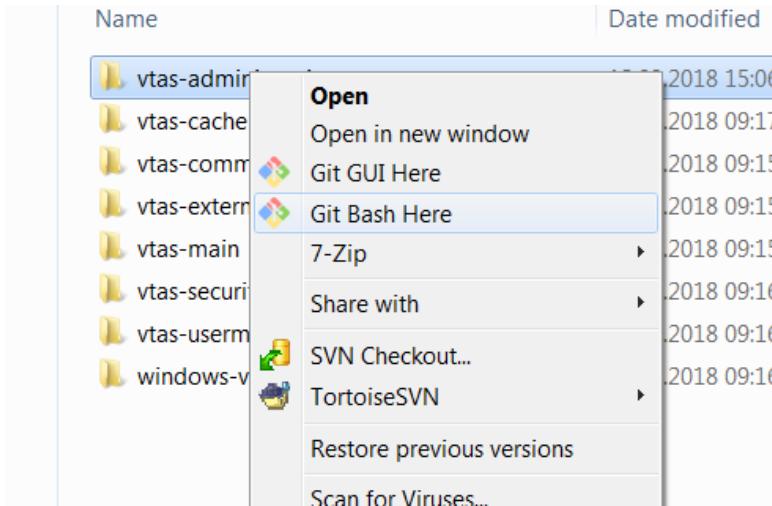
In order to create the artifacts you need to checkout the required repositories and Git Bash must also be installed on the machine. Please check the [IDE Setup Guide](#) for further explanation.

Build Process

1. Locate the checked out repositories.



2. Rightclick one of the repositories and choose "Git Bash Here"



3. The Git Bash will open. Enter "`./gradlew build`" and the building process should start.

```
MINGW64:c/workspace/eclipse/VTAS/vtas-administration
$ ./gradlew build
```

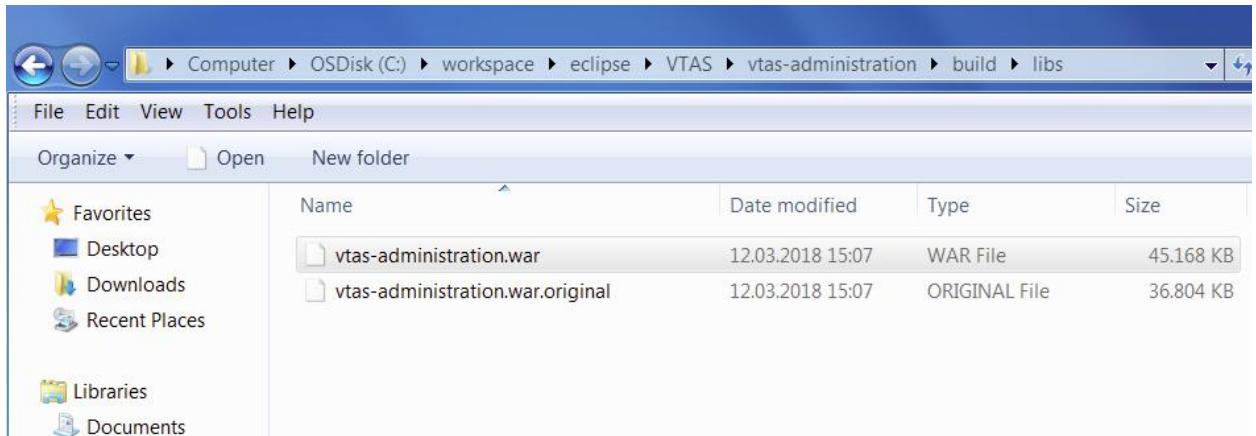
4. When it's done the commandline should look something like this. Repeat these steps for each and every repository that represents a microservice. So for example NOT vtas-commons.

```
5:07:31 CET 2018]: root of context hierarchy]
[D: 2018-03-12 15:07:32,977] [P: INFO ] [C: ] [T: Thread-10] [L: org.springframework.web.context.support.GenericWebApplicationContext] - [M: Closing org.springframework.web.context.support.GenericWebApplicationContext@34d59993: startup date [Mon Mar 12 15:07:25 CET 2018]; root of context hierarchy]
[D: 2018-03-12 15:07:32,978] [P: INFO ] [C: ] [T: Thread-6] [L: org.springframework.web.context.support.GenericApplicationContext] - [M: Closing org.springframework.context.support.GenericApplicationContext@1562fb3d: startup date [Mon Mar 12 15:07:17 CET 2018]; root of context hierarchy]
[D: 2018-03-12 15:07:32,979] [P: INFO ] [C: ] [T: Thread-20] [L: org.springframework.web.context.support.GenericApplicationContext] - [M: Closing org.springframework.web.context.support.GenericApplicationContext@38fb72f: startup date [Mon Mar 12 15:07:31 CET 2018]; root of context hierarchy]
:generateCoberturaReport SKIPPED
:performCoverageCheck SKIPPED
:check
:build

BUILD SUCCESSFUL

Total time: 56.138 secs
skoshewn@CE16661 MINGW64 /c/workspace/eclipse/VTAS/vtas-administration (master)
$
```

5. Go back to your repository folder and navigate to "`buildlibs`". Here you can find the `*.war` file that represents one microservice in VTAS.



6. You can now use this *.war file for deployment on INT, PROD, or DEV.

Build Process for developers

- Seeder Project
 - Link
 - General
 - Schedule
 - Source code
 - Multibranch pipeline for each microservice repository
 - PreDEV deployment jobs
- Build VTAS Projects
 - Jenkinsfile
 - Generic Jenkinsfile
 - Checkout SCM
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 - Gradlew clean
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- PreDEV Deployment
 - General
 - Stages
 - Prepare
 - Build microservices
 - Wipe database
 - Zip artifacts
 - Establish ssh
 - Stop tomcat
 - Delete old artifacts
 - Copy and unzip artifacts
 - Start tomcat
 - Check online status of microservices

Seeder Project

Link

https://vtas.s2-eu.capgemini.com/jenkins/job/_gerrit-seeder/

General

The seeder automatically creates the following Jenkins views for us, which in turn contain automatically created Jenkins jobs:

- View PreDEV
 - Deployment job for PreDEV master

- Deployment job for PreDEV feature branch
- View **Gerrit**
 - Multibranch pipeline for each microservice repository

The source code for the Seeder can be found here: https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure.git;a=tree;f=dsl_gerrit-seeder;h=94076b4df0181c81dbaa582834b11701778d6ec6;hb=HEAD

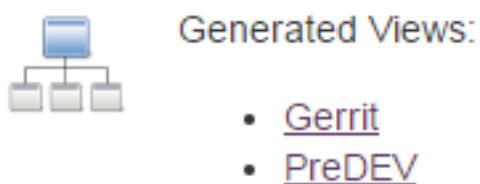
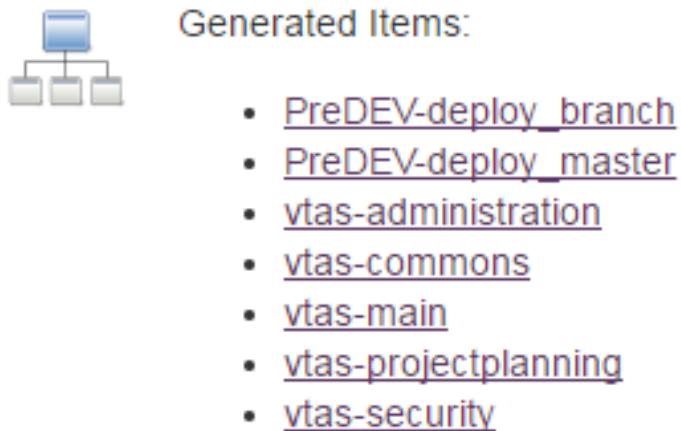
It's written in Groovy (JVM interpreter language, quite similar to Java). Groovy is the default description language in Jenkins 2.0 for Pipeline jobs (see <https://jenkins.io/solutions/pipeline/>). I've written it with IntelliJ since this IDE comes with out of the box Groovy support.

The script is written procedural, this means it does not contain a main method or even a class declaration. Just read it from top to bottom. 😊

Schedule

The seeder runs once every night at 11pm and checks if there are new jobs to be created. The seeder will also update existing jobs with new configuration.

The overview page of the job will also indicate the created jobs:



Source code

https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure.git;a=tree;f=dsl_gerrit-seeder;h=94076b4df0181c81dbaa582834b11701778d6ec6;hb=refs/heads/master

Multibranch pipeline for each microservice repository

The Seeder will use the [Gerrit REST API](#) to identify microservice repository.

1. Retrieve a list of all repositories available in Gerrit
2. Iterate through next item in list
3. Check for the iterated repository if it the repository name starts with **vtas**, if true => go back to 4, else go to 2
4. Check for the iterated repository if contains a [Jenkinsfile](#) in the root directory, if true => go back to 5, else go to 2
5. Create a [multibranch pipeline](#) with the following parameters
 - a. git remote url: url of the repository
 - b. triggers:periodic(1): scan branches for new pushes every 1 minute
 - c. orphanedItemStrategy:discardOldItems:daysToKeep(5): keep jobs for deleted branches for 5 days

PreDEV deployment jobs

Create two Pipelines (no multibranch pipelines!) for two different environments

- deploy_PreDEV-master => deploy on Application Server - de-muc-vtasadpdm01

- deploy_PreDEV-branch => deploy on Application Server - de-muc-vtasadb01

And inject the following parameters into the pipelines:

Parameter	Description
TOMCAT_URL	the url on which the application should be deployed
WIPE_DATABASE	boolean determines if the database should be wiped via <code>flywayClean</code> or not. This is true for the PreDEV-branch, and false for PreDEV-master
PROFILE	determines which profile shall be loaded after deployment (<code>-Dspring.profiles.active</code>) Values are respectively PreDEV-master

For the PreDEV-branch we allow furthermore to deploy different feature branches.

For this we use [parametrized builds](#), which can be accessed here easily.



Pipeline PreDEV-deploy_branch

Dieser Build erfordert Parameter:

The screenshot shows the Jenkins pipeline configuration for 'PreDEV-deploy_branch'. It includes three repository URLs with dropdown menus for selecting feature branches:

- https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-administration.git: VTAS-196_moduleAdmin
- https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-main.git: VTAS-275_Security
- https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-projectplanning.git: A dropdown menu showing branches: master, VTAS-109_Backend, VTAS-411_LoggingIntegration, VTAS-411_wsdsm, VTAS-456_CD, and VTAS-68_ViewProjects. The 'master' option is selected.

A 'Build' button is visible at the bottom left.

In order to identify deployable repositories and the available feature branches we do the following again via [Gerrit REST API](#):

1. Retrieve a list of all repositories available in Gerrit
2. Iterate through next item in list
3. Check for the iterated repository if it the repository name starts with **vtas**, if true => go to 4, else go back to 2
4. Check for the iterated repository if contains a **build.gradle** file in the root directory, which contains the String **id "war"** in it. if true => go to 5, else go back to 2
5. Create a **pipeline job** with the following parameters
 - a. parameters:choiceParam: String: the URL of the deployable repository, List: a list of all feature branches
 - b. environmentVariables: according to the parameter table above (WIPE_DATABASE, TOMCAT_URL & PROFILE)
 - c. concurrentBuild(false): false, as we don't want to have concurrent build jobs

```

d. definition:cpsScm:scm:git:remote:url: the repository which contains the deployment
   instruction

e. definition:cpsScm:scm:git:branch: master

f. definition:cpsScm:scm:scriptPath: the name of the Jenkinsfile (in our case
   deployment_Jenkinsfile => https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure-jenkinsfile.git;a=blob;f=deployment\_Jenkinsfile;h=de9dc148528ce38a800a05a7cc8f4144ef689b84;hb=HEAD)

```

Build VTAS Projects

In order to build each VTAS project we have a generic Jenkinsfile which contains information on how to build the project accordingly. [DRY](#)

Jenkinsfile

The Jenkinsfile of every project points to the generic Jenkinsfile

Jenkinsfile

```

#!/usr/bin/env groovy

node {

    stage('fetch Jenkinsfile') {
        // checkout the generic Jenkinsfile ->
https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure-jenkinsfile.git;a=blob\_plain;f=generic\_Jenkinsfile;hb=HEAD
        // and run it
        checkout([$class: 'GitSCM', branches: [[name: '/master']], doGenerateSubmoduleConfigurations: false, extensions: [], submoduleCfg: [], userRemoteConfigs: [[url: 'https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-infrastructure-jenkinsfile.git']]])
        load 'generic_Jenkinsfile'
    }
}

```

Generic Jenkinsfile

The generic Jenkinsfile can be found here: https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure-jenkinsfile.git;a=blob_plain;f=generic_Jenkinsfile;h=7f26aeb57e8c85bb6b2a6015a6747500f04065ff;hb=refs/heads/master

It contains different stages. Every VTAS project can be build with this script

Checkout SCM

Get the content of the repository defined in the Jenkins job

Prepare

Set JAVA_HOME and make file **gradlew** executable.

Gradlew clean

execute **gradlew clean**

Gradlew build

compile code

Gradlew test

instrument code via **Cobertura** (to measure code coverage) and execute **junits**

Gradlew sonarqube

upload code to **Sonarqube** for static code analysis

Gradlew uploadArchives

if pipeline was executed on master (if (env.BRANCH_NAME == "master")) upload the artifacts to **Nexus**

Sonar Cleanup

Link

https://vtas.s2-eu.capgemini.com/jenkins/job/_sonar-cleanup/

General

Since we deploy our feature branches in Sonar we need to make sure that the projects get removed in Sonar once feature branch is merged to master.

In order to facilitate this, we have the a job in Jenkins which runs every night and identifies orphans in Sonar.

For this we query the REST API of Gerrit to get all available feature branches of all repositories containing a Jenkinsfile.

Afterwards we query the REST API of Sonar where we fetch all projects in Sonar.

Now by comparing the both lists we can identify orphans in Sonar. We eventually iterate through all orphans and send the corresponding DELETE REST command to Sonar.

Schedule

Once every night at 11pm CET

Source code

https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure.git;a=tree;f=dsl_sonar-cleanup;h=42819efac063ad10a60a792c9037021828dab881;hb=refs/heads/master

PreDEV Deployment

General

For the PreDEV deployments we also have a Jenkinsfile which contains the instruction on how to deploy the microservices.

https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure-jenkinsfile.git;a=blob_plain;f=deployment_Jenkinsfile;h=de9dc148528ce38a800a05a7cc8f4144ef689b84;hb=refs/heads/master

Stages

Now following a description of each stage within the Jenkinsfile. Only if all stages were executed successfully (i.e no exception was thrown) then the build will be considered as successful.

Prepare

Make sure that we start with an empty filesystem (rm -rf *)

Build microservices

checkout the code of the microservice. run **gradlew assemble**. this will produce the WAR file. copy the war file into a central location.

Wipe database

if target environment is **Application Server - de-muc-vtasadb01** (PreDEV feature branch) we will wipe the database by invoking **gradlew flywayClean**

Zip artifacts

zip all WAR files so we can move them to the target server

Establish ssh

establish SSH connection on target machine (Tomcat server)

Stop tomcat

stop tomcat via [shutdown.sh](#) script and wait until Tomcat does not respond to HTTP requests (curl) anymore.

Delete old artifacts

remove all old artifacts from directory /webapps matching the name: vtas*

Copy and unzip artifacts

move previously created zip ([zip artifacts](#)) to /webapps folder and unzip the folder

Start tomcat

start tomcat via [startup.sh](#) and wait until Tomcat responds to HTTP requests.

Check online status of microservices

Iterate through each microservice and check the [/health](#) endpoint and check if JSON is returned where **status** is **UP**

LAM

- [Granting Users Access to the Production Line](#)

Granting Users Access to the Production Line

STEP 1

Login into the production URL

The screenshot shows a web browser window with the URL <https://vtas.s2-eu.capgemini.com/login>. The page title is "Please sign in". It contains two input fields: "Username" and "Password", a "Remember me" checkbox, and a large blue "Sign in" button. The browser's address bar shows the secure connection and the full URL. The top navigation bar includes links for Apps, Managed bookmarks, References, Capgemini, Apache ActiveMQ, Dashboard [Jenkins], PASSPORT Web Regi..., GoToMeeting, and GitHub.

STEP 2

Select the highlighted link

The screenshot shows the Jenkins dashboard for the "Production Line" project. The left sidebar lists "New Item", "People", "Build History", "Manage Jenkins", and "My Views". The main area shows a "Services" dropdown menu with icons for Jenkins, Sonarqube, Gerrit, Nexus, Selenium, and Iam. The "Iam" option is highlighted with a yellow box. Below the menu, there is a search bar with "Name" and "VTAS" entered, and a note "Icon: S M L". The browser's address bar shows the URL <https://vtas.s2-eu.capgemini.com/#https://vtas.s2-eu.capgemini.com/jenkins/>.

STEP 3

Select new user

Production Line Services						Logged in as: kpanda Logout
LDAP Account Manager - 3.7 (Logged in as: admin > pl > s2-eu > capgemini > local)						Tree view Tools Help Logout
Users Groups						
New user Delete selected users File upload						
User count: 10						
User ID	First name	Last name	UID number	GID number		
Filter						
ajun	Aju	N	10008	10000		
gdaher	Gayass	Daher	10001	10001		
gnettem	Geetha	Nettem	10005	10000		
kbaliku	Kalyana	Rao	10006	10000		
kpanda	Kiran Kumar	Panda	10003	10001		
naluru	Nagendra	Kumar	10004	10000		
nikamal	Neel	Kamal	10007	10000		
pkisslin	Patrick	Kissling	10002	10001		
svc-triscorp	VTAS	Technical	10000	10000		
vethat	Ved Narayan	Bhat	10009	10000		
Select all						

STEP 4

Enter all personal information

New user	
Save	Set password
Personal	First name * <input type="text" value="Kiran"/> ? Last name * <input type="text" value="Panda"/> ?
Unix	 Add photo
Address	State <input type="text"/> ? Office name <input type="text"/> ?
Contact data	Email address * <input type="text" value="kiran-kumar.panda@capgemini.com"/> ?

STEP 5

Navigate to Unix tab and validate the "User Name"

New user	
Save	Set password
Personal	User name * <input type="text" value="kpanda"/> ? Common name <input type="text" value="Kiran Panda"/> ? UID number <input type="text"/> ? Gecos <input type="text"/> ? Primary group <input type="text" value="admins"/> ? Additional groups Edit groups ? Home directory * <input type="text" value="/home/\$user"/> ? Login shell <input type="text" value="/bin/bash"/> ?
Unix	

STEP 6

New user information will be displaying in the following table

User ID	First name	Last name	UID number	GID number
ajun	Aju	N	10008	10000
gdaher	Gayass	Daher	10001	10001
gnettem	Geetha	Nettem	10005	10000
kbaliku	Kalyana	Rao	10006	10000
kpanda	Kiran Kumar	Panda	10003	10001
naluru	Nagendra	Kumar	10004	10000
nkamal	Neel	Kamal	10007	10000
pkisslin	Patrick	Kissling	10002	10001
svc-fr-iscorp	VTAS	Technical	10000	10000
vebhat	Ved Narayan	Bhat	10009	10000
Select all				

Nexus Repository

Link: <https://vtas.s2-eu.capgemini.com/nexus/>

Deploying Artifacts automatically (via Jenkins)

Define a task in the build.gradle and add the Maven plugin.

- Deploying Artifacts automatically (via Jenkins)
- Uploading Artifacts manually

build.gradle

```
plugins {
    id "maven" // required to deploy artifacts
    in nexus
}

// ...

uploadArchives {
    repositories {
        mavenDeployer {
            repository(url:
"${nexusUrl}/content/repositories/releases")
            {
                authentication(userName: nexusUsername,
                password: nexusPassword)
            }
            snapshotRepository(url:
"${nexusUrl}/content/repositories/snapshots")
            {
                authentication(userName: nexusUsername,
                password: nexusPassword)
            }
            pom.groupId = "com.daimler.vtas"
            pom.artifactId = "commons"
            pom.version = "1.0-SNAPSHOT"
        }
    }
}

// ...

```

And add the stage in the Jenkinsfile accordingly.

```

Jenkinsfile
// ...

stage ('gradlew uploadArchives') {
    sh "./gradlew uploadArchives"
}

// ...

```

After ever push the artifact will then automatically be uploaded to Nexus.

Uploading Artifacts manually

For some reasons it might be the case that you have to upload dependencies manually into Nexus. This applies for example for the DB2 JDBC Drivers. Due to licensing issues those libraries are not available via Maven. They have to be downloaded via IBM homepage and then be manually deployed in Nexus. Here are the steps:

1. Go to **Repositories**:

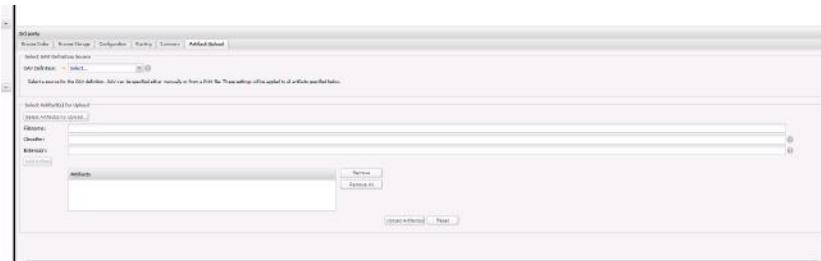


2. Select **3rd Party**

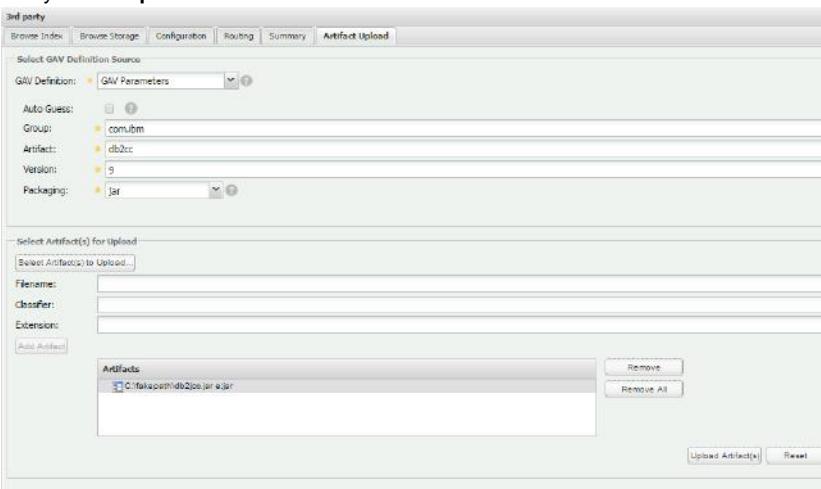
The screenshot shows the Nexus Repository Manager interface with the '3rd Party' repository selected in the left sidebar. The main area displays a table of repositories, with the 'sonatype-snapshots' row highlighted.

Repository	Type	Health Check	Perm	Policy	Repository Status	Repository Path
sonatype-snapshots	hosted	ANALYZED	maven2	Release	In Service	https://nexus.x2-eu.sapgermin.com/nexus/content/groups/public
sonatype-releases	hosted	ANALYZED	maven2	Release	In Service	https://nexus.x2-eu.sapgermin.com/nexus/content/repositories/releases
Apache Snapshots	proxy	ANALYZED	maven2	Snapshot	In Service	https://nexus.x2-eu.sapgermin.com/nexus/content/repositories/snapshots
Central M2 shadow	virtual	ANALYZED	maven1	Release	In Service	https://nexus.x2-eu.sapgermin.com/nexus/content/vanashadow
Releases	hosted	ANALYZED	maven2	Release	In Service	https://nexus.x2-eu.sapgermin.com/nexus/content/repositories/releases
Snapshots	hosted	ANALYZED	maven2	Snapshot	In Service	https://nexus.x2-eu.sapgermin.com/nexus/content/repositories/snapshots

3. Go to **Artifact Upload** at the bottom of the screen



4. Select Artifact to Upload...
5. Set GAV Definition
 - a. **GAV Parameters** if you want to determine the group, name and version manually (if there is no pom file available)
 - b. **From POM** if you have an existing pom.xml
6. Now you can Upload Artifacts



7. By going to **Browse Index** you can see all manually uploaded libraries



8. You can now declare the dependency in the **build.gradle** file
- ```
// excluding transitive dependency which are not needed
exclude group: "org.apache.tomcat", module: "tomcat-jdbc"
exclude group: "org.apache.tomcat", module: "tomcat-juli"
}
compile("net.sf.m-m-m:mmm-util-core:7.4.0")
compile("org.flywaydb:flyway-core")
compile("com.ibm:db2cc:9")

testCompile("org.springframework.boot:spring-boot-starter-test")
```

## SonarQube

### General Information

#### URL

<https://vtas.s2-eu.capgemini.com/#https://vtas.s2-eu.capgemini.com/sonarqube/>

#### Usage

- General Information
- URL
- Usage
  - Synchronizing Eclipse with the Rules defined in SonarQube

## Synchronizing Eclipse with the Rules defined in SonarQube

Eclipse#SynchronizeRulesinSonarwithEclipse

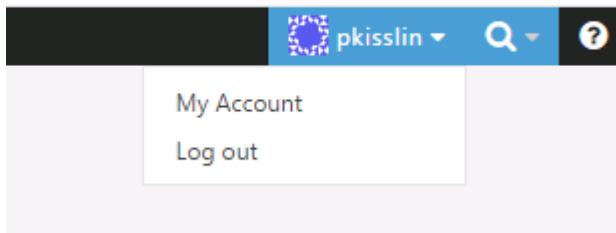
## Running a Sonar Analysis Locally

Eclipse#UsingSonarLint

## Administration

### Authentication between Jenkins and Sonar

1. Go to Sonar ([URL](#))
2. Go to **My Account** in the top right corner of your screen.



3. Navigate to **Security** and enter a token name (the token name should reflect the purpose of this token).

| NAME      | CREATED       |                        |
|-----------|---------------|------------------------|
| tech_user | 13. März 2017 | <a href="#">Revoke</a> |

Generate Tokens  
 [Generate](#)

4. Hit **Generate** afterwards.
5. A token set is now being produced. This token can be used for authentication in Sonar. So you don't have to expose your credentials.

New token "jenkins\_tech\_user" has been created. Make sure you copy it now, you won't be able to see it again!

[Copy](#) a127fb9cfbb4ca7a4fce82... [View Details](#)

6. Now you can use this token for authentication e.g. in your **Jenkinsfile**. The corresponding parameter is **-Dsonar.login=XXX**.

```
stage 'gradlew sonarqube'
sh "./gradlew sonarqube -Dsonar.host.url=http://sonarqube:9000/sonarqube -Dsonar.login=a127fb9cfbb4ca7a4fce82..."
```

7. The access for this token can also be **revoked** at any given time

| NAME      | CREATED       |                        |
|-----------|---------------|------------------------|
| tech_user | 13. März 2017 | <a href="#">Revoke</a> |

- Running a Sonar Analysis Locally
- Administration
  - Authentication between Jenkins and Sonar
  -

## Technical User for PlaaS

- Credentials
- Obtaining a Technical User
- Maintaining the User
- Grant access for User with Production Line
- Usage of Technical User in VTAS

A technical user for PlaaS is required when different components of the production line need to communicate with each other. For example a rest call from Jenkins to Sonar requires basic authentication. Hence a technical user is required.

### Credentials

Please refer to [Credentials](#)

### Obtaining a Technical User

1. Approach **ITICS** (ithelp.global@capgemini.com) and ask for a **Service Account**. You need to provide the required user id i.e. `vtas_tech_user`
2. They will provide username and password for the Technical User

### Maintaining the User

1. Go to <http://corporatedirectory.capgemini.com/MyDirectory/portals/std/index-portal.jsp>
2. Go to **My Service Accounts**
3. The service account will appear:

The screenshot shows the 'Direct Access' interface with a sidebar containing links like Quick Search, Advanced Search, My Mails, Offices, Employees, Associates, Externals, My Generic Accounts, Generic Accounts, Public Distribution Lists, Distribution Lists, My External Mail Contacts, External Mail Contacts, Conference Rooms, Bookable Resources, and My Service Accounts. The main area is titled 'My Service Accounts' and shows a single entry: 'Display Name: DE, vtas\_tech'. Below this is a 'History' section with 'Search (Quick Search)' and 'Navigate (My Service Accounts)'. At the bottom, there's an 'Additional' section with a note and modification details, and 'Actions' and 'History' sections.

4. Click the corresponding user to get to the overview page.  
5. At the bottom of the page you now have the option to maintain this user (e.g. change password)

|                                                             |                                                                                                             |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Basket<br>Logout                                            | <b>Additional</b><br>Note:<br>Last Modification: 2017-04-06 16:41:12 GMT+0200<br>Last Modifier ID: pkisslin |
| <b>Actions</b><br>Read<br>Edit<br>Change Password<br>Delete | <b>History</b><br>Search (Quick Search)<br>Navigate (My Service Accounts)<br>DE, vtas_tech                  |

### Grant access for User with Production Line

1. Go to LAM in the Production Line <https://vtas.s2-eu.capgemini.com/lam/templates/lists/list.php?type=user>
2. Create a **New User**
3. Fill out the required fields
  - a. Tab **Personal**
    - i. First name: VTAS
    - ii. Last name: Technical User
    - iii. E-Mail: any
  - b. Tab **Unix**
    - i. User name: Obtain the username from the corporate directory overview page

The screenshot shows the 'Personal' tab of a user creation form. The fields and their values are:

- Service Name:** vtas\_tech
- LoginID:** SVC-DE-VTASTECH
- Account Type:** Service Account
- Folder:** DDA - CSE Central Europe
- Web Admin:** DDA - CSE Central Europe
- Owner:** Kissling, Patrick
- Admins:** (empty)
- Restrict Access To:** (empty)
- Member Of:** (empty)

- ii. Home directory: any
4. You can now login to the Production Line with this user

## Usage of Technical User in VTAS

Where we use this technical user:

1. Sonar Cleanup Job:  
[https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure.git;a=tree;f=dsl\\_sonar-cleanup;h=c49a24c1756277f4f3974f7b7397f6c5fefe207b;hb=HEAD](https://vtas.s2-eu.capgemini.com/gerrit/gitweb?p=vtas-infrastructure.git;a=tree;f=dsl_sonar-cleanup;h=c49a24c1756277f4f3974f7b7397f6c5fefe207b;hb=HEAD)  
Username and password is Base64 encoded
2. Interactive-User in Gerrit (Used for Code Review in Gerrit)  
<https://vtas.s2-eu.capgemini.com/gerrit/#/admin/groups/4>

## DB2 Roles Concept

### Useful Links

Roles vs Groups by IBM: [https://www.ibm.com/support/knowledgecenter/SSEPGG\\_10.5.0/com.ibm.db2.luw.admin.sec.doc/doc/c0051427.html](https://www.ibm.com/support/knowledgecenter/SSEPGG_10.5.0/com.ibm.db2.luw.admin.sec.doc/doc/c0051427.html)

VCT SharePoints (required EMEA account & permission): [https://team.sp.wp.corpintra.net/sites/00186/vct\\_db/Documents/Forms/z\\_edit.aspx](https://team.sp.wp.corpintra.net/sites/00186/vct_db/Documents/Forms/z_edit.aspx)

- Useful Links
- Required Roles and Users as per DAI DB2 Hardening
- Database Authorizies
- DAI Role Description
- VTAS-specific Roles
- VTAS DB2 Role Concept
- Users
- Grants

### Required Roles and Users as per DAI DB2 Hardening

Available roles are defined by Diamler in the **DB2\_Install\_Questionnaire.xlsx**

| USERNAME | PRIMARY GROUP | SECONDARY GROUPS | FULL NAME / DESCRIPTION | TECHNICAL USER | DAI_%_ROLES                                                      |
|----------|---------------|------------------|-------------------------|----------------|------------------------------------------------------------------|
| vtasrw01 |               |                  | vtas read/write user    | YES            | DAI_PUBLIC_COMPAT,<br>DAI_PACKAGE_EXEC_CLIENT,<br>DAI_DB_CONNECT |

|         |  |  |                 |     |                                                                                         |
|---------|--|--|-----------------|-----|-----------------------------------------------------------------------------------------|
| vtasr01 |  |  | vtas read user  | YES | DAI_PUBLIC_COMPAT,<br>DAI_PACKAGE_EXEC_CLIENT,<br>DAI_DB_CONNECT                        |
| vtasadm |  |  | vtas admin user | YES | DAI_PUBLIC_COMPAT,<br>DAI_PACKAGE_EXEC_CLIENT,<br>DAI_DB_CONNECT,<br>DAI_ADMIN_TABLEADM |

## Database Authorizies

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BINDADD         | Grants the authority to create packages. The creator of a package automatically has the CONTROL privilege on that package and retains this privilege even if the BINDADD authority is subsequently revoked.                                                                                                                                                                                                                                                        |
| CONNECT         | Grants the authority to access the database.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CREATETAB       | Grants the authority to create base tables. The creator of a base table automatically has the CONTROL privilege on that table. The creator retains this privilege even if the CREATETAB authority is subsequently revoked.<br>There is no explicit authority required for view creation. A view can be created at any time if the authorization ID of the statement used to create the view has either CONTROL or SELECT privilege on each base table of the view. |
| IMPLICIT_SCHEMA | Grants the authority to implicitly create a schema.                                                                                                                                                                                                                                                                                                                                                                                                                |
| ALTERIN         | Grants the privilege to alter or comment on all objects in the schema. The owner of an explicitly created schema automatically receives ALTERIN privilege.                                                                                                                                                                                                                                                                                                         |
| CREATEIN        | Grants the privilege to create objects in the schema. Other authorities or privileges required to create the object (such as CREATETAB) are still required. The owner of an explicitly created schema automatically receives CREATEIN privilege. An implicitly created schema has CREATEIN privilege automatically granted to PUBLIC.                                                                                                                              |
| DROPIN          | Grants the privilege to drop all objects in the schema. The owner of an explicitly created schema automatically receives DROPIN privilege.                                                                                                                                                                                                                                                                                                                         |

## DAI Role Description

The following tables describes the roles defined by DAI

|                         |                                                                                                                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DAI_PACKAGE_EXEC_CLIENT | This role allows executing the standard SQL based client packages and routines, which an ordinary client requires to connect. Every interactive user has to be member of this role. |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

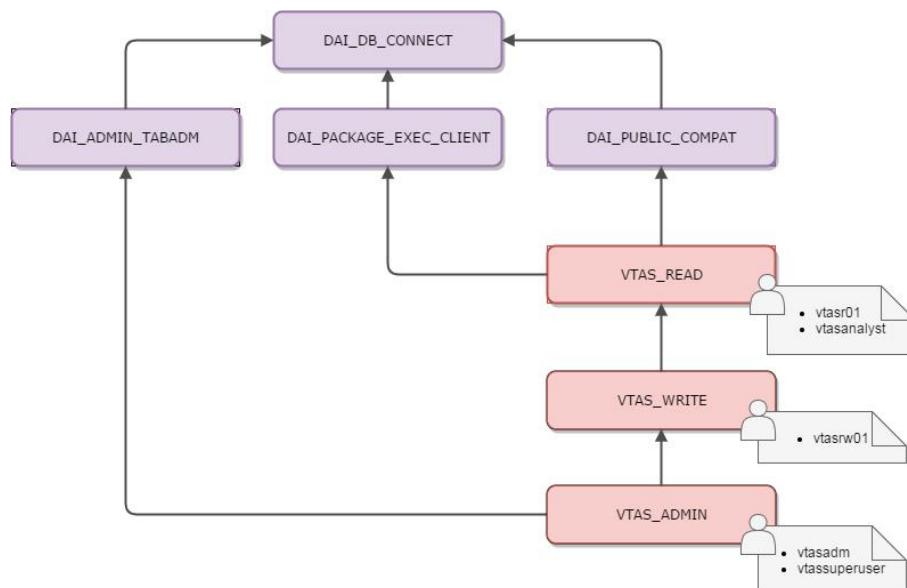
|                          |                                                                                                                                                                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DAI_PUBLIC_COMPAT</b> | The PUBLIC group permissions of the database are transferred to this role. The difference to the PUBLIC group is that you have to explicitly assign a user to the role whereas each user is automatically member of the PUBLIC group. Notice – the database authorities like CONNECT are not assigned. |
| <b>DAI_DB_CONNECT</b>    | This entitlement role covers access permissions to the database.<br>This role should be used to control database CONNECT authority. No other role, group or user should hold connect authority.<br>DERIVES role<br>DAI_PACKAGE_EXEC_CLIENT                                                             |
| <b>DAI_ADMIN_TABADM</b>  | Admin role that can create tables on the database for application administration users (no DBADM users).<br>Remark: IMPLICIT_SCHEMA is not granted to this role to prevent implicit grant of PUBLIC privileges for new schemas.                                                                        |

Further documentation: DB2\_Hardening\_Roles or VCT Sharepoint

## VTAS-specific Roles

|            |                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VTAS_READ  | Read access to all application-specific tables within the schema                                                                                                                                                                                                                                                                                                                                   |
| VTAS_WRITE | Write access to all application-specific tables within the schema                                                                                                                                                                                                                                                                                                                                  |
| VTAS_ADMIN | <p>Role is DB2 DBADM, which is required for flyway.</p> <hr/> <p><i>A database administrator holds nearly all privileges on nearly all objects in the database. The only exceptions are those privileges that are part of the security administrator authority.</i></p> <p><i>A database administrator can grant any privilege that is part of database administrator authority to others.</i></p> |

## VTAS DB2 Role Concept



## Users

| User     | Role       | Password     | Purpose                       |
|----------|------------|--------------|-------------------------------|
| vtasr01  | VTAS_READ  | Credentials  | <b>Application</b> read user  |
| vtasan01 | VTAS_READ  | VT4S_4N4LYST | <b>External</b> read user     |
| vtasrw01 | VTAS_WRITE | Credentials  | <b>Application</b> write user |
| vtasadm  | VTAS_ADMIN | Credentials  | <b>Application</b> admin user |
| vtassu01 | VTAS_ADMIN | Credentials  | <b>External</b> admin user    |

## Grants

*What needs to be considered after implementing the authorization concept while writing SQL scripts?*

When creating a table via flyway you now have to explicitly grant permission on this table:

Replace '????' with actual values 😊

```
CREATE TABLE ZVXC????.ZVXR???? (
 ...
);

GRANT SELECT ON TABLE ZVXC????.ZVXR???? TO
ROLE VTAS_READ;
GRANT DELETE, INSERT, UPDATE ON TABLE
ZVXC????.ZVXR???? TO ROLE VTAS_WRITE;
```

## Automation

Server VM Name : VM de-mucvtas01

OS: Windows 2012

Core(Processors) :01

Memory (RAM) :8GB

Disk Space (GB):250GB

## EDC Maintenance Windows

### Maintenance Window 2018:

- Freitag, 16.02. 16:00 Uhr bis Sonntag, 18.02. 22:00 Uhr (GMT+01:00)
- Freitag, 18.05. 16:00 Uhr bis Sonntag, 20.05. 22:00 Uhr (GMT+02:00)
- Freitag, 10.08. 16:00 Uhr bis Sonntag, 12.08. 22:00 Uhr (GMT+02:00)
- Freitag, 19.10. 16:00 Uhr bis Sonntag, 21.10. 22:00 Uhr (GMT+02:00)

### Maintenance Window 2019:

- Freitag, 15.02. 16:00 Uhr bis Sonntag, 17.02. 22:00 Uhr (GMT+01:00)
- Freitag, 17.05. 16:00 Uhr bis Sonntag, 19.05. 22:00 Uhr (GMT+02:00)
- Freitag, 16.08. 16:00 Uhr bis Sonntag, 18.08. 22:00 Uhr (GMT+02:00)
- Freitag, 15.11. 16:00 Uhr bis Sonntag, 17.11. 22:00 Uhr (GMT+02:00)

## Meetings and Reports

### D-Stom MOM

February, 2017

March, 2017

### D-Stum Feburary, 2017

| D-Stum : 2/21/2017 |                |                                                                                                                    |                   |
|--------------------|----------------|--------------------------------------------------------------------------------------------------------------------|-------------------|
| SL                 | Associate Name | Planned /Committed Items                                                                                           | Status            |
| 1                  | Ved            | <b>Yesterday:</b> Was FTO                                                                                          | NA                |
|                    |                | <b>Today:</b> Attending Customer workshop                                                                          | Closed            |
|                    |                | <b>Any Issues:</b> No                                                                                              | NA                |
| 2                  | Nagendra       | <b>Yesterday:</b> Going through the Devon developer guide                                                          |                   |
|                    |                | <b>Today:</b> Documenting the concept of Logging in Devon. And will be reviewing Transaction and Layers document.  | In progress       |
|                    |                | <b>Any Issues:</b> No                                                                                              | No                |
| 3                  | Kalyan         | <b>Yesterday:</b> Installing PAI lighter version & configuration                                                   | In progress       |
|                    |                | <b>Today:</b> Will do the R&D to resolve the issue. And continue the installation                                  | In Progress       |
|                    |                | <b>Any Issues:</b> Yes, there were few issues. Hence, planning to have a session with Gayass                       | Resolved          |
| 4                  | Geetha         | <b>Yesterday:</b> Documenting the concept of layers in Devon                                                       | Completed         |
|                    |                | <b>Today:</b> Will complete the documentation on layers and send for review. And will complete the review comments | Review is pending |
|                    |                | <b>Any Issues:</b> No                                                                                              | No                |
| 5                  | Neel           | <b>Yesterday:</b> Was FTO                                                                                          | NA                |
|                    |                | <b>Today:</b> Will go through the Devon developer guide and understand the layers, transaction & logging concept   | In Progress       |
|                    |                | <b>Any Issues:</b> No                                                                                              | No                |
| 6                  | Aju            | <b>Yesterday:</b> Documenting the concept of transaction in Devon                                                  | Completed         |
|                    |                | <b>Today:</b> Will complete the documentation on layers and send for review. And will complete the review comments | Completed         |
|                    |                | <b>Any Issues:</b> No                                                                                              | No                |

| D-Stum : 2/22/2017        | Nagendra                                                                                                                                                                     | Geetha                                              | Aju                                                                        | Neel                                                                  | Kalyan                                                                                   |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| What did yesterday?       | 1. Logging documentation completed. Ready for review.<br>2. Update the same in the VTAS-167<br>3. Review completed for Transaction and sent review comments through the mail | 1. Layers documentation completed. Ready for review | 1. Transaction documentation completed.<br>2. Updated with review comments | 1. Going through Devon guide<br>2. Installed Devon IDE                | 1. Setup completed except JAAS<br>2. Installation PAI LE 6.1.1 on windows is in progress |
| What will be doing today? | 1. Review for Layers<br>2. Start POC on Logging                                                                                                                              | 1. Document DOJO, VTAS-218<br>2. Start POC on DOJO  | 1. Start POC on transaction<br>2. Understanding Layers and Logging         | 1. Working on POC<br>2. Understanding Transaction, Logging and Layers | 1. Document the installation process                                                     |

|                             |    |    |    |    |                                                             |
|-----------------------------|----|----|----|----|-------------------------------------------------------------|
| Is there any issue/concern? | No | No | No | No | JAAS configuration issue. Working with Gayass to resolve it |
|                             |    |    |    |    |                                                             |

| D-Stum :<br>2/23/2017       | Nagendra                                                                                    | Geetha                                                  | Aju                                                                         | Neel                                                                                                  |
|-----------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| What did yesterday?         | 1. Installed IntelliJ IDE and started Logging POC.<br>2. Layers review in progress          | 1. Started preparation on DOJO                          | 1. Installed IntelliJ IDE and started transaction POC and it is in progress | 1. Installed IntelliJ IDE<br>2. Started POC                                                           |
| What will be doing today?   | 1. Continue reviewing layers and will complete today.<br>2. Continue to work on Logging POC | 1. Continue on DOJO documentation<br>2. POC in progress | 1. Continue POC on transaction                                              | 1. Continue to work on POC<br>2. Once POC completes, understands the logging, transaction and layers. |
| Is there any issue/concern? | No                                                                                          | No                                                      | No                                                                          | No                                                                                                    |

| D-Stum :<br>2/24/2017       | Nagendra                                                                                     | Geetha                                                  | Aju                                       | Neel                                                                    | Kalyan                                                              |
|-----------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------|
| What did yesterday?         | 1.Trying his hand on with a POC with Devon framework<br><br>2.Reviewed the logging framework | 1. Continue on DOJO documentation<br>2. POC in progress | 1. Trying with an POC on transaction      | 1. Trying with an POC on transaction & logging with Devon framework     | 1. Trying with an POC on transaction & logging with Devon framework |
| What will be doing today?   | Down with fever                                                                              | 1. Continue on DOJO documentation<br>2. POC in progress | 1. Continuing with the POC on transaction | 1. Continuing with an POC on transaction & logging with Devon framework | FTO                                                                 |
| Is there any issue/concern? | No                                                                                           | No                                                      | No                                        | No                                                                      | No                                                                  |

| D-Stum :<br>2/27/2017       | Nagendra | Geetha                                                                                 | Aju                                                                                                          | Neel                                                                                                                                       | Kalyan                                                                                                                                |
|-----------------------------|----------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| What did yesterday?         | Absent   | 1. Continue on DOJO documentation<br>2. POC in progress                                | 1. Trying with an POC on transaction                                                                         | 1. Trying with an POC on transaction & logging with Devon framework                                                                        | 1. Trying with an POC on transaction & logging with Devon framework                                                                   |
| What will be doing today?   | Absent   | 1. Try to install IntelliJ and Docker setup on IntelliJ IDE<br>2. DOJO POC in progress | 1. Try to install IntelliJ and Docker setup on IntelliJ IDE<br><br>2. Continuing with the POC on transaction | 1. Try to install IntelliJ and Docker setup on IntelliJ IDE<br><br>2. Continuing with an POC on transaction & logging with Devon framework | 1. Try to install IntelliJ and Docker setup on IntelliJ IDE<br><br>2. POC on transaction & logging with Devon framework is inprogress |
| Is there any issue/concern? | NA       | No                                                                                     | No                                                                                                           | No                                                                                                                                         | No                                                                                                                                    |

| D-Stum :<br>2/28/2017 | Nagendra | Geetha                                                                              | Aju                                                                                                                  | Neel                                                                                                                                     | Kalyan                                                        |
|-----------------------|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| What did yesterday?   | Absent   | 1. Installed IntelliJ IDE.<br><br>2. Docker setup in progress<br>2. POC in progress | 1. Installed IntelliJ IDE.<br><br>2. Docker setup in progress<br><br>3. Tx POC can be done on IntelliJ (in progress) | 1. Installed IntelliJ IDE.<br><br>2. Docker setup in progress<br><br>3. Trying with an POC on transaction & logging with Devon framework | 1. Installed IntelliJ IDE.<br><br>2. Docker setup in progress |

|                             |        |                                                       |                                                                              |                                                                                                            |                                                                                                                                                         |
|-----------------------------|--------|-------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| today?                      | Absent | 1. Docker setup has to complete<br>2. POC in progress | 1. Docker setup has to complete<br>2. Continuing with the POC on transaction | 1. Docker setup has to complete<br>2. Continuing with an POC on transaction & logging with Devon framework | 1. Docker setup has to complete<br>2. 12 factors has to present within the team<br>3. POC on transaction & logging with Devon framework is in progress. |
| Is there any issue/concern? | NA     | No                                                    | No                                                                           | No                                                                                                         | No                                                                                                                                                      |

## D-STUM JANUARY 2018

### D-Stum March, 2017

| D-Stum : 3/01/2017          | Geetha                                                                  | Aju                                                                     | Neel                                                                                                       | Kalyan                                                                                                               |
|-----------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| What did yesterday?         | 1. Docker setup done<br>2. POC in progress                              | 1. Docker setup done<br>2. Tx POC can be done on IntelliJ (in progress) | 1. Docker setup done<br>2. Trying with an POC on transaction & logging with Devon framework                | 1. Docker setup done                                                                                                 |
| today?                      | 1. Try to run sample html application on IntelliJ<br>2. POC in progress | 1. Continuing with the POC on transaction                               | 1. Docker setup has to complete<br>2. Continuing with an POC on transaction & logging with Devon framework | 1. 12 factors has to present within the team<br>2. POC on logging & transaction with Devon framework is in progress. |
| Is there any issue/concern? | No                                                                      | No                                                                      | No                                                                                                         | No                                                                                                                   |

| D-Stum : 3/02/2017          | Geetha                                                                                                         | Aju                                                   | Neel                                                                                       | Kalyan                                                                          | Niranjan                                     | Ved                                                                                             | Kiran                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| What did yesterday?         | 1. POC in progress                                                                                             | 1. Worked on Tx POC on IntelliJ and it is in progress | 1. Gone through transaction & logging with Devon framework                                 | 1. 12 factors session presented at team<br>2. Worked on logging part            |                                              | 1. Had a discussion with business team along with onshore BAs.<br>2. Preparing new user stories |                                                                                          |
| today?                      | 1. Devon layers module presentation<br>2. Try to run sample html application on IntelliJ<br>3. POC in progress | 1. Continuing with the POC on transaction             | 1 . Continuing with an POC on transaction & logging with Devon framework along with Kalyan | 1. continuing POC on logging & transaction with Devon framework is in progress. | 1. Working on logging part along with Kalyan | 1. Have a call with onshore BAs team<br>2. Have to prepare new user stories                     | 1. Working on high priority tasks with Gayass.<br>2. Having interviews for new resources |
| Is there any issue/concern? | No                                                                                                             | No                                                    | No                                                                                         | No                                                                              | No                                           | No                                                                                              | No                                                                                       |

| D-Stum : 3/03/2017  | Geetha                                                                                  | Aju                                                                                                    | Neel                                                       | Kalyan                                                                                                    | Niranjan                                                                                   | Ved                                                                                                       | Kiran                                                                                                                                               |
|---------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| What did yesterday? | 1. Layers presentation has been done.<br>2. Able to publish sample html page on docker. | 1. Deployment issues has been fixed on Docker<br>2. Worked on Tx POC on IntelliJ and it is in progress | 1. Gone through transaction & logging with Devon framework | 1. Worked on logging part and completed successfully<br>2. Gone through Tx part for better understanding. | 1. Assisting to Geeta for the docker issues.<br>2. Taken interviews for the new resources. | 1. Prepared new user stories<br>2. Taken interviews for new resources.<br>3. Involved into PM activities. | 1. Worked along with Gayass and 50 percent of work has been completed.<br>2. Taken interviews for new resources.<br>3. Involved into PM activities. |

|                             |                                                                            |                                                                                                                                     |                                                                                            |                                                                                 |                                              |                                                                                 |                                                                                              |
|-----------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| today?                      | 1. Dojo integration with sample html on intelliJ<br><br>2. POC in progress | 1. Transaction part has to be present in-front of onshore and off-shore team.<br><br>2. Continuing with the POC on transaction part | 1 . Continuing with an POC on transaction & logging with Devon framework along with Kalyan | 1. continuing POC on logging & transaction with Devon framework is in progress. | 1. Working on logging part along with Kalyan | 1. Have a call with onshore BAs team<br><br>2. Have to prepare new user stories | 1. Working on high priority tasks with Gayass.<br><br>2. Having interviews for new resources |
| Is there any issue/concern? | No                                                                         | No                                                                                                                                  | No                                                                                         | No                                                                              | No                                           | No                                                                              | No                                                                                           |

| D-Stum :<br>3/06/2017       | Geetha                                                                     | Aju                                                   | Neel                                                                                                                                            | Kalyan                                                                                                                                 | Niranjan                                                                | Ved                                                                                                               | Kiran                                                                                                                     |
|-----------------------------|----------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| What did on Friday?         | 1. Able to publish sample html page on docker.                             | 1. Worked on Tx POC on IntelliJ and it is in progress | 1. Gone through transaction & logging with Devon framework                                                                                      | 1. Gone through Tx part for better understanding.                                                                                      | 1. Assisting to Geeta<br><br>2. Taken interviews for the new resources. | 1. Prepared new user stories<br><br>2. Taken interviews for new resources.<br><br>3. Involved into PM activities. | 1. Worked on couple of JIRA tickets.<br><br>2. Taken interviews for new resources.<br><br>3. Involved into PM activities. |
| today?                      | 1. Dojo integration with sample html on intelliJ<br><br>2. POC in progress | Absent                                                | 1 . Continuing with an POC on transaction & logging with Devon framework along with Kalyan.<br><br>2. Has to setup new environment with eclipse | 1. Loggin part has to inject using spring.<br><br>2. Has to create new subtasks for VTAS-260.<br><br>3. Create a new repository in GIT | 1. Have a KT Session with Ved<br><br>2. Assisting to Geeta on DOJO part | 1. Have a call with onshore BAs team<br><br>2. Have to prepare new user stories                                   | 1. Working on high priority tasks with Gayass.                                                                            |
| Is there any issue/concern? | No                                                                         | No                                                    | No                                                                                                                                              | No                                                                                                                                     | No                                                                      | No                                                                                                                | No                                                                                                                        |

| D-Stum :<br>3/07/2017       | Geetha                                                                                                                                                                               | Aju                                                                                                                                                                                         | Neel                                                                                                                                                                    | Kalyan                                                                                                                           | Niranjan                                                                                                                             | Ved    | Kir     |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------|---------|
| What did on yesterday?      | 1. Able to consume rest service from Dojo.<br><br>2. Devon training                                                                                                                  | Absent                                                                                                                                                                                      | 1. New Docker setup with eclipse completed<br><br>2. Devon training                                                                                                     | 1. Devon training.<br><br>2. GIT repositories created for vtas frontend and back end<br><br>(vtas-dev, vtas-projectplanning-dev) | 1. Devon training<br><br>2. Assisting to team for git to create repositories.                                                        | Absent | Has upd |
| today?                      | 1. New Docker setup with eclipse<br><br>2. Create a new workspace and checkout new repository(vtas-dev) from git and place new working code into new workspace and push it into git. | 1. New Docker setup with eclipse<br><br>2. Create a new workspace and checkout new repository(vtas-projectplanning-dev) from git and place tx code into new workspace and push it into git. | 2. Create a new workspace and checkout new repository(vtas-projectplanning-dev) from git and place new spring boot logging part into new workspace and push it into git | 1. Subtasks has to be create for vtas-260<br><br>2. Loggin part has to inject using spring                                       | 1. Have a KT Session with Ved<br><br>2. Assisting to team for GIT portion<br><br>3. S/W has to be install once get admin permissions | Absent | Has upd |
| Is there any issue/concern? | No                                                                                                                                                                                   | No                                                                                                                                                                                          | No                                                                                                                                                                      | No                                                                                                                               | No                                                                                                                                   | No     | No      |

| D-Stum :<br>3/08/2017  | Geetha                                                                                        | Aju                                        | Neel                                                                                               | Kalyan                                                                                            | Niranjan | Bhasker                             | Ved                                                                  | Kiran  |
|------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------|-------------------------------------|----------------------------------------------------------------------|--------|
| What did on yesterday? | 1. New Docker setup with eclipse completed<br><br>2. Able to access rest controller from dojo | 1. New Docker setup with eclipse completed | 1. New Docker setup with eclipse completed<br><br>2. Able to run the vtas-projectplanning in local | 1. New Docker setup with eclipse completed<br><br>2. Sub-tasks has been created for vtas-260 jira | Absent   | 1. Assessing to Geeta for Dojo part | 1. Participated in JIRA Training<br><br>2. Prepared new user stories | Absent |

|                             |                                                                                       |                                                                                   |                                                                                  |                         |        |                                                                                        |                                                                                   |        |
|-----------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------|--------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|
| today?                      | 1. Working on flyway integration into project<br><br>2. Working on VTAS-260 sub-task. | 1. Working on Tx and logging part with Neel<br><br>2. Working on VTAS-260 subtask | 1. Working on Tx and logging part with Aju<br><br>2. Working on VTAS-260 subtask | 1. Working on sub-tasks | Absent | 1. Working with Geeta for vats-260 sub-task<br><br>2. Have to prepare new user stories | 1. Have grooming session with BAs team<br><br>2. Have to prepare new user stories | Absent |
| Is there any issue/concern? | No                                                                                    | No                                                                                | No                                                                               | No                      |        |                                                                                        | No                                                                                | No     |

| D-Stum :<br>3/09/2017       | Geetha                                                                                               | Aju       | Neel                                                                                                                                              | Kalyan                                                                                      | Niranjan | Bhasker   | Ved                                                                                                                 | Kiran  |
|-----------------------------|------------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|-----------|---------------------------------------------------------------------------------------------------------------------|--------|
| What did on yesterday?      | 1. Able to get data from other micro services from dojo.<br><br>2. Attended agile meeting with Vijay | 1. Absent | 1. New Docker setup with eclipse completed<br><br>2. Able to run the vtas-projectplaning in local.<br><br>3. 2. Attended agile meeting with Vijay | 1. Sub-tasks has been created for vtas-260 JIRA<br><br>2. Attended agile meeting with Vijay | Absent   | 1. Absent | 1. Participated in JIRA Training<br><br>2. Prepared new user stories<br><br>3. 2. Attended agile meeting with Vijay | Absent |
| today?                      | 1. Working on flyway integration into project<br><br>2. Working on VTAS-260 sub-task.                | 1. Absent | 1. Working on Tx and logging part with Aju<br>2. Working on VTAS-260 subtask                                                                      | 1. Working on sub-tasks                                                                     | Absent   | 1. Absent | 1. Have grooming session with BAs team<br><br>2. Have to prepare new user stories                                   | Absent |
| Is there any issue/concern? | No                                                                                                   | No        | No                                                                                                                                                | No                                                                                          |          |           | No                                                                                                                  | No     |

D-STUM MOM AUGUST,2017

D-STUM MOM DECEMBER,2017

| D15/12/2017                 | Sujith                         | Geetha                                               | Aju                                                                 | Niranjan                                                                                               | Kalyan                                             | Bhaskar                                               | Chakri | Nitesh                                       | Kiran                                                                   | Bhanu                                | chandrika                                | Manish                                                      | Dattu                                                |
|-----------------------------|--------------------------------|------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------|--------|----------------------------------------------|-------------------------------------------------------------------------|--------------------------------------|------------------------------------------|-------------------------------------------------------------|------------------------------------------------------|
| Yesterday worked on?        | LLD review and supporting team | CAT user story java implementation                   | Working on VTAS-1186 JAVA implementation and DEV Environment Issues | Working on DEV issue and cross tech calls. Coordinating with bhanu and chandrika on there user stories | VTAS-1716 pushed for review to master              |                                                       |        | UI for Vtas-1862                             | Meetings and QMS reports. Call with guyass to show login implementation | Worked on vtas-1032 user story       | LLD for 1187 and java implementation     | UI part of VTAS-1716                                        | worked with geetha and bhaskar in fixing some issues |
| Today                       | will supoort the team          | Today will work on integration of Api with front end | Working on same today                                               | Cross tech call and will help bhanu for Widget Integration.                                            | Will work with manish on UI issue of local storage | will start working on vtas-1286 with help of niranjan |        | Working on JUnit test case and documentation | Same tasks and supporting the team.                                     | Will work on widget integration      | Java implementation and UI for vtas-1187 | will work on Same issue and vtas-56 user sory with niranjan | will do the same                                     |
| Is there any issue/concern? | No                             | No                                                   | vtas-741 dependent on 1087.hence this also cannot be proceeded.     | Until and unless,client revert us we cannot proceed                                                    | No                                                 | No                                                    | No     | No                                           | No                                                                      | AppendToLrr a CAT URL is not working | No                                       | No                                                          |                                                      |

# D-STUM MOM JULY,2017

D-STUM MOM NOVEMBER 2017

D-STUM MOM OCTOBER 2017

|                             |    |                                                                |                            |                                       |                              |                                                                |                                              |    |                                                                   |                        |                                 |                     |
|-----------------------------|----|----------------------------------------------------------------|----------------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------------------------------------|----|-------------------------------------------------------------------|------------------------|---------------------------------|---------------------|
| Today                       |    | Assign vehicle measure user story with geetha analysis and LLD | Caching mechanism analysis | Creating user story and LLD for FLIMS | VTAS-261 user story analysis | Assign vehicle measure user story with geetha analysis and LLD | Automation regression Test cases preparation |    | working with QMS onboarding and off boarding and helping the team | close project analysis | VTAS-117 analysis and UI labels | group measure issue |
| Is there any issue/concern? | No | No                                                             | No                         | YES prod line is not up yet           | No                           | NO                                                             | No                                           | NO | No                                                                | No                     | No                              | No                  |

## D-STUM MOM -SEPTEMBER 2017

| D-Stum : 9/5/2017           |    | Sujith                                             | Geetha                                    | Aju                                           | Kalyan                                          | Bhaskar                                                    | Chakri                                                                         | Nitesh                                      | Kiran                                         |
|-----------------------------|----|----------------------------------------------------|-------------------------------------------|-----------------------------------------------|-------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------|
| Yesterday worked on?        |    | UI label done                                      | View project respective UI label          | Working on View project.<br>Database is ready | worked on Export project                        | Filter & Upload measure                                    | Mock-Up Enhancement<br>Testing of VTAS -143,136 & 135Mock-up                   | working on VTAS -233; loading has been done | Meetings assisting team for technical concern |
| Today                       |    | Working on the Story : Enhance Date asynchronosnly | Queries need to Implement on all projects | creating the JSON and providing to BHANU      | working with Geetha and Nitish -UI label Import | Doing the exploration of framework regarding Drag and Drop | Regression testing of Administration<br>Regression testing for Upload measures | the rest part will be doing                 | Meetings assisting team for technical concern |
| Is there any issue/concern? | No | No                                                 | No                                        | No                                            | No                                              | No                                                         | No                                                                             | No                                          | No                                            |

## Meetings and Sprint Ceremonies

### 1. Sprint Events and Schedule

| Activity                | Dur   | Sprint -1 |   |   |   | Sprint |   |   |   |   |   |   |   |   |   |   |   | Sprint +1 |   |   |   | Participants |   |   |   |   |   |                    |         |
|-------------------------|-------|-----------|---|---|---|--------|---|---|---|---|---|---|---|---|---|---|---|-----------|---|---|---|--------------|---|---|---|---|---|--------------------|---------|
|                         |       | M         | T | W | T | F      | S | S | M | T | W | T | F | S | S | M | T | W         | T | F | S | S            | M | T | W | T | F | S                  | S       |
| D-Stum                  | 0.5 h | ■         | ■ |   |   | ■      |   | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■         | ■ | ■ | ■ | ■            | ■ | ■ | ■ | ■ | ■ | ■                  | Team    |
| Requirements refinement | 1 h   | ■         |   |   | ■ | ■      |   | ■ |   | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■         | ■ | ■ | ■ | ■            | ■ | ■ | ■ | ■ | ■ | POP, BA, Architect |         |
| Sprint Review           | 2 h   |           | ◆ |   |   |        |   |   |   |   |   |   |   |   |   |   |   |           |   | ◆ |   |              |   |   |   |   |   | PO, POP, Team      |         |
| Sprint Retrospective    | 1 h   |           | ■ |   |   |        |   |   |   |   |   |   |   |   |   |   |   |           | ■ |   |   |              |   |   |   |   |   | PO, POP, Team      |         |
| Sprint Estimation       | 4 h   |           | ■ |   |   |        |   |   |   |   |   |   |   |   |   |   |   |           | ■ |   |   |              |   |   |   |   |   | PO, POP, Team      |         |
| Sprint Approval         | 5 d   |           | ◆ | ◆ | ◆ |        |   |   | ◆ | ◆ |   |   |   |   |   |   |   |           | ◆ | ◆ | ◆ |              |   |   |   |   |   | Daimler            |         |
| Sprint Planning I       | 2 h   |           | ◆ | ■ |   |        |   |   |   |   |   |   |   |   |   |   |   |           | ◆ |   |   |              |   |   |   |   |   | PO, POP, Team      |         |
| Sprint Planning II      | 4 h   |           |   | ■ | ■ |        |   |   |   |   |   |   |   |   |   |   |   |           | ■ |   |   |              |   |   |   |   |   | Team               |         |
| Sprint Approval Meeting | 2 h   |           |   |   |   |        |   |   |   |   |   |   |   |   |   |   |   |           |   |   |   |              |   |   |   |   |   |                    | Daimler |

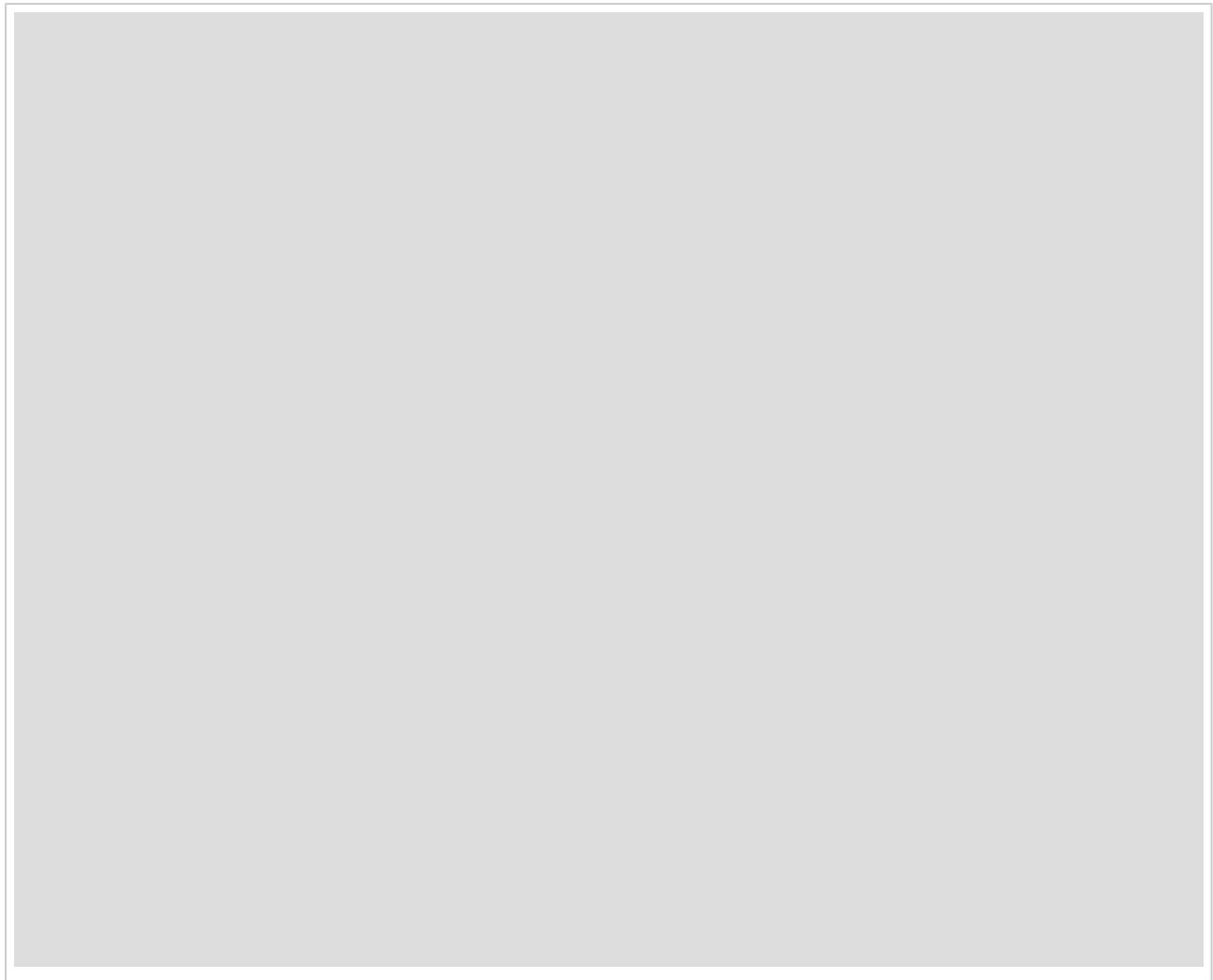
| SL | Ceremonies                                                                                                                              | Duration | Occurrence      | Days                                 | Participant                                | Location        | Comments                                                                            |
|----|-----------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|--------------------------------------|--------------------------------------------|-----------------|-------------------------------------------------------------------------------------|
| 1  | D-Stum                                                                                                                                  | 0.5 hrs  | Daily           | Mon - Fri                            | SM/Team                                    | Germany + India | -Daily standup meetings<br>-Business Analysts will have their separate stand up     |
| 2  | Requirements refinement (populating product backlog) - Independent to sprint (Ensuring sufficient product backlogs till next 3 sprints) | 1 hrs    | Twice a week    | Mon & Fri                            | PO/Product Owner Proxy (POP)/BA/Architects | Germany         | -This will be only between Business Analysts & Architects for high level estimation |
| 3  | Sprint Review                                                                                                                           | 2 hrs    | Once per sprint | Last day (Wednesday) of every sprint | PO/POP/BA/SM/Team                          | Germany + India | ■ Demo on what is been built                                                        |

|   |                                                                    |       |                 |                                      |                   |                 |                                                                                                                                                                                                                                                          |
|---|--------------------------------------------------------------------|-------|-----------------|--------------------------------------|-------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | Retrospective                                                      | 1 hrs | Once per sprint | Last day (Wednesday) of every sprint | PO/POP/BA/SM/Team | Germany + India | <ul style="list-style-type: none"> <li>- Looking back to the last sprint:</li> <li>■ What went good?</li> <li>■ What went wrong?</li> <li>■ What should we improve for the next sprint, what should we keep?</li> </ul>                                  |
| 5 | Sprint Estimation                                                  | 4 hrs | Once per sprint | Last day (Wednesday) of every sprint | PO/POP/BA/SM/Team | Germany + India | <ul style="list-style-type: none"> <li>- Grooming of the product backlog</li> <li>-Poker estimation for the user stories which has been accepted</li> </ul>                                                                                              |
| 6 | Sprint planning I                                                  | 2 hrs | Once per sprint | First Thursday of the new sprint     | PO/POP/BA/SM/Team | Germany + India | <ul style="list-style-type: none"> <li>-High level discussion on product backlog for the upcoming sprint</li> <li>-Any clarifications will be raised to the PO/BA</li> <li>-Committment which user stories will be part of the Sprint Backlog</li> </ul> |
| 7 | Sprint planning II                                                 | 4 hrs | Once per sprint | First Thursday of the new sprint     | SM/Team           | Germany + India | <ul style="list-style-type: none"> <li>- Breaking User Stories into tasks.</li> <li>- Prepare Task board</li> </ul>                                                                                                                                      |
| 8 | Sprint approval meeting - during 1st week after end of last sprint | 2 hrs | Once per sprint | First Tuesdays of ongoing sprint     | PO/POP            | Germany + PM    | <ul style="list-style-type: none"> <li>- Getting feedback from the customer about the last sprint results.</li> </ul>                                                                                                                                    |

## 2. Additional Meetings that are no special part of a Sprint

| SL | Ceremonies           | Duration | Occurrence  | Days                                                               | Participant                    | Location        | Comments                                                                                                                                                                                                                                 |
|----|----------------------|----------|-------------|--------------------------------------------------------------------|--------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | BA Backlog Grooming  | 1.5 hrs  | Daily       | Mon - Fri<br>10:30 am - 12:00 am (CET),<br>2:00 pm - 3:30 pm (IST) | BA                             | Germany + India | <ul style="list-style-type: none"> <li>■ Grooming the backlog</li> <li>■ Preparing new user Stories</li> <li>■ Transferring business knowledge</li> </ul>                                                                                |
| 2  | Customer workshop    | 8 hrs    | Once a week | Every Tuesday<br>9:00 am - 4:30 pm (CET)                           | Product Owner Proxy (POP) / BA | Germany         | <ul style="list-style-type: none"> <li>■ Reviewing prepared user stories</li> <li>■ Elaborating requirements for the system</li> <li>■ Discussing requirements and writing new user stories</li> <li>■ Clarify open questions</li> </ul> |
| 3  | Weekly planning      | 0.5 hrs  | Once a week | Every Thursday<br>4:00 pm - 4:30 pm (CET)                          | PO/POP/BA/SM/Team              | Germany         | <ul style="list-style-type: none"> <li>■ Reviewing the last week</li> <li>■ Planning the next week's scope of meetings, tasks, workshops</li> </ul>                                                                                      |
| 4  | Weekly status report | 1 hrs    | Once a week | Every Friday<br>1:00 pm - 1:30 pm (CET)<br>4:30 pm - 5:00 pm (IST) | PO/POP/BA/SM/Team              | Germany + India | <ul style="list-style-type: none"> <li>■ Reviewing the project status</li> <li>■ Rewiewing the sprint status</li> </ul>                                                                                                                  |

Please also see the following presentation for reference what will be the content of the meetings during the sprint:



## Weekly Status Reports

### 2017

[20 January 2017](#)

[27 January 2017](#)

[03 February 2017](#)

[10 February 2017](#)

[17 February 2017](#)

[24 February 2017](#)

[03 March 2017](#)

[10 March 2017](#)

[17 March 2017](#)

## Retrospectives

[Add Retrospective](#)

| Title                                                   | Date        | Participants                                                     |
|---------------------------------------------------------|-------------|------------------------------------------------------------------|
| <a href="#">2017-08-23 Retrospektive - Team Phoenix</a> | 23 Aug 2017 | Wüstemann, Stefanie<br>Koshevnikow, Sergej<br>Panda, Kiran Kumar |

|                                         |             |                          |
|-----------------------------------------|-------------|--------------------------|
|                                         |             | Ballikurava, Kalyana Rao |
|                                         |             | Bhardwaj, Bhaskar        |
|                                         |             | Pathipati, Niranjan      |
|                                         |             | Ameen, Mohamed Sadikul   |
|                                         |             | DVS, Chakravarthy        |
|                                         |             | N, Aju                   |
|                                         |             | Nettem, Geetha           |
|                                         |             | KURAMANA, BHANU PRASAD   |
|                                         |             | Padavala, Chandrika      |
|                                         |             | Thakur, Nitesh           |
| 2017-08-02 Retrospective - Team Phoenix | 02 Aug 2017 | Koshewnikow, Sergej      |
|                                         |             | Wüstemann, Stefanie      |
|                                         |             | Panda, Kiran Kumar       |
|                                         |             | Ballikurava, Kalyana Rao |
|                                         |             | Bhardwaj, Bhaskar        |
|                                         |             | Pathipati, Niranjan      |
|                                         |             | Ameen, Mohamed Sadikul   |
|                                         |             | DVS, Chakravarthy        |
|                                         |             | N, Aju                   |
|                                         |             | Nettem, Geetha           |
|                                         |             | KURAMANA, BHANU PRASAD   |
|                                         |             | Padavala, Chandrika      |
|                                         |             | Thakur, Nitesh           |
| 2017-07-12 Retrospective - Team Phoenix | 12 Jul 2017 | Koshewnikow, Sergej      |
|                                         |             | Wüstemann, Stefanie      |
|                                         |             | Panda, Kiran Kumar       |
|                                         |             | Ballikurava, Kalyana Rao |
|                                         |             | Bhardwaj, Bhaskar        |
|                                         |             | Pathipati, Niranjan      |
|                                         |             | Ameen, Mohamed Sadikul   |
|                                         |             | DVS, Chakravarthy        |
|                                         |             | N, Aju                   |
|                                         |             | Nettem, Geetha           |
| 2017-06-21 Retrospective - Team Phoenix | 21 Jun 2017 | Koshewnikow, Sergej      |
|                                         |             | Bartsch, Tobias          |
|                                         |             | Daher, Gayass            |
|                                         |             | Wüstemann, Stefanie      |
|                                         |             | Kurz, Michael            |
|                                         |             | Bhat, Vedanarayan        |
|                                         |             | Panda, Kiran Kumar       |
|                                         |             | Ballikurava, Kalyana Rao |
|                                         |             | Bhardwaj, Bhaskar        |
|                                         |             | Pathipati, Niranjan      |

|                                         |             |                                     |
|-----------------------------------------|-------------|-------------------------------------|
|                                         |             | Kankanalapalli, Venkata Devi Prasad |
|                                         |             | Ameen, Mohamed Sadikul              |
|                                         |             | DVS, Chakravarthy                   |
|                                         |             | N, Aju                              |
|                                         |             | Nettem, Geetha                      |
| 2017-05-31 Retrospective - Team Phoenix | 31 May 2017 | Koshewnikow, Sergej                 |
|                                         |             | Bartsch, Tobias                     |
|                                         |             | Daher, Gayass                       |
|                                         |             | Welte, Eduard                       |
|                                         |             | Bhat, Vedanarayan                   |
|                                         |             | Panda, Kiran Kumar                  |
|                                         |             | Ballikurava, Kalyana Rao            |
|                                         |             | Bhardwaj, Bhaskar                   |
|                                         |             | Pathipati, Niranjan                 |
|                                         |             | Kankanalapalli, Venkata Devi Prasad |
|                                         |             | Ameen, Mohamed Sadikul              |
|                                         |             | DVS, Chakravarthy                   |
|                                         |             | N, Aju                              |
|                                         |             | Nettem, Geetha                      |
|                                         |             | V, Vijayakumar                      |
| 2017-05-10 Retrospektive - Team Phoenix | 10 May 2017 | Wüstemann, Stefanie                 |
|                                         |             | Koshewnikow, Sergej                 |
|                                         |             | Bartsch, Tobias                     |
|                                         |             | Daher, Gayass                       |
|                                         |             | Panda, Kiran Kumar                  |
|                                         |             | Bhat, Vedanarayan                   |
|                                         |             | Ballikurava, Kalyana Rao            |
|                                         |             | Bhardwaj, Bhaskar                   |
|                                         |             | Pathipati, Niranjan                 |
|                                         |             | Kankanalapalli, Venkata Devi Prasad |
|                                         |             | Ameen, Mohamed Sadikul              |
|                                         |             | DVS, Chakravarthy                   |
|                                         |             | N, Aju                              |
|                                         |             | V, Vijayakumar                      |
| 2017-04-20 Retrospective                | 20 Apr 2017 | Kurz, Michael                       |
|                                         |             | Wüstemann, Stefanie                 |
|                                         |             | Müller, Valentin                    |
|                                         |             | Koshewnikow, Sergej                 |
|                                         |             | Bartsch, Tobias                     |
|                                         |             | Daher, Gayass                       |
|                                         |             | Kissling, Patrick                   |
|                                         |             | Panda, Kiran Kumar                  |
|                                         |             | Bhat, Vedanarayan                   |

Ballikurava, Kalyana Rao  
 Bhardwaj, Bhaskar  
 Kamal, Neel  
 Nettem, Geetha  
 Pathipati, Niranjan  
 Kankanalapalli, Venkata Devi Prasad  
 Ameen, Mohamed Sadikul

## 2017-04-20 Retrospective

| Date         | 20 Apr 2017                                                                                                                                                                                                                                                                                                                                                   |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Participants | Kurz, Michael<br>Wüstemann, Stefanie<br>Müller, Valentin<br>Koshevnikow, Sergej<br>Bartsch, Tobias<br>Daher, Gayass<br>Kissling, Patrick<br>Panda, Kiran Kumar<br>Bhat, Vedanarayan<br>Ballikurava, Kalyana Rao<br>Bhardwaj, Bhaskar<br>Kamal, Neel<br>Nettem, Geetha<br>Pathipati, Niranjan<br>Kankanalapalli, Venkata Devi Prasad<br>Ameen, Mohamed Sadikul |

## Retrospective

### What did we do well?

- Trainings
- User Stories explanations, business ideas explained
- Latest technologies and PoCs
- Good team, helping each other, collaboration onshore / offshore
- PoCs were done and are ready
- Documentation in Confluence => Onboarding
- User Stories have mockups; BA Groomings; Acceptance criteria good; INVEST criteria in User Story
- Capacity planning => Buffer in the sprint
- Meeting team personally in India
- Proposals of procedures for functionality from everyone
- Everyone asks questions and works on improvement
- Managing the timezone differences
- Transparency of information flow

### What should we have done better?

- No prototypes (flow) and designs for user stories; Layouts; Logos
  - Real pictures how it is looking
  - Have mockups before estimation; possibility to discuss look and feel and functions
- No poker cards
- no scrum board
- Sprint estimation without break
- Sequence order of user stories / dependencies => preparation
- More clarification on non-functional requirements
- Documentation for big picture about user stories
- No Team name
- Background of stories would be helpful; context, how they fit together
- UI Developer joined late
- Everything should be in the acceptance criteria
- Sprint postponed very often
- No tester available
- Business knowledge can be improved
- Technical guys included very late in project

- More interaction between developers and BAs
- Introduction of new team members
- Testversion of confluence does not contain all functionality
- Discussion of questions before estimation sessions
- Many meetings => assign topics to BAs
- Timeboxing

## Actions

- Kiran: Order Sprint Planning Poker cards
- Steffi/Michael/Kiran: Using JIRA Board in DStum and displaying this on a monitor; get room Tübingen in Stuttgart for DStum and video camera for Bangalore
- Steffi: Set up meeting to discuss what we need in Prototypes for the User Stories and then create them
- All: Decide on a team name: Propose names and the vote
- Michael/Praveen: Get a tester
- All: Having a break in long meetings

## 2017-05-10 Retrospektive - Team Phoenix

|              |                                                                                                                                                                                                                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  10 May 2017                                                                                                                                                                                                                       |
| Participants | Wüstemann, Stefanie<br>Koshewnikow, Sergej<br>Bartsch, Tobias<br>Daher, Gayass<br>Panda, Kiran Kumar<br>Bhat, Vedanarayan<br>Ballikurava, Kalyana Rao<br>Bhardwaj, Bhaskar<br>Pathipati, Niranjan<br>Kankanalapalli, Venkata Devi Prasad<br>Ameen, Mohamed Sadikul<br>DVS, Chakravarthy<br>N, Aju<br>V, Vijayakumar |

## Retrospective

### What did we do well?

- Team is supportive and all sprint ceremonies are planned and completed
- Lessons learnt will be implemented in upcoming sprints
- Co-ordination among team members is very good
- Working on latest technologies
- Technical architects are always approachable to resolve development issues (or concerns)
- User stories are very descriptive - follows INVEST criteria
- BAs helped to resolve the queries faster. Turn around time is ONE day
- Team is very transparent in problems they are facing
- Communication between onshore & offshore is very good
- Usage of JIRA COMMENTS is good
- Team is complete with all required testers, developers, UI

### What should we have done better?

- **Estimation was not correct.**
- Proper analysis of user-story didn't happen. User stories dependencies are not analyzed upfront.
- LLD preparation took long time than predicted, as most of the team members doing it for first time.
- LLD template (contents) are missed during the start of sprint. LLD contents in the given template is very descriptive, which took much time than estimated
- Adhoc(reusable components) tasks are coded in mid of sprint, which were not estimated
- Production line is not stable, day-in/day-out we had multiple meetings to understand them more and provide a fix
- Understanding of the user stories is minimal(category

type) which caused in holding the deliverables

- Both Development and testing effort needs to be present in each userstories in JIRA for the stories to be considered has done.
- LLD tool needs to finalized and it should be developer friendly
- DB dependencies have to identified during estimation
- We should have started sprint-0 to setup the workspace and identify the common issues - which really hindered our development sprint
- All poc's should have completed before we start the current sprint
- Scrum masters absence hindered the development activity
- No agreement between development and UI team are established with regard to communication, data exchange & etc
- Workload on UI (only) team member is high
- Unplanned tasks are taken up during the ongoing sprint
- Project structure has not been finalized before start of the sprint
- Java developers should be part of UI development, too
- JIRA needs to be populated with more dashboards
- Expertise on micorservices project is very minimal with the team
- Training on JIRA is required for the whole team
- All meetings/discussions should be time-boxed
- Changing the user-story requirements in mid of the sprint should be avoided
- Team is having very minimal knowledge on GIT & GERRIT
- BIG PICTURE on project is not clear
- Not being punctuals to scheduled meetings
- Critical technical user stories are not planned upfront
- Development environments are not available
- Template for task basis estimation is not present

==> Red points have been chosen to focus on for improvement.

## Actions



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: Check with different projects how they handle microservices. Check if we can

bring someone in from outside for coaching.



Wüstemann, Stefanie: Analyse, if testing effort can be calculated.

Result: For the moment testing effort cannot be calculated as for each user stories the dependencies etc have to be looked at separately and user stories as well as the system are not yet stable enough. Maybe in some sprints we can check again if calculation of testing effort is possible.



 Broken link

: What went wrong while estimation? What needs to be improved?

## 2017-05-31 Retrospective - Team Phoenix

|      |                                                                                                 |
|------|-------------------------------------------------------------------------------------------------|
| Date |  31 May 2017 |
|------|-------------------------------------------------------------------------------------------------|

|              |                                                                                                                                                                                                                                                                                                                                 |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Participants | Koshewnikow, Sergej<br>Bartsch, Tobias<br>Daher, Gayass<br>Welte, Eduard<br>Bhat, Vedanarayan<br>Panda, Kiran Kumar<br>Ballikurava, Kalyana Rao<br>Bhardwaj, Bhaskar<br>Pathipati, Niranjan<br>Kankanalapalli, Venkata Devi Prasad<br>Ameen, Mohamed Sadikul<br>DVS, Chakravarthy<br>N, Aju<br>Nettem, Geetha<br>V, Vijayakumar |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Retrospective

### What did we do well?

- User stories are well planned i.e. they were independent of each other
- \*User stories were analysed and documented considering the INVEST criteria
- Team Communication/coordination is very well (Meeting Requests, ..)
- Really appreciate team coordination, helping each other would leads successful sprint delivery
- Code stability (90% bug free)
- Team spirit are so high that we deliver more than committed points
- Time taken to fix the defects is very quick
- All the questions, answers, clarifications and improvements were documented under JIRA comments
- Power of one (as an offshore I feel part of the team and team members are contacting me very often)
- Involving QA in BA grooming calls and implementation of BA-QA synergy
- from 0 to 47 Storypoints.. Big improvement

### What should we have done better?

- Changing the acceptance criteria in b/w sprint should be avoided. If needed, we need to discuss the importance and take it in another sprint
- Most of our user stories are large e.g 8, 13.. because of this, there are multiple user stories are ready for testing, at the last minute.
- **Big userstories (usually 8 or 13 storypoints), this means less work for test team at the beginning of the sprint and lot of work for code review and test team end of the sprint**
- **Acceptance cafeterias, need to be more accurate. So that all of them will be addressed in the 1st deliverable.**
- Getting delay for Peer review with backend (waiting for the approval backend changes) its impacting my user stories
- It will be helpful to us if acceptance criteria is more clear like validation and messages etc..
- Subtasks are similar for all userstories (backend, UI). Lets create the Subtasks based on functionality
- During the current sprint, there were few conflicts with regards to the usage of UI guidelines
- Any changes of stories please communicate to team
- DoD: Testing the UserStory by Test Team before doing code Reviews
- **Last minute code reviews (usually one day before sprint end)**
- Getting a constantly updated big picture of the system e.g. process flow diagram
- **The understanding of how the UI guidelines are structured and get applied to user stories**

## Actions

Wüstemann, Stefanie Acceptance cafeterias, need to be more accurate. So that all of them will be addressed in the 1st deliverable.



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Big userstories (usually 8 or 13 storypoints), this means less work for test team

at the beginning of the sprint and lot of work for code review and test team end of the sprint

 Broken link The understanding of how the UI guidelines are structured and get applied to user stories

 Broken link Last minute code reviews (usually one day before sprint end)

## 2017-06-21 Retrospective - Team Phoenix

|              |                                                                                                                                                                                                                                                                                                                                      |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  21 Jun 2017                                                                                                                                                                                                                                        |
| Participants | Koshewnikow, Sergej<br>Bartsch, Tobias<br>Daher, Gayass<br>Wüstemann, Stefanie<br>Kurz, Michael<br>Bhat, Vedanarayan<br>Panda, Kiran Kumar<br>Ballikurava, Kalyana Rao<br>Bhardwaj, Bhaskar<br>Pathipati, Niranjan<br>Kankanalapalli, Venkata Devi Prasad<br>Ameen, Mohamed Sadikul<br>DVS, Chakravarthy<br>N, Aju<br>Nettem, Geetha |

### Retrospective

#### What did we do well?

- Demo presentation went fine. Customer is really very happy with our professional way of presentation
- Delivered 65 story points
- Team co-ordination went well
- Niranjan travel to Germany to have KT is happening on right time
- Discussion on UI guidelines happened with team to bring everyone on the same page
- Understanding of user stories got more better among team members (BAs & Developers)
- Flexible infrastructure and latest technologies
- Developer ensured, there should be very less or minimal bugs the moment released for testing
- BA grooming sessions are really helping our ONLY tester a lot
- Developers understand the acceptance criteria very well and no assumptions took place in sprint-3
- Developers jumped into UI development and understood the UI codebase to an extent

#### What should we have done better?

- **rollout of resources without proper KT planning and without proper replacement**
- **Testing of feature branches are need to decided i.e. before code review or ???**
- Project hierarchy and back up plans for resources (on vacation) is not clear
- communication between BAs and developers, should be more frequent
- **User story improvement should be happened ONLY after consulting with customer**
- More responsibility/ownership to new/fresh developers should have been given
- System documentation should be rotated/distributed across team. should not be always with one person
- Acceptance criterias are required to be update on frequent basis; whenever there is an update from client. Updating comments on user story is not helpful to team
- UI guidelines need to be validated by one concern person
  - an update is required whether we are moving in right direction or not
- Open bugs should have been restricted to very minimum.

## Actions

- All: User story enhancement must be created as new story and should not be treated as an bug.
- Kiran Kumar Panda, Stefanie Wüstemann: Work with management to understand, why there are rollout happening and what is the backup plan to execute the project successfully
- Kiran Kumar Panda: Testing of feature branches are need to decided i.e. before code review or ???

## 2017-07-12 Retrospective - Team Phoenix

|              |                                                                                                                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  12 Jul 2017                                                                                                                       |
| Participants | Koshewnikow, Sergej<br>Wüstemann, Stefanie<br>Panda, Kiran Kumar<br>Ballikurava, Kalyana Rao<br>Bhardwaj, Bhaskar<br>Pathipati, Niranjan<br>Ameen, Mohamed Sadikul<br>DVS, Chakravarthy<br>N, Aju<br>Nettem, Geetha |

## Retrospective

### What did we do well?

- By having team co-ordination and pro activeness, we delivered more than the committed points
- Sprint went well
- Pre-dev infrastructure is ready and deployment is now customizable i.e we can build on feature branch or master branch
- Team is delivering more stories comparing to the committed user story points. This show the capability and maturity of team.
- Demo went well, again, Chakra did a superb job in presenting app before client.
- Even thought we faced issue with GIT server to push our changes to master. Last minute with team coordination code moved to master.
- we are getting great challenge works especially for the technical.
- Team taking up UI related tasks and Testing tasks in the end to release load on sadiq and chakri was very appreciable
- Bhanu and chandrika doing great work to support the team in all possible aspects is great to see. For me its one of the biggest gains from this sprint
- we delivered more than what we committed

### What should we have done better?

- More focus required on UI development
- Infrastructure support got interrupted in mid of the sprint, which kills our considerable amount of time.
- Production line SPOC for escalation need to be re-defined/finalized. And they need to be immediately assisting us on demand.
- As we are getting matured our story point estimation also needs to be realistic i.e. it should not be high or less, it should be realistic
- **QA Drop Date to be followed for each user story and stories to be worked upon accordingly, to avoid testing all the user stories in the last days of the sprint.**
- **Deciding Upon which Approach needs to followed for testing. Testing on feature Branch or testing on master**
- Please don't modify the acceptance criteria changes after our estimation.
- When more R&D is required for UI development we need to consider this while estimating the story.
- Estimation sessions can be avoided during the sprint
- **Sprint backlog estimation with team to give the glimpse of upcoming user stories should be more of discussion not for estimation.**
- Sprint backlog estimation for upcoming sprint should be happened from all team members not from a single person
- Keep requirements simple

## Actions

- ! **Broken link** : Testing of feature branches are need to decided i.e. before code review or ???
- All: QA Drop Date will be filled when starting a user story. User story will be delivered to testing on the QA Drop Date.
- Wüstemann, Stefanie**: Replace estimation sessions during the sprint each week with only one session for discussing/explaining the business requirements.

## 2017-08-02 Retrospective - Team Phoenix

|              |                                                                                                                                                                                                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  02 Aug 2017                                                                                                                                                                                          |
| Participants | Koshewnikow, Sergej<br>Wüstemann, Stefanie<br>Panda, Kiran Kumar<br>Ballikurava, Kalyana Rao<br>Bhardwaj, Bhaskar<br>Pathipati, Niranjan<br>Ameen, Mohamed Sadikul<br>DVS, Chakravarthy<br>N, Aju<br>Nettem, Geetha<br>KURAMANA, BHANU PRASAD<br>Padavala, Chandrika<br>Thakur, Nitesh |

## Retrospective

### What did we do well?

- Sprint went well
- Team effort
- Coordination
- New challenges for team members
- Most of the user stories were on time delivered to testing
- Nice sprint, team collaboration is very good
- Exceeded the committed stories

### What should we have done better?

- QA drop date needs to be followed - no compromise on quality
- Pulling the latest code before pushing to master to not overwrite fixes
- Production Line was instable again
- Git commit issues
- Separate feature branches
- Not overloading the team too much - take care of our health
- See more forecast
- have a walkthrough with testers to the test scenarios to cover
- Communication between BAs and Development team
- User story discussion earlier in the sprint
- rotating the person in demo

## Actions

- All: QA Drop Date: QA Drop Date will be filled when starting a user story. User story will be delivered to testing on the QA Drop Date.
- ! **Broken link** : Production Line: Follow up
-

 Broken link

&

 Broken link

: Git commit issues: Have a session to discuss on best practices and

document them.

- Wüstemann, Stefanie: Communication between BAs and Development team: Check examples and set up a meeting to define best practices.

## 2017-08-23 Retrospektive - Team Phoenix

|              |                                                                                                                                                                                                                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  23 Aug 2017                                                                                                                                                                                                             |
| Participants | <p>Wüstemann, Stefanie<br/>Koshevnikow, Sergej<br/>Panda, Kiran Kumar<br/>Ballikurava, Kalyana Rao<br/>Bhardwaj, Bhaskar<br/>Pathipati, Niranjan<br/>Ameen, Mohamed Sadikul<br/>DVS, Chakravarthy<br/>N, Aju<br/>Nettem, Geetha<br/>KURAMANA, BHANU PRASAD<br/>Padavala, Chandrika<br/>Thakur, Nitesh</p> |

### Retrospective

#### What did we do well?

- Communications(technical) and hand-holding among the team is happening in an professional way
- Fine presentation, today
- Delivered more than planned
- EFA.INPUT integration went fine
- Dgrid implementation across the product came quick as expected

#### What should we have done better?

- Quality got compromised, in sprint-6
- Logging statements are not captured in any of the layer
- **Transparency in working user-stories is not clear; tracking them was bit difficult**
- Prioritized userstories are not worked
- Communication needs to be improved (with respect to business)
- Prioritization of bugs need to introduced
- Implementation of dgrid in sprint-6 was not a wise decision, we would have decided much before. Most of the time was wasted on R&D
- Dgrid does not come up with utilities, which are part of acceptance criteria. This makes us to move the open bugs to next sprint
- UI and backend should be balanced, in every sprint
- Learning curve with dgrid is high, still many things to explore
- Last minute commits should be avoided
- **LLDs should be properly designed and validated, to avoid reworks**

### Actions

- Kiran Kumar Panda: Bring all user stories into the sprint in which they are worked on after a discussion with the BAs.

-  Broken link : LLDs should be properly designed and validated, to avoid reworks





: Set up a meeting to discuss and revert changes that have been made in sonar

All: QA Drop Date: QA Drop Date will be filled when starting a user story. User story will be delivered to testing on the QA Drop Date.

: Production Line: Follow up

& : Git commit issues: Have a session to discuss on best practices and document them.

Wüstemann, Stefanie: Communication between BAs and Development team: Check examples and set up a meeting to define best practices.

## 2017-09-13 Retrospective -Team Phoenix

|              |                                                                                                                                                                                                                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         | 13 Sep 2017                                                                                                                                                                                                                                                                                              |
| Participants | <p>Wüstemann, Stefanie</p> <p>Panda, Kiran Kumar</p> <p>Ballikurava, Kalyana Rao</p> <p>Bhardwaj, Bhaskar</p> <p>Pathipati, Niranjan</p> <p>DVS, Chakravarthy</p> <p>N, Aju</p> <p>Nettem, Geetha</p> <p>KURAMANA, BHANU PRASAD</p> <p>Padavala, Chandrika</p> <p>Thakur, Nitesh</p> <p>Nair, Sujith</p> |

## Retrospective

### What did we do well?

- Team coordination is awesome, compared to previous sprints. Team started feeling having a proper architect in India
- Delivered all complex story points with high note
- New UI developer is getting the momentum in the team. It's a good sign for team
- Sprint-7 became the MOTHER of all sprints: toughest across all sprints

### What should we have done better?

- 11th-hour code push should have been avoided
- User stories should have been categorized properly between current and next sprints with regard to their complexity
- Estimation should have been a little bit high for complex UI user stories. It should not be neck-to-neck
- DB/Micro service design should have been completed/finalized before the start of the sprint.
- Demo should have been planned in a better way with all artifacts and facts ready
- Hard to track the status over JIRA. There was a confusion between estimation and remaining hours

## Actions

- CHAKRAVARTHY DVS : QA Drop Date will be filled when starting a user story. User story will be delivered to testing on the QA Drop Date
- Philipp Moschinger Stefanie Wüstemann: Production Line: Follow up (document the names and their contact #s in confluence)
- Niranjan Pathipati: Git commit issues: Have a session to discuss on best practices and document them.

- Stefanie Wüstemann: Communication between BAs and Development team: Check examples and set up a meeting to define best practices.
- Stefanie Wüstemann Sergej Koshevnikow RUCHIT GROVER: Give glimpse of all user stories to team, specific to an release. This will really help developers to co-relate userstories before working on them
- Sujith Nair Kiran Kumar Panda: Avoid planning/targeting all complex stories in one sprint. Split them between sprints

## 2017-10-04 Retrospective - Team Phoenix

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  04 Oct 2017                                                                                                                                                                                                                                                                                                                                                                             |
| Participants | <p>Wüstemann, Stefanie<br/>         Panda, Kiran Kumar<br/>         Ballikurava, Kalyana Rao<br/>         Bhardwaj, Bhaskar<br/>         Pathipati, Niranjan<br/>         DVS, Chakravarthy<br/>         N, Aju<br/>         Nettem, Geetha<br/>         KURAMANA, BHANU PRASAD<br/>         Padavala, Chandrika<br/>         Thakur, Nitesh<br/>         Nair, Sujith<br/>         Moschinger, Philipp<br/>         Fuker, Wolfgang<br/>         Koshevnikow, Sergej</p> |

### Retrospective

Retrospective using the sailboat method to gather data.

VTAS as a sailboat trying to reach the land called Release 17.2.

#### ***What helps us reaching our target? (What is the wind in our sails?)***

- Dedication and commitment to product and project
- Functional knowledge
- Team motivation and coordination
- Self organization

#### ***What hinders us? (What are the anchors?)***

- Integration of third party resources (e.g. FLIMS)
- Productionline goes down right before sprint ends
- No onsite opportunities
- No celebration of hard work
- Changing user story in running sprint

#### ***What are the risks? (What are the rocks?)***

- Complex UI requirements (no UI expert)
- Third party integration
- Non functional requirements (load balancing etc)
- Not presenting unfinished stories in review

### Actions

- 1. Checking the status of third party development before prioritizing the user stories (third party integration of user story).
-

- 2. Changing the user story in the running sprint should not happen at any cost.
- 3. Stop presenting uncompleted user stories in sprint review.

#### Attachments



Retrospective 04.10.2017.pdf



Retrospective 04.10.2017.pptx

#### 2017-10-25 Retrospective - Team Phoenix

Date

 25 Oct 2017

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Participants</b> | <p>Stefanie Wüstemann</p> <p>Kiran Kumar Panda</p> <p>Kalyana Rao Ballikurava</p> <p>Bhaskar Bhardwaj</p> <p>Niranjan Pathipati</p> <p>CHAKRAVARTHY DVS</p> <p>Aju N</p> <p>Geetha Nettem</p> <p>BHANU PRASAD KURAMANA</p> <p>Chandrika Padavala</p> <p>Nitesh Thakur</p> <p>Sujith Nair</p> <p>RUCHIT GROVER</p> <p>Philipp Moschinger</p> <p>Wolfgang Fuker</p> <p>Sergej Koshevnikow</p> <p>Patricia Rodrigues Ribeiro</p> |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Retrospective

Retrospective using the sailboat method to gather data. Contents were improved according to previous feedback from team.

VTAS as a sailboat trying to reach the land called Release 17.2.

### ***What helps us reaching our target? (What is the wind in our sails)***

- Team dedication and bonding(one account one team)
- Communication between on-and offshore
- Support came from clientside(motivation, third-party, etc)
- Right set of user stories(high and low risk, mixed complexity-balanced)

### ***What hinders us? (What are the anchors?)***

- Productionline(down again)
- Estimation of user stories
- Last minute changes

### ***What are the risks? (What are the rocks?)***

- Third-party integration(e.g. parallel development, responses not quick enough)
- Need more focus on regression before deployment

## Actions

- 1. Finding out what is the root cause of production line downtimes
- 2. Adapt user story estimations by analyzing the user stories which were developed
- 3. QA Drop date needs to be mandatory for each and every user story

## Attachments



Retrospective 25.10.2017.pptx



Retrospective 25.10.2017.pdf

## 2017-11-15 Retrospective - Team Phoenix

|              |                                                                                                                                                                                                                                                                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         | 15 Nov 2017                                                                                                                                                                                                                                                                                                                                            |
| Participants | <p>Stefanie Wüstemann<br/>Kiran Kumar Panda<br/>Kalyana Rao Ballikurava<br/>Bhaskar Bhardwaj<br/>Niranjan Pathipati<br/>CHAKRAVARTHY DVS<br/>Aju N<br/>Geetha Nettem<br/>BHANU PRASAD KURAMANA<br/>Chandrika Padavala<br/>Nitesh Thakur<br/>Sujith Nair<br/>RUCHIT GROVER<br/>Wolfgang Fuker<br/>Sergej Koshevnikow<br/>Patricia Rodrigues Ribeiro</p> |

## Retrospective

Retrospective using the "movie critic" method to gather data and "sincere appreciations" as the stage closing. Contents were improved according to previous feedback from team.

VTAS 17.2 The Movie - Writing a proper movie critic about the last iteration.

### Movie critics

| Topics    | Group Aju                                                    | Group Chandrika                                                                                           | Group Patricia                                                          |
|-----------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Genre:    | Horror-Comedy                                                | Family-Drama; Every sprint same journey, VTAS Family                                                      | Action with a bit of drama                                              |
| Theme:    | Justice, i.e. all parts of Sprint are well justiced          | Happiness, Enjoying the work we are doing, making client happy with our work                              | Fighting against the interfaces, call last night was drama for Steffi 😊 |
| Twist:    | Login, we expected to work (local) but didn't work in PreDEV | Loginpage, because it was working local but not on PreDEV                                                 | Bad guy (FLIMS) but we tricked him                                      |
| Ending:   | Happy Ending, since client is happy                          | Horrifying experience, when the build failed in last minute. Last 2 days more hours for every team member | Happy ending, after a short shocking moments                            |
| Expected  | as expected but still a little bit surprises                 | as expected but ended on a good path                                                                      | Overachieving the expectations                                          |
| Highlight | KPI, caching                                                 | delivering 70 SP, KPI, caching, logging, MRS                                                              | Smooth sprint review, customer happy about the KPI                      |
| Recommend | Yes 😊                                                        | Yes                                                                                                       | Yes of course 😊                                                         |

### Actions

- 1. Make a forecast for the upcoming stories (3rd party interfaces) and see if information is there, otherwise escalated to onshore team.
  - 1.1 Do a meeting where examples are produced. @Niranjan/Sujith/Wolfgang
- 2. Proper analysis of new requirements aswell as existing code. Filling Impact Analyse and checking it.

### Attachments



Retrospective 15.11.2017.pptx



Retrospective 15.11.2017.pdf

## 2017-12-06 Retrospective- Team Phoenix

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  06 Dec 2017                                                                                                                                                                                                                                                                                                                                                        |
| Participants | <p>Stefanie Wüstemann</p> <p>Kiran Kumar Panda</p> <p>Kalyana Rao Ballikurava</p> <p>Bhaskar Bhardwaj</p> <p>Niranjan Pathipati</p> <p>CHAKRAVARTHY DVS</p> <p>Aju N</p> <p>Geetha Nettem</p> <p>BHANU PRASAD KURAMANA</p> <p>Chandrika Padavala</p> <p>Nitesh Thakur</p> <p>Sujith Nair</p> <p>RUCHIT GROVER</p> <p>Wolfgang Fuker</p> <p>Sergej Koshevnikow</p> <p>Patricia Rodrigues Ribeiro</p> <p><a href="#"><u>Philipp Moschinger</u></a></p> |

### Retrospective

Retrospective using the "Mad, Sad & Glad" method to gather data and "sincere appreciations" as the stage closing. Contents were improved according to previous feedback from team.

VTAS 17.2 Mad, Sad & Glad - Writing a experience about the last iteration.

### Mad, Sad & Glad

| Mad                                                     | Sad                                                | Glad                    |
|---------------------------------------------------------|----------------------------------------------------|-------------------------|
| •Production line madness, it didn't get fixed till now. | •Moving to another Infrastructure, new management. | •Outing i.e. Team event |

|                                                                    |                                                                                                                  |                                                    |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| •Lot of Server configuration to make login screen done.            | •Stefanie, Sergej & Patricia had missed the fun.                                                                 | •On-shore & Off-shore Collaboration                |
| •Philip & Wolfgang visit makes mad with happiness.                 | •Misleading communication within the team at the end of the sprint (Stress, pressure, Intensity) but ended well. | •Successfull delivery                              |
| •Customer was hard to reach                                        |                                                                                                                  | •Delivered 73 Story points                         |
| •JIRA Outage                                                       |                                                                                                                  | •JIRA externally available                         |
| •Information to one story that won't finish in Sprint far too late |                                                                                                                  | •Production line got more stable<br>•Team bounding |

### Actions

- Communication among Team should be more enhanced. Analysis needs to be done first.
- Proper analysis of new requirements as well as existing code. Filling Impact Analyze and checking it @Team

### Attachments

|                                                                                                                                      |                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <br><a href="#">Retrospective 06 12 2017.pptx</a> | <br><a href="#">Retrospective 06 12 2017.pdf</a> |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|

### 2018-01-03 Retrospective - Team Phoenix

|      |                                                                                                 |
|------|-------------------------------------------------------------------------------------------------|
| Date |  03 Jan 2018 |
|------|-------------------------------------------------------------------------------------------------|

|                     |                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Participants</b> | <p>Stefanie Wüstemann</p> <p>Kiran Kumar Panda</p> <p>Kalyana Rao Ballikurava</p> <p>Bhaskar Bhardwaj</p> <p>Niranjan Pathipati</p> <p>CHAKRAVARTHY DVS</p> <p>Aju N</p> <p>Geetha Nettem</p> <p>BHANU PRASAD KURAMANA</p> <p>Chandrika Padavala</p> <p>Nitesh Thakur</p> <p>Sujith Nair</p> <p>RUCHIT GROVER</p> <p>Wolfgang Fuker</p> <p>Sergej Koshevnikow</p> <p>Patricia Rodrigues Ribeiro</p> |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Retrospective

Retrospective using the "Sailboat" method to gather data and "AHA! Throw and catch" as the stage closing. Contents and especially design were improved according to feedback from team

The VTAS sailboat with its team Phoenix on board, sails towards the safe island called "Go-Live with 17.2".

## Sailboat

| Dangerous rocks                                                                                | Fortune winds                                         | Hindering anchors                                                   |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------|
| • 3rd party business implementations and business requirements are not in sync and not in time | • Transparent communication and extended coordination | • 3rd Party interfaces are all running over one person – bottleneck |
|                                                                                                |                                                       | • Being not on time for meetings                                    |

## Actions

- Check sprint meetings if the times are still ok and give feedback
- Communication among Team should be more enhanced. Analysis needs to be done first.
- Finding ways on reducing the bottleneck on third party interfaces

## Attachments



Retrospective 03.01.2018.pdf



Retrospective 03.01.2018.pptx

## 2018-01-24 Retrospective - Team Phoenix

|              |                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         | 📅 24 Jan 2018                                                                                                                                                                                                                                                                                                                                                                  |
| Participants | <p>Stefanie Wüstemann</p> <p>Kiran Kumar Panda</p> <p>Kalyana Rao Ballikurava</p> <p>Bhaskar Bhardwaj</p> <p>Niranjan Pathipati</p> <p>CHAKRAVARTHY DVS</p> <p>Aju N</p> <p>Geetha Nettem</p> <p>BHANU PRASAD KURAMANA</p> <p>Chandrika Padavala</p> <p>Nitesh Thakur</p> <p>Sujith Nair</p> <p>Wolfgang Fuker</p> <p>Sergej Koshevnikow</p> <p>Patricia Rodrigues Ribeiro</p> |

### Retrospective

Retrospective using the "Mad, Sad, Glad" method to gather data and "Endless Blessings" as the stage closing. Contents were improved according to feedback from team.

#### Mad, Sad, Glad

|         |        |         |
|---------|--------|---------|
| MAD >:( | SAD :( | GLAD :) |
|---------|--------|---------|

|                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Workaround from MRS came late and caused confusion</li> <li>• User management was not working on pre-dev servers</li> <li>• Started to send a lot of Emails instead of calling each other</li> <li>• Went a bit in panic mode in the end of the sprint, causing confusion</li> </ul> | <ul style="list-style-type: none"> <li>• Started addressing performance issues too late</li> <li>• A lot uncertainties with MRS integration</li> <li>• Last customer workshop where customer was questioning a lot concerning unstable version, misunderstanding in communication with customer</li> </ul> | <ul style="list-style-type: none"> <li>• Fixed most of the defects along with the user stories</li> <li>• Stable dev environment and demonstration of sprint review on it</li> <li>• Steffi coming to india</li> <li>• All the magic the offshore team did (nightshifts ect.)</li> <li>• Got Siteminder stuff working</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Actions

| Nr. | Accomplished                        | What?                                                   | Who?               | Due?       |
|-----|-------------------------------------|---------------------------------------------------------|--------------------|------------|
| 1   | <input checked="" type="checkbox"/> | Plan how to make pre-dev and dev as similar as possible | Kalyan, (Wolfgang) | 02.02.2018 |
| 2   | <input checked="" type="checkbox"/> | Have a discussion on MRS issues                         | Niranjan           | 30.01.2018 |
| 3   | <input checked="" type="checkbox"/> | Setup a codefreeze plan                                 | Whole team         | 14.02.2018 |

## Attachments



2018-02-14 Retrospective - Team Phoenix

|              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date         |  14 Feb 2018                                                                                                                                                                                                                                                                                                                             |
| Participants | <p>Stefanie Wüstemann</p> <p>Philipp Moschinger</p> <p>Kalyana Rao Ballikurava</p> <p>Bhaskar Bhardwaj</p> <p>Niranjan Pathipati</p> <p>CHAKRAVARTHY DVS</p> <p>Aju N</p> <p>Geetha Nettem</p> <p>BHANU PRASAD KURAMANA</p> <p>Chandrika Padavala</p> <p>Nitesh Thakur</p> <p>Sujith Nair</p> <p>Wolfgang Fuker</p> <p>Sergej Koshewnikow</p> <p>Patricia Rodrigues Ribeiro</p> <p>Laura Hornung</p> <p>RUCHIT GROVER</p> |

## Retrospective

Retrospective using the "The Movie" method to gather data and no stage closing this time, to have more time left for gathering data and generating insights.

What to do: Imagine our last Sprint was a Movie, write a short review about it. Use genre, theme, twist, which ending, your personal highlight and would you recommend it.

| Team Cupcake                                                                                                                                                                                                                                                                                                                                                                                                                       | Team Roses                                                                                                                                                                                                                                                                                                                                                                                                             | Team Chocolate                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Genre: Action + Suspence</p> <ul style="list-style-type: none"> <li>Theme: Last Sprint before release</li> <li>Twist: The release was postponed because of CAT and the FLIMS trouble</li> <li>Ending: Neutral and happy because of Steffi J</li> <li>Expected? No</li> <li>Highlight: Interface Monitoring User Story, Completed many defects and Steffi is in Bangalore</li> <li>Remommend: Yes if its just a movie</li> </ul> | <ul style="list-style-type: none"> <li>Genre: Action-Drama with Happy End</li> <li>Theme: Spliting Lovers Appart (Implement and Defect Team)</li> <li>Twist: Performance Problems and we handled them.</li> <li>Ending: Cliffhanger because of the GoLive</li> <li>Expected? No</li> <li>Highlight: Changed ou normal Sprint-Flow but still a great job</li> <li>Recommend: Yes, but not for heart patience</li> </ul> | <ul style="list-style-type: none"> <li>Genre: Thrilling-Horror</li> <li>Theme: Impossible is nothing</li> <li>Twist: No Release and the FLIMS issue</li> <li>Ending: Ended Happily with lot of workload and stress</li> <li>Expected? Yes not the postponement but that the team will rock it.</li> <li>Highlight: Planing the Team Event, Team handling addhoc tasks</li> <li>Recommend: Yes, watch it on your own risk</li> </ul> |

## Actions

| Nr. | Accomplished                        | What?                                                                                                                                     | Who?       | Due?       |
|-----|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| 1   | <input checked="" type="checkbox"/> | 1.Taking care of performance while estimating and implementing                                                                            | Whole Team | 07.03.2018 |
| 2   | <input checked="" type="checkbox"/> | 2.Collecting the amounts of data from the customer for better testing and performance (realistic max. numbers) added to the User Story's. | BA-Team    | 07.03.2018 |

### Attachments



Retrospective 14.02.2018.pdf



Retrospective 14.02.2018.pptx

### 2018-03-07 Retrospective - Team Phoenix

Date

06 Mar 2018

|                     |                                                                                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Participants</b> | Stefanie Wüstemann<br>Philipp Moschinger<br>Kalyana Rao Ballikurava<br>Bhaskar Bhardwaj<br>Niranjan Pathipati<br>CHAKRAVARTHY DVS<br>Aju N<br>Geetha Nettem<br>BHANU PRASAD KURAMANA<br>Chandrika Padavala<br>Nitesh Thakur<br>Sujith Nair<br>Wolfgang Fuker<br>Sergej Koshevnikow<br>Laura Hornung<br>Vidya N |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Retrospective

Retrospective using self defined method to gather data and no stage closing again. Instead we will be spending more time on discussions. For data gathering the team was split up into 3 groups. Each group tried to find problems they faced during the last iteration. Example

### **Example topics given to the team:**

| Example topics for data gathering discussion |
|----------------------------------------------|
| Local Development Environment                |
| Definition of Done                           |
| Production Line                              |
| User Story Content                           |
| System Documentation                         |
| Local workplace                              |

## Results

| Team 1                                                                                                                                                                              | Team 2                                                                                                                                                                                                                          | Team 3                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Production Line: No autobuilding in Jenkins anymore, no continuous integration happening</li> <li>LLD: Done not properly, no use.</li> </ul> | <ul style="list-style-type: none"> <li>Local workplace: still no headsets</li> <li>Production Line: No autobuilding in Jenkins anymore, no continuous integration happening</li> <li>LLD: Done not properly, no use.</li> </ul> | <ul style="list-style-type: none"> <li>DoD: We do not make use of the sprint preparation review</li> <li>LLD: Questioning the sense behind that document</li> <li>User Stories: Acceptance criteria not fully implemented/checked</li> <li>PreDev feature server: Recreation of test data is difficult</li> <li>Dev Deployment: Bottleneck</li> <li>System Documentation: Sometimes not clear what the content shall be there</li> </ul> |

## Actions

| Nr. | Accomplished             | What?                                                                                                                                 | Who?               | Due?       |
|-----|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|
| 1   | <input type="checkbox"/> | 1.Make LLDs optional and create them on demand and will be decided in sprint planning 2. When creating the LLD it should be detailed. | Architects         | 28.03.2018 |
| 2   | <input type="checkbox"/> | 2.Find a suitable tool to draw diagrams together.                                                                                     | Philipp Moschinger | 28.03.2018 |
| 2   | <input type="checkbox"/> | 3.Fix continuous integration                                                                                                          | Niranjan Pathipati | 28.03.2018 |

## Attachments



Retrospective 07.03.2018.pdf



Retrospective 07.03.2018.pptx

## Architecture Meetings

### 2017-09-25 Architecture discussions

#### Date

25 Sep 2017

#### Attendees

- Wolfgang Fuker

- Gayass Dahir
- Sujith Nair

## Discussion items

| Item                                       | Who            | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Introduction to different cache frameworks | Sujith Nair    | <ul style="list-style-type: none"> <li>Decided to use EHCache</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                           |
| Batches Usage?                             | Wolfgang Fuker | <ul style="list-style-type: none"> <li>won't be used in R17.2</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                           |
| Frameworks                                 | Wolfgang Fuker | <ul style="list-style-type: none"> <li>New Frameworks need to be communicated with Architects</li> </ul>                                                                                                                                                                                                                                                                                                                                                           |
| Introducing Role of a Release Manager      | Wolfgang Fuker | <ul style="list-style-type: none"> <li>What is a Release Manager <ul style="list-style-type: none"> <li>Responsible to DR-Documents <ul style="list-style-type: none"> <li>Create Release-Letter(which features are delivered / known bugs etc)</li> </ul> </li> <li>Responsible for Versioning / creation of Releasebranches</li> <li>Responsible for Deploymentplan(Codefreeze)</li> <li>Bugfixing Communication(giving in to developers)</li> </ul> </li> </ul> |

## Action items

- Sujith Nair: Decide EHCache Version + check how to use + sample
- Wolfgang Fuker: Create technical userstory( create microservice + implement ehcache dependency)
- Wolfgang Fuker: create Release Manager Overview(what are his tasks, share to Gayass and Sujith, how much time for one sprint / release)

## Next Meeting

- LDAP for developer machine, LDAP property file
- MRS: what are we going to use MRS, technical userstory to understand client and how to use it. See [Authentication 3rd party Systems](#)

## 2017-09-27 Architecture discussion

### Date

 27 Sep 2017

### Attendees

- Wolfgang Fuker
- Gayass Dahir
- Sujith Nair
- Kiran Kumar Panda

## Discussion items

| Item             | Who          | Notes                                                                                                                                                       |
|------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MRS connectivity | Gayass Dahir | <ul style="list-style-type: none"> <li>is it possible to access MRS from our machines</li> </ul>                                                            |
| Logging          | Gayass Dahir | <ul style="list-style-type: none"> <li>status of logging technical story</li> </ul>                                                                         |
| Cache Framework  | Sujith Nair  | <ul style="list-style-type: none"> <li>setup cache example is ongoing</li> <li>is it still communicating over RMI?</li> <li>EHCache will be used</li> </ul> |

|                                             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integration of LDAP in VTAS<br>Introduction | Gayass Daher | <p>List of applications VTAS is one application</p> <p>Basic Authentication</p> <p>If you want to access VTAS application, webserver will check your login, and if your user is authorized to access VTAS.</p> <p>What we need:</p> <p>we have to check in requirement what attributes we need.</p> <p>ldap.properties represents LDAP for local environment</p> <p>tomcat/conf/ldap_data.properties config file to tell pa if it shall use config file or ldap</p> <p>tomcat/j2eetestapp check this implementation for login &amp; ldap</p> <p>Rolemanagement is too much for now(17.2 implementation) basic implementation, only UI level implementation</p> <p>siteminder is using LDAP for authentication / authorization(on DEV..)</p> |
| DEV Server / wrong filesystem saving        | Gayass Daher | When importing measure file gets saved in filesystem error                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MRS Connection                              | Gayass Daher | Niranjan shall test connection, if it works only with apikey or we need siteiminder /basic authentication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Basic Authentication /                      | Gayass Daher | ServivceCallImpl.java MRS told us to reuse this. You can find MRS.client.zip in SVN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Action items

- Sujith Nair: setup meeting to see logging with AOP
- Wolfgang Fuker: check ports for ehcache, customer needs to know
- Kiran Kumar Panda: create JIRA Ticket about saving upload files in filesystem
- Niranjan Pathipati: test MRS connection over (for example Postman / SOAPUI) and give us a feedback if it works to Gayass Daher & Wolfgang Fuker

## 2017-10-03 Architecture discussion

### Date

 03 Oct 2017

### Attendees

- Wolfgang Fuker
- Sujith Nair

### To be informed

- Gayass Daher
- Kiran Kumar Panda
- Niranjan Pathipati

### Discussion items

| Item                                 | Who            | Notes                                                                                      |
|--------------------------------------|----------------|--------------------------------------------------------------------------------------------|
| Caching Framework Page               | Sujith Nair    | <ul style="list-style-type: none"> <li>• Replicated Caching using RMI (EHCache)</li> </ul> |
| Branching and Versioning Page        | Wolfgang Fuker | <ul style="list-style-type: none"> <li>• Branching and versioning concept 2.0</li> </ul>   |
| Deployment plan proposal to customer | Wolfgang Fuker | <ul style="list-style-type: none"> <li>• Deployment Plan</li> </ul>                        |

## Action items

finish open Architecture meeting points [Meeting notes](#).

## 2017-10-18 Architecture discussions

### Date

 18 Oct 2017

### Attendees

- Wolfgang Fuker
- Gayass Daher
- Kiran Kumar Panda
- Niranjan Pathipati
- Sujith Nair

### Discussion items

| Item                     | Who                            | Notes                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LDAP Mapping             | Wolfgang Fuker                 | <ul style="list-style-type: none"><li>• Values are still unclear clarification with Steffi</li><li>• <a href="#">Mapping UserDetails to LDAP</a></li><li>• Enhancing LDAP File<ul style="list-style-type: none"><li>• add values for local file</li><li>• test it locally</li><li>• create ticket for X-Tech(update file in both predev machines + restart)</li></ul></li></ul>             |
| LDAP Implementation      | Kalyana Rao<br>Ballikurava     | <ul style="list-style-type: none"><li>• Showcase of the current implementation</li><li>• Use libraries provided by customer, try not to duplicate files</li></ul>                                                                                                                                                                                                                           |
| DGrid Update             | Wolfgang Fuker<br>Gayass Daher | <ul style="list-style-type: none"><li>• Upgrade to fix DGrid problem</li><li>• VTAS modified Dgrid</li><li>• Look at modification for that specific commit, change it in VTAS</li></ul>                                                                                                                                                                                                     |
| Test distributed caching | Team                           | <ul style="list-style-type: none"><li>• Can't be tested in PreDEV / DEV env currently</li><li>• Test it manually on INT?( we will decide on this later)</li><li>• Important for us is that the normal caching is working and tested</li><li>• Distributed caching is done by the framework(only configurations could be wrong) therefore testing from our side has lower priority</li></ul> |
| EHCache-Port             | Gayass Daher                   | <ul style="list-style-type: none"><li>• Put EHCache Port into application.yaml so it's possible to change it for every environment</li></ul>                                                                                                                                                                                                                                                |

Test distributed caching in DEV -> Make a own userstory for testing it(or we just do it in INT, because EHCache is doing everything for us, just configuration is necessary)

Important is to test caching for one machine

## Action items



Wolfgang Fuker: Look in DGrid changes

**VTAS-1655** - Upgrade DGrid

**READY FOR DELIVERY**

## 2018-01-10 Architecture meeting

### Date

 10 Jan 2018

### Attendees

- Wolfgang Fuker
- Sujith Nair
- Sergej Koshewnikow

## Discussion items

| Item                                                                   | Who            | Notes                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Distributing 3rd party systems                                         | Wolfgang Fuker | <ul style="list-style-type: none"> <li>CAT/EFA.Input for Sujith Nair</li> <li>FLIMs/MRS for Wolfgang Fuker</li> </ul>                                                                                                                          |
| Distributing PostMan settings                                          | Wolfgang Fuker | <ul style="list-style-type: none"> <li>make postman settings available for everyone</li> </ul>                                                                                                                                                 |
| Overwriting Snapshot versions                                          | Wolfgang Fuker | <ul style="list-style-type: none"> <li>in nexus we have diskpace issues because the snapshot version don't get overwritten(timestamp is added)</li> <li>change implementation</li> <li>after this versioning concept can be started</li> </ul> |
| application-<env>.yaml for different envs                              | Wolfgang Fuker | <ul style="list-style-type: none"> <li>need to create different application-&lt;env&gt;.yaml files for every env</li> <li>it's working in vtas-main (see gradle file) for flyway</li> </ul>                                                    |
| Caching properties need to be enhanced for multiple application server | Wolfgang Fuker | <ul style="list-style-type: none"> <li>see action point</li> </ul>                                                                                                                                                                             |
| Interfaces to 3rd party systems                                        | Wolfgang Fuker | <ul style="list-style-type: none"> <li>one general page <a href="#">Technical Interfaces</a></li> <li>under it are system specific pages</li> </ul>                                                                                            |

## Action items

- Sujith Nair: Take a look how @ConfigurationProperties works to continue application-<env>.yaml extention
- Sujith Nair: Find out what we need to configure for multiple application servers for EHCache.
- Sujith Nair: <https://d3.ce.capgemini.com/jira/browse/VTAS-2048>

- Wolfgang Fuker: Upload Postman settings , create Confluence site, send out information for whole team
- Wolfgang Fuker: create application-<env>.yaml files for all microservices

## 2018-01-15 Architecture meeting

### Date

 15 Jan 2018

### Attendees

- Wolfgang Fuker
- Sujith Nair
- Sergej Koshewnikow

## Discussion items

| Item                                        | Who                           | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nexus Cleanup                               | Wolfgang Fuker                | <ul style="list-style-type: none"> <li>New scheduled job in nexus which deletes unused snapshots</li> <li>Does not delete extra files</li> <li>X-Tech takes care for us <a href="https://d3.ce.capgemini.com/jira/browse/XTECH-34527">https://d3.ce.capgemini.com/jira/browse/XTECH-34527</a></li> </ul>                                                                                                                                                                   |
| Import vehicle data from FLIMs              | Sergej Koshewnikow            | <ul style="list-style-type: none"> <li><a href="https://d3.ce.capgemini.com/jira/browse/VTAS-194">https://d3.ce.capgemini.com/jira/browse/VTAS-194</a></li> <li>Type is not clear what to map from FLIMs</li> <li>typeDescription gives us back what we expect</li> <li>instead of getVehicle(multiple calls to FLIMs) we will use searchVehicles with parameter projectId</li> <li>FLIMs developers will give us an search criteria to make this specific call</li> </ul> |
| Look at Action Points from previous meeting | Wolfgang Fuker<br>Sujith Nair | <ul style="list-style-type: none"> <li>take a look over action points from last meeting</li> <li>ConfigurationProperties has to investigated a little bit more(is it working generic=</li> <li>Postman configuration is done and sent to all teammembers</li> </ul>                                                                                                                                                                                                        |

|                       |                |                                                                                                                                                                                                                            |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure respond times | Wolfgang Fuker | <ul style="list-style-type: none"> <li>• Introduction to measure story for 18.1</li> <li>• Lars did a PoC with Spring Boot Frameworks</li> <li>• Setting up a meeting with Lars for a demo and if we can use it</li> </ul> |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Action items

- Wolfgang Fuker: create application-<env>.yaml files for all microservices
- Wolfgang Fuker: Setup Demo meeting with Lars
  
- Sujith Nair: Take a look how @ConfigurationProperties works to continue application-<env>.yaml extention(what is default, what happens if values are not in env specific, but in default)
- Sujith Nair: Find out what we need to configure for multiple application servers for EHCache.
- Sujith Nair: <https://d3.ce.capgemini.com/jira/browse/VTAS-2048>

## 2018-01-17 Architect meeting

### Date

 17 Jan 2018

### Attendees

- Wolfgang Fuker
- Sergej Koshevnikow
- Sujith Nair

### Discussion items

| Item                                    | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Look at Action Points from last meeting | <ul style="list-style-type: none"> <li>• Lars Meeting Setup </li> <li>• ConfigurationProperties takes from applications.yaml when its value is not in env-specific applications-&lt;env&gt;.yaml </li> <li>• Create application-&lt;env&gt;.yaml for all microservices </li> <li>• EHCache Solution found </li> <li>• Timestamp in Nexus shall be removed for SNAPSHOTS X-Tech Ticket </li> </ul> |
| Production Line Upgrade                 | <ul style="list-style-type: none"> <li>• Production Line will come to us for update to 2.2, after the release</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DEV specific modification               | <ul style="list-style-type: none"> <li>• In feature branches we have dev specific modifications</li> <li>• need to be included into master branch and corresponding changes(.ldap file etc) need to be changed on servers(as well as developer machines)</li> <li>• vtas-main &amp; vtas-usermanagement branch: VTAS-000_fixLogin</li> <li>• merge to master and make it work on local &amp; predev servers</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| Talk about upcoming admin story         | <ul style="list-style-type: none"> <li>• Sergej Koshevnikow presented <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-257">https://d3.ce.capgemini.com/jira/browse/VTAS-257</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Action items

- Wolfgang Fuker: create application-<env>.yaml files for all microservices
- Wolfgang Fuker: merge feature branch changes into master and make it work on predev / local will be done by Kiran
  
- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Sujith Nair: Create a X-Tech Ticket to remove the appended timestamp when deploying an artifact to nexus.

## 2018-01-22 Architect Meeting

## Date

 22 Jan 2018

## Attendees

- Wolfgang Fuker
- Sergej Koshevnikow
- Sujith Nair

## Discussion items

| Item                                      | Notes                                                                                                                                                     |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Look at open points from previous meeting | <ul style="list-style-type: none"><li>• DEV/PreDEV merge will be done by Kiran / DEV Team</li><li>• Open points are transferred to this meeting</li></ul> |
| X-Tech tickets                            | <ul style="list-style-type: none"><li>• Ticket for cobertura plugin moved to wednesday morning</li><li>• Versioning concept in work</li></ul>             |
| Minifying Uglyfying Story                 | will be presented on friday                                                                                                                               |
| Error Handeling Story                     | enhanced story directly                                                                                                                                   |

## Action items

- Wolfgang Fuker: create application-<env>.yml files for all microservices
- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Wolfgang Fuker: create confluence page with error codes to the specific third party messages.

## 2018-01-29 Architect meeting

## Date

 29 Jan 2018

## Attendees

- Wolfgang Fuker
- Sujith Nair

## To be informed

- Sergej Koshevnikow

## Discussion items

| Item                                          | Notes                                                                                                                                                                                        |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Look at points from previous meeting          | <ul style="list-style-type: none"><li>• SonarQube Plugin is working again</li><li>• Minify Uglify is working (feature branch)</li><li>• Error handling is obsolete(got simplified)</li></ul> |
| Increase Javascript Codequality               | <ul style="list-style-type: none"><li>• Add JS Gate in Sonarqube</li></ul>                                                                                                                   |
| SonarLint not working like described in Setup | <ul style="list-style-type: none"><li>• Binding is not working in Eclipse</li></ul>                                                                                                          |
| Performance Tests                             | <ul style="list-style-type: none"><li>• Gatling is a free framework to help us make automatic performance test over Jenkins</li></ul>                                                        |
| Automatic UI tests                            | <ul style="list-style-type: none"><li>• End of february the testing box will have setup automated UI tests</li><li>• this will help us reduce time for retesting UI</li></ul>                |

|                                |                                                                                                                                                                                                                       |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lazy Loading / loading screen  | <ul style="list-style-type: none"> <li>Dojo is having plugins to help us easily use loading screen</li> <li>Lazy loading is not that simple, many factors have to be considered(child elements for a list)</li> </ul> |
| Local env setup is not working | <ul style="list-style-type: none"> <li>there are multiple issues with the setup</li> </ul>                                                                                                                            |
| Measure responds time          | <ul style="list-style-type: none"> <li>Lars will introduce his approach on wednesday</li> </ul>                                                                                                                       |
| 18.1 Admin stories             | <ul style="list-style-type: none"> <li>split admin stories between architects</li> </ul>                                                                                                                              |

## Action items

- Wolfgang Fuker: create application-<env>.yml files for all microservices
- Wolfgang Fuker: create X-Tech Ticket to add JS Gate for vtas-main and FAVwidget
- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Sujith Nair: Check if it works with developers and update setup guide
- Wolfgang Fuker/ Sujith Nair : Ideas to benefit our build process / code quality
- Sergej Koshevnikow: Update setup on the local environment, it is not working
- Sujith Nair: prepare <https://d3.ce.capgemini.com/jira/browse/VTAS-258>
- Wolfgang Fuker: prepare <https://d3.ce.capgemini.com/jira/browse/VTAS-1298>

## 2018-02-07 Architecture Meeting

### Date

 07 Feb 2018

### Attendees

- Wolfgang Fuker
- Sergej Koshevnikow
- Sujith Nair

### Discussion items

| Item                           | Notes                                                                                  |
|--------------------------------|----------------------------------------------------------------------------------------|
| VTAS-257                       | <ul style="list-style-type: none"> <li>Sujith presented a solution with AOP</li> </ul> |
| Logical and physical datamodel | <ul style="list-style-type: none"> <li>update datamodels for the release</li> </ul>    |

### Action items

- Sujith Nair: Update physical datamodel
- Sergej Koshevnikow: update logical datamodel
- Wolfgang Fuker: update Microservice architecture picture
- Sergej Koshevnikow: Update setup on the local environment, it is not working
- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Wolfgang Fuker: create application-<env>.yml files for all microservices
- Sergej Koshevnikow: prepare <https://d3.ce.capgemini.com/jira/browse/VTAS-258>
- Wolfgang Fuker: prepare <https://d3.ce.capgemini.com/jira/browse/VTAS-1298>
- Wolfgang Fuker: Frontend URLs need to be looked into(hardcoded?)

## 2018-02-12 Architect meeting

### Date

12 Feb 2018

## Attendees

- Wolfgang Fuker
- Sergej Koshewnikow
- Sujith Nair

## Discussion items

| Item                      | Notes                                                                             |
|---------------------------|-----------------------------------------------------------------------------------|
| Look at old action points | <ul style="list-style-type: none"><li>• Priorities</li></ul>                      |
| EFA.Input createVehicle   | <ul style="list-style-type: none"><li>• look at high priority new story</li></ul> |

## Action items

Needs to be done until 13.02

- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Wolfgang Fuker: create application-<env>.yml files for all microservices
- Wolfgang Fuker: Frontend URLs need to dynamic
- Wolfgang Fuker: LICENSE into each microservice

Needs to be done until 19.02

- Sujith Nair: Update physical datamodel(externalsystems microservice missing)
- Sergej Koshewnikow: update logical datamodel
- Wolfgang Fuker: update Microservice architecture picture
- Sergej Koshewnikow: Update setup on the local environment, it is not working
- 

## 2018-02-19 Architect meeting

### Date

19 Feb 2018

## Attendees

- Wolfgang Fuker
- Sergej Koshewnikow
- Sujith Nair

## Discussion items

| Item                        | Notes                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Look at old meeting points  | <ul style="list-style-type: none"><li>• Forward action points which are not finished yet</li></ul>                                                                                                                                                                                                                                                                                          |
| Labels                      | <ul style="list-style-type: none"><li>• How do our labels work and how can we make them better?</li><li>• Look at stories</li><li>• <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-2123">https://d3.ce.capgemini.com/jira/browse/VTAS-2123</a></li><li>• <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-2317">https://d3.ce.capgemini.com/jira/browse/VTAS-2317</a></li></ul> |
| Changing CAT Authentication | <ul style="list-style-type: none"><li>• <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-2176">https://d3.ce.capgemini.com/jira/browse/VTAS-2176</a></li></ul>                                                                                                                                                                                                                         |
| Add Images to IRA in CAT    | <ul style="list-style-type: none"><li>• <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-1850">https://d3.ce.capgemini.com/jira/browse/VTAS-1850</a></li></ul>                                                                                                                                                                                                                         |

## Action items

- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Wolfgang Fuker: LICENSE into each microservice
- Sujith Nair: Update physical datamodel(externalsystems microservice missing)
- Sergej Koshevnikow: update logical datamodel
- Wolfgang Fuker: update Microservice architecture picture

## 2018-02-22 Architect meeting

### Date

 22 Feb 2018

### Attendees

- Wolfgang Fuker
- Sergej Koshevnikow
- Sujith Nair

### Discussion items

| Item                              | Notes                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Look at old meeting action points | <ul style="list-style-type: none"> <li>• reassign and look at it</li> </ul>                                                                                                                                                                                                                                                                              |
| Labels approach                   | <ul style="list-style-type: none"> <li>• Make it frontend or backend</li> </ul>                                                                                                                                                                                                                                                                          |
| CAT REST Service with Siteminder  |                                                                                                                                                                                                                                                                                                                                                          |
| CAT Image Creation and Linking    | <ul style="list-style-type: none"> <li>• <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-1850">https://d3.ce.capgemini.com/jira/browse/VTAS-1850</a></li> <li>• Multiple Images can be linked to one IRA</li> <li>• Image will be uploaded to VTAS Backend</li> <li>• Start new Queue for Base64 encoding and creating the image in CAT</li> </ul> |
| JMS Queue                         | <ul style="list-style-type: none"> <li>• Prepare presentation with different possibilities</li> </ul>                                                                                                                                                                                                                                                    |

### Action items

- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Wolfgang Fuker: LICENSE into each microservice
- Sujith Nair  12 Mar 2018 : Update physical datamodel(externalsystems microservice missing)
- Sujith Nair: review physical datamodel and give feedback to Sergej Koshevnikow
- Wolfgang Fuker: update Microservice architecture picture
- Sujith Nair: Look into JMS Queue possibilities

## 2018-02-28 Architecture meeting

### Date

 28 Feb 2018

### Attendees

- Wolfgang Fuker
- Sergej Koshevnikow
- Sujith Nair

### Discussion items

| Item             | Notes                                                                                                                                                                                                                                                                                                                                                      |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wolfgang's Tasks | <p>Previous</p> <ul style="list-style-type: none"> <li>• X-Tech tickets</li> <li>• FOSS</li> </ul> <p>Future</p>                                                                                                                                                                                                                                           |
| Sergej's Tasks   | <ul style="list-style-type: none"> <li>• Update from Reyma to translated technical pages</li> <li>• Review translated technical pages</li> <li>• VTAS-2440: Possible HTTP-Status need to be enhanced</li> <li>• Report Story: Add Closed FAVs &amp; Closed Faults <ul style="list-style-type: none"> <li>• what is a closed status?</li> </ul> </li> </ul> |
| Sujith's Tasks   | <p>Previous</p> <ul style="list-style-type: none"> <li>• ActiveMQ PoC</li> <li>• Cache with multiple servers</li> </ul> <p>Future</p> <p>Create visual explanation for activeMQ</p>                                                                                                                                                                        |

## Action items

- Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.
- Sujith Nair [12 Mar 2018]: Update physical datamodel(externalsystems microservice missing)
- Sujith Nair: review physical datamodel and give feedback to Sergej Koshevnikow
- Sujith Nair: Look into JMS Queue possibilities

## Architecture Meetings Backlog

lets add here the list of topics to be discussed in architecture Meetings.

- Story to get UserName into DB(created by), maybe over PAI Framework possible?
- Old log files are getting deleted? If not why?
- Performance tests, automatic UI tests
- Cleanup backlog in JIRA(old Gayass stories)
- Update Dependency List(also internal tools)
- VTAS-1298** - PoC: Measure response times  
[READY] talk about it
- Splitting work for admin stories 18.1
- Generating testData automatically on preDEV
- Stateless? Is cookie used for backend call?
- vtas-security - do we use it? or can we remove it?
- Overview over 3rd party systems, and how they are implemented. Page in Confluence so everybody can work with it.
- Release Manager , additional infos necessary?
- Cleanup of old GIT Merge requests / not used branches.
- 

### DEPRECATED FROM SQ 6.6

sonar.branch

Deprecated since SonarQube 6.7. Please consider using the Developer Edition for branch features.

Manage SCM branches.  Two branches of the same project are considered to be different projects in SonarQube. As a consequence issues found in a project A in a branch B1 are not linked to issues found for this project A in a branch B2. Currently, there is no way to resolve automatically issues of B2 when they are resolved in B1 as again A-B1 & A-B2 are considered as separated project.

## Addressed points

- Are we using the best practices mentioned in Confluence in VTAS Application? Currently there are very less log statements and the

- existing statements in code are very generic
- Cache Frameworks evaluation
  - Integration of LDAP in VTAS Application
  - Integration of 3rd party Systems in VTAS Application
  - VTAS-257** - View interface information
    - DONE**
  - Monitoring Site, for Sprint 13
- Change Log level in runtime / use REST Service introduced by Aju Technical Userstory to change over UI ?
- VTAS-1149** - Provide service for FLIMS to share vehicle measures
    - ANALYSIS**
  - provide information what we will deliver(we are the master!)
- Logging Framework / evaluation and installation of a logging tool to be used on preDEV, maybe later on on DEV Server <https://www.keycdn.com/blog/log-analysis-tools/> X-TECH
- Upgrade DGrid
  - VTAS-275** - Login
    - READY FOR DELIVERY**
  - Login Page, HowTo
- VTAS-2048** - Change Gradle snapshot deployment
  - OBSOLETE**
- Gradle SNAPSHOT overwritting in nexus
- Make.application.yaml for INT/PROD.. and properties file for frontend
  - VTAS-1742** - Add settings for INT/PROD
    - IN PROGRESS**
- How to test distributed caching in DEV env?
  - Production Line 2.2 Release <https://www.yammer.com/capgemini.com/#/threads/show?threadId=1012229632>
  - Lazy loading + Loading screen (see [https://dojotoolkit.org/documentation/tutorials/1.10/loading\\_overlay/index.html](https://dojotoolkit.org/documentation/tutorials/1.10/loading_overlay/index.html) )
  - Env setup is not working as described
  - VTAS-2121** - Add new version of EFA.Input Widget
    - DONE**
  - how does the save interface look like?
- Testing our Javascript code automatically, e.g. <http://jshint.com/> / extend SonarQube
- Ideas to benefit our build process / code quality.
- Update Microservice Architecture + Pysical / Logic Model
- VTAS-2178** - Add KPI for IRA status
  - DONE**
- single call possible, lazy loading?

## Internal meetings

### 2017-09-29 SCRUM Verbesserungen

#### Date

 29 Sep 2017

#### Attendees

- Wolfgang Fuker
- Philipp Moschinger
- Sergej Koshewnikow
- Stefanie Wüstemann

#### Goals

- Verbesserung der SCRUM Methoden

#### Discussion items

## **Scrum Master**

- nicht aus VTAS
- erfahrenen SCRUM Master
- muss auch nicht Vollzeit sein
- zieht aus Retro viele Punkte
- kein Entwickler
- aus AD Center
- Daily und andere Scrum Meetings beiwohnen
- Moderationsleiter
- Daily auf 15 Minuten beschränken
- Doppelrolle von Kiran abnehmen
- Priorisierung von Userstories auch wirklich einhalten(Retro ansprechen, sensibilisieren!)
- Risiko Erfassung an Scrum Master -> dieser sollte an deutsches Team berichten / nachfragen

## Retrospektive

- Board ist unübersichtlich
- Retromat: Ideen für Retrospektive
- Sergej übernimmt nächste Retro :) ( z.B. Segelboot)
- verschiedene Methoden ausprobieren
- keine negativen Punkte kommen von Entwicklern
- sachliche negative Punkte kommen keine
- SCRUM-Master sollte dies leiten & aber auch im Endeffekt darauf achten das jeder "zufrieden" aus dem Retro hinaus geht

## **SCRUM-Methoden Änderungen**

- Sergej Richtung Proxy-PO, Steffi Richtung Projektmanagement
- Schätzungen / Userstories von Zeit auf Komplexität
- Entwickler sollte sich nicht spezialisieren, nicht z.B. nur DB Spezialisten
- Vertrag
  - Bei Kunden hinterlegen Sprint einzukaufen -> Deadline bei Daimler <-> sind auf Wasserfall denken eingestellt
- Releaseplanning
  - Über den ganzen Release hat man Releaseplanning
  - Iteratives Releaseplanning, immer wieder verfeinern und reevaluieren
  - Qualität der Userstories über DoD -> iteratives verbessern -> wird von uns gut umgesetzt
  - wird DoD immer eingehalten? -> schwer zu überprüfen
- Kunde testet nicht gut
  - Abnahme festlegen / absichern
- Workshops
  - Kunden-Workshop: Aufnehmen von Kundenwünschen -> danach erst besprechen
  - Steffi ist "Bottleneck"
  - Workshops müssen strukturierter abgearbeitet werden (jeder sollte mitkommen)
  - Idee war: EPIC/Themen geteilte Ausarbeitungen
  - Kunde hat auch teilweise selber keine Struktur / bringt Chaos hinein
  - Während des Workshops Stories mitschreiben, ausformulieren

Von Gayass:

Folgende Punkte müssen verbessert werden:

- Scrum Master und PM in eine Rolle ist nicht richtig. Wir brauchen in Indien einen Scrum Master, der das Team coacht und unterstützt die Agilen Prozesse sauber zu implementieren.
- im Agile gibt es kein Einzelkämpfer sondern die Teamarbeit ist die Wunderwaffe und das ist genau die Aufgabe von Scrum Master diese Scrum Basics das Team beizubringen
- Bug Tickets: Nachdem diese Tickets von Tester erstellt werden, muss der Tester mit dem PO/PO-Proxy die Bugs entsprechend priorisieren. Danach müssen diese Bugs geschätzt werden und dann erst implementiert werden. Einen Puffer für Bugfixing zu planen ist OK. (z.B. 10% in einem Sprint)
- Priorisierung von Tickets im Backlog : zurzeit nehmen wir userstories von nächsten Sprint, obwohl wir immer noch userstories im jetzigen Sprint haben, die das Team immer noch nicht angefangen haben. Wieso?
- 30% Puffer ist OK, aber das wird irgendwie jedes Mal anders interpretiert. Mir fehlt an der Stelle die Transparenz. Das gleiche gilt für 9h Arbeit aber irgendwie wird nur 7h gezählt. Ist es nicht im Puffer berechnet? Ich habe es immer noch nicht richtig verstanden.
- Im Scrum gibt es eigentlich keine Rollen. Es ist Ok ein Architekt zu haben, um sicherzustellen, dass die Architektur passt usw. aber wieso brauchen wir on-Top einen Tech Lead? Meiner Meinung nach, alle Developer (außer der Architekt) können im Sprints voll geplant werden.

Sergej Koshevnikow: Leitung der nächsten Retrospektive

## **2017-10-06 SCRUM Verbesserungen**

### Date

 06 Oct 2017

### Attendees

- Wolfgang Fuker
- Sergej Koshevnikow
- Stefanie Wüstemann
- Philipp Moschinger
- Patricia Rodrigues Ribeiro

#### Discussion items

| Item                    | Who                | Notes                                                                                                                                                                                                                                                                                       |
|-------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bugbucket               | Sergej Koshevnikow | <ul style="list-style-type: none"> <li>• Bugs müssen priorisiert werden Chakra sollte Bugs den BAs vorstellen</li> </ul>                                                                                                                                                                    |
| SCRUM Master            | Team               | <p>SCRUM Master</p> <ul style="list-style-type: none"> <li>• Einhaltung der SCRUM Richtlinien</li> <li>• Budget erlaubt keinen (zusätzlichen) dieses Jahr</li> <li>• wollen nicht zu viel Unruhe reinbringen</li> </ul>                                                                     |
| Retro                   | Sergej Koshevnikow | <p>Wurde gut aufgenommen Beibehalten</p> <ul style="list-style-type: none"> <li>• Offshore + Onshore Team sollten alle teilnehmen</li> </ul>                                                                                                                                                |
| Definition of Done      | Team               | <p>Sollte besser kontrolliert werden</p> <p>Definition hat sich über die Zeit verbessert</p> <p>Jedoch wird gefühlt weniger eingehalten</p> <p>Codereview hat sich aber verbessert</p>                                                                                                      |
| Präsentation des Sprint | Stefanie Wüstemann | <ul style="list-style-type: none"> <li>• Spätestens Dienstag Vormittag</li> <li>• Das Team sollte dieses Meeting nicht verschieben</li> <li>• Team stellt Sprintergebnisse dem Onshore Team vor</li> <li>• Bzw. Subtask Preparation of Sprint Review dem Onshore Team vorstellen</li> </ul> |

#### Action items

- Stefanie Wüstemann: Preparation of Sprint Review pro Userstory mit Kiran besprechen

### 2017-11-09 SCRUM Verbesserungen

#### Date

 09 Nov 2017

#### Attendees

- Wolfgang Fuker
- Stefanie Wüstemann
- Philipp Moschinger
- Sergej Koshevnikow
- Patricia Rodrigues Ribeiro

#### Discussion items

| Item                              | Who                | Notes                                                                                                                                                 |
|-----------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Punkte von letztem mal besprechen | Team               | <ul style="list-style-type: none"> <li>• DoD genauer beobachten</li> <li>• Scrum Master Vorort beobachten ( mögliche Folgen daraus ziehen)</li> </ul> |
| Daily                             | Stefanie Wüstemann | <p>Daily Zeit mitten im indischen Tag</p> <p>Team sieht es eher als Reporting gegenüber Onshore Team als wirklich internes Besprechen</p>             |

|                  |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storypoints      | Wolfgang Fuker | <p>Wir schätzen derzeit Aufwand und nicht Komplexität</p> <p>Umstellung aber erst mit Ende Januar möglich da wir sonst keine Möglichkeit der Übersicht haben</p> <p>Baseline Stories zum Vergleichen</p> <p>( z.B. <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-1613">https://d3.ce.capgemini.com/jira/browse/VTAS-1613</a> = 3 SP/ <a href="https://d3.ce.capgemini.com/jira/browse/VTAS-284">https://d3.ce.capgemini.com/jira/browse/VTAS-284</a> = 13 SP)</p> |
| Sprint Priorität | Wolfgang Fuker | <p>Priorität repräsentieren Wunsch des Kunden nach Features</p> <p>Stories reinnehmen / rausgeben aus Sprint nur in Absprache mit <a href="#">Sergej Koshevnikow</a></p> <p>Idee das ganzes Team an einem Sprint arbeitet noch nicht so vorhanden</p>                                                                                                                                                                                                                     |

## Action items

**Wolfgang Fuker:** Daily wirklich am (indischen) Morgen abzuhalten

## X-Tech Meetings

### X-Tech Meetings Backlog

- zabbix communication to team
- Evaluation of preDEV log files visualization
- ONE SNAPSHOT for a specific project (nexus repository)
- preDEV improvements:
  - move all configurations into property file
  - change order of stages (stop tomcat server before deleting database)
- automatic DEV deployment
  - release/tag of deliveries (optional flag to create the tag)
  - Create release branch

## Onboarding & Offboarding process

- 1. General
- 2. Getting an overview
  - 2.1 Familiarize yourself with the Team
  - 2.2 Overview over the Project
- 3. Getting access to the project environment
  - 3.1 VPN
  - 3.2 JIRA
  - 3.3 SVN for documents
    - Setting up SVN
    - Working with SVN Locks
- 4. Schedule
  - 4.1 Sprint Events
  - 4.2 Meeting Invitations
- 5. Role specific sub-pages

### 1. General

This page is going to contain a **general** onboarding for all new VTAS team members. Get familiar with confluence and see the [how-to-work page](#).

Down below you find Role specific sub-pages

### 2. Getting an overview

## 2.1 Familiarize yourself with the Team

1. Check our team members in the page "[Team Contact Details and Pictures](#)" and also add your information.
2. Provide a One Pager PPT in SVN: [00 SVN\00\\_Organization\01\\_Team](#)
3. Check the [Team Leave Calendar](#) to know when and which member is not available and do not forget your own leave dates.
4. Check the [Orgchart](#) to understand the different roles and organisation within our team.

## 2.2 Overview over the Project

1. Familiarize yourself with our [Agile way of working](#).
2. Have a look at our [Goals and Vision](#).

# 3. Getting access to the project environment

To get access to the project environment (JIRA, Confluence, SVN) you have to go through the request process as follows:

- [JIRA / Confluence](#): please make somebody from the team raise a JIRA ticket. Here is a reference ticket: [XTECH-24445](#)
- [PE](#): access will be granted via  [Broken link](#)

### 3.1 VPN

Do we need an instruction on how to setup VPN?

### 3.2 JIRA

Here you can find our JIRA instance: <https://d3.ce.capgemini.com/jira/secure/Dashboard.jspa>

### 3.3 SVN for documents

#### Setting up SVN

SVN is only used for documents and mockups - not for source code!

TortoiseSVN is a version control / source control software for Windows. To make sure no data get lost we version our files in SVN.

Checkout and feel free to explore <https://seu.sdm.de/pu/daimlervtas/svn/repository/>

1. Download and install [TortoiseSVN](#).
2. Create a new folder on your desktop where you want to have the files.
3. Check out by right-click --> TortoiseSVN --> Repo-browser" and insert the VTAS link into the Repo-browser:  
<https://seu.sdm.de/pu/daimlervtas/svn/repository/>
4. Right-click on the folder you want to check out and click on "Checkout".

#### Working with SVN Locks

Since we work on only one branch in subversion to avoid merging effort, it is important to prevent users from overwriting their files when committing.

This can and should be done by using **SVN Locks**:

1. Always **update** your SVN folder before you start working
2. **Select the files** or folders you want to work with
3. Right click the files/folders, go to "TortoiseSVN" and then click on "**Get lock...**"
4. A small dialog opens where you can optionally enter a short description and check the files you are about to lock
5. Click on "Ok" - **The files are now Locked!** When someone else wants to commit his changes to those files he **will receive an error message**.
6. Work with your locked files.
7. **Unlock the files when you are done!**
  - a. Either by simply **committing** your changes
  - b. Or by selecting the same files, right clicking them, go to "TortoiseSVN" and then click on "**Release lock...**", accept the dialog

## 4. Schedule

### 4.1 Sprint Events

Meetings and Sprint Ceremonies

### 4.2 Meeting Invitations

TODO: who should be responsible for forwarding the meeting requests?

## 5. Role specific sub-pages

This page branches into distinct sub-pages for the corresponding audience:

- Onboarding grant access and activities checklist
- Working with Confluence
- BA Onboarding
- Developer Onboarding
- Onboarding grant access
- Offboarding remove access
- Tasks and Time Tracking in Clarity
- Offboarding activities checklist

### Onboarding grant access and activities checklist

| Phase                                                                                                       | ToDo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Before 1st day on project:</b>                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| • Add to relevant Mailinglist                                                                               | Relevant Mailinglists: <ul style="list-style-type: none"><li>• ts-prj-dai-vtas.de@capgemini.com</li><li>• ts-prj-dai-vtas-de.de@capgemini.com</li><li>• ts-prj-dai-vtas-in.de@capgemini.com</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| • Add to Clarity                                                                                            | <ul style="list-style-type: none"><li>• If necessary add general access to clarity</li><li>• if necessary add location</li><li>• Add resource tagging</li><li>• Guidance for tasks and time tracking in Clarity: <a href="#">Tasks and Time Tracking in Clarity</a></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| • Add on Confluence Teampage/introduce to Confluence                                                        | <ul style="list-style-type: none"><li>• Which role and rights are given for the respective role?</li><li>• Create Profile in Team Contact Details: <a href="#">Team Contact Details and Pictures</a></li><li>• Insert absence in Team Leave Calendar: <a href="#">Team Leave Calendar</a></li><li>• Familiarize with Team Rules: <a href="#">Team rules</a></li><li>• Update the Orgchart: <a href="#">Orgchart</a></li></ul>                                                                                                                                                                                                                                                                                                        |
| • Send the relevant series meetings to the respective colleague in Outlook                                  | <ul style="list-style-type: none"><li>• BA Backlog Grooming</li><li>• Sprint Review</li><li>• Retrospective</li><li>• Sprint Estimation</li><li>• Sprint Planning I</li><li>• (Sprint Planning II)</li><li>• Daily onboarding meetings with a colleague in the same role for the first 1/2 weeks (via Skype)</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                               |
| • Reserve seat (Stuttgart only)                                                                             | <a href="https://myplace.de.capgemini.com/home.xhtml?windowId=4df">https://myplace.de.capgemini.com/home.xhtml?windowId=4df</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| • Grant access to <ul style="list-style-type: none"><li>• JIRA</li><li>• Confluence</li><li>• ...</li></ul> | Send Mail to assign for VTAS JIRA and Confluence: <ul style="list-style-type: none"><li>• daimlerxtechjiratracker.in@capgemini.com</li><li>• sudip.kumar@capgemini.com</li></ul> <ul style="list-style-type: none"><li>• Find JIRA here <a href="https://d3.ce.capgemini.com/jira/secure/RapidBoard.jspa?rapidView=798&amp;projectKey=VTAS&amp;view=planning.nodetail">https://d3.ce.capgemini.com/jira/secure/RapidBoard.jspa?rapidView=798&amp;projectKey=VTAS&amp;view=planning.nodetail</a></li><li>• Find Confluence here <a href="https://d3.ce.capgemini.com/confluence/display/VTAS/VTAS++Vehicle+Testing+Analyzing+Sy">https://d3.ce.capgemini.com/confluence/display/VTAS/VTAS++Vehicle+Testing+Analyzing+Sy</a></li></ul> |
| <b>On 1st day of Project:</b>                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| • Write Welcome Mail                                                                                        | Template: <a href="#">Welcome Onboarding-Mail.msg</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| • Introduce personally and via Mail (personal profile) to the team                                          | Template: <a href="#">Welcome Onboarding-Mail.msg</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Show around the office                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Onboarding:</b>                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| • BA Onboarding <ul style="list-style-type: none"> <li>• Familiarize with the Project</li> <li>• Familiarize with the Team</li> </ul>                                                                                                                                                    | BA Onboarding <ul style="list-style-type: none"> <li>• How to work with User Stories</li> <li>• How to work with Mockups and Pencil</li> <li>• Access to VTAS Dev: <ul style="list-style-type: none"> <li>• <a href="http://de-muc-vtasadpdm01:8080/vtas-main/">http://de-muc-vtasadpdm01:8080/vtas-main/</a> <ul style="list-style-type: none"> <li>• Name: IAPX0001</li> <li>• Password: IAPx0001</li> </ul> </li> </ul> </li> </ul> |
| • Developer Onboarding <ul style="list-style-type: none"> <li>• Familiarize with the Project</li> <li>• Familiarize with the Team (auf Developer Onboarding Seite ergänzen?)</li> <li>• Production Line - General Information</li> <li>• Request Access</li> <li>• Set Up IDE</li> </ul> | Developer Onboarding <ul style="list-style-type: none"> <li>• Infrastructure: <a href="http://de-muc-vtasadpdm01:8080/vtas-main/">http://de-muc-vtasadpdm01:8080/vtas-main/</a></li> <li>• Development Topics</li> </ul>                                                                                                                                                                                                               |

## Working with Confluence

Confluence is a powerfull tool for an efficient knowledge transfer. The better the content, the quicker is the understanding of the information. Therefore it is important to get used with confluence. As always, hands on practice is the best way but there are still a few tricks:

- text formating (**bold**, *cursive*, underlining, etc.) works as in Word -> "Ctrl" + ...
- displaying pictures via upload function (see "+Insert" menu)
- using macros for displaying ppt presentations imbedded, collaps content, link pages etc.
- see also at already existing pages how functionalities and features were included (by clicking on "Edit". Don't forget to "Close" the page without saving!)
- the [help](#) pages guide you throw all basic functions and features concerning Confluence

Keep in mind: clicking on "Save" saves your changes permanetly. Then it is not possible to reverse the changes. So preview your changes first before you save them. If you want to discard, just click on "Close".

## BA Onboarding

- Tools
- Familiarize yourself with the Project
- Familiarize yourself with the Team

## Tools

1. Get a free version of the Mockup tool [Pencil](#) and install it.

## Familiarize yourself with the Project

1. Familiarize yourself with the [Business Overview of VTAS](#).
2. Familiarize yourself with the [Functional Business Process Flow in VTAS](#)
3. Familiarize yourself with the [Agile Overview](#).
4. Check the page "[How do we work in the BA Backlog Grooming Sessions?](#)" for what will be done during the BA Groomings.
5. Check the [Definition of Ready](#) to see which criteria needs to be fulfilled to bring a User Story in a development sprint.
6. Check the guidelines on how we create user stories in [JIRA](#) and how we work with them.
7. Check the page "[How to work with Mockups and Pencil](#)" to understand the files and folder structure of our mockups and to see how we work with Pencil.
8. Check the page "[Content currently in work for BA Groomings](#)" to see on which user stories we are currently working.
9. Check the User Stories in [JIRA](#) to get an overview over the current sprint and the backlog.

10. Check the page "Working with Confluence" to get an overview over all the documented knowledge regarding VTAS.

## **Familiarize yourself with the Team**

1. Check our team members in the page "[Team Contact Details and Pictures](#)" and also add your information.
  2. Check the [Team Leave Calendar](#) to know when and which member is not available and do not forget your own leave dates.
  3. Check the [Orgchart](#) to understand the different roles and organisation within our team.

## Developer Onboarding

- Production Line
    - General Information
    - Request access
  - Setup IDE
  - Familiarize yourself with the Project

## Production Line

## General Information

General information about Production Line: Production Line

Also check the corresponding sub pages.

## Request access

Ensure you will be getting access (or raised requests) for all of these items.

Request access to the Production Line via your Technical Team Lead.

LAM#GrantingUsersAccessstotheProductionLine

## Setup IDE

Setup your IDE according to this manual: [Eclipse](#)

## **Familiarize yourself with the Project**

- Familiarize yourself with the technologies, best practices / processes and tools used in VTAS.
  - For estimation we play the so-called Planning Poker.

## Onboarding grant access

## Offboarding remove access

## Tasks and Time Tracking in Clarity

# The VTAS-Project overview on task time bookings

2018



## Agenda



What is Clarity?

Clarity - Task meanings and what to consider

Clarity – Additional Information

Clarity – Time Tracking with e2c

# Agenda

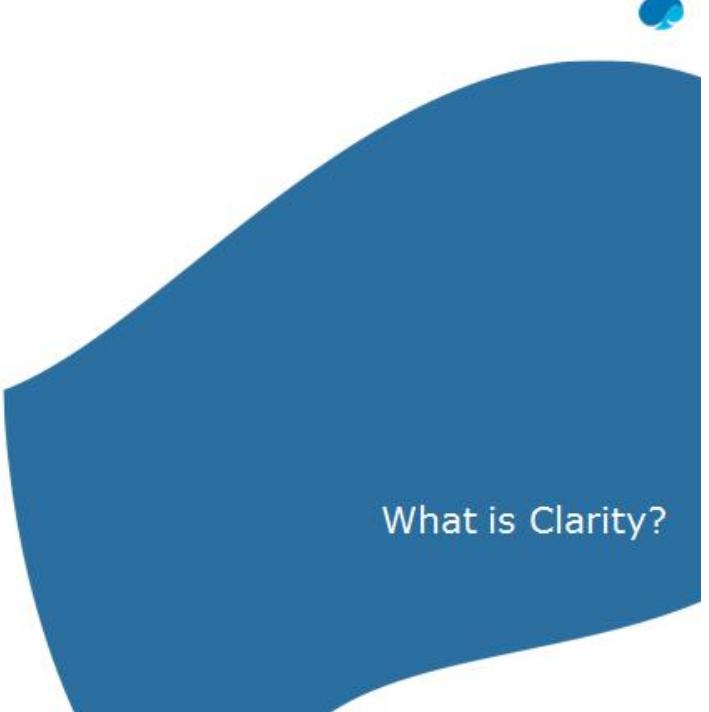


## What is Clarity?

Clarity - Task meanings and what to consider

Clarity – Additional Information

Clarity – Time Tracking with e2c



What is Clarity?

# What is Clarity?

Clarity is the company-internal time recording tool.  
To be found under the following link:

<https://sdmempower-sso.capgemini.com/niku/nu>

You can login with your Company Access Data.

By clicking on „Add task“

| Investition          | Investitions-ID | Task                      |
|----------------------|-----------------|---------------------------|
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | PROGNOSIS Specification   |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | PROGNOSIS Development     |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Travel time               |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Specification             |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Customer Meetings         |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Translations              |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Sprint 12                 |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Sprint 13                 |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Sprint 14                 |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Sprint 15                 |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Deployment activities     |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Internal Defect resolving |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Testing                   |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Onboarding                |
| DAI-LOG-VTAS-TM-2018 | DE-PRJ100456203 | Offboarding               |

The screenshot shows the Clarity PPM application interface. At the top, there's a navigation bar with 'Startseite' and 'Favoriten'. Below it is a 'Zeitformular' section with fields for 'Rückmeldeperiode' (01.03.18 - 04.03.18), 'Ressourcenname' (Patricia Rodrigues Ribeiro), 'Zeitformularstatus' (Offen), and 'Geändert von' (Patricia Rodrigues Ribeiro). A red arrow points from the text 'By clicking on „Add task“' to the 'Aufgabe hinzufügen' button. The main area displays a table of tasks with columns: Investition, Beschreibung, Eingetragencode, Kostenart, Do, Fr, Sa, So, Summe, Restschwund. The table lists various tasks like PROGNOSIS Specification, Development, Travel time, etc. At the bottom, there are buttons for 'Zur Gesamtzeitung vorlegen', 'Auffüllen', and 'Abbrechen'.

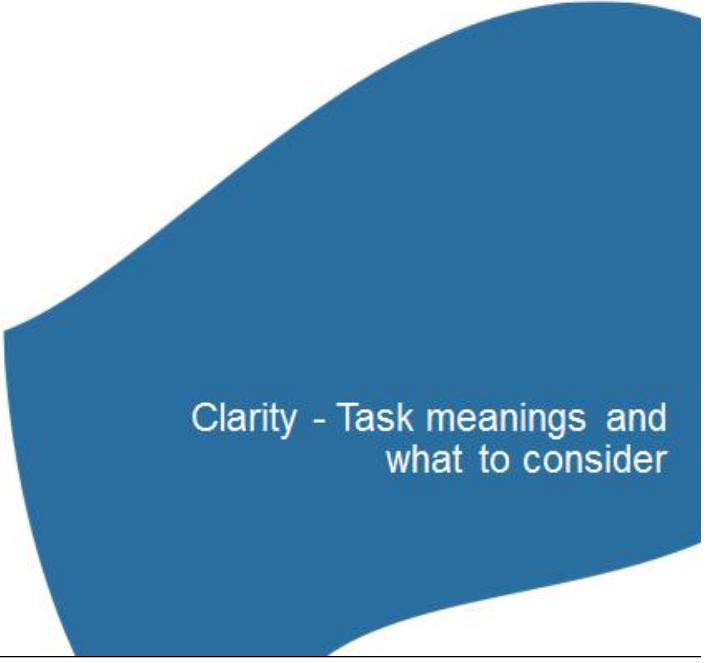
## Agenda

What is Clarity?

Clarity - Task meanings and what to consider

Clarity – Additional Information

Clarity – Time Tracking with e2c



## Clarity - Task meanings and what to consider

### Clarity - Task meanings and what to consider

DAI-LOG-VTAS-TM-2018 - DE-PRJ100456203

| Task                   | Description                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------|
| PROGNOSE Development   | <small>Only Onshore</small> - The time estimated at beginning of month for development activities.       |
| PROGNOSE Specification | <small>Only Onshore</small> - The time required for the development specification is to be entered here. |
| Travel time            | GERMANY ONLY - The travel time that was required is to be entered here.                                  |

## Clarity - Task meanings and what to consider



DAI-LOG-VTAS-TM-2018 - DE-PRJ100456203

| Task          | Description                                                                                                                                                                                                                                                                           |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Specification | Different task types run into specifications:<br>-Time to create User Stories<br>-Grooming Meetings<br>-Refinement Meetings<br>-Specification workshops with Customer<br>-Meeting preparations<br><b>Attention:</b> Please indicate in the notes which user story you are working on. |

## Clarity - Task meanings and what to consider



DAI-LOG-VTAS-TM-2018 - DE-PRJ100456203

| Task              | Description                                                                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Customer Meetings | The time required for customer meetings:<br>-Unscheduled customer calls<br>-Schedule customer call<br>-Workshops with customer other than specification tasks |
| Translations      | The time required for translations:<br>-User Stories<br>-System Documentation                                                                                 |

## Clarity - Task meanings and what to consider



DAI-LOG-VTAS-TM-2018 - DE-PRJ100456203

| Task       | Description                                                                                                                                                                                                                                      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sprint XXX | The time required for Sprint XXX:<br>-Sprint Review<br>-Sprint Retrospective<br>-Sprint Estimation<br>-Sprint Planning I<br>-Sprint Planning II<br>-Development<br>-System Documentation<br>-Other work that has nothing to do with user stories |

## Clarity - Task meanings and what to consider



DAI-LOG-VTAS-TM-2018 - DE-PRJ100456203

| Task                      | Description                                                                 |
|---------------------------|-----------------------------------------------------------------------------|
| Deployment activities     | The deployment activities time that was required is to be entered here.     |
| Internal Defect resolving | The internal defect resolving time that was required is to be entered here. |
| Testing                   | The testing time that was required is to be entered here.                   |

## Clarity - Task meanings and what to consider



DAI-LOG-VTAS-TM-2018 - DE-PRJ100456203

| Task        | Description                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Onboarding  | The time required for onboarding:<br>-Welcome mail + writing pin-on<br>-Reading/working confluence pages<br>-Explanations from team members |
| Offboarding | The offboarding time that was required is to be entered here.                                                                               |

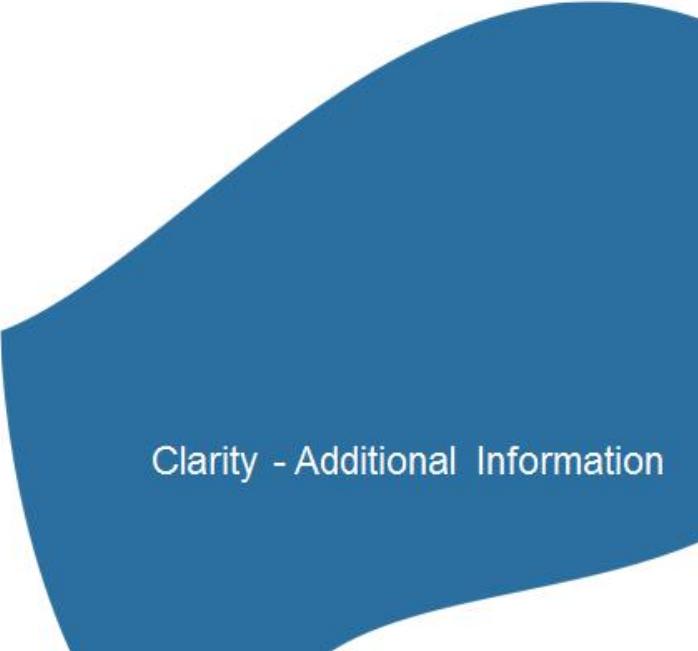
## Agenda

What is Clarity?

Clarity - Task meanings and what to consider

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Clarity – Time Tracking with e2c



## Clarity - Additional Information

### Clarity - Additional Information

Sometimes it can be important to use a different time code. Especially when things have to be done that have nothing to do with your own project. Here are some examples:

| Investment             | Task                   | Description                                                                                             |
|------------------------|------------------------|---------------------------------------------------------------------------------------------------------|
| IND-Practice-csd       | LD-TRAINING            | The time required for onboarding learnings from the company besides the project onboarding.             |
| Still in clarification | Still in clarification | The time that was required when there are some technical issues with your device is to be entered here. |

If you are unsure please ask your manager. ☺



## Clarity - Additional Information

How to write notes into the clarity tasks:

The screenshot shows the Clarity Timesheet application. On the left, there's a list of tasks under the heading 'Tasks'. One task, 'DAI-LOG-VTAS-TM-2018', has a red circle around it and a red arrow pointing from the text area below to this task. A modal window titled 'Resource: Moschinger, Philipp | Time Period: 01.03.18 - 04.03.18 | Time Entry:' is open. It contains a 'Note' field with several entries: '[Mo] VTAS-1234', '[Di] VTAS-1234, VTAS-9876', '[Mi] VTAS-9876', '[Do] VTAS-9876', and '[Fr] VTAS-9876'. Below the note field is a 'Category' input field and a 'Add' button. A message says 'There are no notes to display.' At the bottom are 'Return' and 'Save' buttons. To the right of the modal is a legend table:

| *  | Mo        | Monday |
|----|-----------|--------|
| Di | Tuesday   |        |
| Mi | Wednesday |        |
| Do | Thursday  |        |
| Fr | Friday    |        |

## Agenda

What is Clarity?

Clarity - Task meanings and what to consider

Clarity – Additional Information

Clarity – Time Tracking with e2c



## Clarity – Time Tracking with e2c

Only Germany

### Clarity – Time Tracking with e2c

Only Germany



Here you can find the e2c excel to download:  
<https://km3.capgemini.com/book/579303>

You will also find a detailed explanation for how to use the excel.

Short explanation:

With that excel sheet you can enter your time to your tasks.  
Than, when you are finished, you can start an import directly to Clarity.

The folowing Sites will give you a small overview of the excel.

## Example e2c – How to fill the excel:

Only Germany

## Example e2c – the import

Only Germany

When you're done, go to Clarity, check the times and hand in your timesheet.



People matter, results count.

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With more than 190,000 people, Capgemini is present in over 40 countries and celebrates its 50th Anniversary year in 2017. A global leader in consulting, technology and outsourcing services, the Group reported 2016 global revenues of EUR 12.5 billion. Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness. A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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This message is intended only for the person to whom it is addressed. If you are not the intended recipient, you are not authorized to read, print, retain, copy, disseminate, distribute, or use this message or any part thereof. If you receive this message in error, please notify the sender immediately and delete all copies of this message.

## Offboarding activities checklist

| Phase                                                                                  | ToDo                                                                                                                                                                                                                                                                                                                                                          | Onshore | Offshore | Responsible |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|-------------|
| <ul style="list-style-type: none"><li>• Delete Account from relevant systems</li></ul> | <p>Remove access from:</p> <ul style="list-style-type: none"><li>• JIRA</li><li>• Confluence</li><li>• SVN</li><li>• Production line</li><li>• Relevant Mailinglists:<ul style="list-style-type: none"><li>• ts-prj-dai-vtas.de@capgemini.com</li><li>• ts-prj-dai-vtas-de.de@capgemini.com</li><li>• ts-prj-dai-vtas-in.de@capgemini.com</li></ul></li></ul> | X       | X        |             |
| <ul style="list-style-type: none"><li>• Delete project time tasks in Clarity</li></ul> |                                                                                                                                                                                                                                                                                                                                                               | X       | X        | Philipp     |

|                                                         |                                                                                                                                     |   |   |             |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---|---|-------------|
| • Knowledge transfer                                    | • Seamless transfer of knowledge to the succeeding person<br>• Onboarding sessions (via Skype)                                      | X | X | Predecessor |
| • Handover of active work                               |                                                                                                                                     | X | X |             |
| • Exit interview/meeting                                | • Ask for honest feedback<br>• Share results with leadership<br>• Act on complaints                                                 | X | X |             |
| • Share the leave with colleagues in the team           |                                                                                                                                     | X | X |             |
| • Remove colleague from any upcoming meeting in Outlook | • BA Backlog Grooming<br>• Sprint Review<br>• Retrospective<br>• Sprint Estimation<br>• Sprint Planning I<br>• (Sprint Planning II) | X | X |             |
| • Update the Orgchart                                   | Orgchart                                                                                                                            | X | X |             |
| • Remove from Team Contact Details and Pictures         | Team Contact Details and Pictures                                                                                                   | X | X |             |
| • Remove from Team Leave Calendar                       | Team Leave Calendar                                                                                                                 | X | X |             |

## Organizational

### EDC - Maintenance Weekend

#### Attention:

This is a list of all EDC (European Data Center)-maintenance weekend dates for 2017, 2018 and 2019:

#### Maintenance weekends 2017:

- Friday, 20.10. 16:00 o' clock to Sunday, 22.10. 22:00 o' clock (GMT+02:00)

#### Activities from 20<sup>th</sup> – 22<sup>th</sup> of October 2017

|    |                                                                       |                     |
|----|-----------------------------------------------------------------------|---------------------|
| 01 | NAS - Cluster failover test - edcsf096276/sedcsf096277                | • 100 % completed   |
| 02 | NAS - Site failover test - sedcsf096274/sedcsf096275                  | • Activity canceled |
| 03 | NAS - CDOT upgrade and Site failover test - sedcfs096280/sedcfs096281 | • 100 % completed   |
| 04 | Virtual Machine Migration from vSphere 5.5 to 6.0                     | • 100 % completed   |
| 05 | Upgrade TSM BAClient Software to V 7.1.6.4                            | • 100 % completed   |
| 06 | Upgrade SUSE Linux server (SLES) ServicePack and Security Patches     | • 100 % completed   |

#### Christmas Break 2017/2018

- Thursday, 14.12.2017 00:00 – Sunday, 07.01.2018 23:59 (GMT+01:00)

The EDC staff capacities will be reduced during the Christmas Break. For the period 2017-12-20 until 2018-01-07 only changes coordinated before Wednesday December 14<sup>th</sup> 2017 will be implemented (change freeze). If you need to implement changes until then please note the corresponding lead times. As of 2017-01-08, we will recommence the normal processing of change requests again. The EDC provides regular 24x7 service for incidents during the Christmas break.

#### Maintenance weekends 2018:

- Friday, 16.02. 16:00 o' clock to Sunday, 18.02. 22:00 o' clock (GMT+01:00)
- Friday, 18.05. 16:00 o' clock to Sunday, 20.05. 22:00 o' clock (GMT+02:00)
- Friday, 10.08. 16:00 o' clock to Sunday, 12.08. 22:00 o' clock (GMT+02:00)
- Friday, 19.10. 16:00 o' clock to Sunday, 21.10. 22:00 o' clock (GMT+02:00)

#### Maintenance weekends 2019:

- Friday, 15.02. 16:00 o' clock to Sunday, 17.02. 22:00 o' clock (GMT+01:00)

- Friday, 17.05. 16:00 o' clock to Sunday, 19.05. 22:00 o' clock (GMT+02:00)
- Friday, 16.08. 16:00 o' clock to Sunday, 18.08. 22:00 o' clock (GMT+02:00)
- Friday, 15.11. 16:00 o' clock to Sunday, 17.11. 22:00 o' clock (GMT+02:00)

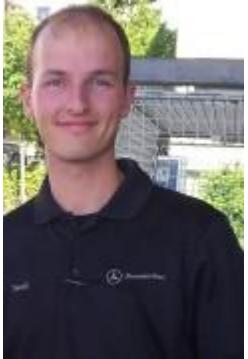
## External Contact Details

### Germany - Daimler

| SL | Name           | Contact Mobile     | Contact Landline  | Email                      | Department                  | Role                         | Picture                                                                               |
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| 6 | Walter<br>Messinger | +49 160<br>8659283   | -----                | walter.messinger@daimler.com | Daimler<br>Fachbereich<br>Sindelfingen | Subject LQS      |    |
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| 8 | Stefan Weiler       | +49 151<br>58617141  | +49 7222 91<br>21859 | stefan.weiler@daimler.com    | Daimler<br>Fachbereich<br>Rastatt      | Subject RGA/KNFE |  |
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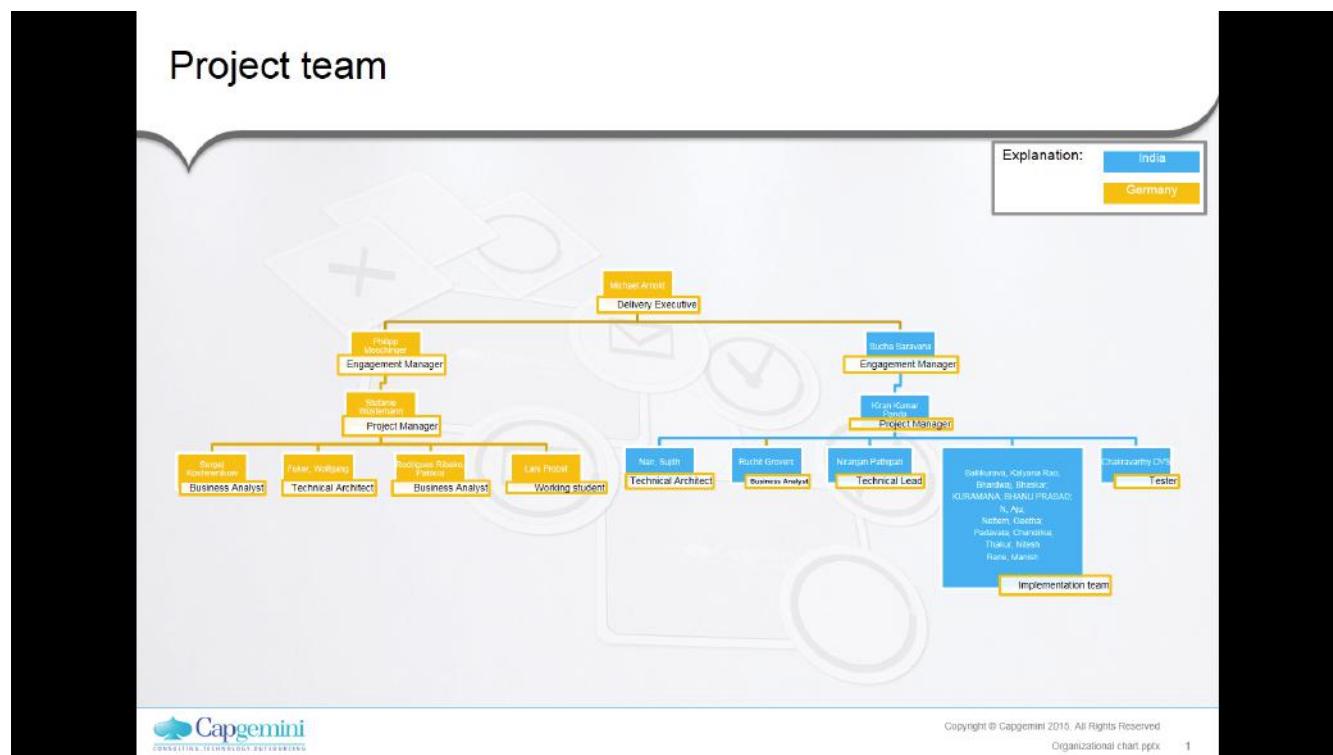
|    |                   |                     |                      |                                 |                            |                                     |                                                                                       |
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| 10 | Alexander Gay     | -----               | +49 711 17<br>60383  | alexander.gay@daimler.com       | Daimler IT<br>Esslingen    | Interface FLIMS and<br>IFQS         |    |
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| 14 | Michael Petermann | +49 160<br>8637473  | +49 7031 90<br>61597 | michael.petermann@daimler.com   | Daimler IT<br>Sindelfingen | Interface EFA.INPUT(not<br>anymore) |  |

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|    |               |                     |                                         |                           |                                        |                          |                                                                                     |
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| 21 | Ralf Meyer    | +49 176<br>30910034 | -----                                   | ralf.m.meyer@daimler.com  | Daimler<br>Fachbereich<br>Sindelfingen | Subject project planning |  |
| 22 | Silvia Sawall | +49 176<br>30948275 | +49 7031<br>9078082                     | silvia.sawall@daimler.com | Daimler IT<br>Sindelfingen             | EFA.Input ProductOwner   |                                                                                     |

## Orgchart

### The Project Team



### Production Line Team contacts

- Production Line Team

### Production Line Team

| Name | E-Mail | Phone | Comment |
|------|--------|-------|---------|
|      |        |       |         |

|                   |                                |               |  |
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## Roles and Responsibilities Matrix

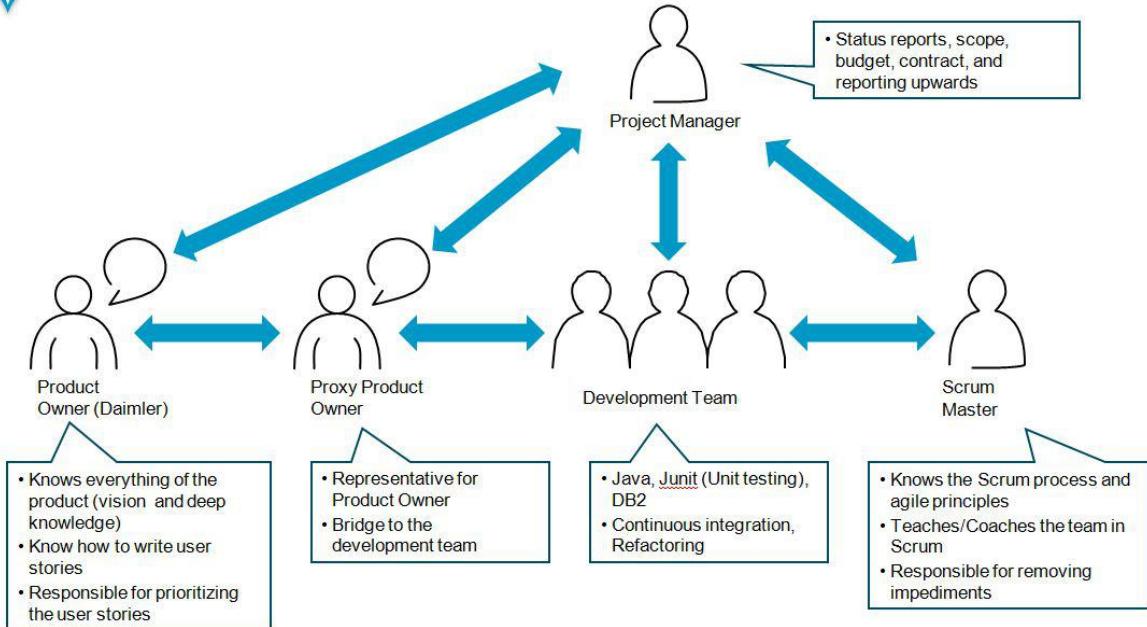
### Roles and Responsibility Matrix

| Project Role                      | Summary                                                                                                                                                                                                                                                                                               | Responsibility                                                                                                                                                                                                                                                                                                                                                      | Activities                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engagement Manager Onshore (EM)   | The "Captain on the ship". Highest escalation instance for issues that can be solved within the project. The EM focuses rather on strategic topics and the general orientation of the project than on operational issues. A complete description of the EM role can be found in <a href="#">UPM</a> . | <ul style="list-style-type: none"> <li>• Day-to-day responsible for time, cost and client satisfaction.</li> <li>• Ensures that the engagement is aligned with Capgemini standards, especially UPM.</li> <li>• Delivery against the contract.</li> <li>• Work together with the Offshore Project Manager in order to realize the common project targets.</li> </ul> | <ul style="list-style-type: none"> <li>• Designs and updates the project governance.</li> <li>• Drives a continuous improvement process for the project governance plan.</li> <li>• Manages the engagements risks and issues.</li> <li>• Compiles the projects KPIs by collecting the necessary information from the PO and SM.</li> <li>• Produces the Staffing Plan.</li> </ul> |
| Engagement Manager Offshore (OEM) | Is accountable for the "Overall delivery" of the engagement at offshore. He is the escalation point at offshore and part of the senior management team.                                                                                                                                               | <ul style="list-style-type: none"> <li>• Work together with Onshore EM towards project growth, time, cost &amp; client satisfaction.</li> <li>• Staffing the engagement for offshore resources.</li> <li>• Work and support offshore project manager for overall project delivery.</li> </ul>                                                                       | <ul style="list-style-type: none"> <li>• Conducting management reviews.</li> <li>• Collects feedback from the SM about individual team members to have an overview on the team's performance</li> </ul>                                                                                                                                                                           |

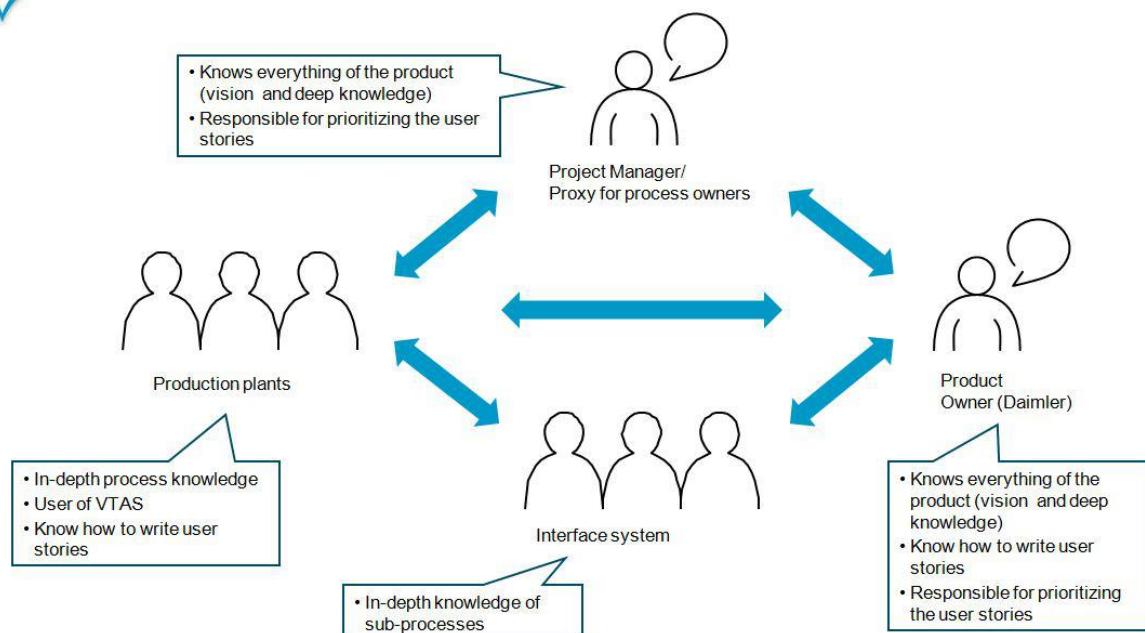
|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Owner Proxy (PO)                     | <p>Is the "face of the project" to the customer. As the official CG representative, she is the single point of contact for the customer and building the main bridge to the CG team. In Scrum meetings she acts as the representative of the customer. As the informal lead of the onshore team, she also takes care of organizational and infrastructural aspects of the onshore team. She is the single person on CG side to decide what is done in the next sprint.</p> | <ul style="list-style-type: none"> <li>• Shapes the customer expectations regarding delivery quality and speed.</li> <li>• Challenges the SCRUM team regarding delivery quality and speed.</li> <li>• Providing a strategic vision of the product including a long-term and release plan.</li> <li>• Participate at Sprint Planning Meeting Part 1, Sprint Review.</li> <li>• Available to the team for queries, which the design team cannot answer.</li> <li>• Providing ETCs and EACs for onshore resources</li> <li>• Responsible for the functional quality</li> <li>• Must not interfere during sprint execution</li> </ul> | <ul style="list-style-type: none"> <li>• Maintain product backlog, with a focus on prioritization.</li> <li>• Accepts the delivered product increment.</li> <li>• Communicates sprint status to the customer.</li> <li>• Decides, if a sprint result is released to the customer.</li> <li>• Maintains the official clarity/OWB project plan for onshore resources</li> </ul> |
| Scrum Master (SM) & Offshore Project Manager | <p>Is the "servant leader" to the team. He is the master of ceremonies and ensures, that the SCRUM processes are followed. As the informal lead of the offshore team, he is also responsible for takes care of organizational and infrastructural aspects of the offshore team.</p>                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Day-to-day responsible for delivery.</li> <li>• Providing team members with the support they need</li> <li>• Protects the team from distractions</li> <li>• Removes impediments</li> <li>• Participate at all Scrum meetings</li> <li>• Monitoring and tracking day to day activities as well, provide ETCs &amp; EACs for sprint.</li> <li>• Reporting Project delivery status on regular basis.</li> </ul>                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Facilitates the SCRUM meetings</li> <li>• Drives a continues improvement process for the delivery</li> <li>• Maintains the official clarity/OWB project plan for offshore resources</li> </ul>                                                                                                                                       |
| Technical Lead (TL)                          | <p>Shapes the technical aspects of the project and supports the development team in complex technical issues.</p>                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Responsible for "Technical Quality" of project</li> <li>• Responsible for technical decisions, especially regarding development guidelines</li> <li>• Identifies technical issues and addresses them</li> <li>• Participate at all Scrum meetings</li> <li>• Providing ETCs &amp; EACs for offshore development activities.</li> </ul>                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Design and construct common Architecture components (business, interfaces and utilities).</li> <li>• Addresses complex technical issue/bottlenecks in the application</li> <li>• Creates technical guidelines and rules like coding conventions, build process, IDE, etc...</li> <li>• Performs code reviews</li> </ul>              |

|                                |                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                   |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Business Analyst (BA)          | Shapes the functional aspects of the project and supports the development team in functional questions. Brings the functional knowledge to the team.               | <ul style="list-style-type: none"> <li>Participate in design and provide functional assistance to the team</li> <li>Support the PO in upholding the functional quality of the project</li> <li>Participate at all Scrum meetings</li> <li>Transfer the functional knowledge from customer workshops into the team</li> </ul>                       | <ul style="list-style-type: none"> <li>Conduct workshops with customer and gather requirements.</li> <li>Provide early Class A (-50%/+50%) estimations</li> <li>Constructs user stories</li> <li>Performs expert tests</li> </ul> |
| Techno-Functional-Expert (TFE) | Is the main contact person for offshore developer on a day-to-day basis. He is familiar with the technical and functional knowledge to support offshore developers | <ul style="list-style-type: none"> <li>Supports the offshore team in technical and functional questions.</li> <li>Is available to the offshore team.</li> <li>Develops an understanding of the in-between that is not written in the documents.</li> </ul>                                                                                         | <ul style="list-style-type: none"> <li>Performs code reviews.</li> <li>Performs expert tests.</li> <li>Challenges the TL regarding technical decisions.</li> </ul>                                                                |
| Developer (DEV)                | Develops a user story                                                                                                                                              | <ul style="list-style-type: none"> <li>Meeting the DoD for development. This means especially testing the implementation to the point, that the specified functionality is provided.</li> <li>Giving a commitment to the scope of a sprint.</li> <li>Provide ETCs for development activities assigned.</li> </ul>                                  | <ul style="list-style-type: none"> <li>Performs a detailed estimation.</li> <li>Carries out bug fixing.</li> <li>Does a technical design.</li> </ul>                                                                              |
| Tester (TEST)                  | A member of the development team with a stronger focus on testing. Does not necessarily test all herself, but all coordinates the execution of tests               | <ul style="list-style-type: none"> <li>Master of the test management system (Testlink).</li> <li>Ensures that test cases are maintained and uploaded into the test management system.</li> <li>Builds up the knowledge to test beyond the test cases.</li> <li>Ensures that testing is appropriately considered in the sprint planning.</li> </ul> | <ul style="list-style-type: none"> <li>Executes tests scripts and logs defects.</li> <li>Coordinates the execution of tests.</li> </ul>                                                                                           |

# The core team (Capgemini)



# The core team (Daimler)



## Sprint & Release Plans

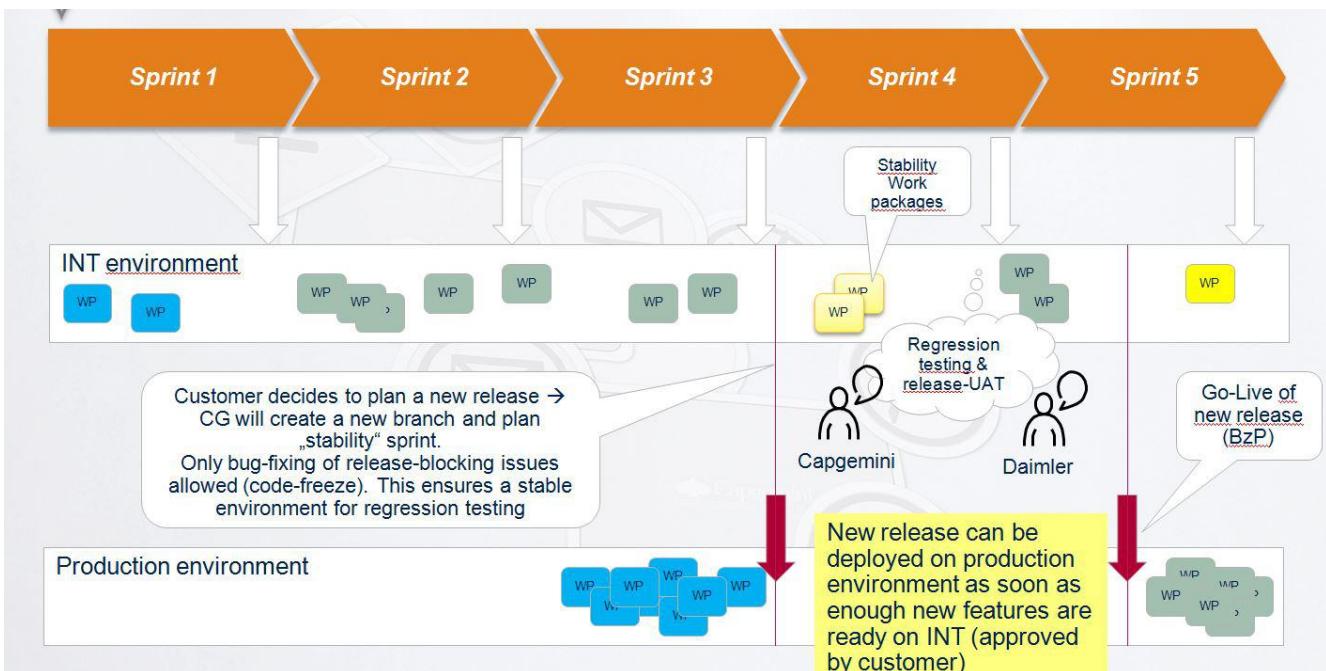
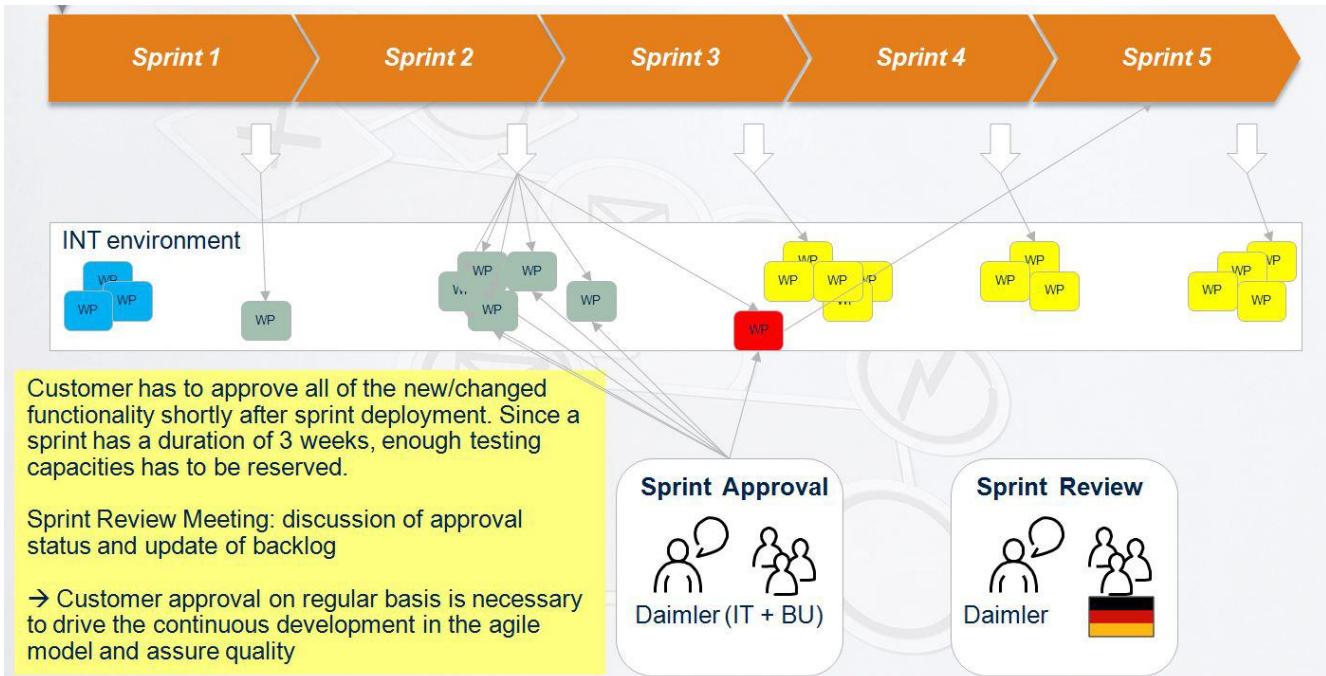
### Sprint and Release Plan for 2018



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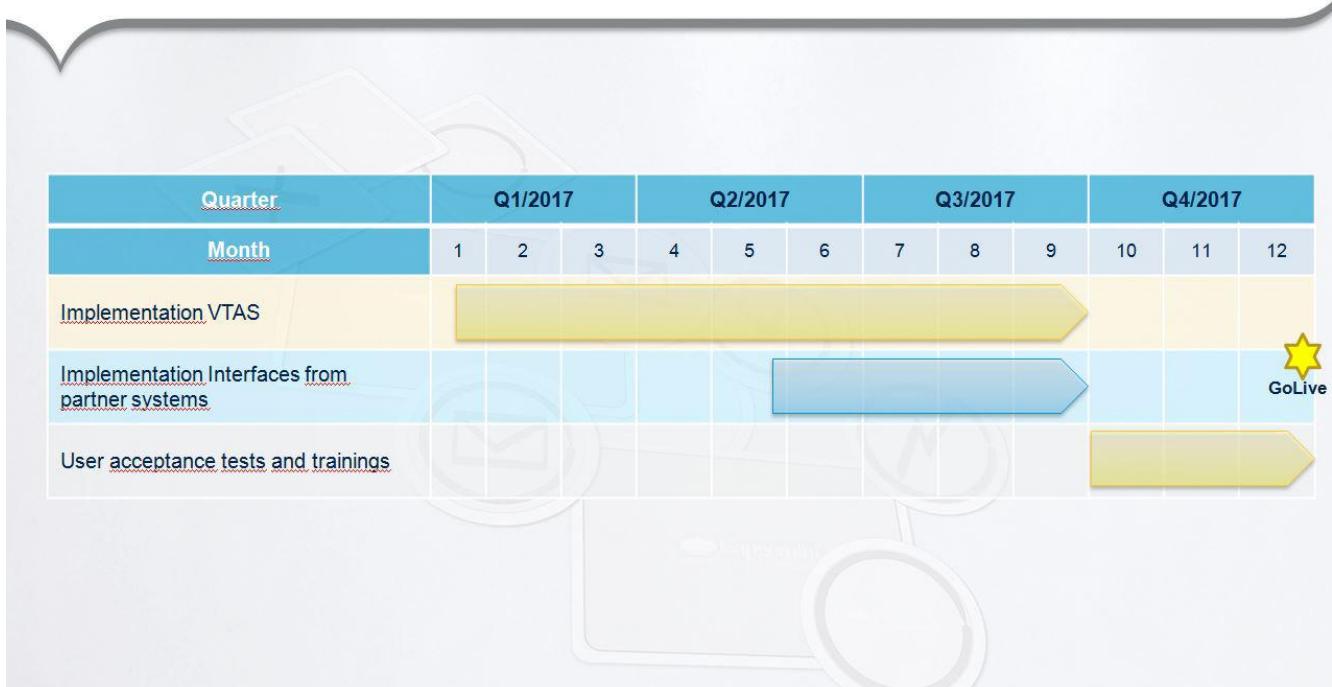
## Sprint Plan

| Meeting/<br>Activity         | Frequency                                      | Participants        | Description                                                                                                                                                                                                                                                                                                                       |
|------------------------------|------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Requirements refinement call | 2 x week<br>(Tuesday + Thursday)               | <b>PO + POP</b>     | Discussion about open points of BRDs / backlog items concerning the business logic. Goal is to clarify whatever open points exist to finalize the scope of a BRD/HLD. The outcome of these meetings will be tracked in a separate protocol document. This activity is sprint-independent.                                         |
| Sprint Planning I            | 1 x sprint (last Thursday of previous sprint)  | <b>PO + POP</b>     | Scope of subsequent sprint is finalized. After this meeting no more additional topics will be included to the planned sprint – sprint scope is fixed.<br>Additionally the depth of specified backlog topics is reviewed by PO, POP and PM                                                                                         |
| Sprint Planning II           | 1 x sprint (first Monday of current sprint)    | CG Team             | Detailed planning of current sprint based on defined sprint-backlog. Split-up of work-packages into work-items and assignment of work to the team. Dependency planning. Test planning. Capacity planning (depending on bug count and topic contents). Implementation of results of last Sprint Retrospective into current Sprint. |
| Sprint Finalization          | 1 x sprint (last Friday of sprint)             | CG Team             | Deployment of Sprint deliverables. Project House-Keeping.                                                                                                                                                                                                                                                                         |
| Sprint Retrospective         | 1 x sprint (first Monday after sprint is over) | CG Team             | Reflection of last sprint. Identify and agree on continuous process improvement actions. What went well during the sprint? What could be improved in the next sprint?                                                                                                                                                             |
| Sprint Approval              | First week after sprint is over                | <b>PO + IT + FB</b> | Customer has to approve all of the new/changed functionality shortly after sprint deployment. IT- & Business departments can do joint testing and approval on INT environment.                                                                                                                                                    |
| Sprint Review Meeting        | Before and after Sprint Approval               | <b>PO + POP</b>     | Review of implemented sprint items. Check if planned sprint scope was fully implemented. Documentation of approved items and items to be planned for next sprint. Update of Product Backlog                                                                                                                                       |
| D-Stum                       | Daily                                          | CG Team             | Daily stand-up meeting. Very short report about last work-item, blocking issues, planned work-items.                                                                                                                                                                                                                              |



## Release Plan

# Timeline for VTAS



## Schedule Release 17.2

### GoLive Schedule Release 17.2



## Team Contact Details and Pictures

### Email distribution list

Team Joint: DL DE TS-Prj-DAI-VTAS

Team Onshore: DL DE TS-Prj-DAI-VTAS-DE

Team Offshore: DL DE TS-Prj-DAI-VTAS-IN

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|----|---------------|-------------|---------|------------|-----------|-------|-----------|------|---------|-------------|

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| 9  | Bhaskar Bhardwaj      | 124091 | (+91)7406095577 | BLR/DIV/GF/WS-199 |          | <a href="mailto:bhaskar.bhar&lt;br/&gt;dwaj@capge&lt;br/&gt;mini.com">bhaskar.bhar<br/>dwaj@capge<br/>mini.com</a>     | bhabhard | Developer               |  |            |
| 11 | Bhanu Prasad Kuramana | 96418  | (+91)9676049905 | BLR/DIV/GF/WS-218 |          | <a href="mailto:bhanu-prasad&lt;br/&gt;_kuramana@capgemini.com">bhanu-prasad<br/>_kuramana@capgemini.com</a>           | bkuraman | Developer               |  |            |
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| 13 | DVS Chakravarthy      | 128228 | (+91)8179556606 | BLR/DIV/GF/WS-197 |          | <a href="mailto:chakravarthy&lt;br/&gt;dvs@capgemini.com">chakravarthy<br/>dvs@capgemini.com</a>                       | chadvs   | Tester                  |  |            |
| 14 | Ruchit Grover         | 99824  | (+91)7838018902 | BLR/DIV/GF/WS-231 |          | <a href="mailto:ruchit.grover&lt;br/&gt;@capgemini.com">ruchit.grover<br/>@capgemini.com</a>                           | rugrover | Business Analyst        |  | Dez 2016   |
| 15 | Nitesh Thakur         | 91021  | (+91)9962998097 | BLR/DIV/GF/WS-182 |          | <a href="mailto:nitesh.a.thak&lt;br/&gt;ur@capgemini.com">nitesh.a.thak<br/>ur@capgemini.com</a>                       | nitestha | Developer               |  |            |

|    |                     |        |                  |                    |         |                                                                                        |          |              |                                                                                     |          |
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| 17 | Manish Rane         | 123633 | (+91)855197 1969 | DIV-3F-488         | 8055271 | <a href="mailto:manish.rane@capgemini.com">manish.rane@capgemini.com</a>               | manirane | UI Developer |  |          |
| 18 | Remya Arun          |        | +9196862653 39   |                    |         | <a href="mailto:remya.arun@capgemini.com">remya.arun@capgemini.com</a>                 |          | Translator   |  | Jan 2018 |

## Germany - Stuttgart

| SL | Employee Name       | Employee Id | Contact           | Extension | Email                                                                                    | User Name | Role                                   | Picture                                                                               |
|----|---------------------|-------------|-------------------|-----------|------------------------------------------------------------------------------------------|-----------|----------------------------------------|---------------------------------------------------------------------------------------|
| 1  | Philipp Moschinger  |             | +43 676 8263 8165 |           | <a href="mailto:philipp.moschinger@capgemini.com">philipp.moschinger@capgemini.com</a>   | pmoschin  | Engagement Manager                     |  |
| 2  | Stefanie Wuestemann | 972059      | +49 711 5050 5119 |           | <a href="mailto:stefanie.wuestemann@capgemini.com">stefanie.wuestemann@capgemini.com</a> | swuestem  | Sr. Business Analyst / Project Manager |  |
| 5  | Sergej Koshevnikow  | 50203349    | +49 893 8338 2887 |           | <a href="mailto:sergej.koshevnikow@capgemini.com">sergej.koshevnikow@capgemini.com</a>   | skoshewn  | Business Analyst                       |                                                                                       |
| 6  | Lars Probst         |             | +49 711 5050 5626 |           | <a href="mailto:lars.probst@capgemini.com">lars.probst@capgemini.com</a>                 | lprobst   | Working student                        |                                                                                       |
| 7  | Wolfgang Fuker      |             | +43 676 8263 8417 |           | <a href="mailto:wolfgang.fuker@capgemini.com">wolfgang.fuker@capgemini.com</a>           | wfuker    | Architect                              |                                                                                       |

|   |                            |          |                   |  |                                          |          |                         |                                                                                     |
|---|----------------------------|----------|-------------------|--|------------------------------------------|----------|-------------------------|-------------------------------------------------------------------------------------|
| 8 | Patricia Rodrigues Ribeiro | 50242119 | -                 |  | patricia.rodrigues-ribeiro@capgemini.com | prodig9  | Intern Business Analyst |  |
| 9 | Laura Hornung              | 50243565 | +49 151 1137 4838 |  | laura.hornung@capgemini.com              | lhornung | Business Analyst        |                                                                                     |

## Team Leave Calendar

|                    | March 2018                                   | April 2018                       | May 2018          | June 2018                         | July 2018                           | August 2018 | September 2018                       | October 2018   | November 2018 | December 2018 |
|--------------------|----------------------------------------------|----------------------------------|-------------------|-----------------------------------|-------------------------------------|-------------|--------------------------------------|----------------|---------------|---------------|
| Philipp            |                                              |                                  | 21 - 31           | 1                                 |                                     |             | 03-21                                |                |               |               |
| Stefanie           | 9                                            |                                  |                   | 4-5 (training)<br>8-25 (vacation) |                                     |             | 3-4 (training)<br>22-30 (vacation)   | 1-7 (vacation) |               |               |
| Sergej             | 26, 27, 28, 29                               | 19, 20, 23                       |                   |                                   |                                     |             |                                      |                |               |               |
| Aju                |                                              | 30                               | 2,3,4             | 4-12                              |                                     |             |                                      |                |               |               |
| Kalyan             | 12,13,14                                     | 9,10,11                          | 14,15,16          | 11,12,13                          | 23,24,25                            |             |                                      |                |               | 10,11,12      |
| Geetha             |                                              | 30                               |                   |                                   |                                     |             |                                      |                |               |               |
| Niranjan           | (20-23 Training)                             | 30                               |                   |                                   |                                     |             |                                      |                |               |               |
| Bhaskar            |                                              |                                  |                   |                                   |                                     |             |                                      |                |               |               |
| Chakra             | 22,23,28<br><br>(Training :16th 9AM to 1 PM) | 04                               |                   |                                   |                                     |             |                                      |                |               |               |
| Chandrika          | (Training - 19,20)<br><br>23,26              | 30                               | 2,3,4             | 11,12                             |                                     |             |                                      |                |               |               |
| Nitesh             | 01,02,05                                     | 30                               |                   |                                   |                                     |             |                                      |                |               |               |
| Bhanu              | 16<br><br>(Training - 19,20)                 |                                  | 4,7,8,9,10,1<br>1 |                                   |                                     |             |                                      |                |               |               |
| Manish             |                                              | 17,18,19                         | 9,10,11           |                                   |                                     |             | 12,13,14,17,1<br>8 (Ganesh Festival) |                |               |               |
| Vidhya N           | 14                                           |                                  |                   |                                   |                                     |             |                                      |                |               |               |
| Sudha              |                                              |                                  |                   |                                   |                                     |             |                                      |                |               |               |
| Sujith             |                                              | 2                                |                   | 23-31                             | 1-10                                |             |                                      | 1,18           | 2             | 24            |
| Nilan CM           |                                              |                                  |                   |                                   |                                     |             |                                      |                |               |               |
| Dattatreya Chillal | March 8 - March 28<br><br>(Wedding)          |                                  |                   |                                   |                                     |             |                                      |                |               |               |
| Himaja             |                                              |                                  |                   |                                   |                                     |             |                                      |                |               |               |
| Wolfgang           |                                              | 9-20                             | 7-18              |                                   |                                     |             | 26-31                                | 1-9            |               |               |
| Patricia           | 7,8,9,12,13,14                               |                                  |                   |                                   |                                     |             |                                      |                |               |               |
| Laura              |                                              | 25-27<br>(Fasttrack Bootcamp II) |                   |                                   |                                     |             |                                      |                |               |               |
| Lars               |                                              |                                  |                   |                                   | From the 15th, my contract expires. |             |                                      |                |               |               |

Public Holidays 2018:

| Public Holidays 2018 |                                                                 |            |           |          |           |                  |               |
|----------------------|-----------------------------------------------------------------|------------|-----------|----------|-----------|------------------|---------------|
| Month                | Holiday                                                         | Date       | Day       | Begaluru | Stuttgart | Munich (München) | Vienna (Wien) |
| January              | New Year's Day                                                  | 01.01.2018 | Monday    | ✓        | ✓         | ✓                | ✓             |
|                      | Holy three kings (Heilige drei Könige)                          | 06.01.2018 | Saturday  |          | ✓         | ✓                | ✓             |
|                      | Republic Day                                                    | 26.01.2018 | Friday    | ✓        |           |                  |               |
| February             |                                                                 |            |           |          |           |                  |               |
| March                | Ka-Friday                                                       | 30.03.2018 | Friday    |          | ✓         | ✓                | ✓             |
| April                | Eastermonday (Ostermontag)                                      | 02.04.2018 | Monday    |          | ✓         | ✓                | ✓             |
| May                  | May Day/ International Labour Day/ Day of Work (Tag der Arbeit) | 01.05.2018 | Tuesday   | ✓        | ✓         | ✓                | ✓             |
|                      | Ascension of Christ (Christi Himmelfahrt)                       | 10.05.2018 | Thursday  |          | ✓         | ✓                | ✓             |
|                      | Whit Monday (Pfingstmontag)                                     | 21.05.2018 | Monday    |          | ✓         | ✓                | ✓             |
|                      | Corpus Christi (Fronleichnam)                                   | 31.05.2018 | Thursday  |          | ✓         | ✓                | ✓             |
| June                 |                                                                 |            |           |          |           |                  |               |
| July                 |                                                                 |            |           |          |           |                  |               |
| August               | Augsburg Peace Festival                                         | 08.08.2018 | Wednesday |          |           | ✓                |               |
|                      | Independence Day/ Assumption Day (Mariä Himmelfahrt)            | 15.08.2018 | Wednesday | ✓        |           | ✓                |               |
|                      | Bakri Id (Id-ul-Zuha)                                           | 22.08.2018 | Wednesday | ✓        |           |                  | ✓             |
| September            |                                                                 |            |           |          |           |                  |               |
| October              | Gandhi Jayanti                                                  | 02.10.2018 | Tuesday   | ✓        |           |                  |               |
|                      | Day of German unity (Tag der deutsch Einheit)                   | 03.10.2018 | Wednesday |          | ✓         | ✓                |               |
|                      | Dusshera                                                        | 18.10.2018 | Friday    | ✓        |           |                  |               |
|                      | National public holiday (Nationalfeiertag)                      | 26.10.2018 | Friday    |          |           |                  | ✓             |
| November             | Karnataka Rajostava Day/ All Saints' Day (Allerheiligen)        | 01.11.2018 | Thursday  | ✓        | ✓         | ✓                | ✓             |
|                      | Diwali                                                          | 07.11.2018 | Wednesday | ✓        |           |                  |               |
| December             | Immaculate Conception (Maria Empfängnis)                        | 08.12.2018 | Saturday  |          |           |                  | ✓             |
|                      | Holy evening (Heilig Abend)                                     | 24.12.2018 | Monday    |          |           |                  | ✓             |
|                      | 1. Christmas Day                                                | 25.12.2018 | Tuesday   | ✓        | ✓         | ✓                | ✓             |
|                      | 2. Christmas Day /Stefani Day                                   | 26.12.2018 | Wednesday |          | ✓         | ✓                | ✓             |
| Total                |                                                                 |            |           | 10       | 12        | 14               | 16            |

see. Excel: SVN\03\_Sprints

List of public holidays in India:



[Holiday\\_List\\_201...Dec\\_14\\_2016.xlsx](#)

## Team rules

1. We will actively participate in meetings, asking questions and bringing in our opinions.
2. We will criticise carefully, if we have to, talking to each other one on one and keeping in mind the others situation.
3. We will enter all our planned leaves in Confluence to allow proper capacity planning for the upcoming sprint/release.
4. We will be on time for the meetings to show respect. If we cannot make it in time, we will speak up and let the others know.
5. We will speak up about our expectations to help each other to meet them.
6. If we need some status information from the team, we will approach the project managers (Vidhya, Steffi).

## Processes and Definitions

### Checklist for starting a sprint

The Checklist: Ready for the Sprint states all the points that should be checked or fulfilled so that the sprint is ready to start.

## Checklist for starting the Sprint



The Product Backlog contains about 3 Sprint's worth of User Stories that are READY



The goal of the Sprint is defined and communicated



Definition of Done is defined and understood by the team



The Sprint Backlog contains all selected defects, User Stories and tasks for the Sprint



The Sprint Backlog is prioritized



Optional: The Sprint Backlog contains a buffer of 30%

## Definition of Done

A Story is considered done and ready for delivery, if the following conditions are fulfilled

## Architecture

- Design/Architecture documents are updated and reviewed.
- Participating Roles : developers, onshore & offshore technical architects

## Java Code

- Code completed and checked in to source repository with supporting deployment scripts, database scripts and documentation
- The Maven-builds for all projects are executed successfully (Build Successful status for all projects, with clean jenkins build)
- The code sticks to the [naming conventions](#)
- The code is well documented with JavaDoc
- The code is reviewed and the comments should be taken care
- The "feature branch" does not provoke any new issues in Sonar
  - navigate to [Sonar](#) a select the specific "feature branch" from *PROJECTS* tab. check the **Bugs & Vulnerabilities, Code Smells, Duplications, ...** sections
- The code is unit-tested to a degree that Sonar does not raise a coverage-error (80%)
  - navigate to [Sonar](#) a select the specific "feature branch" from *PROJECTS* tab. check the **Coverage** section

## Database scripts

- The code sticks to the [database naming conventions](#)
- Existing scripts should not be modified and if any changes needed, a new script with corresponding alter commands has to be introduced.
- SQL scripts are tested
- SQL scripts are reviewed by the Tech Lead and checked-in to git

## Testing by developer

- Unit-tests for all public methods of developed classes are implemented and successfully executed
- Integration tests for all public methods of business services, business functions and integration services are implemented and successfully executed
- Test driven development (TDD) is practiced.
- Tests are written for services first to ensure coverage and then code is written to ensure that the tests pass ie., both positive , negative with exception-cases
- The implemented code was deployed and manually tested on **predev** environment

**Note:** predev - is the environment, where developer is merging his/her implementation.

## Functional / Technical Review

- Functional review on the story has to be made to check if requirements and Acceptance criteria are met. Participating Roles: Developer + Business Analyst
- Code Review completed by another developer. see [Code review](#) Section for more information
- Participating Roles: Developer (peer)/Tech lead
- DB scripts validation whether developers modified the existing scripts or not and version of scripts if two people working in parallel added same version or not.
- Order of the scripts also has to be verified.

## Merge to master

The code has been merged to the master branch successfully

## Testing by QA tester

- Test cases are created covering all the required business use cases. And reviewed and approved by a BA
- All test cases are executed successfully, with zero failures on DEV environment
- Validate the criteria for "Implementation adheres to Daimler's UI Guidelines" with different browsers and with different devices

**Note:** DEV - is the environment, where QA tester is testing the functionality. And it's a Daimler environment.

## Operations

- Deployment / Operations manuals and other relevant documents created and reviewed.

## Definition of Ready

The Definition of Ready states all the points that need to be fulfilled that the story is ready for implementation in a Sprint.

| Definition of Ready                 |                                                                                                   |
|-------------------------------------|---------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | The User Story follows INVEST                                                                     |
| <input checked="" type="checkbox"/> | The contact person for the User Story is identified                                               |
| <input checked="" type="checkbox"/> | User Story Acceptance Criteria are defined                                                        |
| <input checked="" type="checkbox"/> | User Story, acceptance criteria and all needed information are understood by the development team |
| <input checked="" type="checkbox"/> | The development team agrees on the User Story for implementation                                  |
| <input checked="" type="checkbox"/> | User Story is estimated by the development team                                                   |
| <input checked="" type="checkbox"/> | No external dependencies prevent the story from being completed                                   |
| <input checked="" type="checkbox"/> | User Story is technical accepted by an architect                                                  |

1. The User Story follows INVEST
2. The contact person for the User Story is identified
3. User Story Acceptance Criteria are defined
4. User Story, acceptance criteria and all needed information are understood by the development team
5. The development team agrees on the User Story for implementation
6. User Story is estimated by the development team
7. No external dependencies prevent the story from being completed
8. User Story is technical accepted by an architect

- a. Check if external interfaces exist in story
- b. If one or multiple interfaces are in the story test
  - i. is it working like expected
  - ii. are all mandatory values in the request described how to map
  - iii. are all values we want to send in the request
  - iv. are all values we want to receive in the response
- c. Is story technical feasible

## Development Topics

### Mapping UserDetails to LDAP

With Story <https://d3.ce.capgemini.com/jira/browse/VTAS-261> we are going to retrieve UserDetails from the correct LDAP.

Following mapping will be done.

| VTAS value                                                                                                                                                                                                             | LDAP value         | example                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UserId                                                                                                                                                                                                                 | uid                | people.testusers.IAPX0002.uid=IAPX0002                                                                                                                                                                                                                                         |
| first name                                                                                                                                                                                                             | givenName          | people.testusers.IAPX0002.givenName=Fred                                                                                                                                                                                                                                       |
| last name                                                                                                                                                                                                              | sn                 | people.testusers.IAPX0002.sn=Astaire                                                                                                                                                                                                                                           |
| department                                                                                                                                                                                                             | dcxDepartmentAbbr  | people.testusers.IAPX0002.dcxDepartmentAbbr=department0002                                                                                                                                                                                                                     |
| E-Mail                                                                                                                                                                                                                 | corpdir-user       | people.testusers.IAPX0002.corpdir-user=Fred.Astaire@testusers.com                                                                                                                                                                                                              |
| Postal address/mail                                                                                                                                                                                                    | mail               | people.testusers.IAPX0002.mail=Fred.Astaire@testusers.com                                                                                                                                                                                                                      |
| Phone-Number<br>(telephonenumber,<br>mobile)                                                                                                                                                                           | telephoneNumber    | people.testusers.IAPX0002.telephoneNumber=00024711                                                                                                                                                                                                                             |
| Plant-IDs (dcxPlant1,<br>dcxPlant2) If dcxPlant2<br>is filled, then show<br>dcxPlant2 otherwise<br>show dcxPlant1                                                                                                      | dcxPlant1/dcPlant2 | people.testusers.IAPX0002.dcxPlant1=Sindelfingen                                                                                                                                                                                                                               |
| User status (from<br>AEMT: active,<br>inactive), if<br>"vtas.basicauth" is<br>containted = active,<br>otherwise inactive                                                                                               | dcxlapEntGrps      | <p>ACTIVE(contains vtas.basicauth):<br/>           people.testusers.IAPX0002.dcxlapEntGrps=vtas.basicauth SOE.SOE_DOC_MDM SOE.SCTRATION_MDM</p> <p>INACTIVE(doesn't contain):<br/>           people.testusers.IAPX0002.dcxlapEntGrps=SOE.SOE_DOC_MDM SOE.SOE_ADMINISTRATOR</p> |
| Usertype (from<br>Corporate directory:<br>Object Class -<br>dcxInternalEmployee;<br>Values:<br>dcxJointVenturePerson<br>(= Joint Venture),<br>dcxExternalPerson<br>(=External),<br>dcxInternalEmployee<br>(=Internal)) | objectClass        | people.testusers.IAPX0002.objectClass=dcxExternalPerson  dcxlapTestPerson dcxlapPerson inetOrgPerson organizationalPerson person top                                                                                                                                           |
| cost center<br>(dcxCostCenter)                                                                                                                                                                                         | dcxCostCenter      | people.testusers.IAPX0002.dcxCostCenter=Sindelfingen                                                                                                                                                                                                                           |

### LDAP Request from Customer

## Employees Community

### 1 - Organizational data

| Beantragt                           | Genehmigt                           | Name               | LDAP Name                     | Beschreibung                                                                                                                                                                                                       |
|-------------------------------------|-------------------------------------|--------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Country            | c                             | country of legal entity                                                                                                                                                                                            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Company Identifier | dcxCompanyID                  | company code, e.g. "0400" for DAG or "1697" for AMG                                                                                                                                                                |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Plant 1            | dcxPlant1                     |                                                                                                                                                                                                                    |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Plant 2            | dcxPlant2                     | Subdivided plant 1 in subareas, mainly used in Germany                                                                                                                                                             |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Object Class       | objectClass                   | technical multi-value attribute to describe if the user is Daimler internal or external employee, e.g. "dcxInternalEmployee"                                                                                       |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Department         | departmentNumber              | department abbreviation of an organizational unit of a Daimler group company, example: "ITA/I"<br>10-digit field that has replaced the already existing attribute dcxCostCenter in 2010. It will be filled by cbFC |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Global Cost Center | dcxCostCenterGlobalCostcenter | If this is not available the value of NACOS CostCenter is used. If the latter is not available then standard CostCenter is used.                                                                                   |

### 2 - Personal data

| Beantragt                           | Genehmigt                           | Name          | LDAP Name     | Beschreibung                                                                           |
|-------------------------------------|-------------------------------------|---------------|---------------|----------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Last Name     | sn            | last name, may contain special characters (e.g. letters with accents)                  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | First Name    | givenName     | first name, may contain special characters (e.g. umlauts)                              |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | CD User ID    | uid           | CD User ID                                                                             |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Name "Prefix" | dcxNamePrefix | contains a name part that is put in front of the last name, like "van", "von", "de"... |

### 3 - Communication data

| Beantragt                           | Genehmigt                           | Name                         | LDAP Name       | Beschreibung                                                    |
|-------------------------------------|-------------------------------------|------------------------------|-----------------|-----------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Mobile Phone                 | mobile          | cellular phone respective mobile number, international format   |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | SMTP Address / Internet Mail | mail            | smtp e-mail address for external use, e.g. john.doe@daimler.com |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Telephone Number             | telephoneNumber | international format                                            |

## Lessons learned

- Deployment problems to DEV after Sprint 7

### Deployment problems to DEV after Sprint 7

After the Sprint 7 release we wanted to deploy VTAS to DEV.

We faced a problem with flyway, which threw an error.

### Problem descriptions

A new database script changed a column from Integer to String.

This change worked locally on PreDEV because there were no entries in this specific table, but Script failed in DEV as there were already entries existing.

Script couldn't be changed because script was already sucessful executed on PreDEV and flyway would throw an error if the checksum was changed.

### Solutions

#### *Dirty solution*

Delete entries in database and rerun the script. This solution would have deleted data which the customer already created. Therefore it was a last resort solution.

#### *Environment specific scripts*

For each environment a specific application-\*.yaml script exists.

We added following lines into each file to specify specific folders holding special scripts.

```
flyway:
 ignoreMissingMigrations: true
 outOfOrder: true
 ignoreFutureMigrations: true
 locations: classpath:db/migration,classpath:env/dev
```

After this change it was possible to add 3 special scripts for dev(in folder env/dev) to fix this issue:

- V\_1\_8\_1\_
- V\_1\_9\_
- V\_1\_9\_1\_

A pre- and a post-fix script were additionally added, and the script V\_1\_9\_ was duplicated and changed (into the specific folder) to work for DEV environment.

#### Flyway Options

| Flyway command          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ignoreMissingMigrations | Ignore missing migrations when reading the metadata table. These are migrations that were performed by an older deployment of the application that are no longer available in this version. For example: we have migrations available on the classpath with versions 1.0 and 3.0. The metadata table indicates that a migration with version 2.0 (unknown to us) has also been applied. Instead of bombing out (fail fast) with an exception, a warning is logged and Flyway continues normally. This is useful for situations where one must be able to deploy a newer version of the application even though it doesn't contain migrations included with an older one anymore. |
| ignoreFutureMigrations  | Ignore future migrations when reading the metadata table. These are migrations that were performed by a newer deployment of the application that are not yet available in this version. For example: we have migrations available on the classpath up to version 3.0. The metadata table indicates that a migration to version 4.0 (unknown to us) has already been applied. Instead of bombing out (fail fast) with an exception, a warning is logged and Flyway continues normally. This is useful for situations where one must be able to redeploy an older version of the application after the database has been migrated by a newer one.                                  |
| outOfOrder              | Allows migrations to be run "out of order".<br>If you already have versions 1 and 3 applied, and now a version 2 is found, it will be applied too instead of being ignored.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

These 3 commands made it possible to execute the additional scripts without getting a failure by flyway framework.

#### Database delimiter

Another problem which occurred was that Flyway couldn't execute Procedure creation because the delimiter was set to ; .

With this method override it was possible to change delimiter to @.

```
package org.flywaydb.core.internal.dbsupport.db2;

import org.flywaydb.core.internal.dbsupport.Delimiter;
import org.flywaydb.core.internal.dbsupport.SqlStatementBuilder;

/**
 * @author nipathip
 *
 */
public class DB2SqlStatementBuilder extends SqlStatementBuilder {

 private static final String DELIMITER_KEYWORD = "--#SET TERMINATOR";

 /**
 * The constructor.
 */
 public DB2SqlStatementBuilder() {
 }

 /**
 *
 */
 @Override
 public Delimiter extractNewDelimiterFromLine(String line) {
```

```
 if (line.toUpperCase().startsWith(DELIMITER_KEYWORD)) {
 return new
Delimiter(line.substring(DELIMITER_KEYWORD.length()).trim(), false);
 }

 return null;
}

/**
*
*/
@Override
protected Delimiter changeDelimiterIfNecessary(String line, Delimiter
delimiter) {

 if (line.toUpperCase().startsWith(DELIMITER_KEYWORD)) {
 return new
Delimiter(line.substring(DELIMITER_KEYWORD.length()).trim(), false);
 }

 return delimiter;
}

/**
*
*/
@Override
protected boolean isSingleLineComment(String line) {
```

```

 return line.startsWith("--") && !line.startsWith(DELIMITER_KEYWORD);
 }
}

```

## Lesson learned

- Don't change column types after they have been used for a while.
- Better understanding of flyway and how we can use it in environment specific problems.
- Creation of procedures, how they work, how we can use them to change data.
- use testdata for all entities

## Release Manager

- [About](#)
- [Responsibilities](#)
- [Assignment](#)

## About

The purpose of the Release Manager is to keep track of all deliverable artifacts for a specific release.

Therefore this position is not a fulltime position rather an on demand position, which will be fulfilled by a teammember within the VTAS project.

It's not mandatory that the same person is obligated to obtain this position for every sprint rather that this position is switched between different members.

## Responsibilities

- Capture all necessary artifacts for a specific release
- Assigns persons who are responsible to the artifacts and keeps track of the status at confluence so everybody is aware and can take a look
- Takes care that everything for a release is delivered on time

## Assignment

| Release | Person |
|---------|--------|
| 17.2    | -      |
| 18.1    | -      |
|         |        |

## Create a new micro service in VTAS

### Create a project in Gerrit

First, create a new project using the Gerrit UI.

The project name should be starting with **vtas-\*\*** so that the jenkins build will be automatically triggered.

Eg., **vtas-externalsystems**

**NOTE:** Creating a new project in Gerrit can be done by a team member who has admin access. Please contact

**Kiran Panda, Sujit Nair, Wolfgang, Niranjan Pathipati** for the same.

List Create New Project

## Projects

Filter |

| S | Project Name                    | Project Description                                                                                                                   |
|---|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| ▶ | All-Projects                    | Access inherited by all other projects.                                                                                               |
| ▶ | All-Users                       | Individual user settings and preferences.                                                                                             |
| ▶ | DAI_Git                         | this is a mirror to the projects added into Daimler GitLab: <a href="https://git.mercedes-benz.com">https://git.mercedes-benz.com</a> |
| ▶ | SpringFeaturesPOC               |                                                                                                                                       |
| ▶ | VTAS-Gerrit-Access              | Custom access rules for VTAS project (refs/heads/* is unprotected)                                                                    |
| ▶ | testingGit                      |                                                                                                                                       |
| ▶ | vtas-administration             | Administration microservice                                                                                                           |
| ▶ | vtas-commons                    | This project contains a library which contains utility classes relevant for all projects.                                             |
| ▶ | vtas-infrastructure             | This repository contains stuff related to infrastructure of the VTAs project                                                          |
| ▶ | vtas-infrastructure-jenkinsfile |                                                                                                                                       |
| ▶ | vtas-jenkinsfile                |                                                                                                                                       |
| ▶ | vtas-main                       | This is the main repository of VTAS where the source code is contained.                                                               |
| ▶ | vtas-projectplanning            | This is the VTAS project containing the ProjectPlanning module.                                                                       |
| ▶ | vtas-security                   | Authentication and Authorization project.                                                                                             |
| ▶ | vtas-usermanagement             | Micro Service for user management                                                                                                     |

**VTAS-Gerrit-Access** should be selected for rights. Select Create initial empty commit checkbox.

List Create New Project

## Create Project

|                                                                  |                                                                                       |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name:                                                    | <input type="text" value="vtas-externalsystems"/>                                     |
| Rights Inherit From:                                             | <input type="text" value="VTAS-Gerrit-Access"/> <input type="button" value="Browse"/> |
| <input checked="" type="checkbox"/> Create initial empty commit  |                                                                                       |
| <input type="checkbox"/> Only serve as parent for other projects |                                                                                       |
| <input type="button" value="Create Project"/>                    |                                                                                       |

| Parent Suggestion | Project Name       | Project Description                                                |
|-------------------|--------------------|--------------------------------------------------------------------|
| ▶                 | All-Projects       | Access inherited by all other projects.                            |
|                   | VTAS-Gerrit-Access | Custom access rules for VTAS project (refs/heads/* is unprotected) |

Click on "Create Project" button will open the below screen.

All My **Projects** People Plugins Documentation

List General **Branches** Tags Access Dashboards Create New Project

## Project vtas-externalsystems

### Description

### Project Options

State:

Active ▾

Submit Type:

Merge if Necessary ▾

Allow content merges:

INHERIT (true) ▾

Create a new change for every commit not in the target branch:

INHERIT (false) ▾

Require Change-ID in commit message:

INHERIT (true) ▾

Maximum Git object size limit:

### Contributor Agreements

Require Signed-off-by in commit message:

INHERIT (false) ▾

**Save Changes**

### Project Commands

Commands: [Delete...](#) [Run GC](#) [Create Change](#) [Edit Config](#)

Click on "Branches" button will open list of initial branches and master branch got created.

All My **Projects** People Plugins Documentation

List General **Branches** Tags Access Dashboards Create New Project

## Project vtas-externalsystems

Filter

| Branch Name      | Revision                                 |                                                                                     |          |
|------------------|------------------------------------------|-------------------------------------------------------------------------------------|----------|
| HEAD             | master                                   |  | (gitweb) |
| refs/meta/config | 8f719bc02ea65792b1f3fa3550829c2d9c2f8c13 |                                                                                     | (gitweb) |
| master           | 2ce58116426c97521c7b619b4ca0e9db27ed7066 |  | (gitweb) |

Branch Name:

Initial Revision:

**Create Branch**

Setup the micro service

Create a feature branch to the newly created project to add all the required files.

All My **Projects** People Plugins Documentation

List General **Branches** Tags Access Dashboards Create New Project

## Project vtas-externalsystems

Filter

| Branch Name      | Revision                                 |          |
|------------------|------------------------------------------|----------|
| HEAD             | master                                   | (gitweb) |
| refs/meta/config | 8f719bc02ea65792b1f3fa3550829c2d9c2f8c13 | (gitweb) |
| master           | 2ce58116426c97521c7b619b4ca0e9db27ed7066 | (gitweb) |

Branch Name:

Initial Revision:

**Create Branch**

All My **Projects** People Plugins Documentation

List General **Branches** Tags Access Dashboards Create New Project

## Project vtas-externalsystems

Filter

| Branch Name                                                        | Revision                                 |          |
|--------------------------------------------------------------------|------------------------------------------|----------|
| HEAD                                                               | master                                   | (gitweb) |
| refs/meta/config                                                   | 8f719bc02ea65792b1f3fa3550829c2d9c2f8c13 | (gitweb) |
| <input checked="" type="checkbox"/> VTAS-1115_FlmsMandantToProject | 2ce58116426c97521c7b619b4ca0e9db27ed7066 | (gitweb) |
| master                                                             | 2ce58116426c97521c7b619b4ca0e9db27ed7066 | (gitweb) |

**Delete**

Branch Name:

Initial Revision:

**Create Branch**

Clone the project using **Git CMD** tool. Find the project URL from Gerrit as shown below.

## [Code Review](#) / [vtas-externalsystems.git](#) / summary

[summary](#) [shortlog](#) | [log](#) | [commit](#) | [commitdiff](#) | [review](#) | [tree](#)

description none  
owner Gerrit User  
last change Mon, 9 Oct 2017 17:31:13 +0530 (12:01 +0000)  
URL <https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-externalsystems.git>  
<ssh://nipathip@vtas.s2-eu.capgemini.com:29418/vtas-externalsystems.git>

### shortlog

21 hours ago Niranjan Pathipati Initial empty repository [VTAS-1115\\_FlmsMandantToProject](#) | [master](#) | [commit](#) | [commitdiff](#) | [tree](#) | [snapshot](#)

### heads

21 hours ago [master](#) [shortlog](#) | [log](#) | [tree](#)  
21 hours ago [VTAS-1115\\_FlmsMandantToProject](#) [shortlog](#) | [log](#) | [tree](#)

```
nipathip@dIN39001260 MINGW64 ~/git (master)
$ git clone https://vtas.s2-eu.capgemini.com/gerrit/p/vtas-externalsystems.git
Cloning into 'vtas-externalsystems'...
remote: Counting objects: 2, done
remote: Finding sources: 100% (2/2)
remote: Total 2 (delta 0), reused 0 (delta 0)
Unpacking objects: 100% (2/2), done.
nipathip@dIN39001260 MINGW64 ~/git (master)
$ cd vtas-externalsystems/
nipathip@dIN39001260 MINGW64 ~/git/vtas-externalsystems (master)
$ git fetch
nipathip@dIN39001260 MINGW64 ~/git/vtas-externalsystems (master)
$ git init
Reinitialized existing Git repository in C:/Users/nipathip/git/vtas-externalsystems/.git/
nipathip@dIN39001260 MINGW64 ~/git/vtas-externalsystems (master)
$ git branch -r
 origin/HEAD -> origin/master
 origin/VTAS-1115_FlmsMandantToProject
 origin/master

nipathip@dIN39001260 MINGW64 ~/git/vtas-externalsystems (master)
$ git checkout VTAS-1115_FlmsMandantToProject
Switched to a new branch 'VTAS-1115_FlmsMandantToProject'
Branch VTAS-1115_FlmsMandantToProject set up to track remote branch VTAS-1115_FlmsMandantToProject from origin
```

**NOTE:** We will be considering an existing microservice (vtas-administration) for reference in setting up new microservice.

After cloning the new microservice feature branch, open the folder structure and follow the steps.

**Step 1:** Copy the below files to the **root directory of the project**:

- Jenkinsfile
- build.gradle
- /gradle folder
- settings.gradle
- gradle.properties
- gradlew.bat
- gradlew.sh
- .gitignore
- /src folder

**Step 2:** Modify the Base files of the project

**settings.gradle**

Change the **rootProject.name** from vtas-administration name to new microservice name

```
rootProject.name = 'vtas-administration' → vtas-externalsystems
```

### build.gradle

If database connectivity is not needed for the new micro service, remove the blocks marked as "DB" from the file.

If Import/Export features are not needed, remove the block "Import/Export" from this file.

The other parts of this file should be present always.

```
import org.yaml.snakeyaml.Yaml

// required for parsing the YML in flywayParameters()
buildscript {
 dependencies {
 classpath 'org.yaml:snakeyaml:1.17'
 }
}

plugins {
 id "java"
 id "war"
 id "org.sonarqube" version "2.2.1"
 id "org.springframework.boot" version "1.5.2.RELEASE"
 id "net.saliman.cobertura" version "2.4.0"
 id "eclipse"
 id "maven"
 id "org.flywaydb.flyway" version "3.2.1" //required for flyway on commandline e.g. 'flywayClean' DB
}

flyway {
 // defining custom callback for flywayClean (additionally drop all functions)
 // see class for additional details
 callbacks = ['com.daimler.vtas.commons.flyway.callbacks.VtasFlywayCallback'] DB
}

cobertura {
 coverageFormats = ['xml']
 coverageIgnoreTrivial = true
}

repositories {
 maven {
 credentials {
 username = nexusUsername
 password = nexusPassword
 }
 url "${nexusUrl}/content/groups/public"
 }
}
sourceCompatibility = 1.8
targetCompatibility = 1.8

dependencies {
 compile("org.springframework.boot:spring-boot-starter-web")
 compile("org.springframework.boot:spring-boot-starter-actuator")
 compile("org.springframework.boot:spring-boot-starter-data-jpa") {
 // excluding transitive dependency which are not needed
 exclude group: "org.apache.tomcat", module: "tomcat-jdbc"
 exclude group: "org.apache.tomcat", module: "tomcat-juli"
 } DB
 compile("net.sf.m-m-m:mmm-util-core:7.4.0")
 compile("org.flywaydb:flyway-core") DB
 compile("com.ibm:db2cc:9")
 compile("com.daimler.vtas:vtas-commons:1.7-SNAPSHOT")
 compile("net.sf.dozer:dozer:5.5.1") DB

 compile('org.apache.poi:poi:3.10-FINAL') Import/Export
 compile('org.apache.poi:poi-ooxml:3.10-FINAL')

 testCompile("org.springframework.boot:spring-boot-starter-test")

 // excluding Tomcat binaries since we use PAI Tomcat
 providedRuntime("org.springframework.boot:spring-boot-starter-tomcat")
}

// Allows us to resolve dependencies for "gradlew" file
task wrapper(type: Wrapper) {
 gradleVersion = "2.0"
}
```

```

// This will extract the database information from the application.yml. Required to do a 'flywayClean' in Jenkins
// '<<' causes that the task must be run explicitly via './gradlew flywayParameters' and is not executed via e.g.
task flywayParameters << { task ->
 // obtain injected -D variables (spring.profiles.active)
 def activeProfile = System.properties['spring.profiles.active']
 if (activeProfile != null) {
 // if profile was provided, set path accordingly
 activeProfile = "src/main/resources/application-" + activeProfile + ".yml"
 } else {
 // fall back to default profile
 activeProfile = "src/main/resources/application.yml"
 }

 // check if file exists
 def yamlFile = new File(activeProfile)
 if (!yamlFile.exists()) {
 throw new RuntimeException("File $activeProfile could not be found!")
 }

 // parse spring.datasource.url/user/password from application.yml (considering profiles)
 Yaml parser = new Yaml()
 Map map = parser.load((activeProfile as File).text)
 // the values of the maps are more maps.
 Map datasource = map.get("spring").get("datasource")
 String url = datasource.get("url")
 String username = datasource.get("username")
 String password = datasource.get("password")

 // output values on console
 println "flyway.url = $url"
 println "flyway.user = $username"
 println "flyway.password = $password"
}

uploadArchives {
 repositories {
 mavenDeployer {
 repository(url: "${nexusUrl}/content/repositories/releases") {
 authentication(userName: nexusUsername, password: nexusPassword)
 }
 snapshotRepository(url: "${nexusUrl}/content/repositories/snapshots") {
 authentication(userName: nexusUsername, password: nexusPassword)
 }
 pom.groupId = "com.daimler.vtas"
 pom.version = "1.0-SNAPSHOT"
 }
 }
}

```

DB

#### .gitignore

Remove all the content from this file and add the below entries only.

### .gitignore

```
Gradle template
/bin/
/build/
/.classpath
/WEB-INF
/.settings/
/.project

Java template
*.class

Log file
*.log

Package Files
*.war
*.ear
*.zip
*.tar.gz
*.rar

virtual machine crash logs, see
http://www.java.com/en/download/help/error_hotspot.xml
hs_err_pid*
```

### Step 3: Create DAI schema script to create new schema.

The schema creation script should be created in addition to the existing DAI scripts.

eg., If the latest version of DAI script is **31\_DAI\_create\_schema\_ZVXCVUSM.sql**, then the new schema creation script should be **32\_DAI\_create\_schema\_ZVXCEXST.sql**.

This script should be placed in **vtas-main** microservice in folder structure **\vtas-main\src\main\docker\db2\sql\**

#### NOTE:

- i) After creating the script in the mentioned folder, test it in local by executing **start\_db2** script.
- ii) Send an email to **IN, daimlerxtechjiratracker <daimlerxtechjiratracker.in@capgemini.com>** to execute the same on VTAS Pre-dev branch and master databases on DB2 server(**de-muc-vtasaddb2-1**).
- iii) Once we get confirmation from XTECH, Send it to **Wolfgang Fuker** for verification and request to execute the same on **DEV** server.

### Schema Creation script

```
CONNECT TO ZVXXAD01 ;

-- schema for vtas-externalsystems microservice
CREATE SCHEMA ZVXCEXST AUTHORIZATION VTAS_ADMIN;
GRANT CREATEIN, DROPIN, ALTERIN ON SCHEMA ZVXCVEXST TO ROLE VTAS_ADMIN;

TERMINATE ;
```

### Step 4: Setup source folder.

Modify the folder name from administration to new microservice name.

```
src/main/java/com/daimler/vtas/administration ==> src/main/java/com/daimler/vtas/externalsystems
src/main/resources/com/daimler/vtas/administration ==> src/main/resources/com/daimler/vtas/externalsystems
src/test/java/com/daimler/vtas/administration ==> src/test/java/com/daimler/externalsystems
```

In **src/main/resources** folder,

i) Remove **spring.jackson** config from **application.yml**

ii) If database connectivity is not needed,

- Delete the **db.migration** folder
- Remove spring.datasource, spring.jpa properties from **application.yml** file.
- Remove all the other profile based **application-\*\*\*\*.yml** files.

iii) If database connectivity is required, update the appropriate new micro service schema that was created as part of **Step 3** in all the **application yml** files.

iv) Replace all the occurrences of '**administration**' with new micro service name (eg: 'externalsystems') in **application.yml** file.

Delete all the unwanted files and modify the required files in **src/main/java/com/daimler/vtas/externalsystems** folder

i) commons

- Delete **util** folder.
- Rename **AdminstrationConstants.java** to an appropriate name like **\*\*\*Constants.java**

Eg: ExternalSystemsConstants.java

- Replace all Occurrences of "Administration" with new micro service name (eg., ExternalSystems) in constants file and correct the package name.

- Remove all the constant variables except the below. Make sure **\*\*\*\*\_BASE\_URI** property & its value is modified accordingly.

### \*\*\*Constants

```
public static final String LOCALE = "locale";

public static final String DEFAULT_LOCALE = "en";

public static final String EXTERNAL_SYS_BASE_URI =
"/externalsystems/${vtas.externalsystems.rest.version}";

public static final String NEW_LINE = "\n";

public static final String TAB = "\t";

public static final String TECHNICAL_ERROR_KEY = "pleaseContactAdmin";

public static final String LOGGER_ENTERING = "Entering {}.{()} Args
:{}";

public static final String LOGGER_LEAVEING = "Leaving {}.{()} Return
Value:{}";

public static final String LOGGER_EXCEPTION = "Exception ";
```

ii)

## Programming guidelines

- Code Review

- Code Review Comments
- Coding Rules
- External frameworks
- Generate PDF Report
- Junit
- Layers
- Naming Conventions
- UI Guidelines (Daimler)

## Code Review

### Precondition to start a code Review

to start a code Review a Merge Request should be created with the following rules:

1. Definition of Done **Checklist Section** is already considered by the developer
2. JIRA comments exists that refers to the successful run individual CI job. CI Job URL: <https://vtas.s2-eu.capgemini.com/#https://vtas.s2-eu.capgemini.com/jenkins/>

### Review Checklist

1. General code Standards
  - a. Follow all the naming conventions mentioned [here](#)
  - b. Follow all the coding rules [here](#)
  - c. All the PMD violations should be resolved for the updated code. Also follow all checkstyle guidelines
  - d. All SONAR reported issues namely violations of Blocker & Critical severity (and optionally rest of the violations) along with code coverage percentage for the code should be resolved
2. Junit
  - a. Ensure Junits are written for new methods and modified for existing methods
3. Logging
  - a. Log statement should contain data and description
  - b. Never log confidential information
  - c. Use right logging level in log statements .
4. Architecture/Performance/Design
  - a. Performance
    - Avoid creating unnecessary objects
    - Avoid synchronization
  - b. No duplicate Code
  - c. Separation of concerns
    - i. Business code and technical code are not mixed.
5. database Scripts

### Code Review Comments

#### Comments

### Code Review Comments

**Blocker:** (Major functionality issues; Code will never receive a Ship It with one of these)

- Code does not meet requirements
- Code execution generates invalid data
- Possible NPEs are introduced
- Likely runtime exceptions are not handled appropriately
- Methods are declared static when they should be dynamic
- Logic introduced without comments is unnecessarily confusing or obscure
- Existing functionality is duplicated
- Code incorrectly loads large amounts of data or performs unnecessary iterations
- Missed requirements are not caught during coding

**Critical:** (Minor functionality issues; Major readability issues; Overall, code lacks "polish")

- Large sections of code are introduced without extracting into smaller methods
- Methods are refactored without providing any additional or better functionality
- Variables are improperly scoped
- Performance is acceptable, but could be improved
- Tight coupling between classes or coding to the implementation instead of interface
- Existing well documented Coding standards are ignored
- Methods invoked multiple times aren't extracted as variables
- IntelliJ/Eclipse inspections detect errors
- Unnecessary code is introduced
- 2+ experienced engineers (or 1+ senior engineers) suggest a change, but the developer does not make the change
- Code incorrectly loads large amounts of data or performs unnecessary iterations
- Missed requirements are not caught during coding

**Major/Minor:** (Minor readability issues; Spelling errors; Code is passable, but not great)

- Variables/Methods/Classes are poorly named (including unnecessary abbreviations and misspellings)

## Coding Rules

- Documentation comments must be at Class, Method & Field/Property level in less than 3-4 lines
- Implementation comments may contain JIRA ticket, any technical issue fix, or any description explaining the reason, etc.
- Avoid using INFO for logging everything. Developer should follow some basic principles of logging <TODO>
- Positive/Negative test unit should be written for each layer (Web MVC - Controller, Service, DAO, Utility Classes etc.)
- Don't use any properties file to keep the SQLs rather than keep them within the same class/common interface within the same module
- Use spring application exception resolver as common framework to handle the exception at web layer
- Common utility functions & programs should be written in CommonUtils module
- While committing code in JIRA comment should be added with JIRA Ticket reference
- Properties file should contain the credentials in Base64 encoded format.
- Credentials & Confidential data should not be logged/written in text file
- Delete the unused methods if any.
- Don't maintain any code which is commented rather delete it
- Use spaces before and after operators.
- Always remove the variables that are not used
- Use StringUtil class if we are performing any operations on String. For ex:- String s="vtas", if we want to perform any operations on this String call StringUtil methods.
- Use for each instead of for loop.
- When looping through the Collection always use the Iterator.
- While using loops always avoid keeping anything which you can keep outside the loop in the loop.
- When accessing data from arrays, it is always good to use them as temporary variables rather than directly accessing the array variables.
- While copying array contents use System.arraycopy.
- Always manipulate the collection with its interface.
- Be specific with the kind of exception caught, and kind of exception thrown. (technical exception vs business exception)
- Ideal practice to use any collection object is to initialize with the proper size.
- Use Vector or ArrayList dependently.
- Use HashSet for non-thread Safe /thread safe keep in synchronized.
- For ordered Set use TreeSet.
- Use StringBuilder instead of StringBuffer wherever possible

## External frameworks

- Introduction of new frameworks
- Frameworks which get delivered with VTAS
- Internal frameworks / tools

### ***Introduction of new frameworks***

If a new framework needs to be introduced to

- complete a user-story
- makes it much easier to implement a user-story

first consultate with an architect.

### ***Frameworks which get delivered with VTAS***

| Dependency                                                                 | Name                    | Version       | License        | License Version |
|----------------------------------------------------------------------------|-------------------------|---------------|----------------|-----------------|
| +--- org.springframework.boot:spring-boot-starter-web: -><br>1.5.1.RELEASE | spring-boot-starter-web | 1.5.1.RELEASE | Apache License | Version 2.0     |
| +--- org.springframework.boot:spring-boot-starter:1.5.1.RELEASE            | spring-boot-starter     | 1.5.1.RELEASE | Apache License | Version 2.0     |
| +--- org.springframework.boot:spring-boot:1.5.1.RELEASE                    | spring-boot             | 1.5.1.RELEASE | Apache License | Version 2.0     |
| +--- org.springframework:spring-core:4.3.6.RELEASE                         | spring-core             | 4.3.6.RELEASE | Apache License | Version 2.0     |
| \--- org.springframework:spring-context:4.3.6.RELEASE                      | spring-context          | 4.3.6.RELEASE | Apache License | Version 2.0     |
| +--- org.springframework:spring-aop:4.3.6.RELEASE                          | spring-aop              | 4.3.6.RELEASE | Apache License | Version 2.0     |
| +--- org.springframework:spring-beans:4.3.6.RELEASE                        | spring-beans            | 4.3.6.RELEASE | Apache License | Version 2.0     |
| \--- org.springframework:spring-core:4.3.6.RELEASE                         | spring-core             | 4.3.6.RELEASE | Apache License | Version 2.0     |
| \--- org.springframework:spring-core:4.3.6.RELEASE                         | spring-core             | 4.3.6.RELEASE | Apache License | Version 2.0     |

|      |                                                                    |                             |               |                                                                     |                     |
|------|--------------------------------------------------------------------|-----------------------------|---------------|---------------------------------------------------------------------|---------------------|
|      | +++ org.springframework:spring-beans:4.3.6.RELEASE (*)             | spring-beans                | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
|      | +++ org.springframework:spring-core:4.3.6.RELEASE                  | spring-core                 | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| \--- | org.springframework:spring-expression:4.3.6.RELEASE                | spring-expression           | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| \--- | org.springframework:spring-core:4.3.6.RELEASE                      | spring-core                 | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- | org.springframework.boot:spring-boot-autoconfigure:1.5.1.RELEASE   | spring-boot-autoconfigure   | 1.5.1.RELEASE | Apache License                                                      | Version 2.0         |
| \--- | org.springframework.boot:spring-boot:1.5.1.RELEASE (*)             | spring-boot                 | 1.5.1.RELEASE | Apache License                                                      | Version 2.0         |
| +--- | org.springframework.boot:spring-boot-starter-logging:1.5.1.RELEASE | spring-boot-starter-logging | 1.5.1.RELEASE | Apache License                                                      | Version 2.0         |
| +--- | ch.qos.logback:logback-classic:1.1.9                               | logback-classic             | 1.1.9         | Eclipse Public License - v 1.0<br>GNU Lesser General Public License | EPL 1.0<br>LGPL 2.1 |
| +--- | ch.qos.logback:logback-core:1.1.9                                  | logback-core                | 1.1.9         | Eclipse Public License - v 1.0<br>GNU Lesser General Public License | EPL 1.0<br>LGPL 2.1 |
| \--- | org.slf4j:slf4j-api:1.7.22                                         | slf4j-api                   | 1.7.22        | MIT License                                                         | Na                  |
| +--- | org.slf4j:jcl-over-slf4j:1.7.22                                    | jcl-over-slf4               | 1.7.22        | MIT License                                                         | Na                  |
| \--- | org.slf4j:slf4j-api:1.7.22                                         | slf4j-api                   | 1.7.22        | MIT License                                                         | Na                  |
| +--- | org.slf4j:jul-to-slf4j:1.7.22                                      | jul-to-slf4j                | 1.7.22        | MIT License                                                         | Na                  |
| \--- | org.slf4j:slf4j-api:1.7.22                                         | slf4j-api                   | 1.7.22        | MIT License                                                         | Na                  |
| \--- | org.slf4j:log4j-over-slf4j:1.7.22                                  | log4j-over-slf4j            | 1.7.22        | MIT License                                                         | Na                  |
| \--- | org.slf4j:slf4j-api:1.7.22                                         | slf4j-api                   | 1.7.22        | MIT License                                                         | Na                  |
| +--- | org.springframework:spring-core:4.3.6.RELEASE                      | spring-core                 | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| \--- | org.yaml:snakeyaml:1.17                                            | snakeyaml                   | 1.17          | Apache License                                                      | Version 2.0         |
| +--- | org.hibernate:hibernate-validator:5.3.4.Final                      | hibernate-validator         | 5.3.4.Final   | Apache License                                                      | Version 2.0         |
| +--- | javax.validation:validation-api:1.1.0.Final                        | validation-api              | 1.1.0.Final   | Apache License                                                      | Version 2.0         |
| +--- | org.jboss.logging:jboss-logging:3.3.0.Final                        | jboss-logging               | 3.3.0.Final   | Apache License                                                      | Version 2.0         |
| \--- | com.fasterxml:classmate:1.3.1 -> 1.3.3                             | classmate                   | 1.3.1         | Apache License                                                      | Version 2.0         |
| +--- | com.fasterxml.jackson.core:jackson-databind:2.8.6                  | jackson-databind            | 2.8.6         | Apache License                                                      | Version 2.0         |
| +--- | com.fasterxml.jackson.core:jackson-annotations:2.8.0               | jackson-annotations         | 2.8.0         | Apache License                                                      | Version 2.0         |
| \--- | com.fasterxml.jackson.core:jackson-core:2.8.6                      | jackson-core                | 2.8.6         | Apache License                                                      | Version 2.0         |
| +--- | org.springframework:spring-web:4.3.6.RELEASE                       | spring-web                  | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- | org.springframework:spring-aop:4.3.6.RELEASE (*)                   | spring-aop                  | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- | org.springframework:spring-beans:4.3.6.RELEASE (*)                 | spring-beans                | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- | org.springframework:spring-context:4.3.6.RELEASE (*)               | spring-context              | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| \--- | org.springframework:spring-core:4.3.6.RELEASE                      | spring-core                 | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |

|                                                                              |                              |               |                                |             |
|------------------------------------------------------------------------------|------------------------------|---------------|--------------------------------|-------------|
| \--- org.springframework:spring-webmvc:4.3.6.RELEASE                         | spring-webmvc                | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-aop:4.3.6.RELEASE (*)                        | spring-aop                   | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-beans:4.3.6.RELEASE (*)                      | spring-beans                 | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-context:4.3.6.RELEASE (*)                    | spring-context               | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-core:4.3.6.RELEASE                           | spring-core                  | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-expression:4.3.6.RELEASE (*)                 | spring-expression            | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| \--- org.springframework:spring-web:4.3.6.RELEASE (*)                        | spring-web                   | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-starter-actuator: -> 1.5.1.RELEASE | spring-boot-starter-actuator | 1.5.1.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-starter:1.5.1.RELEASE (*)          | spring-boot-starter          | 1.5.1 RELEASE | Apache License                 | Version 2.0 |
| \--- org.springframework.boot:spring-boot-actuator:1.5.1.RELEASE             | spring-boot-actuator         | 1.5.1.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot:1.5.1.RELEASE (*)                  | spring-boot                  | 1.5.1.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-autoconfigure:1.5.1.RELEASE (*)    | spring-boot-autoconfigure    | 1.5.1.RELEASE | Apache License                 | Version 2.0 |
| +--- com.fasterxml.jackson.core:jackson-databind:2.8.6 (*)                   | jackson-databind             | 2.8.6         | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-core:4.3.6.RELEASE                           | spring-core                  | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| \--- org.springframework:spring-context:4.3.6.RELEASE (*)                    | spring-context               | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-starter-data-jpa: -> 1.5.1.RELEASE | spring-boot-starter-data-jpa | 1.5.1.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-starter:1.5.1.RELEASE (*)          | spring-boot-starter          | 1.5.1 RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-starter-aop:1.5.1.RELEASE          | spring-boot-starter-aop      | 1.5.1 RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-starter:1.5.1.RELEASE (*)          | spring-boot-starter          | 1.5.1 RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-aop:4.3.6.RELEASE (*)                        | spring-aop                   | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| \--- org.aspectj:aspectjweaver:1.8.9                                         | aspectjweaver                | 1.8.9         | Eclipse Public License - v 1.0 | Version 1.0 |
| +--- org.springframework.boot:spring-boot-starter-jdbc:1.5.1.RELEASE         | spring-boot-starter-jdbc     | 1.5.1 RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework.boot:spring-boot-starter:1.5.1.RELEASE (*)          | spring-boot-starter          | 1.5.1 RELEASE | Apache License                 | Version 2.0 |
| +--- org.apache.tomcat:tomcat-jdbc:8.5.11                                    | tomcat-jdbc                  | 8.5.11        | Apache License                 | Version 2.0 |
| \--- org.apache.tomcat:tomcat-juli:8.5.11                                    | tomcat-juli                  | 8.5.11        | Apache License                 | Version 2.0 |
| \--- org.springframework:spring-jdbc:4.3.6.RELEASE                           | spring-jdbc                  | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-beans:4.3.6.RELEASE (*)                      | spring-beans                 | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-core:4.3.6.RELEASE                           | spring-core                  | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| \--- org.springframework:spring-tx:4.3.6.RELEASE                             | spring-tx                    | 4.3.6.RELEASE | Apache License                 | Version 2.0 |
| +--- org.springframework:spring-beans:4.3.6.RELEASE (*)                      | spring-beans                 | 4.3.6.RELEASE | Apache License                 | Version 2.0 |

|      |                                                                    |                               |                |                                                                                           |             |
|------|--------------------------------------------------------------------|-------------------------------|----------------|-------------------------------------------------------------------------------------------|-------------|
| \--- | org.springframework:spring-core:4.3.6.RELEASE                      | spring-core                   | 4.3.6.RELEASE  | Apache License                                                                            | Version 2.0 |
| +--- | org.hibernate:hibernate-core:5.0.11.Final                          | hibernate-core                | 5.0.11.Final   | GNU Lesser General Public License                                                         | na          |
| +--- | org.jboss.logging:jboss-logging:3.3.0.Final                        | jboss-logging                 | 3.3.0.Final    | Apache License                                                                            | Version 2.0 |
| +--- | org.hibernate.javax.persistence:hibernate-jpa-2.1-api:1.0.0.Final  | hibernate-jpa-2.1-api         | 1.0.0.Final    | Eclipse Public License (EPL), Version 1.0 Eclipse Distribution License (EDL), Version 1.0 | Version 1.0 |
| +--- | org.javassist:javassist:3.18.1-GA -> 3.21.0-GA                     | javassist                     | 3.21.0         | MOZILLA PUBLIC LICENSE                                                                    | Version 1.1 |
| +--- | antlr:antlr:2.7.7                                                  | antlr                         | 2.7.7          | BSD License                                                                               | na          |
| +--- | org.jboss:jandex:2.0.0.Final                                       | jandex                        | 2.0.0.Final    | Apache License                                                                            | Version 2.0 |
| +--- | dom4j:dom4j:1.6.1                                                  | dom4j                         | 1.6.1          | Apache License                                                                            | Version 2.0 |
| \--- | org.hibernate.common:hibernate-commons-annotations:5.0.1.Final     | hibernate-commons-annotations | 5.0.1.Final    | GNU Lesser General Public License                                                         | na          |
| \--- | org.jboss.logging:jboss-logging:3.3.0.Final                        | jboss-logging                 | 3.3.0.Final    | Apache License                                                                            | Version 2.0 |
| +--- | org.hibernate:hibernate-entitymanager:5.0.11.Final                 | hibernate-entitymanager       | 5.0.11.Final   | GNU Lesser General Public License                                                         | na          |
| +--- | org.jboss.logging:jboss-logging:3.3.0.Final                        | jboss-logging                 | 3.3.0.Final    | Apache License                                                                            | Version 2.0 |
| +--- | org.hibernate:hibernate-core:5.0.11.Final (*)                      | hibernate-core                | 5.0.11.Final   | GNU Lesser General Public License                                                         | na          |
| +--- | dom4j:dom4j:1.6.1                                                  | dom4j                         | 1.6.1          | Apache License                                                                            | Version 2.0 |
| +--- | org.hibernate.common:hibernate-commons-annotations:5.0.1.Final (*) | hibernate-commons-annotations | 5.0.1.Final    | GNU Lesser General Public License                                                         | na          |
| +--- | org.hibernate.javax.persistence:hibernate-jpa-2.1-api:1.0.0.Final  | hibernate-jpa-2.1-api         | 1.0.0.Final    | Eclipse Public License (EPL), Version 1.0 Eclipse Distribution License (EDL), Version 1.0 | Version 1.0 |
| \--- | org.javassist:javassist:3.18.1-GA -> 3.21.0-GA                     | javassist                     | 3.21.0         | MOZILLA PUBLIC LICENSE                                                                    | Version 1.1 |
| +--- | javax.transaction:javax.transaction-api:1.2                        | javax.transaction-api         | 1.2            | CDDL + GPLv2 with classpath exception                                                     | GPLv2       |
| +--- | org.springframework.data:spring-data-jpa:1.11.0.RELEASE            | spring-data-jpa               | 1.11.0.RELEASE | Apache License                                                                            | Version 2.0 |
| +--- | org.springframework.data:spring-data-commons:1.13.0.RELEASE        | spring-data-commons           | 1.13.0.RELEASE | Apache License                                                                            | Version 2.0 |
| +--- | org.springframework:spring-core:4.3.6.RELEASE                      | spring-core                   | 4.3.6.RELEASE  | Apache License                                                                            | Version 2.0 |
| +--- | org.springframework:spring-beans:4.3.6.RELEASE (*)                 | spring-beans                  | 4.3.6.RELEASE  | Apache License                                                                            | Version 2.0 |
| +--- | org.slf4j:slf4j-api:1.7.22                                         | slf4j-api                     | 1.7.22         | MIT License                                                                               | Na          |
| \--- | org.slf4j:jcl-over-slf4j:1.7.22 (*)                                | jcl-over-slf4                 | 1.7.22         | MIT License                                                                               | Na          |

|                                                           |                     |               |                                                                     |                     |
|-----------------------------------------------------------|---------------------|---------------|---------------------------------------------------------------------|---------------------|
| +--- org.springframework:spring-orm:4.3.6.RELEASE         | spring-orm          | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-beans:4.3.6.RELEASE (*)   | spring-beans        | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-core:4.3.6.RELEASE        | spring-core         | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-jdbc:4.3.6.RELEASE (*)    | spring-jdbc         | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| \--- org.springframework:spring-tx:4.3.6.RELEASE (*)      | spring-tx           | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-context:4.3.6.RELEASE (*) | spring-context      | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-aop:4.3.6.RELEASE (*)     | spring-aop          | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-tx:4.3.6.RELEASE (*)      | spring-tx           | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-beans:4.3.6.RELEASE (*)   | spring-beans        | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.springframework:spring-core:4.3.6.RELEASE        | spring-core         | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| +--- org.slf4j:slf4j-api:1.7.22                           | slf4j-api           | 1.7.22        | MIT License                                                         | Na                  |
| \--- org.slf4j:jcl-over-slf4j:1.7.22 (*)                  | jcl-over-slf4       | 1.7.22        | MIT License                                                         | Na                  |
| \--- org.springframework:spring-aspects:4.3.6.RELEASE     | spring-aspects      | 4.3.6.RELEASE | Apache License                                                      | Version 2.0         |
| \--- org.aspectj:aspectjweaver:1.8.9                      | aspectjweaver       | 1.8.9         | Eclipse Public License - v 1.0                                      | Version 1.0         |
| +--- org.flywaydb:flyway-core: -> 3.2.1                   | flyway-core         | 3.2.1         | Apache License                                                      | Version 2.0         |
| +--- io.oasp.java.modules:oasp4jLogging:2.1.1             | oasp4jLogging       | 2.1.1         | Apache Software License                                             | Version 2.0         |
| +--- ch.qos.logback:logback-classic:1.1.5 -> 1.1.9 (*)    | logback-classic     | 1.1.9         | Eclipse Public License - v 1.0<br>GNU Lesser General Public License | EPL 1.0<br>LGPL 2.1 |
| +--- org.slf4j:jcl-over-slf4j:1.7.16 -> 1.7.22 (*)        | jcl-over-slf4       | 1.7.22        | MIT License                                                         | Na                  |
| +--- javax.inject:javax.inject:1                          | javax.inject        | 1             | Apache License                                                      | Version 2.0         |
| +--- org.codehaus.janino:janino:2.7.8                     | janino              | 2.7.8         | New BSD License                                                     | na                  |
| \--- org.codehaus.janino:commons-compiler:2.7.8           | commons-compiler    | 2.7.8         | New BSD License                                                     | na                  |
| +--- org.apache.httpcomponents:httpclient:4.5.1 -> 4.5.2  | httpclient          | 4.5.2         | Apache License                                                      | Version 2.0         |
| +--- org.apache.httpcomponents:httpcore:4.4.4 -> 4.4.6    | httpcore            | 4.4.6         | Apache License                                                      | Version 2.0         |
| \--- commons-codec:commons-codec:1.9 -> 1.10              | commons-codec       | 1.9           | Apache License                                                      | Version 2.0         |
| \--- org.slf4j:slf4j-api:1.7.16 -> 1.7.22                 | slf4j-api           | 1.7.22        | MIT License                                                         | Na                  |
| +--- io.oasp.java.modules:oasp4jBeanmapping:2.1.1         | oasp4jBeanmapping   | 2.1.1         | Apache License                                                      | Version 2.0         |
| +--- net.sf.dozer:dozer:5.5.1                             | dozer               | 5.5.1         | Apache License                                                      | Version 2.0         |
| +--- commons-beanutils:commons-beanutils:1.9.1 -> 1.9.3   | commons-beanutils   | 1.9.3         | Apache License                                                      | Version 2.0         |
| \--- commons-collections:commons-collections:3.2.2        | commons-collections | 3.2.2         | Apache License                                                      | Version 2.0         |
| +--- org.apache.commons:commons-lang3:3.2.1               | commons-lang3       | 3.2.1         | Apache License                                                      | Version 2.0         |

|                                                                             |                                 |               |                                                |             |
|-----------------------------------------------------------------------------|---------------------------------|---------------|------------------------------------------------|-------------|
| +--- org.slf4j:slf4j-api:1.7.5 -> 1.7.22                                    | slf4j-api                       | 1.7.22        | MIT License                                    | Na          |
| \--- org.slf4j:jcl-over-slf4j:1.7.5 -> 1.7.22 (*)                           | jcl-over-slf4                   | 1.7.22        | MIT License                                    | Na          |
| +--- javax.inject:javax.inject:1                                            | javax.inject                    | 1             | Apache License                                 | Version 2.0 |
| +--- net.sf.m-m-m:mmm-util-core:7.0.0                                       | mmm-util-core                   | 7.0.0         | Apache License                                 | Version 2.0 |
| +--- org.slf4j:slf4j-api:1.7.6 -> 1.7.22                                    | slf4j-api                       | 1.7.22        | MIT License                                    | Na          |
| \--- javax.inject:javax.inject:1                                            | javax.inject                    | 1             | Apache License                                 | Version 2.0 |
| \--- org.slf4j:slf4j-api:1.7.16 -> 1.7.22                                   | slf4j-api                       | 1.7.22        | MIT License                                    | Na          |
| +--- io.oasp.java.modules:oasp4j-rest:2.1.1                                 | oasp4j-rest                     | 2.1.1         | Apache License                                 | Version 2.0 |
| +--- com.fasterxml.jackson.jaxrs:jackson-jaxrs-json-provider:2.6.5 -> 2.8.6 | jackson-jaxrs-json-provider     | 2.8.6         | Apache Software License                        | Version 2.0 |
| +--- com.fasterxml.jackson.jaxrs:jackson-jaxrs-base:2.8.6                   | jackson-jaxrs-base              | 2.8.6         | Apache Software License                        | Version 2.0 |
| +--- com.fasterxml.jackson.core:jackson-core:2.8.6                          | jackson-core                    | 2.8.6         | Apache License                                 | Version 2.0 |
| \--- com.fasterxml.jackson.core:jackson-databind:2.8.6 (*)                  | jackson-databind                | 2.8.6         | Apache License                                 | Version 2.0 |
| +--- com.fasterxml.jackson.core:jackson-core:2.8.6                          | jackson-core                    | 2.8.6         | Apache License                                 | Version 2.0 |
| +--- com.fasterxml.jackson.core:jackson-databind:2.8.6 (*)                  | jackson-databind                | 2.8.6         | Apache License                                 | Version 2.0 |
| \--- com.fasterxml.jackson.module:jackson-module-jaxb-annotations:2.8.6     | jackson-module-jaxb-annotations | 2.8.6         | Apache Software License                        | Version 2.0 |
| +--- com.fasterxml.jackson.core:jackson-core:2.8.6                          | jackson-core                    | 2.8.6         | Apache License                                 | Version 2.0 |
| +--- com.fasterxml.jackson.core:jackson-annotations:2.8.0                   | jackson-annotations             | 2.8.0         | Apache License                                 | Version 2.0 |
| \--- com.fasterxml.jackson.core:jackson-databind:2.8.6 (*)                  | jackson-databind                | 2.8.6         | Apache License                                 | Version 2.0 |
| +--- javax.ws.rs:javax.ws.rs-api:2.0.1                                      | javax.ws.rs-api                 | 2.0.1         | CDDL 1.1<br>GPL2 w/ CPE                        | Version 1.1 |
| +--- org.slf4j:slf4j-api:1.7.16 -> 1.7.22                                   | slf4j-api                       | 1.7.22        | MIT License                                    | Na          |
| +--- javax.inject:javax.inject:1                                            | javax.inject                    | 1             | Apache License                                 | Version 2.0 |
| +--- javax.validation:validation-api:1.1.0.Final                            | validation-api                  | 1.1.0.Final   | Apache License                                 | Version 2.0 |
| +--- org.springframework:spring-context:4.2.5.RELEASE -> 4.3.6.RELEASE (*)  | spring-context                  | 4.3.6.RELEASE | Apache License                                 | Version 2.0 |
| +--- net.sf.m-m-m:mmm-util-core:7.0.0 (*)                                   | mmm-util-core                   | 7.0.0         | Apache License                                 | Version 2.0 |
| +--- javax.el:javax.el-api:2.2.4 -> 2.2.5                                   | javax.el-api                    | 2.2.5         | CDDL +<br>GPLv2 with<br>classpath<br>exception | Version 2.0 |
| \--- org.glassfish.web:javax.el:2.2.6                                       | javax.el                        | 2.2.6         | CDDL +<br>GPLv2 with<br>classpath<br>exception |             |
| \--- javax.el:javax.el-api:2.2.5                                            | javax.el-api                    | 2.2.5         | CDDL +<br>GPLv2 with<br>classpath<br>exception | Version 2.0 |

|                                                        |                             |              |                                                         |             |
|--------------------------------------------------------|-----------------------------|--------------|---------------------------------------------------------|-------------|
| \--- javax.mail:mail:1.4                               | mail                        | 1,4          | Common Development and Distribution License (CDDL) v1.0 | Version 1.0 |
| \--- javax.activation:activation:1.1                   | activation                  | 1,1          | Common Development and Distribution License (CDDL) v1.0 | Version 1.0 |
| +--- net.sf.dozer:dozer:5.5.1 (*)                      | net.sf.dozer                | 5.5.1        | Apache License                                          | Version 2.0 |
| +--- org.apache.poi:poi:3.10-FINAL                     | apache.poi                  | 3,1          | Apache License                                          | Version 2.0 |
| \--- commons-codec:commons-codec:1.5 -> 1.10           | commons-codec               | 1,9          | Apache License                                          | Version 2.0 |
| +--- org.apache.poi:poi-ooxml:3.10-FINAL               | poi-ooxml                   | 3,1          | Apache License                                          | Version 2.0 |
| +--- org.apache.poi:poi:poi:3.10-FINAL (*)             | apache.poi                  | 3,1          | Apache License                                          | Version 2.0 |
| +--- org.apache.poi:poi-ooxml-schemas:3.10-FINAL       | poi:poi-ooxml-schemas       | 3,1          | Apache License                                          | Version 2.0 |
| \--- org.apache.xmlbeans:xmlbeans:2.3.0                | xmlbeans                    | 2.3.0        | Apache License                                          | Version 2.0 |
| \--- stax:stax-api:1.0.1                               | stax-api                    | 1.0.1        | Apache License                                          | Version 2.0 |
| \--- dom4j:dom4j:1.6.1 (*)                             | dom4j                       | 1.6.1        | Apache License                                          | Version 2.0 |
| org.springframework.boot:spring-boot-starter-thymeleaf | thymeleaf                   |              | Apache License                                          | Version 2.0 |
| org.xhtmlrenderer:flying-saucer-pdf:9.1.4              | Flying Saucer PDF Rendering | 9.1.4        | GNU Lesser General Public License (LGPL)                | Version 2.1 |
| moment.js                                              | moment                      | 2.19.0       | MIT Licence                                             | NA          |
| moment.timezone.js                                     | timezone                    | 0.5.13-2017b | MIT Licence                                             | NA          |
| filesaver.js                                           | export                      | na           | MIT Licence                                             | NA          |
| dojo.js                                                | dojo                        | 1,1          | The "New" BSD License                                   | NA          |
| dgrid.js                                               | dgrid                       | 1.1.1        | The "New" BSD License                                   | NA          |

### ***Internal frameworks / tools***

Postman

Eclipse

Notepad++

Squirrel

WinScp

Putty

PAgent

Chrome

Internet Explorer

**Generate PDF Report**

**POC: Export PDF report.**

We will be using two extra dependencies.

1. spring-boot-starter-thymeleaf
2. flying-saucer-pdf:9.1.4

Add these dependencies in build.gradle.

We will be using TemplateEngine to process our template. Flying saucer is an XML/CSS renderer, it takes XML file as input, applies formatting and style and generate a rendered representation of that XML as output in the form of PDF.

#### Step1: Add the above dependencies

```
compile("org.springframework.boot:spring-boot-starter-thymeleaf")
compile('org.xhtmlrenderer:flying-saucer-pdf:9.1.4')
```

#### Step2: create ThymeleafConfiguration

class using @Configuration and define bean ClassLoaderTemplateResolver templateResolver() and set its properties.

```
@Configuration
public class ThymeleafConfiguration {
 @Bean
 public ClassLoaderTemplateResolver templateResolver() {

 ClassLoaderTemplateResolver templateResolver= new
 ClassLoaderTemplateResolver();
 templateResolver.setPrefix("templates/");
 templateResolver.setTemplateMode("HTML5");
 templateResolver.setSuffix(".html");
 templateResolver.setTemplateMode("XHTML");
 templateResolver.setCharacterEncoding("UTF-8");
 templateResolver.setOrder(1);
 return templateResolver;
 }
}
```

#### Step3: Create PdfGeneratorUtil class which returns file.

Autowire TemplateEngine, create method createPdf, pass template name List<Map> as parameter:

- 1.Create context object, set data for setVariable() method.
- 2.Call process() method of TemplateEngine
- 3.Using file create FileOutputStream
- 4.Create ITextRenderer object and call createPDF() method

```
@Component
public class PdfGeneratorUtil {
 @Autowired
 private TemplateEngine templateEngine;

 public File createPdf(String templateName, List<Map<String, Object>>
map, List<Map<String, String>> list)
 throws Exception {

 Assert.notNull(templateName, "The templateName can not be null");
 Context ctx = new Context();
 ctx.setVariable("todolist", map);
 ctx.setVariable("keyvalue", list);
 for (int i = 0; i < map.size(); i++) {
 if (map.get(i) != null) {
 Iterator itMap = map.get(i).entrySet().iterator();
 while (itMap.hasNext()) {
 Map.Entry pair = (Map.Entry) itMap.next();
 ctx.setVariable(pair.getKey().toString(), pair.getValue());
 }
 }
 }

 String processedHtml = this.templateEngine.process(templateName,
ctx);
 FileOutputStream os = null;
 String fileName = UUID.randomUUID().toString();
 try {

 final File outputFile = File.createTempFile(fileName, ".pdf");
 os = new FileOutputStream(outputFile);
 ITextRenderer renderer = new ITextRenderer();
 renderer.setDocumentFromString(processedHtml);
 renderer.layout();
 renderer.createPDF(os, false);
 renderer.finishPDF();

 System.out.println("PDF created successfully");
 return outputFile;
 } finally {
 if (os != null) {
 try {
 os.close();
 } catch (IOException e) {
 /* ignore */
 }
 }
 }
 }
}
```

**Step4: create thymeleaf template as per requirement.**

```
<!DOCTYPE HTML>
<html xmlns:th="http://www.thymeleaf.org">
<head>
<style>
table, th, td {
 border: 1px solid black;
 border-collapse: collapse;
}
th, td {
 padding: 15px;
}
</style>
</head>
<body>
![vtas-logo](http://localhost:8080/vtas-projectplanning/images/logo.jpg)
```

```
th:text="${message.prophases}" />
 <td th:if="${message != null && message.prophases != null && message.prophases.isEmpty()}"></td>

 <td th:if="${message != null && message.status != null}" th:text="${message.status}" />
 <td th:if="${message != null && message.startdate != null}" th:text="${message.startdate}" />
 </tr>
 </table>
```

```
</body>
</html>
```

## Step5: create controller class

fetch all the required data and process it as per requirement and create required list, set thymeleaf placeholder values and call createPdf() method

```
@RestController
@RequestMapping(value = PROJECT_PLANNING_BASE_URI + "/projects")
public class ExportPDFController {

 @RequestMapping(value = "/getPDF", method = RequestMethod.GET, produces
 = "application/pdf")
 public ResponseEntity<Resource> getAllProject(
 @RequestHeader(value = LOCALE, defaultValue = DEFAULT_LOCALE)
 String locale,
 @RequestHeader(value = "timeZone", defaultValue = "Europe/Berlin")
 String timeZone,
 @RequestParam("lang") String lang) throws Exception {

 //-----
 this.pdfGenaeratorUtil.createPdf("temp", ldata, list);

 return ResponseEntity.ok().headers(headers).contentLength(file.length())
 .contentType(MediaType.parseMediaType("application/pdf")).body(resource);
 }

}
```

## Step6: call this rest api from Front end side/ or check with Postman.

A pdf will be generated and can be seen/saved/open as per browser.

## Junit

### JUnit Best Practices

1. TDD approach  
2. What to unit test  
3. Test method names  
4. Explain failure  
5. One test  
6. Make each test independent to all the others  
7. Testing for exceptions  
8. Timeouts  
9. Loggers  
10. Ignoring a test  
11. Do not initialize in a unit test class constructor  
12. Do not use static members in a test class  
13. Don't assume the order in which tests within a test case run  
14. Avoid external dependencies  
15. Mock out all external services and state

### TDD approach

1. Create your test case before anything else.
2. In TDD, one usually starts with the test cases before coding the actual implementation.

## **What to unit test**

1. Write unit tests for each and every test case that includes logic of some kind
2. It's not practically possible to get 100% code coverage, so don't aim to write unit tests for each method and trivial operations, instead, write unit tests for a method which is likely to have bugs during maintenance.
3. Unit test one object at a time
4. Always tests core method and core classes which are used heavily by different parts of a program

## **Test method names**

1. Name test methods so that they are easily identifiable.
2. Call them testX where X is domain method tested. Make them as descriptive (therefore long) as necessary

## **Explain failure**

1. When it fails, it should point broken code
2. Use the message parameter (first parameter) with assert methods to provide a meaningful description if the assert fails.

## **One test = one test method**

1. Don't cram several tests into one method.
2. Test methods must be clear and focused.
3. Always aim to do one assertion for each test method

## **Make each test independent to all the others**

1. Do not make chain of unit test cases
2. Try to use **@Before** and **@After** methods to setup pre-requisites if any for all your test cases. If you need to multiple things to support different test cases in **@Before** or **@After**, then consider creating new Test class.

## **Testing for exceptions**

1. Testing exception handling is just as important.
2. Use `@Test(expected= )`

## **Timeouts**

1. How do you test how scalable code might be?
2. Use `@Test(timeout=)` to test against a time barrier (in milliseconds)

## **Loggers**

1. Use loggers to create an info comment on your test cases. This will make it easier to view runtime exceptions that can happen when running your test cases.

## **Ignoring a test**

1. `@Ignore` on a test method causes the runner to skip the test.
2. Always specify a reason for skipping a test.

## **Do not initialize in a unit test class constructor**

1. Use an `@Before` method instead
2. Assign values to test class members in a method annotated with `@Before`
3. Assign simple values to private static final members in the test class

## **Do not use static members in a test class**

1. Static members make unit test methods dependent. Don't use them! Instead, strive to write test methods that are completely independent.

## **Don't assume the order in which tests within a test case run**

1. You should not assume that tests will be called in any particular order
2. And also there is no guarantee, that JUnit will execute the test cases in your given order

## **Avoid external dependencies**

1. Avoid depending on database, external interface, network connection, container, ...). Use test doubles instead.
2. Avoid hard coding of paths, system date and random stuff.

## **Mock out all external services and state**

1. Mocking is basically a way to create a shallow proxy object that can be used on your test cases.
2. You should test your test cases in isolation by mocking the external & dependent objects

## Junit Mockito

### 1. Introduction

Methods and ways to create Unit Test cases have evolve ever since it's introduction. New tools and API's are now available and they provide a more advanced scheme on creating and executing JUnit Test cases. Services have become more incubated, so creating integration test cases has been a daunting task for any developer.

The introduction of this new development approach made revolutionary changes in Unit testing as well and a lot of testing framework came and rise the level at the playing field. With this, the need to create mocking objects to mimic Java objects in their runtime has never been more important, especially on critical enterprise software.

In this post, we'll be using one of the most widely used and popular JUnit Testing Mocking framework – [Mockito](#).

### 2. Mockito Framework

Mockito is one of the widely used testing API for Java. Tons of examples are accepted by the massive Java community. Back in 2008, Dan North said that this was the future model of testing java applications. The popularity of Mockito and the overall Java projects in Github that use this API, clearly state that the prediction was true.

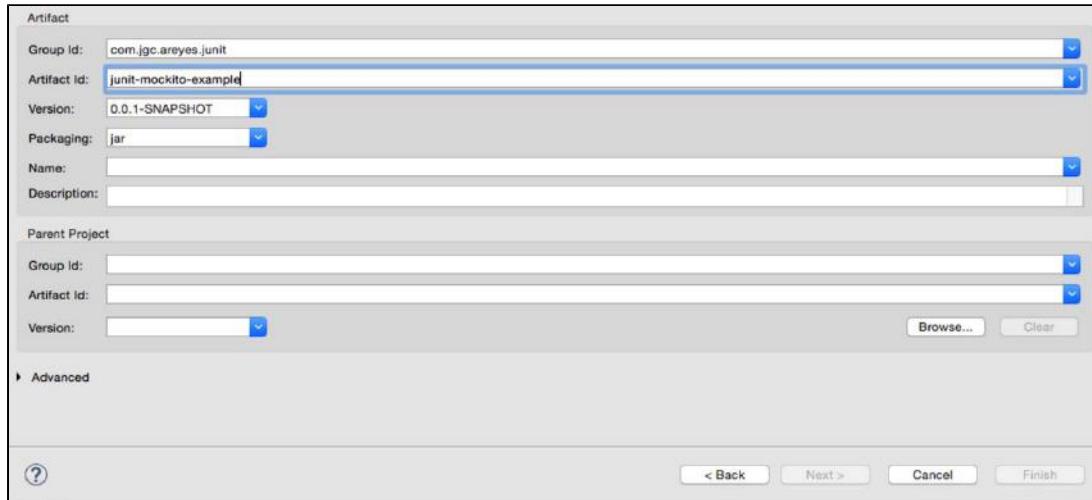
### 3. Eclipse Example

Let's take a deep dive into an example. In this example we'll create the following:

- Create a new Maven Project
- Define the dependencies we need. That is JUnit and Mockito
- Code some examples

#### 3.1 Maven Project

Let's first create a new Maven project. In your eclipse click on File > New Project > Maven Project. Tick on create a simple project fill up the group id, artifact id and hit Finish.



#### 3.2 pom.xml configuration

We then include the dependencies we need. This will download the libraries for our project.

[pom.xml](#)

```

<project xmlns="http://maven.apache.org/POM/4.0.0"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
 http://maven.apache.org/xsd/maven-4.0.0.xsd">
 <modelVersion>4.0.0</modelVersion>
 <groupId>com.jgc.areyes.junit</groupId>
 <artifactId>junit-mockito-example</artifactId>
 <version>0.0.1-SNAPSHOT</version>

 <dependencies>
 <dependency>
 <groupId>junit</groupId>
 <artifactId>junit</artifactId>
 <version>4.12</version>
 </dependency>
 <dependency>
 <groupId>org.mockito</groupId>
 <artifactId>mockito-all</artifactId>
 <version>1.9.5</version>
 </dependency>
 </dependencies>
</project>

```

### 3.3 Test Case Example

#### JUnitServiceTestExample.java

```

package com.areyes1.jgc.mockito.e;

import static org.mockito.Mockito.*;
import static org.junit.Assert.*;

import java.util.Iterator;

import org.junit.Test;
import org.mockito.Matchers;
import org.mockito.Mockito;

/**
 * The Class JUnitServiceTestExample.
 */
public class JUnitServiceTestExample {

 /**
 * Test1.
 */
 @Test
 public void testSimpleInt() {
 // create mock
 TestService test = Mockito.mock(TestService.class);

 // define return value for method getUniqueId()
 when(test.getUniqueId()).thenReturn(43);

 // use mock in test....
 assertEquals(test.getUniqueId(), 43);
 }

 /**
 * Test more than one return value.
 */
 // Demonstrates the return of multiple values
 @Test
 public void testMoreThanOneReturnValue() {
 Iterator i = mock(Iterator.class);
 when(i.next()).thenReturn("Mockito").thenReturn("is neat!!!");
 String result = i.next() + " " + i.next();
 assertEquals("Mockito is neat!!!", result);
 }

 /**
 * Test return value dependent on method parameter.
 */
}

```

```

@Test
public void testReturnValueDependentOnMethodParameter() {
 Comparable c = mock(Comparable.class);
 when(c.compareTo("Mockito")).thenReturn(1);
 when(c.compareTo("Eclipse")).thenReturn(2);
 // assert
 assertEquals(1, c.compareTo("Mockito"));
}

/**
 * Test return value in dependent on method parameter.
 */
@Test
public void testReturnValueInDependentOnMethodParameter() {
 Comparable c = mock(Comparable.class);
 when(c.compareTo(anyInt())).thenReturn(-1);
 assertEquals(-1, c.compareTo(9));
}

@Test
public void testVerify() {
 // create and configure mock
 TestService test = Mockito.mock(TestService.class);
 when(test.getUniqueId()).thenReturn(43);

 // call method testing on the mock with parameter 12
 test.testing(12);
 test.getUniqueId();
 test.getUniqueId();
 test.someMethod("Hello World");
 test.someMethod("called at least once");
 test.someMethod("called at least twice");
 test.someMethod("called five times");
 test.someMethod("called at most 3 times");

 // now check if method testing was called with the parameter 12
 verify(test).testing(Matchers.eq(12));

 // was the method called twice?
 verify(test, times(2)).getUniqueId();

 // other alternatives for verifying the number of method calls for a
 // method
 verify(test, never()).someMethod("never called");
 verify(test, atLeastOnce()).someMethod("called at least once");

 // Will all fail because we didn't met the conditions.
 verify(test, atLeast(2)).someMethod("called at least twice");
 verify(test, times(5)).someMethod("called five times");
 verify(test, atMost(3)).someMethod("called at most 3 times");
}

```

```
}
```

```
}
```

The example above showcases the different unique usage of Mockito. Aside from just mocking objects, it also perfectly complements what we call "behaviour driven" test cases. This means that the test case is aimed at testing the behaviour or any method calls within the services aside from the output itself.

Let's go over each method:

- `testSimpleInt` – the test case creates a mock class and calls the method. It enforces the method to use 43 as its return. This is then tested via an `assertEquals` method as shown.
- `testMoreThanOneReturnValue` – the cases mocked an iterator class and sets a new value for the first record. The example shown concatenates two new strings on the 1st element. This record is then tested via an `assertEquals` method.
- `testReturnValueIndependentOnMethodParameter` – The test case shows how we can dynamically use other results even in our comparison logic. In this example, we forced the comparisons to return values that are then tested via an `assertEquals` method.
- `testVerify` – the test case showcases how we can test the behaviour of a method within the class. It tests how many calls were made to the method and if there are any changes to the return types. This is a powerful feature because not only allows developers to test results, but also the behaviour of a specific service can be tested.

Mockito has redefined the creation of test cases. Almost every project globally uses the API. It's not just about mocking objects and classes but its also that it has created a venue for developers to develop more concrete, bulletproof test cases that ensure the stability of the software.

#### 4 Output

Running the test case above will give the output below.



JUnit test with Mockito and Spring

[JUnit with Mockito and Spring](#)

#### Best Practices

[Junit mockito best practices](#)

#### **JUnit with Mockito and Spring**

Dependency injection is very powerful feature of Inversion of Control containers like Spring and EJB. It is always good idea to encapsulate injected values into private fields. But encapsulation of autowired fields decreases testability.

I like the way how Mockito solved this problem to mock autowired fields. Will explain it on example.

Here is first dependency of testing module. It is Spring singleton bean. This class will be mocked in the test.

```

@Repository
public class OrderDao {
 public Order getOrder(int orderId){
 throw new UnsupportedOperationException("Fail is not mocked!");
 }
}

```

Here is second dependency of testing class. It is also Spring component. This class will be spied (partially mocked) in test. Its method `calculatePriceForOrder` will be invoked unchanged. Second method will be stubbed.

```

@Service
public class PriceService {
 public int getActualPrice(Item item){
 throw new UnsupportedOperationException("Fail is not mocked!");
 }

 public int calculatePriceForOrder(Order order){
 int orderPrice = 0;
 for (Item item : order.getItems()){
 orderPrice += getActualPrice(item);
 }
 return orderPrice;
 }
}

```

And here is class under test. It autowires dependencies above.

```

@Service
public class OrderService {

 @Autowired
 private PriceService priceService;

 @Autowired
 private OrderDao orderDao;

 public int getOrderPrice(int orderId){
 Order order = orderDao.getOrder(orderId);
 return priceService.calculatePriceForOrder(order);
 }
}

```

Finally here is test example. It uses field level annotations:

- `@InjectMocks` - Instantiates testing object instance and tries to inject fields annotated with `@Mock` or `@Spy` into private fields of testing object
- `@Mock` - Creates mock instance of the field it annotates
- `@Spy` - Creates spy for instance of annotated field

```

public class OrderServiceTest {
 private static final int TEST_ORDER_ID = 15;
 private static final int TEST_SHOES_PRICE = 2;
 private static final int TEST_SHIRT_PRICE = 1;

 @InjectMocks
 private OrderService testingObject;

 @Spy
 private PriceService priceService;

 @Mock
 private OrderDao orderDao;

 @BeforeMethod
 public void initMocks(){
 MockitoAnnotations.initMocks(this);
 }

 @Test
 public void testGetOrderService(){
 Order order = new Order(Arrays.asList(Item.SHOES, Item.SHIRT));

 Mockito.when(orderDao.getOrder(TEST_ORDER_ID)).thenReturn(order);

 //notice different Mockito syntax for spy

 Mockito.doReturn(TEST_SHIRT_PRICE).when(priceService).getActualPrice(Item.SHIRT);

 Mockito.doReturn(TEST_SHOES_PRICE).when(priceService).getActualPrice(Item.SHOES);

 //call testing method
 int actualOrderPrice =
 testingObject.getOrderPrice(TEST_ORDER_ID);

 Assert.assertEquals(TEST_SHIRT_PRICE + TEST_SHOES_PRICE,
 actualOrderPrice);
 }
}

```

So what happen when you run this test:

1. First of all TestNG framework picks up `@BeforeMethod` annotation and invokes `initMocks` method
2. This method invokes special Mockito call (`MockitoAnnotations.initMocks(this)`) to initialize annotated fields. Without this call, these objects would be `null`. Common mistake with this approach is to forget this invocation.
3. When all the test fields are populated with desired values, test is called.

*This example doesn't include Spring context creation and Spring's annotations are here only as examples for usage against production code. Test itself doesn't include any dependency to Spring and ignores all its annotations. In fact there could be used EJB annotations instead or it can be running against plain (non IoC managed) private fields.*

Developers tend to think about `MockitoAnnotations.initMocks(this)` call as unnecessary overhead. But it is actually very handy, because it resets testing object and re-initializes mocks. You can use it for example

- When you have various test methods using same annotated instances to ensure that various test runs doesn't use same recorded behavior

- When repetitive / parametrized tests are used. For example you can include this call into test method itself and receive spy object as test parameter (as part of test case). This ability is very sexy in conjunction to TestNG `@DataProvider` feature (Will explain this in different blog post).

`@Spy` annotated object can be created in two ways

- Automatically by Mockito framework if there is default (non-parametrized) constructor
- Or explicitly initialized (e.g. when there is only non-default constructor)

Testing object annotated by `@InjectMocks` can be also initialized explicitly.

Source: <https://dzone.com/articles/use-mockito-mock-autowired>

## MockMvc - Spring MVC test framework (version 1.4)

### The Application Under Test

In this post, we'll see how to write tests for the controllers of the same Spring MVC application.

You can also download the source code of the application available on GitHub [here](#) to follow along this post.

It's a pretty simple example of a Spring Boot MVC application consisting of the following primary components:

- **Product**: The domain object, which is a JPA entity
- **IndexController**: Returns the `index.html` Thymeleaf template for a `GET` request to the application root
- **ProductController**: Contains number of actions methods that use `ProductService` to perform CRUD operations via the repository model
- **ProductRepository**: A Spring Data JPA repository
- **ProductService**: A business service façade interface
- **ProductServiceImpl**: A business service façade implementation annotated with `@Service`

With the Spring Boot MVC application that will be under test in place, let's start by writing few tests for the controllers.

1. Maven Dependencies
2. Unit Testing Spring MVC Controllers
3. Testing the Spring MVC Slice
4. Testing Spring MVC Slice with `@Autowired MockMvc`
5. Summary

### Maven Dependencies

The testing features we're looking at were introduced in Spring Boot 1.4. The version of Spring Boot we'll be using is 1.4.0.RELEASE.

Here is the complete Maven POM that we'll use.

### POM.xml

#### Maven Dependencies

The testing features we're looking at were introduced in Spring Boot 1.4. The version of Spring Boot we'll be using is 1.4.0.RELEASE.

Here is the complete Maven POM that we'll use.

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
4 <modelVersion>4.0.0</modelVersion>
5
6 <groupId>guru.springframework</groupId>
7 <artifactId>springmvctest</artifactId>
8 <version>0.0.1-SNAPSHOT</version>
9 <packaging>jar</packaging>
10
11 <name>springmvctest</name>
12 <description>Examples of Spring MVC Test</description>
13
14 <parent>
15 <groupId>org.springframework.boot</groupId>
16 <artifactId>spring-boot-starter-parent</artifactId>
17 <version>1.4.0.M3</version>
18 </parent>
19
20 <properties>
21 <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
22 <java.version>1.8</java.version>
23 </properties>
24
25 <dependencies>
26 <dependency>
27 <groupId>org.springframework.boot</groupId>
28 <artifactId>spring-boot-starter-thymeleaf</artifactId>
29 </dependency>
30 <dependency>
31 <groupId>org.springframework.boot</groupId>
32 <artifactId>spring-boot-starter-web</artifactId>
33 <scope>compile</scope>
34 </dependency>
35 <dependency>

```

## Unit Testing Spring MVC Controllers

MockMvc has been around since Spring 3.2. This providing a powerful way to mock Spring MVC for testing MVC web applications. Through MockMvc, you can send mock HTTP requests to a controller and test how the controller behaves without running the controller within a server. You can obtain a [MockMvc](#) instance through the following two methods of [MockMvcBuilders](#):

- `standaloneSetup()`: Registers one or more `@Controller` instances and allows programmatically configuring the Spring MVC infrastructure to build a [MockMvc](#) instance. This is similar to plain unit tests while also making it possible to focus tests around a single controller at a time.
- `webAppContextSetup()`: Uses the fully initialized (refreshed) [WebApplicationContext](#) to build a [MockMvc](#) instance. This lets Spring load your controllers as well as their dependencies for a full-blown [integration test](#).

Pro Tip: Whenever possible, I will try to use `standaloneSetup()` for my SpringMVC tests. Your tests will remain true unit tests and stay blazing fast!

This is the `IndexController` that we are going to test:

## IndexController.java

```

1 package guru.springframework.controllers;
2
3 import org.springframework.stereotype.Controller;
4 import org.springframework.web.bind.annotation.RequestMapping;
5
6 @Controller
7 public class IndexController {
8 @RequestMapping("/")
9 String index(){
10 return "index";
11 }
12 }

```

For our purpose, we're starting with `standaloneSetup()` to test this `IndexController`.

The test class is this.

## IndexControllerTest.java

```
1
2
3
4
5 import org.hamcrest.Matchers;
6 import org.junit.Before;
7 import org.junit.Test;
8 import org.junit.runner.RunWith;
9 import org.springframework.test.context.junit4.SpringRunner;
10 import org.springframework.test.web.servlet.MockMvc;
11 import org.springframework.test.web.servlet.MvcResult;
12 import org.springframework.test.web.servlet.setup.MockMvcBuilders;
13
14 import static org.springframework.test.web.servlet.request.MockMvcRequestBuilders.get;
15 import static org.springframework.test.web.servlet.result.MockMvcResultHandlers.print;
16 import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.content;
17 import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.status;
18 import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.view;
19
20 @RunWith(SpringRunner.class)
21 public class IndexControllerTest {
22 private MockMvc mockMvc;
23 @Before
24 public void setUp() {
25 mockMvc = MockMvcBuilders.standaloneSetup(new IndexController()).build();
26 }
27 @Test
28 public void testIndex() throws Exception{
29 this.mockMvc.perform(get("/"))
30 .andExpect(status().isOk())
31 .andExpect(view().name("index"))
32 .andDo(print());
33 }
34 }
```

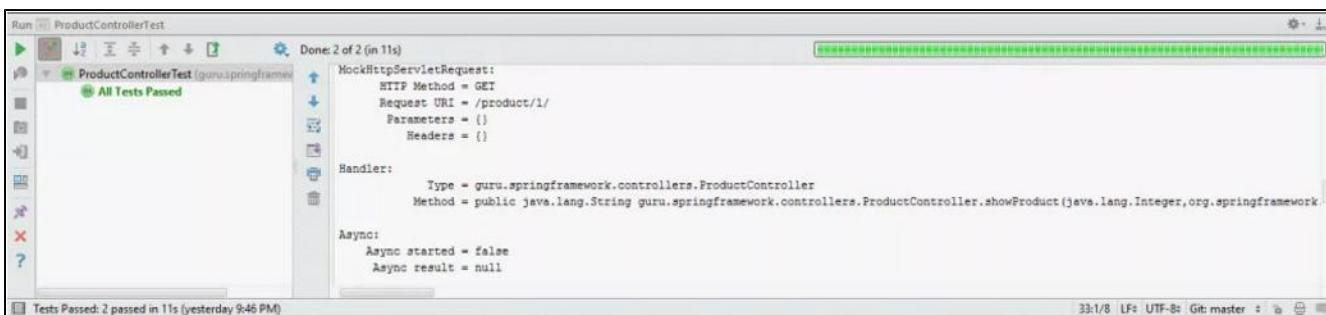
The test class above is a JUnit test. In the test class above, observe the new Spring Boot 1.4 test runner, named `SpringRunner` that we specified for `@RunWith` in Line 20. Under the hood, both `SpringRunner` and its predecessor `SpringJUnit4ClassRunner` are the same. `SpringRunner` is only the new name for `SpringJUnit4ClassRunner` – to just make it easy on the eyes.

In the `@Before` annotated method that runs before all `@Test` method, we programmatically constructed a `MockMvc` instance after registering the `IndexController` instance.

In the `@Test` method, we used the `MockMvc` instance to verify the following behavior of `IndexController`:

- HTTP status code `200` is returned
- The name of the returned view is `index`

Finally, by using `andDo(print())`, we get the following output on the console



## Testing the Spring MVC Slice

The unit test we wrote were for some basic expectations of the controller. Let's write some more specific tests, this time to test `ProductController`. This time we're going to use `webAppContextSetup()` to build `MockMvc`.

For a quick recap, the `ProductController` class is this.

## ProductController.java

```
1 package guru.springframework.controllers;
2
3 import guru.springframework.domain.Product;
4 import guru.springframework.services.ProductService;
5 import org.springframework.beans.factory.annotation.Autowired;
6 import org.springframework.stereotype.Controller;
7 import org.springframework.ui.Model;
8 import org.springframework.web.bind.annotation.PathVariable;
9 import org.springframework.web.bind.annotation.RequestMapping;
10 import org.springframework.web.bind.annotation.RequestMethod;
11
12 @Controller
13 public class ProductController {
14
15 private ProductService productService;
16
17 @Autowired
18 public void setProductService(ProductService productService) {
19 this.productService = productService;
20 }
21
22 @RequestMapping(value = "/products", method = RequestMethod.GET)
23 public String list(Model model){
24 model.addAttribute("products", productService.listAllProducts());
25 return "products";
26 }
27
28 @RequestMapping("product/{id}")
29 public String showProduct(@PathVariable Integer id, Model model){
30 model.addAttribute("product", productService.getProductById(id));
31 return "productshow";
32 }
33
34 @RequestMapping("product/edit/{id}")
35 public String edit(@PathVariable Integer id, Model model){
```

We will start by testing the behavior of `ProductController.list()` method. For a `GET` request to `/product`, we will perform the following verification:

- The `ProductService` mock is not null
- The HTTP status code `200` is returned
- The returned content type is `text/html;charset=UTF-8`
- The name of the returned view is `products`
- The view contains the `Spring Framework Guru` string

Here is the test class.

## ProductControllerTest.java

```
1 @RunWith(SpringRunner.class)
2 @WebMvcTest/controllers = ProductController.class)
3 public class ProductControllerTest {
4 private MockMvc mockMvc;
5
6 @Autowired
7 private WebApplicationContext webApplicationContext;
8 @MockBean
9 private ProductService productServiceMock;
10
11 @Before
12 public void setUp() {
13 mockMvc = MockMvcBuilders.webAppContextSetup(webApplicationContext).build();
14 }
15 @Test
16 public void testList() throws Exception {
17 assertThat(this.productServiceMock).isNotNull();
18 mockMvc.perform(MockMvcRequestBuilders.get("/products"))
19 .andExpect(status().isOk())
20 .andExpect(content().contentType("text/html;charset=UTF-8"))
21 .andExpect(view().name("products"))
22 .andExpect(MockMvcResultMatchers.view().name("products"))
23 .andExpect(content().string(Matchers.containsString("Spring Framework Guru")))
24 .andDo(print());
25 }
26 }
```

As we are testing the MVC slice of the application (testing whether the `ProductController` is working as expected), we used the `@WebMvcTe`

`st` annotation combined with `@RunWith(SpringRunner.class)`.

As we planned to use `webAppContextSetup()` to build `MockMvc`, we `@Autowired` `WebApplicationContext` in Line 6 – Line 7 to bring it into our test. Then in line 13, we passed `WebApplicationContext` as an argument to `webAppContextSetup()` to build the `MockMvc` instance.

Going back to the `ProductController` class under test, note that the controller class is `@Autowired` with `ProductService`. Therefore, we used the `@MockBean` annotation to define a Mockito mock for `ProductService` (Line 8 -Line 9) that will be passed to the controller. If you are new to mocking in unit tests, checkout my [Mocking in Unit Tests with Mockito](#) post.

Coming back to the test, in Line 17 we used the `AssertJ` library to assert that the `ProductService` mock is not `null`.

**Note:** Starting with Spring Boot 1.4, `AssertJ` comes out-of-the-box with Spring Boot to provide a fluent assertion API with a plan to replace JUnit's `org.junit.Assert` class.

From Line 19 – Line 23, it's all about verifying our expectations. As you can see, a lot of static methods are being used in this test method, including static methods of `MockMvcRequestBuilders` (`get()`), `MockMvcResultMatchers` (`status()`, `content()`, and `view()`), `MockMvcResultMatchers` (`match()`), and Hamcrest Matcher's (`match()`). The last two `match()` are similar and performs the same functions in our test. They exist together only to demonstrate the different approaches that can be used.

Our test method reads naturally. First it performs a

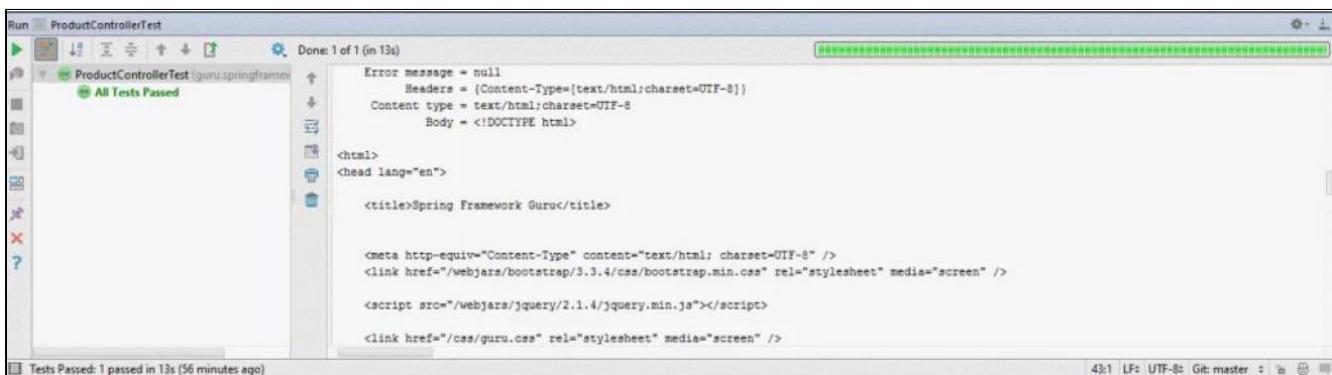
First it performs a `GET` request against `/products`. Then it expects that the request is successful (`isOk()`asserts an HTTP `200` response code) and that the content type and name of the view is `text/html;charset=UTF-8` and `products` respectively. Finally, it asserts that the view contains the [Spring Framework Guru](#) string.

When all the expectations pass, Line 24 prints the result out to the console.

The important thing to note here is that at no time is the application gets deployed to a server. The Tomcat container is not use. Instead the application runs within a mocked out Spring MVC to handle the HTTP request that we provided through the

Instead the application runs within a mocked out Spring MVC to handle the HTTP request that we provided through the `MockMvc` instance.

Here is the test result in the console.



```
Done: 1 of 1 (in 13s)
All Tests Passed

Error message = null
Headers = {Content-Type=[text/html;charset=UTF-8]}
Content type = text/html;charset=UTF-8
Body = <!DOCTYPE html>
<html>
<head lang="en">
 <title>Spring Framework Guru</title>
 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
 <link href="/webjars/bootstrap/3.3.4/css/bootstrap.min.css" rel="stylesheet" media="screen" />
 <script src="/webjars/jquery/2.1.4/jquery.min.js"></script>
 <link href="/css/guru.css" rel="stylesheet" media="screen" />
</head>
<body>
<h1>Spring Framework Guru</h1>
<p>The Spring Framework Guru</p>
</body>
</html>
```

Tests Passed: 1 passed in 13s (56 minutes ago)

### Testing Spring MVC Slice with `@Autowired MockMvc`

Now let's test the behavior of `showProduct()` of `ProductController`. Instead of manually building `MockMvc`, we'll use a `@Autowired` `MockMvc` in the test and let Spring create, configure, and provide a `MockMvc` for us.

This is how the test class now looks minus any `@Test` method implementations.

```

2 @WebMvcTest(controllers = ProductController.class)
3 @AutoConfigureMockMvc(secure=false)
4 public class ProductControllerTest {
5 @Autowired
6 private MockMvc mockMvc;
7 @Autowired
8 private WebApplicationContext webApplicationContext;
9 @MockBean
10 private ProductService productServiceMock;
11
12 Product product1;
13 @Before
14 public void setUpProduct() throws Exception{
15 product1 = new Product();
16 product1.setId(1);
17 product1.setProductId("235268845711068308");
18 product1.setDescription("Spring Framework Guru Shirt");
19 product1.setPrice(new BigDecimal("18.95"));
20 product1.setImageUrl("https://springframework.guru/wp-content/uploads/2015/04/spring_framework_guru_sh
21
22 }
23
24 @Test
25 public void testList() throws Exception {
26 /*Test code*/
27 }
28
29 @Test
30 public void testShowProduct() throws Exception {
31 /*Test code*/
32 }
33 }

```

In the test class above, notice that we used the `@Autowired` annotation on `MockMvc` in Line 5 – Line 6 instead of building it manually.

An `@Autowired MockMvc` combined with `@WebMvcTest(controllers = ProductController.class)` gives us a fully configured `MockMvc` instance with Spring security configured to set up BASIC authentication.

At this point, if we run the `ProductControllerTest.testList()` test again, we'll encounter an authentication error, like this.

```

1 MockHttpServletResponse:
2 Status = 401
3 Error message = Full authentication is required to access this resource

```

We're getting the 401 response because Spring Boot is auto-configuring Spring Security for us.

To disable the Spring Security auto-configuration, we can the `MockMvc` instance to disable security with `@AutoConfigureMockMvc(secure=false)` in Line 3.

Note, in the `@Before` method, we created and initialized a `Product` domain object that we will use in the `@Test` method.

The `@Test` method is this:

```

1 . . .
2 @Test
3 public void testShowProduct() throws Exception {
4 assertThat(this.productServiceMock).isNotNull();
5 when(productServiceMock.getProductById(1)).thenReturn(product1);
6
7 MvcResult result= mockMvc.perform(get("/product/{id}/", 1))
8 .andExpect(status().isOk())
9 .andExpect(view().name("productshow"))
10 .andExpect(MockMvcResultMatchers.model().attributeExists("product"))
11 .andExpect(model().attribute("product", hasProperty("id", is(1))))
12 .andExpect(model().attribute("product", hasProperty("productId", is("235268845711068308"))))
13 .andExpect(model().attribute("product", hasProperty("description", is("Spring Framework Guru Shirt")))
14 .andExpect(model().attribute("product", hasProperty("price", is(new BigDecimal("18.95")))))
15 .andExpect(model().attribute("product", hasProperty("imageUrl", is("https://springframework.guru/w
16 .andReturn();
17
18
19 MockHttpServletResponse mockResponse=result.getResponse();
20 assertThat(mockResponse.getContentType()).isEqualTo("text/html; charset=UTF-8");
21
22 Collection<String> responseHeaders = mockResponse.getHeaderNames();
23 assertNotNull(responseHeaders);
24 assertEquals(1, responseHeaders.size());
25 assertEquals("Check for Content-Type header", "Content-Type", responseHeaders.iterator().next());
26 String responseAsString=mockResponse.getContentAsString();
27 assertTrue(responseAsString.contains("Spring Framework Guru"));
28
29 verify(productServiceMock, times(1)).getProductById(1);
30 verifyNoMoreInteractions(productServiceMock);
31 }
32 . . .

```

In the `@Test` method above:

- Line 4: Performs an AssertJ assertion to test that the `ProductService` mock is not `null`.
- Line 5: Uses Mockito to stub the `getProductById()` method on the `ProductService` mock to return the initialized `Product` instance.
- Line 8 to Line 15: Performs the following verifications for a `GET` request to `product/{id}`:
  - The HTTP status code `200` is returned
  - The name of the returned view is `productshow`
  - The view model contains a `product` attribute
  - The various properties of the `product` attribute matches against the values we used to initialize `Product`
- Line 16: Returns the result as `MvcResult`
- Line 19- Line 20: Uses AssertJ to assert that the content type of the response is `text/html;charset=UTF-8`
- Line 22- Line 27: Uses JUnit assertions to assert that:
  - The response header that `MvcResult` returns as `MockHttpServletResponse` is not `null`
  - There is only one response header
  - The response header name is `Content-Type`
  - The response contains the `Spring Framework Guru` string
- Line 29 -Line 30: Uses Mockito to verify that the `getProductById()` is called only once on the `ProductService` mock, and that no other methods of the `ProductService` mock are called during the test.

The complete test class is this:

## ProductControllerTest.java

```
1 package guru.springframework.controllers;
2
3 import guru.springframework.domain.Product;
4 import guru.springframework.services.ProductService;
5 import org.hamcrest.Matchers;
6 import org.junit.Before;
7 import org.junit.Test;
8 import org.junit.runner.RunWith;
9 import org.springframework.beans.factory.annotation.Autowired;
10 import org.springframework.boot.test.autoconfigure.web.servlet.AutoConfigureMockMvc;
11 import org.springframework.boot.test.autoconfigure.web.servlet.WebMvcTest;
12 import org.springframework.boot.test.mock.mockito.MockBean;
13 import org.springframework.http.MediaType;
14 import org.springframework.mock.web.MockHttpServletResponse;
15 import org.springframework.test.context.junit4.SpringRunner;
16 import org.springframework.test.web.servlet.MockMvc;
17 import org.springframework.test.web.servlet.MvcResult;
18 import org.springframework.test.web.servlet.request.MockMvcRequestBuilders;
19 import java.math.BigDecimal;
20 import java.util.Collection;
21 import static org.springframework.test.web.servlet.result.MockMvcResultHandlers.print;
22 import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.*;
23 import org.springframework.test.web.servlet.result.MockMvcResultMatchers;
24 import org.springframework.web.context.WebApplicationContext;
25 import static org.mockito.Mockito.*;
26 import static org.assertj.core.api.Assertions.assertThat;
27 import static org.hamcrest.Matchers.*;
28 import static org.junit.Assert.*;
29 import static org.springframework.test.web.servlet.request.MockMvcRequestBuilders.get;
30
31 @RunWith(SpringRunner.class)
32 @WebMvcTest/controllers = ProductController.class
33 @AutoConfigureMockMvc(secure=false)
34 public class ProductControllerTest {
35 @Autowired
```

The complete output of the test sent to console is this:

```

1 MockHttpServletRequest:
2 HTTP Method = GET
3 Request URI = /product/1/
4 Parameters = {}
5 Headers = {}
6
7 Handler:
8 Type = guru.springframework.controllers.ProductController
9 Method = public java.lang.String guru.springframework.controllers.ProductController.showProduct(ja
10
11 Async:
12 Async started = false
13 Async result = null
14
15 Resolved Exception:
16 Type = null
17
18 ModelAndView:
19 View name = productshow
20 View = null
21 Attribute = product
22 value = guru.springframework.domain.Product@6069dd38
23 errors = []
24
25 FlashMap:
26 Attributes = null
27
28 MockHttpServletResponse:
29 Status = 200
30 Error message = null
31 Headers = {[Content-Type=[text/html; charset=UTF-8]}}
32 Content type = text/html; charset=UTF-8
33 Body = <!DOCTYPE html>
34
35 <html>

```

## Summary

The new `@WebMVC` used with `MockBean` allows creating powerful yet simple tests for your Spring MVC apps. Unlike the `@SpringBootTest` annotation, the `@WebMvcTest` annotation disables full auto-configuration. `@WebMvcTest` only auto-configures the Spring MVC infrastructure and limits scanned beans to `@Controller`, `@ControllerAdvice`, `@JsonComponent`, `Filter`, `WebMvcConfigurer`, and `HandlerMethodArgumentResolver` beans.

When you use `@WebMvcTest`, regular `@Component`, `@Service`, or `@Repository` beans will not be scanned – an important point to differentiate `@WebMvcTest` from a full-blown `@SpringBootTest`.

If you're looking to load your full application configuration and use `MockMVC`, you should consider `@SpringBootTest` combined with `@AutoConfigureMockMvc` rather than `@WebMvcTest`. I will cover it in an upcoming post of this Spring MVC testing series. I will also help you to explore more about mocking services and JPA repositories with `@MockBean` combined with `@DataJpaTest` and `@WebMvcTest`, and also how to unit test RESTful controller's GETs and POSTs using `MockMvc` and `@JsonTest`.

[Spring MVC test CRUD operation](#)

[Spring MVC JPA Integration test](#)

## Layers

[Devon Framework](#)  
[Layers](#)

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### 2. Service Layer

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## 4. Data-Access Layer

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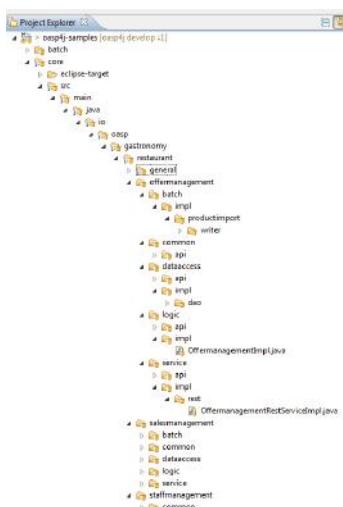
## Devon Framework:

Devonfw is the CSD standard platform for Capgemini APPS2. It provides a standardized architecture blueprint for Java-applications, an open best-of-breed technology stack as well as industry proven best practices and code conventions. It is a industrialization initiative that is aligned across Capgemini APPS2.

Layers: There are 5 types of layers

- **1. Client Layer** : for the front-end (GUI).
- **2. Service Layer**: for the services used to expose functionality of the back-end to the client or other consumers.
- **3. Logic Layer**: for the business logic.
- **4. Data-Access Layer**: for the data access (esp. persistence or 3rd party systems)
- **5. Batch Layer**: for exposing functionality in batch-processes (e.g. mass imports).

Project Folder Structure with Layers :



## 1. Client Layer:

- There are various technical approaches to build GUI clients. The **OASP(Open Application Standard Platform)** proposes rich clients that connect to the server via data-oriented services (e.g. using REST with JSON). In general, we have to distinguish among the following types of clients:
  - web clients
  - native desktop clients
  - (native) mobile clients
- Currently, we focus on web-clients. So far we offered a responsive Java Script based client provided by OASP4js that integrates seamlessly with OASP-server.

## 2. Service Layer:

The service layer is **responsible to expose functionality of the logical layer** to external consumers over a network **via technical protocols**.

### 2.1 Types of Services:

- **External Services:** are used for communication between different companies, vendors, or partners.
- **Internal Services:** are used for communication between different applications in the same application landscape of the same vendor.
- **Back-end Services:** are internal services between Java back-end components typically with different release and deployment cycles (if not Java consider this as external service).
- **JS-Client Services:** are internal services provided by the Java back-end for JavaScript clients (GUI).
- **Java-Client Services:** are internal services provided by the Java back-end for a native Java client (JavaFx, EclipseRcp,etc.).

The choices for technology and protocols will depend on the type of service. The following table gives a guideline for aspects according to the service types.

Aspect	External Service	Back-end Service	JS-Client Service	Java-Client Service
<b>Versioning</b>	required	required	not required	not required
<b>Interoperability</b>	mandatory	not required	implicit	not required
<b>Recommended</b>	SOAP or REST	REST	REST+JSON	REST
<b>Protocol</b>				

### 2.2 Versioning: For services consumed by other applications we use versioning to prevent incompatibilities between applications when deploying updates. This is done by the following conventions:

- We define a version number and prefix it with v' (e.g. `v1).
- If we support previous versions we use that version numbers as part of the Java package defining the service API (e.g. com.foo.application.component.service.api.v1)
- We use the version number as part of the service name in the remote URL (e.g. https:// application.foo.com/services/rest/component /v1/resource).
- Whenever we need to change the API of a service in an incompatible, we create an isolated version of the service and increment the version (e.g. v2) . In the implementation of different version of the same service, we can place compatibility code and delegate to the same unversioned use-case of the logic layer whenever possible.
- For maintenance and simplicity we avoid keeping more than one previous version.

### 2.3 Interoperability:

For services that are consumed by clients with different technology, interoperability is required. This is addressed by selecting the right protocol, following protocol-specific best practices and following our considerations especially simplicity.

**Service Considerations:** The term service is quite generic and therefore easily misunderstood. It is a unit exposing coherent functionality via a well-defined interface over a network. For the design of a service, we consider the following aspects:

- **Self-contained:** The entire API of the service shall be self-contained and have no dependencies on other parts of the application (other services, implementations, etc.).
- **Idempotent:** E.g. creation of the same master-data entity has no effect (no error)
- **Loosely coupled:** Service consumers have minimum knowledge and dependencies on the service provider.
- **Normalized:** complete, no redundancy, minimal
- **Coarse-grained:** Service provides rather large operations (save entire entity or set of entities rather than individual attributes)
- **Atomic:** Process individual entities (for processing large sets of data, use a batch instead of a service)
- **Simplicity:** avoid polymorphism, RPC methods with unique name per signature and no overloading, avoid attachments (consider separate download service), etc.

## 2.4 Security:

Services are the major entry point to the application. Hence security considerations are important.

**CSRF**: A common security threat is **CSRF** for **REST** services. Therefore all REST operations that are performing modifications (PUT, POST, DELETE, etc. - all except GET) have to be secured against CSRF attacks. In OASp4J we are **using spring-security** which already solves CSRF token generation and verification. The integration is part of the application template as well as the sample-application.

For testing in development environment the CSRF protection can be disabled using the JVM option - **DCsrfDisabled=true** when starting the application.

## 3. Logic Layer:

The logic layer is the heart of the application and contains the main business logic. The component part assigned to the logic layer contains the functional use-cases the business component is responsible for.

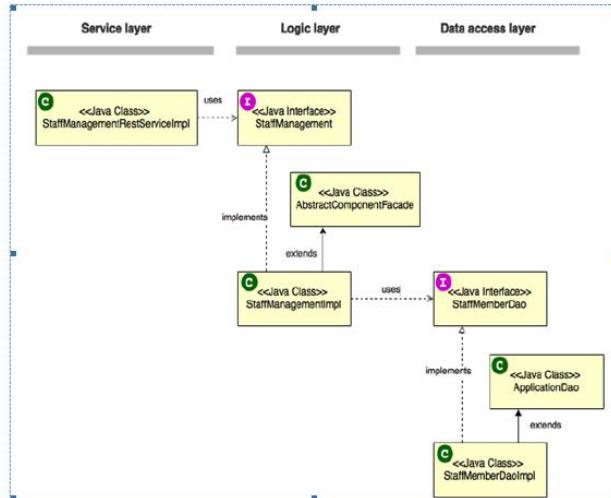
### 3.1 Component Interface:

- A component may consist of several use cases but is only accessed by the next higher layer or other components through one interface, i.e. by using one spring bean.
- If the implementation of the component interface gets too complex it is recommended to further subdivide it in separate use-case-interfaces to be aggregated in the main component interface. This suits for better maintainability.
- Ex:

```
public interface StaffManagement {
 StaffMemberEto getStaffMemberByLogin(String login);
 StaffMemberEto getStaffMember(Long id);
 ...
}
```

### 3.2 Component Implementation:

- The implementation of the use case typically needs access to the persistent data. This is done by injecting the corresponding DAO.
- Within a use-case implementation, entities are mapped via a BeanMapper to persistent entities. Let's take a quick look at some of the StaffManagement methods:
- Below, a **class diagram illustrating the pattern is shown** (here: the StaffManagement business component):



- As the picture above illustrates, the necessary DAO entity to access the database is provided by an abstract class. Use Cases that need access to this DAO entity, have to extend that abstract class. Needed dependencies (in this case the staffMemberDao) are resolved by Spring.

### 3.3 Security:

The logic layer is the heart of the application. It is also responsible for authorization and hence security is important here.

#### Direct Object References:

- Security threats are Insecure Direct Object References. This simply gives you two options:
  - avoid direct object references at all
  - ensure that direct object references are secure

- Especially when using REST, direct object references via technical IDs are common sense. This implies that you have a proper authorization in place. This is especially tricky when your authorization does not only rely on the type of the data and according static permissions but also on the data itself. Vulnerabilities for this threat can easily happen by design flaws and inadvertence. Here an example from our sample application:

#### TablemanagementImpl.java.

```
@RolesAllowed(PermissionConstants.FIND_TABLE)
public TableRto findTable(Long id) {
 return getBeanMapper().map(getTableDao().findOne(id), TableRto.class);
}
```

## 4. Data-Access Layer:

The data-access layer is responsible for all **outgoing connections to access and process data**. This is mainly about **accessing data from a persistent data-store** but also about **invoking external services**.

### 4.1 Persistence:

For mapping java objects to a relational database we use the Java Persistence API (JPA). As JPA implementations we recommend to use hibernate. Here you can find guidelines and examples about how we recommend to use it properly.

The following examples show how to map the data of a database to an entity.

### 4.2 Entity:

Entities are part of the persistence layer and contain the actual data. They are POJOs (Plain Old Java Objects) on which the relational data of a database is mapped and vice versa. The mapping is configured via JPA annotations (`javax.persistence`). Usually an entity class corresponds to a table of a database and a property to a column of that table. A persistent entity instance then represents a row of the database table. Entities should be simple POJOs and not contain business logic.

#### A Simple Entity

The following listing shows a simple example

```
@Entity
@Table(name="TEXTMESSAGE")
public class MessageEntity extends AbstractPersistenceEntity {

 private String text;

 public String getText() {
 return this.text;
 }

 public void setText(String text) {
 this.text = text;
 }
}
```

The `@Entity` annotation defines that instances of this class will be entities which can be stored in the database. The `@Table` annotation is optional and can be used to define the name of the corresponding table in the database. If it is not specified, the simple name of the entity class is used instead.

In order to specify how to map the attributes to columns we annotate the corresponding getter methods. The `@Id` annotation specifies that a property should be used as **primary key**. Ex:

```

@Entity
@Table(name="EMPLOYEE")
public class Employee
{
 private Long id;
 ...
 @Id
 @GeneratedValue(strategy = GenerationType.AUTO)
 public Long getId() {

 return this.id;
 }
}

```

With the help of the `@Column` annotation it is possible to define the name of the column that an attribute is mapped to as well as other aspects such as nullable or unique. If no column name is specified, the name of the property is used as default. **Ex:**

```

@Column(name="DESCRIPTION", nullable=false, length=512)
public String getDescription() {
 return description;
}

```

Note that every entity class needs a constructor with public or protected visibility that does not have any arguments. Moreover, neither the class nor its getters and setters may be final.

#### **4.3 Entities and Datatypes:**

Standard data types like Integer, Big Decimal, String, etc. are mapped automatically by JPA. Custom data types are mapped as serialized BLOB by default what is typically undesired. The annotation `@Converter` is detected by the JPA vendor if the annotated class is in the packages to scan .Further, `autoApply = true` implies that the converter is automatically used for all properties of the handled data type.

In case you have a composite datatype that you need to map to multiple columns the JPA does not offer a real solution. As a workaround you can use a bean instead of a real datatype and declare it as `@Embeddable`.

**Ex:**

```

@Converter(autoApply = true)
public class MoneyAttributeConverter implements AttributeConverter<Money, BigDecimal> {

 public BigDecimal convertToDatabaseColumn(Money attribute) {
 return attribute.getValue();
 }

 public Money convertToEntityAttribute(BigDecimal dbData) {
 return new Money(dbData);
 }
}

```

#### **4.4 Enumerations:**

By default JPA maps Enums via their ordinal. Therefore the database will only contain the ordinals (0, 1, 2, etc.). So, inside the database you cannot easily understand their meaning. Using `@Enumerated` with `EnumType.STRING` allows to map the enum values to their name (`Enum.name()`). Both approaches are fragile when it comes to code changes and refactorings (if you change the order of the enum values or rename them) after the application is deployed to production. If you want to avoid this and get a robust mapping you can define a dedicated string in each enum value for database representation that you keep untouched. Then you treat the enum just like any other custom datatype.

#### **4.5 BLOB:**

If binary or character large objects (BLOB/CLOB) should be used to store the value of an attribute, e.g. to store an icon, the `@Lob` annotation should be used as shown in the following listing:

```

@Lob
public byte[] getIcon() {
 return this.icon;
}

```

**Warning:** Using a byte array will cause problems if BLOBs get large because the entire BLOB is loaded into the RAM of the server and has to be processed by the garbage collector. For larger BLOBs the type Blob and streaming should be used.

```

public Blob getAttachment() {
 return this.attachment;
}

```

#### 4.6 Date and Time:

To store date and time related values, the temporal annotation can be used as shown in the listing below:

```

@Temporal(TemporalType.TIMESTAMP)
public java.util.Date getStart() {
 return start;
}

```

Until Java8 the java data type `java.util.Date` has to be used. `TemporalType` defines the granularity. In this case, a precision of nanoseconds is used. If this granularity is not wanted, `TemporalType.DATE` can be used instead, which only has a granularity of milliseconds. **Mixing these two granularities can cause problems** when comparing one value to another. This is why **we only use** `TemporalType.TIMESTAMP`.

#### 4.7 Data Access Object:

Data Access Objects (DAOs) are part of the persistence layer. They are responsible for a specific entity and should be named `Dao[Impl]`. The DAO offers the so called CRUD-functionalities (create, retrieve, update, delete) for the corresponding entity. Additionally a DAO may offer advanced operations such as query or locking methods.

**DAO Interface:** For each DAO there is an interface named `Dao` that defines the API. For CRUD support and common naming we derive it from the interface `io.oasp.module.jpa.persistence.api.Dao`:

```

public interface MyEntityDao extends Dao<MyEntity> {

 List<MyEntity> findByCriteria(MyEntitySearchCriteria criteria);
}

```

**DAO Implementation:** Implementing a DAO is quite simple. We create a class named `DaoImpl` that extends `io.oasp.module.jpa.persistence.base.AbstractDao` and implements your `Dao` interface:

```

public class MyEntityDaoImpl extends AbstractDao<MyEntity> implements MyEntityDao {

 public List<MyEntity> findByCriteria(MyEntitySearchCriteria criteria) {
 TypedQuery<MyEntity> query = createQuery(criteria, getEntityManager());
 return query.getResultList();
 }
 ...
}

```

In the DAO implementation you can use the method `getEntityManager()` to access the EntityManager from the JPA. You will need the EntityManager to create and execute queries.

**Queries:** The Java Persistence API (JPA) defines its own query language, the java persistence query language (JPQL), which is similar to SQL but operates on entities and their attributes instead of tables and columns.

**Static Queries:** The OASP4J advises to specify all queries in one mapping file `src\main\resources\META-INF\orm.xml`.

```

<?xml version="1.0" encoding="UTF-8"?>
<entity-mappings version="1.0" xmlns="http://java.sun.com/xml/ns/persistence/orm" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://java.sun.com/xml/ns/persistence/orm http://java.sun.com/xml/ns/persistence/orm_1_0.xsd">
 <named-query name="get.open.order.positions.for.order">
 <query><![CDATA[SELECT op FROM OrderPosition op WHERE op.order.id = ? AND op.state NOT IN (PAVED, CANCELLED)]]></query>
 </named-query>
 ...
</hibernate-mapping>

```

To avoid redundant occurrences of the query name (`get.open.order.positions.for.order`) we define the constants for each named query:

```

package io.oasp.gastronomy.restaurant.general.common.api.constants;

public class NamedQueries {
 public static final String GET_OPEN_ORDER_POSITION_FOR_ORDER = "get.open.order.positions.for.order";
}

```

The following listing shows how to use this query (in class `StaffMemberDaoImpl`, remember to adapt `StaffMemberDao`):

```

public List<StaffMember> getStaffMemberByName(String firstName, String lastName) {
 Query query = getEntityManager().createNamedQuery(NamedQueries.STAFFMEMBER_SEARCH_BY_NAME);

 query.setParameter("firstName", firstName);
 query.setParameter("lastName", lastName);

 return query.getResultList();
}

```

#### 4.8 Relationships:

**n:1 and 1:1 Relationships:** Entities often do not exist independently but are in some relation to each other. For example, for every period of time one of the StaffMember's of the restaurant example has worked, which is represented by the class WorkingTime, there is a relationship to this StaffMember.

```

@Entity
public class WorkingTime {

 ...

 private StaffMember staffMember;

 @ManyToOne
 @JoinColumn(name="STAFFMEMBER")
 public StaffMember getStaffMember() {
 return staffMember;
 }

 public void setStaffMember(StaffMember staffMember) {
 this.staffMember = staffMember;
 }
}

```

To represent the relationship, an attribute of the type of the corresponding entity class that is referenced has been introduced. The relationship is a **n:1** relationship, because every WorkingTime belongs to exactly one StaffMember, but a StaffMember usually worked more often than once. This is why the @ManyToOne annotation is used here.

**1:n and n:m Relationships:** The relationship of the example listed above is currently an unidirectional one, as there is a getter method for retrieving the StaffMember from the WorkingTime object, but not vice versa. To make it a bidirectional one, the following code has to be added to StaffMember:

```

private Set<WorkingTimes> workingTimes;

@OneToMany(mappedBy="staffMember")
public Set<WorkingTime> getWorkingTimes() {
 return workingTimes;
}

public void setWorkingTimes(Set<WorkingTime> workingTimes) {
 this.workingTimes = workingTimes;
}

```

To make the relationship bidirectional, the tables in the database do not have to be changed. Instead the column that corresponds to the attribute staffMember in class WorkingTime is used, which is specified by the mappedBy element of the @OneToMany annotation. Hibernate will search for corresponding WorkingTime objects automatically when a StaffMember is loaded.

The problem with bidirectional relationships is that if a WorkingTime object is added to the set or list workingTimes in StaffMember, this does not have any effect in the database unless the staffMember attribute of that WorkingTime object is set. That is why the OASp4J advises not to use bidirectional relationships but to use queries instead.

For 1:n and n:m relations, the OASp4J demands that (unordered) Sets and no other collection types are used, as shown in the listing above. The only exception is whenever an ordering is really needed, (sorted) lists can be used. For example, if WorkingTime objects should be sorted by their start time, this could be done like this:

```

private List<WorkingTimes> workingTimes;

@OneToMany(mappedBy = "staffMember")
@OrderBy("startTime asc")
public List<WorkingTime> getWorkingTimes() {
 return workingTimes;
}

public void setWorkingTimes(List<WorkingTime> workingTimes) {
 this.workingTimes = workingTimes;
}

```

The value of the **@OrderBy annotation** consists of an attribute name of the class followed by **asc** (ascending) or **desc** (descending).

To store information about a n:m relationship, a separate table has to be used, as one column cannot store several values (at least if the

database schema is in first normal form). For example if one wanted to extend the example application so that all ingredients of one FoodDrink can be saved and to model the ingredients themselves as entities (e.g. to store additional information about them), this could be modeled as follows (extract of class FoodDrink):

```
private Set<Order> ingredients;

@ManyToMany
@JoinTable
public Set<Ingredient> getIngredients() {
 return ingredients;
}

public void setOrders(Set<Ingredient> ingredients) {
 this.ingredients = ingredients;
}
```

Information about the relation is stored in a table called BILL\_ORDER that has to have two columns, one for referencing the Bill, the other one for referencing the Order. Note that the @JoinTable annotation is not needed in this case because a separate table is the default solution here (same for n:m relations) unless there is a mappedBy element specified.

For 1:n relationships this solution has the disadvantage that more joins (in the database system) are needed to get a Bill with all the Orders it refers to. This might have a negative impact on performance so that the solution to store a reference to the Bill row/entity in the Order's table is probably the better solution in most cases.

Note that bidirectional n:m relationships are not allowed for applications based on the OASp4J. Instead a third entity has to be introduced, which "represents" the relationship (it has two n:1 relationships).

#### 4.9 Eager vs. Lazy Loading:

Using JPA/Hibernate it is possible to use either lazy or eager loading. Eager loading means that for entities retrieved from the database, other entities that are referenced by these entities are also retrieved, whereas lazy loading means that this is only done when they are actually needed, i.e. when the corresponding getter method is invoked.

Application based on the OASp4J must use lazy loading by default.

For some entities it might be beneficial if eager loading is used. For example if every time a Bill is processed, the Order entities it refers to are needed, eager loading can be used as shown in the following listing:

```
@OneToOne(fetch=FetchType.EAGER)
@JoinColumn
public Set<Order> getOrders() {
 return orders;
}
```

This can be done with all four types of relationships (annotations: @OneToOne, @ManyToOne, @OneToMany, @ManyToOne).

#### 4.10 Inheritance:

Just like normal java classes, entity classes can inherit from others. The only difference is that you need to specify how to map a subtype hierarchy to database tables. The Java Persistence API (JPA) offers three ways to do this:

- **One table per hierarchy:** This table contains all columns needed to store all types of entities in the hierarchy. If a column is not needed for an entity because of its type, there is a null value in this column. An additional column is introduced, which denotes the type of the entity (called "dtype" which is of type varchar and stores the class name).
- **One table per subclass:** For each concrete entity class there is a table in the database that can store such an entity with all its attributes. An entity is only saved in the table corresponding to its most concrete type. To get all entities of a type that has subtypes, joins are needed.
- **One table per subclass:joined subclasses:** In this case there is a table for every entity class (this includes abstract classes), which contains all columns needed to store an entity of that class apart from those that are already included in the table of the supertype. Additionally there is a primary key column in every table. To get an entity of a class that is a subclass of another one, joins are needed.

Each of the three approaches has its advantages and drawbacks. In most cases, the first one should be used, because it is usually the fastest way to do the mapping, as no joins are needed when retrieving entities and persisting a new entity or updating one only affects one table. Moreover it is rather simple and easy to understand.

One major disadvantage is that the first approach could lead to a table with a lot of null values, which might have a negative impact on the database size.

#### 4.11 Concurrency Control:

The concurrency control defines the way concurrent access to the same data of a database is handled.

As a best practice we are using **optimistic locking for regular end-user services (OLTP)** and **pessimistic locking for batches**.

#### Optimistic Locking:

The class io.oasp.module.jpa.persistence.api.AbstractPersistenceEntity already provides optimistic locking via a modificationCounter with the @Version annotation. Therefore JPA takes care of optimistic locking for you. When entities are transferred to clients, modified and sent back for update you need to ensure the modificationCounter is part of the game.

#### Pessimistic Locking:

For back-end services and especially for batches optimistic locking is not suitable. A human user shall not cause a large batch process to fail because he was editing the same entity. Therefore such usecases use pessimistic locking what gives them a kind of priority over the human users. In your DAO implementation you can provide methods that do pessimistic locking via EntityManager operations that take a LockModeType. Here is a simple example:

```
getEntityManager().lock(entity, LockModeType.READ);
```

When using the lock(Object, LockModeType) method with **LockModeType.READ**, Hibernate will issue a select ... for update. This means that no one else can update the entity.

If **LockModeType.WRITE** is specified, Hibernate issues a select ... for update no wait instead, which has the same meaning as the statement above, but if there is already a lock, the program will not wait for this lock to be released. Instead, an exception is raised.

Use one of the types if you want to modify the entity later on, for read only access no lock is required.

**Principles:** We strongly recommend these principles:

- Use the JPA where ever possible and use vendor (hibernate) specific features only for situations when JPA does not provide a solution. In the latter case consider first if you really need the feature.
- Create your entities as simple POJOs and use JPA to annotate the getters in order to define the mapping.
- Keep your entities simple and avoid putting advanced logic into entity methods.

## 5. Batch Layer:

We understand batch processing as bulk-oriented, non-interactive, typically long running execution of tasks. For simplicity we use the term batch or batch job for such tasks in the following documentation. **OASP uses Spring Batch as batch framework**.

This guide explains how Spring Batch is used in OASP applications.

### 5.1 Batch architecture:

Here we will describe the overall architecture (especially concerning layering) and how to administer batches.

**Layering:** Batches are implemented in the batch layer. The batch layer is responsible for batch processes, whereas the business logic is implemented in the logic layer. Compared to the service layer you may understand the batch layer just as a different way of accessing the business logic. From a component point of view each batch is implemented as a subcomponent in the corresponding business component. The business component is defined by the business architecture.

**Example:** The sample application implements a batch for exporting bills. This bill-export-batch belongs to the salesmanagement business component.

So the bill-export-batch is implemented in the following package:

```
<basepackage>.salesmanagement.batch.impl.billexport.*
```

Batches should invoke use cases in the logic layer for doing their work. Only "batch specific" technical aspects should be implemented in the batch layer.

#### Batch administration and execution:

**Starting and Stopping Batches:** Spring Batch provides a simple command line API for execution and parameterization of batches, the **CommandLineJobRunner**. It is not yet fully compatible with Spring Boot, however. For those using **Spring Boot OASP provides the SpringBootBatchCommandLine** with similar functionalities. Both execute batches as a "simple" standalone process (instantiating a new JVM and creating a new ApplicationContext).

### 5.2 Starting a Batch Job:

For starting a batch job, the following parameters are required:

```
[[guide-batch-layer_jobpath(s)]] ===== jobPath(s)
```

The location of the JavaConfig classes (usually annotated with @Configuration or @SpringBootApplication) and/or XML files that will be used to create an ApplicationContext.

Note that SpringBootBatchApp deactivates the evaluation of annotations used for authorization, especially the @RolesAllowed annotation. You should of course make sure that only authorized users can start batches, but once the batch is started there is usually no need to check any authorization.

**jobName:** The name of the job to be run. All arguments after the job name are considered to be job parameters and must be in the format of **name=value**: Example for the `SpringBootBatchCommandLine`:

```
java io.oasp.module.batch.common.base.SpringBootBatchCommandLine
io.oasp.gastronomy.restaurant.SpringBootBatchApp classpath:config/app/batch/beans-billelexport.xml
billExportJob -outputFile=file:out.csv date(date)=2015/12/20
```

Note that when a batch is started with the same parameters as a previous execution of the same batch job, the new execution is considered a restart.

When trying to restart a batch that was already complete, there will either be an exception (**message: "A job instance already exists and is complete for parameters={...}. If you want to run this job again, change the parameters."**) or the batch will simply do nothing (might happen when no or only non identifying parameters are set; in this case the console log contains the following message for every step: "**Step already complete or not restartable, so no action to execute: ...**").

### 5.3 Stopping a Job:

The command line option to stop a running execution is as follows:

```
java io.oasp.module.batch.common.base.SpringBootBatchCommandLine
io.oasp.gastronomy.restaurant.SpringBootBatchApp classpath:config/app/batch/beans-billelexport.xml
billExportJob -stop
```

Note that the job is not shutdown immediately, but might actually take some time to stop.

#### Scheduling:

In real world scheduling of batches is not as simple as it first might look like.

- Multiple batches have to be executed in order to achieve complex tasks. If one of those batches fails the further execution has to be stopped and operations should be notified for example.
- Input files or those created by batches have to be copied from one node to another.
- Scheduling batch executing could get complex easily (quarterly jobs, run job on first workday of a month ...)

For OASP we propose the batches themselves should not mess around with details of batch administration

Batch administration should be externalized to a dedicated batch administration service or scheduler. This service could be a complex product or a simple tool like cron. We propose Rundeck as an open source job scheduler. This gives full control to operations to choose the solution which fits best into existing administration procedures.

#### Implementation:

**Main Challenges:** At a first glimpse, implementing batches is much like implementing a backend for client processing.

The most important points are:

- **Transaction handling:** For processing request made by clients there is usually one transaction for each request. If anything goes wrong, the transaction is rolled back and all changes are reverted. A naive approach for batches would be to execute a whole batch in one single transaction so that if anything goes wrong, all changes are reverted and the batch could start from scratch.
- **Restarting Batches:** In client processing mode, when an exception occurs, the transaction is rolled back and there is no need to worry about data inconsistencies.

This is not true for batches however, due to the fact that you usually can't have just one transaction. When an unexpected error occurs and the batch aborts, the system is in a state where the data is partly processed and partly not and there needs to be some sort of plan on how to continue from there.

Even if a batch was perfectly reliable, there might be errors that are not under the control of the application, e.g. lost connection to the database, so that there is always a need for being able to restart.

### 5.4 How to design a batch that is restartable:

A batch execution is considered a restart, if it was run already (with the same parameters) and there was a (non skippable) failure or the batch has been stopped.

There are basically two ways to do a restart:

- Undo all changes and restart from scratch.
- Restore the state of that batch at the time the error occurred and continue processing.

#### The first approach has two major disadvantages:

1. Depending on what the batch does, reverting all of its changes can get quite complex. And you easily end up having implemented a batch that is restartable, but not if it fails in the wrong step.
2. The second disadvantage is that if a batch runs for several hours and then it fails it has to start all over again. And as the time for executing batches is usually quite limited, this can be problematic.

## **Drawback of this second option**

Spring Batch supports implementing the second option. By default, if a batch is restarted with the same parameters as a previous execution of this batch, then this new execution continues processing at the step where the last execution was stopped or failed. If the last execution was already complete, an exception is raised. The step itself has to be implemented in a way so that it can restore its internal state, which is the main drawback of this second option.

## **5.5 Chunk Processing:**

Chunk processing is item based processing. Items can be bills, persons or whatever needs to be processed. Those items are grouped into chunks of a fixed size and all items within such a chunk are processed in one transaction. There is not one transaction for every single (small) item because there would be too many commits which degrades performance.

All items of a chunk are read by an ItemReader (e.g. from a file or from database), processed by an ItemProcessor (e.g. modified or converted) and written out as a whole by an ItemWriter (e.g. to a file or to database).

The size of a chunk is also called commit interval. One has to be careful , while choosing a large chunk size: When a skip or retry occurs for a single item , the current transaction has to be rolled back and all items of the chunk have to be reprocessed. This is especially a problem when skips and retries occur more often and results in long runtime.

**The most important advantages of chunk processing are:**

- Good trade-off between size and number of transactions (configurable via commit size)
- Transaction timeouts that do not have to be adapted for larger amounts of data that needs to be processed (as there is always one transaction for a fixed number of items)
- An exception handling that is more fine-grained than aborting/restarting the whole batch (item based skipping and retrying)
- Logging items where exceptions occurred (which makes failure analysis much more easy)

## **5.6 ItemReader:**

A reader has to implement the ItemReader interface, which has the following method:

```
public T read() throws Exception;
```

T is a type parameter of the ItemReader interface to be replaced with the type of items to be read. The method returns all items (one at a time) that need to be processed or null if there are no more items.

## **5.7 ItemProcessor:**

A processor must implement the ItemProcessor interface, which has the following method:

```
public O process(I item) throws Exception;
```

**As you can see, there are two type parameters involved:**

**One for the type of items received from the ItemReader and one for the type of items passed to the ItemWriter.** These can be the same. If an item has been selected by the ItemReader, but there is no need to further process this item (i.e. it should not be passed to the ItemWriter), the ItemProcessor can return null instead of an item.

Strictly interpreting chunk processing, the ItemProcessor should not modify anything but should only give instructions to the ItemWriter on how to do modifications. For entities however this is not really practical and as it requires no special logic in case of rollbacks/restarts (as all modifications are transactional), it is usually OK to modify them directly.

In contrast to this, performing accesses to files or calling external systems should only be done in ItemReader/ItemWriter and the code needed for properly handling failures (restarts for example) should be encapsulated there.

It is usually a good practice to make ItemProcessor implementations stateless, as the process method might be called more than once for one item.

Do not forget to implement use cases instead of implementing everything directly in the ItemProcessor if the processing logic gets more complex.

## **5.8 ItemWriter:**

A writer has to implement the ItemWriter interface, which has the following method:

```
public void write(List<? extends T> items) throws Exception;
```

This method is called at the end of each chunk with a list of all (processed) items. It is not called once for every item, because it is often more efficient doing 'bulk writes', e.g. when writing to files.

Note that this method might also be called more than once for one item.

At the end of the write method, there should always be a flush.

## **5.9 Exception handling in Batches:**

The problem with exception handling is that a single record can cause a whole batch to fail and many records will remain unprocessed. In

contrast to this, in client processing mode when processing fails this usually affects only one user.

To prevent this situation, Spring Batch allows to skip data when certain exceptions occur. However, the feature should not be misused in a way that you just skip all exceptions independently of their cause.

So when implementing a batch, you should think about what exceptional situations might occur and how to deal with that and whether it is okay to skip those exceptions or not. When an unexpected exception occurs, the batch should still fail so that this exception is not ignored but its causes are analyzed.

Another way of handling exceptions in batches is retrying: Simply try to process the data once more and hope that everything works well this time. This approach often works for database problems, e.g. timeouts.

#### Performance:

Most important for performance are of course the algorithms that you write and how fast (and scalable) these are, which is the same as for client processing is. Apart from that, the performance of batches is usually closely related to the performance of the database system.

If you are retrieving information from the database, you can have one complex query executed in the ItemReader (via a DAO) retrieving all the information needed for the current set of items, or you can execute further queries in the ItemProcessor (or ItemWriter) on a per item basis to retrieve further information.

**Testing:** This section covers how to unit and integration test in detail. Therefore we focus here on testing batches.

In order for the unit test to run a batch job the unit test class must extend the AbstractSpringBatchIntegrationTest class. Two annotations are used to load the job's ApplicationContext:

@RunWith(SpringJUnit4ClassRunner.class): Indicates that the class should use Spring's JUnit facilities .

@SpringApplicationConfiguration(classes = {...}, locations = {...}): Indicates which JavaConfig classes (attribute classes) and/or XML files (attribute locations) contain the ApplicationContext. Use @ContextConfiguration(...) if Spring Boot is not used.

```
@RunWith(SpringJUnit4ClassRunner.class)
@DirtiesContext(classMode = ClassMode.AFTER_CLASS)
@ActiveProfiles("db-plain")
public abstract class AbstractSpringBatchIntegrationTest {...}

@SpringApplicationConfiguration(classes= { SpringBootBatchApp.class }, locations = { "classpath:config/app/batch/beans-productimport.xml" })
public class ProductImportJobTest extends AbstractSpringBatchIntegrationTest {...}
```

## 5.10 Testing Batch Jobs:

For testing the complete run of a batch job from beginning to end involves following steps:

- set up a test condition
- execute the job
- verify the end result.

The test method below begins by setting up the database with test data. The test then launches the Job using the launchJob() method. The launchJob() method is provided by the JobLauncherTestUtils class.

Also provided by the utils class is launchJob(JobParameters), which allows the test to give particular parameters. The launchJob() method returns the JobExecution object which is useful for asserting particular information about the Job run. In the case below, the test verifies that the Job ended with ExitStatus COMPLETED.

```
@SpringApplicationConfiguration(classes= { SpringBootBatchApp.class }, locations = { "classpath:config/app/batch/beans-productimport.xml" })
public class ProductImportJobTest extends AbstractSpringBatchIntegrationTest {

 @Inject
 private Job billExportJob;

 @Test
 public void shouldExportBills() throws Exception {
 JobExecution jobExecution = getJobLauncherTestUtils(this.billExportJob).launchJob();
 assertThat(jobExecution.getExitStatus()).isEqualTo(ExitStatus.COMPLETED);
 }
}
```

- Note that when using the launchJob() method, the batch execution will never be considered as a restart (i.e. it will always start from scratch). This is achieved by adding a unique (random) parameter.

## Naming Conventions

- *Java general Convention*

- *Naming*
- *Packages*
- *Code Tasks*
- *Code-Documentation*
- *DOJO naming conventions*
  - *General*
  - *Specific*
- *Database naming conventions*

### **Java general Convention**

The code should follow general conventions for Java (see Google Java Style at the bottom of this page). Besides of those general Java naming conventions, we follow the additional rules listed here explicitly.

#### **Naming**

Besides general Java naming conventions, we follow the additional rules listed here explicitly:

- Always use short but speaking names (for types, methods, fields, parameters, variables, constants, etc.).
- Avoid having duplicate type names. The name of a class, interface, enum or annotation should be unique within your project unless this is intentionally desired in a special and reasonable situation.
- Avoid artificial naming constructs such as prefixes (I\*) or suffixes (\*IF) for interfaces.
- Use CamelCase even for abbreviations (XmlUtil instead of XMLUtil) **except** for package names (e.g.: com.daimler.vtas.projectplanning)
- Names of Generics should be easy to understand. Where suitable follow the common rule E=Element, T=Type, K=Key but feel free to use longer names for more specific cases such as ID, DTO or ENTITY. The capitalized naming helps to distinguish a generic type from a regular class.

#### **Packages**

We use a strict packaging convention to map technical layers and business components to the code. By using the same names in documentation and code we create a strong link that gives orientation and makes it easy to find from business requirements, specifications or story tickets into the code and back.

For an OASP based application we use the following Java-Package schema:

```
com.daimler.vtas
```

For an application as part of an IT application landscape we recommend to use the following schema for <basepackage>:

```
<basepackage>.<component>.<layer>.<scope>[.<detail>]*
```

Or more specific:

```
com.daimler.vtas.projectplanning.restcontroller.api.samplerestcontroller
```

E.g. in our example application we find the DAO interfaces for the salesmanagement component in the package  
com.daimler.vtas.projectplanning.restcontroller.api.samperestcontroller

Segment	Description	Example
<organization>	Is the basic Java Package name-space of the organization owning the code following common Java Package conventions.  Consists of multiple segments corresponding to the Internet domain of the organization.	com.daimler
<application>	The name of the application build in this project.	vtas
<component>	The (business) component the code belongs to. It is defined by the business architecture and uses terms from the business domain.  Use the implicit component general for code not belonging to a specific component (foundation code).	projectplanning

<layer>	The name of the technical layer which is one of the predefined layers (dataaccess, logic, service, batch, gui, client)  or common for code not assigned to a technical layer (datatypes, cross-cutting concerns).	restcontroller
<scope>	The scope which is one of api (official API to be used by other layers or components), base (basic code to be reused by other implementations) and impl (implementation that should never be imported from outside)	api
<detail>	Here you are free to further divide your code into subcomponents and other concerns according to the size of your component part.	samplerestcontroller

Please note that for library modules where we use com.daimler.vtas as <basepackage> and the name of the module as <component>. E.g. the API of a monitoring module can be found in the package com.daimler.vtas.monitoring.common.api.

#### Code Tasks

- `// TODO <author> <description>`

Used to mark a piece of code that is not yet complete (typically because it can not be completed due to a dependency on something that is not ready).

- `// FIXME <author> <description>`

A FIXME tag is added by the author of the code or someone who found a bug he can not fix right now. The <author> who added the FIXME is also responsible for completing this task. This is very similar to a TODO but with a higher priority. FIXME tags indicate problems that should be resolved before a release is completed while TODO tags might have to stay for a longer time.

- `// REVIEW <responsible> (<reviewer>) <description>`

A REVIEW tag is added by a reviewer during a code review. Here the original author of the code is responsible to resolve the REVIEW tag and the reviewer is assigning this task to him. This is important for feedback and learning and has to be aligned with a review "process" where people talk to each other and get into discussion. In smaller or local teams a peer-review is preferable but this does not scale for large or even distributed teams.

#### Code-Documentation

As a general goal the code should be easy to read and understand. Besides clear naming the documentation is important. We follow these rules:

- APIs (especially component interfaces) are properly documented with JavaDoc.
- JavaDoc shall provide actual value - we do not write JavaDoc to satisfy tools such as checkstyle but to express information not already available in the signature.
- We make use of `{@link}` tags in JavaDoc to make it more expressive.
- JavaDoc of APIs describes how to use the type or method and not how the implementation internally works.
- To document implementation details, we use code comments (e.g. `// we have to flush explicitly to ensure version is up-to-date`). This is only needed for complex logic.

#### DOJO naming conventions

The DOJO naming conventions are also based on the Java programming conventions guide. In addition to that the following naming rules are given:

##### General

Construct	Convention
module	lowercase
class	CamelCase
public method	mixedCase
public var	mixedCase
constant	UPPER_CASE

private method	_mixedCase
private var	_mixedCase
method args	_mixedCase, mixedCase
local vars	_mixedCase, mixedCase

## Specific

1. The terms get/set SHOULD NOT be used where a field is accessed, unless the variable being accessed is lexically private.
2. The `is` prefix SHOULD be used for boolean variables and methods. Alternatives include `has`, `can` and `should`
3. The term `compute` CAN be used in methods where something is computed.
4. The term `find` CAN be used in methods where something is looked up.
5. The terms `initialize` or `init` CAN be used where an object or a concept is established.
6. UI Control variables SHOULD be suffixed by the control type. Example: `leftComboBox`
7. Plural form MUST be used to name collections.
8. A `num` prefix or `COUNT` postfix SHOULD be used for variables representing a number of objects.
9. Iterator variables SHOULD be called `i`, `j`, `k`, etc.
10. Complement names MUST be used for complement entities. Examples: get/set, add/remove, create/destroy, start/stop, insert/delete, begin/end, etc.
11. Abbreviations in names SHOULD be avoided.
12. Negated boolean variable names MUST be avoided: `isNotFoundError` `isNotFound` unacceptable.
13. Methods returning an object MAY be named after what they return, and methods returning void after what they do.

## Database naming conventions

see Database Naming Standards

## Sources

- Google Java Style Guide: <https://google.github.io/styleguide/javaguide.html>
- Devonfw Guide v2.0.1: ..\VTAS SVN06\_Architecture\DevOn\DevonfwGuide.pdf
- Open Application Standard Platform for Java V2.1.0: ..\VTAS SVN06\_Architecture\DevOn\OASP4J-guide.pdf
- DOJO Naming Conventions: <https://dojotoolkit.org/reference-guide/1.10/developer/styleguide.html#naming-conventions>

## Database Naming Standards

- Mandatory database objects
- Optional database objects
- VTAS Tables format
- Hibernate annotation for UUID Generation

there is a paper, which describes standards and guidelines for database object names within Daimler. the document is located in SVN

PPP (Project Prefix): **ZVX**

### Mandatory database objects

Object	Max. Length	Format	Developer Database	Remark	Examples (PPP used is: ZVX)
Database	8	pppccc!x!	ZVXXAD01		<b>ZVXXAP01</b> (P=Production) in Stuttgart (XA) where ccc=XAP <b>ZVXXAT01</b> (T=Test) in Stuttgart (XA) <b>ZVXXNP01</b> (Production) in Bremen where ccc=XNP
Schema	8	pppC!x!	ZVXC!x!		<b>ZVXC PJPL</b> is the schema for VTAS project planning <b>ZVXC VADM</b> is the schema for VTAS Administration

## Optional database objects

Object	Max. Length	Format	Developer Database	Remark	Examples ( <i>ppp</i> used is: ZVX)
Table	8	pppR!x!	ZVXR!x!		ZVXRPROJ is the table for Project
Table Column	30	axxx_a!x!			PROD_A PROD_ID PROD_DESCR
Index	18	pppla!x!	ZVXIa!x!	- Table name +  _P = Primary,  _U9 = Unique or two character sequential identifier	ZVXI PROD1_P ZVXI PROD1IX2 ZVXI REGION1_U1 ZVXI REGION1_U2
Constraint Check	18	pppS!a!x!	ZVXS!a!x!	- 2 Table names can be coded	ZVXS PROD1_REGION1
Constraint Referential	18	pppS!a!x!	ZVXS!a!x!	- Index name can be coded after the identifier 'S'	ZVXS PROD1_P ZVXS PROD1IX2 ZVXS REGION1_U1 ZVXS REGION1_U2
Constraint Unique	18	pppS!a!x!	ZVXS!a!x!	- Table name +  _P = Primary,  _U9 = Unique or two character sequential identifier	ZVXS PROD1_P ZVXS PROD1IX2 ZVXS REGION1_U1 ZVXS REGION1_U2
Sequences	18	pppQa!x! (no suffix)	ZVXQa!x!		ZVXQSEQ01 ZVXQREGSEQ_01
View	8	pppV!x!	ZVXV!x!		ZVXVPROJ is the view for Project
View Column	30	axxx_a!x!			PROD_A PROD_ID PROD_DESCR
Trigger	18	pppTa!x!-cde	ZVXTa!x!-cde	- c = A: After   B: Before  - d = D: Delete   I: Insert   U: Update  - e = T: Table   R: Row	ZVXT PROD1BIR ZVXT PROD1AUR
Tablespace	8	pppA!x!	ZVXA!x!	can be contain the type of data (like user or temporary data)	ZVXAUSER ZVXATEMP ZVXAADATA

## Legend for Table Optional database objects

- !x!** Alphanumeric string with repeat to maximum length
- x** single alphanumeric character
- 9** single numerical character
- a** single alpha character
- ppp** 3 character enterprise wide assigned namespace
- ccc** max. 3 character enterprise wide assigned computer center code
- vv** 2 character version number

```

CREATE TABLE ZVXCPJPL.ZVXRACY (
 ACTY_UUID CHAR(36) NOT NULL ,
 ACTY_SAUN_ID VARCHAR(255) NOT NULL ,
 ACTY_CONFIGURABLE CHAR(1) ,
 ACTY_IS_SHOW_UP CHAR(1) ,
 ACTY_NAME VARCHAR(50) NOT NULL ,
 ACTY_CLASSIFICATION CHAR(30) NOT NULL ,
 ACTY_TYPE_OF_CONTACT CHAR(20) ,
 ACTY_ACTION_CONFIGURABLE CHAR(1) NOT NULL ,
 ACTY_CHANGED_BY VARCHAR(50),
 ACTY_CHANGED_ON TIMESTAMP WITH DEFAULT CURRENT_TIMESTAMP ,
 ACTY_VERSION_ID INTEGER NOT NULL
)

```

#### Hibernate annotation for UUID Generation

```

@Id
@GeneratedValue(generator = "hibernate-uuid")
@GenericGenerator(name = "hibernate-uuid", strategy = "org.hibernate.id.UUIDGenerator")
@Column(name = "PROJ_UUID", nullable = false)
private String uuid;

```

#### Java Naming Conventions

1. Use short enough and long enough variable names in each scope of code. Generally length may be 1 char for loop counters, 1 word for condition/loop variables, 1-2 words for methods, 2-3 words for classes, 3-4 words for globals.
2. Use specific names for variables, for example "value", "equals", "data", ... are not valid names for any case.
3. Use meaningful names for variables. Variable name must define the exact explanation of its content.
4. Don't start variables with o\_, obj\_, m\_ etc. A variable does not need tags which states it is a variable.
5. Obey company naming standards and write variable names consistently in application: e.g. txtUserName, lblUserName, crmbSchoolType, ... Otherwise readability will reduce and find/replace tools will be unusable.
6. Obey programming language standards and don't use lowercase/uppercase characters inconsistently: e.g. userName, UserName, USER\_NAME, m\_userName, username, ...
  - a.
    - use Camel Case (aka Upper Camel Case) for classes: VelocityResponseWriter
    - use Lower Case for packages: com.company.project.ui
    - use Mixed Case (aka Lower Camel Case) for variables: studentName
    - use Upper Case for constants : MAX\_PARAMETER\_COUNT = 100
    - use Camel Case for enum class names and Upper Case for enum values.
    - don't use '\_' anywhere except constants and enum values (which are constants).
  - For example for Java,
7. Don't reuse same variable name in the same class in different contexts: e.g. in method, constructor, class. So you can provide more simplicity for understandability and maintainability.
8. Don't use same variable for different purposes in a method, conditional etc. Create a new and different named variable instead. This is also important for maintainability and readability.
9. Don't use non-ASCII chars in variable names. Those may run on your platform but may not on others.
10. Don't use too long variable names (e.g. 50 chars). Long names will bring ugly and hard-to-read code, also may not run on some compilers because of character limit.
11. Decide and use one natural language for naming, e.g. using mixed English and German names will be inconsistent and unreadable.
12. Use meaningful names for methods. The name must specify the exact action of the method and for most cases must start with a verb. (e.g. createPasswordHash)
13. Obey company naming standards and write method names consistently in application: e.g. getTxtUserName(), getLblUserName(), isStudentApproved(), ... Otherwise readability will reduce and find/replace tools will be unusable.
14. Obey programming language standards and don't use lowercase/uppercase characters inconsistently: e.g. getUsername, GetUserName, getUsername, ...
  - For example for Java,
    - use Mixed Case for method names: getStudentSchoolType
    - use Mixed Case for method parameters: setSchoolName(String schoolName)
15. Use meaningful names for method parameters, so it can documentate itself in case of no documentation.

#### UI Guidelines (Daimler)

*The german version of Daimler's UI Guidelines can be found in the SVN directory :*

*...\\99\_Additional Information\\UI Guidelines\\UX\_Design\_Hub\_20170223\\index.html*

The grouping of the different components is as followed:

- Basic Navigation Concept
- Controls
- Fonts, Icons & Colors
- Relevant Building Blocks
- Relevant Layout Types
- User Assistance

This is a rough guiding video through some of the Daimler UI guidelines and how they are linked together: It is only a draft and should give an overview. Please do still refer to the table settings in the subfolders for the exact design.

Your browser does not support the HTML5 video element

## Basic Navigation Concept

### Header overview

### Glossary



The **Header** is always available in the top row of each page/windows and is displayed as in the depiction above.

The **main navigation concept** is stored in this header and consists of the button on the left side (**Back-Button**, **Home-Button**), a **Module Switcher** in the middle and the three buttons on the right side (**Search-Button**, **User settings**, **Message area**).

1) The **Back-Button** works chronologically and is always available. That means that it always leads you to the page you have been before. There is no hierarchy! As long as there is no previous page the Button is greyed out.

2) The **Home-Button** always brings you back to the VTAS Landing page.

3 ) The **Module Switcher** is a dropdown list and is available on every window except the landing page. When you click on the button a list with all modules of VTAS expands.

4) The **App-Name** displays "VTAS-" and the name of the the page that is currently visible.

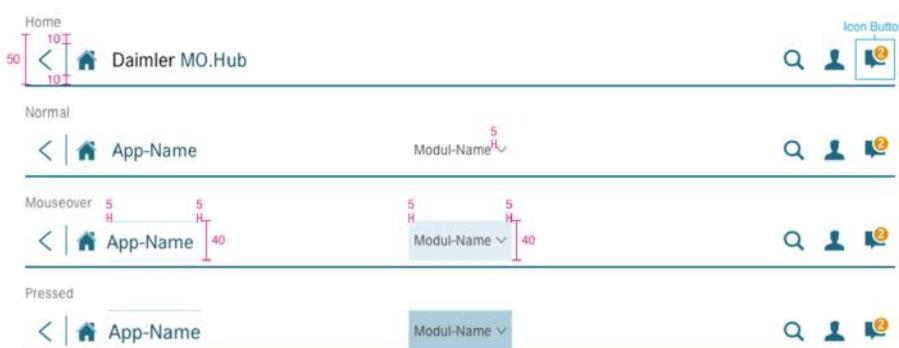
5) The **Search-Button** expands to the left side over the empty field and the module switcher in the header when you click it. Subsequently it is preselected and behaves like a standard insert field.

6) The **User settings** ...

7) The **Message area** ...

### *Positioning of elements in the header*

The App-Name should be plain text and not clickable in contrast to the behaviour beneath.



Characteristic	Normal	Mouseover	Pressed/Selected
----------------	--------	-----------	------------------

Dividing line Back/Home-Button	1 dp, Petrol	1 dp, Petrol	1 dp, Petrol
Bottom dividing line	2 dp, Petrol	2 dp, Petrol	2 dp, Petrol
<b>1) Back Button</b>			
Icon Size	20 dp	20 dp	20 dp
Icon Color	Petrol	Petrol	Petrol
BG-Color	-	-	-
<b>2) Home Button</b>			
Icon Size	20 dp	20 dp	20 dp
Icon Color	Petrol	Petrol	Petrol
BG-Color	-	-	-
<b>3) App name</b>			
Font Desktop	H4, Petrol	H4, Petrol	H4, Petrol
Font Color	Petrol	Petrol	Petrol
BG-Color	-	-	-
<b>4) Modul-Name</b>			
Font	P, Cool Grey 80K	P, Cool Grey 80K	P, Cool Grey 80K
BG-Color	-	Catskill	Petrol 20
Triangle	10 dp, Cool Grey 80K	10 dp, Cool Grey 80K	10 dp, Cool Grey 80K
<b>5 -7) Search Button, User Button, Message Button</b>			
Icon Size	20 dp	20 dp	20 dp
Icon Color	Petrol	Petrol	Petrol
BG-Color	-	-	-

## Search

*Positioning of expanding search field in the header*

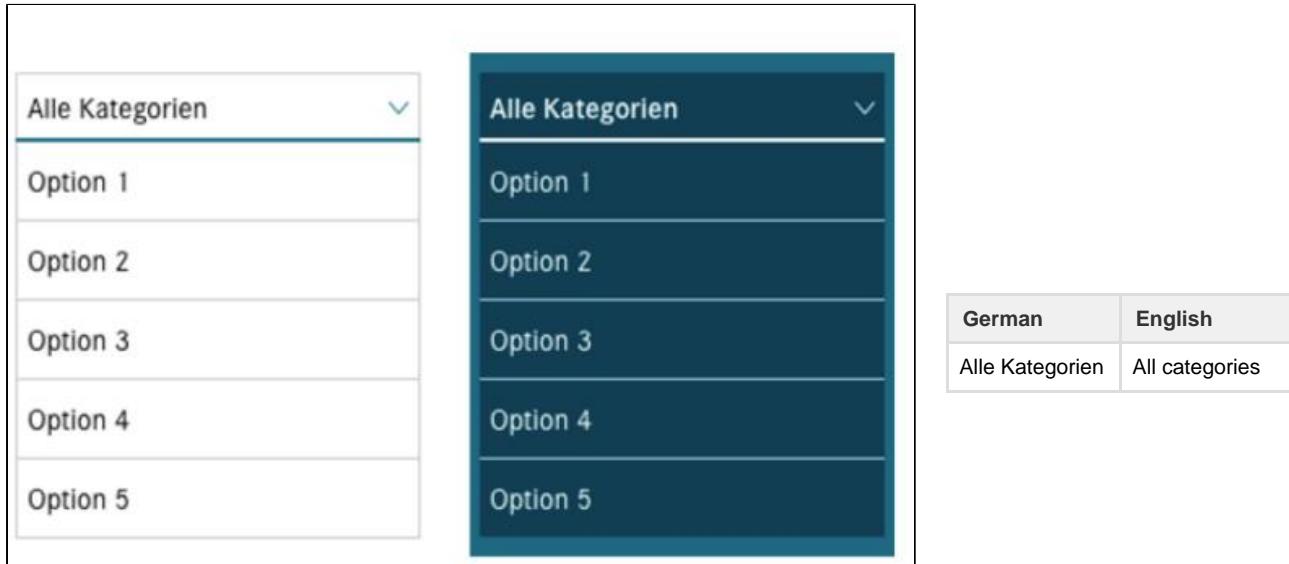


Characteristic	Normal	Mouseover	Pressed/Selected
BG-Color	White	Catskill	White
Border Width	1, 1, 1, 1	1, 1, 1, 1	1, 1, 2, 1
Border Color	Cool Grey 20K	-	Cool Grey 20K, Cool Grey 20K, Petrol, Cool Grey 20K
Font	P	-	-
Font Color	Black	-	-
<b>Cancel Button</b>			
Icon Size	20 dp	20 dp	20 dp
Icon Color	Cool Grey 60K	-	White
BG-Color	-	Catskill	Petrol 20

German	English
Suche	Search

## Switcher

*Graphical layout of the expanding list in the header*



For detailed characteristics of the switcher you can refer to: [list](#)

For detailed characteristics of the icons you can refer to: [Buttons & Icons](#)

## Controls

- Standard Controls
  - Buttons & Icons
  - Input Field & Text Area
  - Toggle Buttons
  - Dropdown
  - Scrolling
- Custom Controls
  - Meta Information
  - App Tile
  - Attachment
  - Feed Tiles
  - News List-Entry
- Glossary

### Glossary

#### Standard Controls

Those are widely spread controls that can be used to depict or edit objects. Every control type has a description for LIGHT & DARK implementation.

#### **Buttons & Icons**

Buttons conduct a simple action and normally consist of a labelling or/and an icon.

#### **Standard Buttons**

German	English
Bestätigen	Confirm

Spezifikation					
LIGHT					
Normal	Mouseover	Pressed	Selected	Disabled	
Abbrechen	Abbrechen	Abbrechen	Abbrechen	Abbrechen	
DARK					
Normal	Mouseover	Pressed	Selected	Disabled	
Abbrechen	Abbrechen	Abbrechen	Abbrechen	Abbrechen	
Merkmal	Normal	Mouseover	Pressed	Selected	Disabled
BG-Color	Cool Grey	Catskill	Petrol 20	Petrol	Cool Grey (Opacity: 30%)
Font	P	←	←	←	←
Font Color	Black	←	←	White	Black (Opacity: 30%)
Icon Size	20 dp	←	←	←	←
Icon Color	Cool Grey 60K	←	←	White	Cool Grey 60K (Opacity: 30%)

Abbrechen	Discard
Merkmal	Characteristic
Alle Kategorien	All categories

Icon Buttons					
LIGHT					
Normal	Mouseover	Pressed	Selected	Disabled	
Merkmal	Normal	Mouseover	Pressed	Selected	Disabled
BG-Color	-	Catskill	Petrol 20	-	-
Font	P	←	←	←	←
Font Color	Cool Grey 60K	←	←	←	Cool Grey 60K (Opacity: 30%)
Icon Size	20 dp	←	←	←	←
Icon Color	Cool Grey 60K	←	←	Petrol	Cool Grey 60K (Opacity: 30%)
DARK					
Normal	Mouseover	Pressed	Selected	Disabled	
Merkmal	Normal	Mouseover	Pressed	Selected	Disabled
BG-Color	-	Petrol 60	Petrol 40K	Petrol 40K	-
Font	P	←	←	←	←
Font Color	White	←	←	←	White (Opacity: 30%)
Icon Size	20 dp	←	←	←	←
Icon Color	White	←	←	←	White (Opacity: 30%)

German	English
Merken	Memorize
Gemerkt	Memorized
Merkmal	Characteristic

**Input Field & Text Area**

Input fields are used for inserting text or numbers through the users. Text areas are multiline input fields (e.g. comments).

### Text Area Light

## Spezifikation

### LIGHT



German	English
Text eingeben	Insert text

## Input Field Light

### Spezifikation

#### LIGHT



Anzahl  
22 Stück

Merkmal	Normal	Mouseover	Pressed	Selected	Disabled
BG-Color	White	Catskill	White	White (Opacity: 30%)	White (Opacity: 30%)
Border Width	1, 1, 1, 1	←	1, 1, 2, 1	←	1, 1, 1, 1
Border Color	Cool Grey 20K	←	Cool Grey 20K, Cool Grey 20K, Petrol, Cool Grey 20K	←	Cool Grey 20K (Opacity: 30%)
Font	P	←	←	←	←
Font Color	Black	←	←	←	Black (Opacity: 30%)
Value Helper					
Icon Size	20 dp	←	←	←	←
Icon Color	Cool Grey 60K	←	←	Petrol	Cool Grey 60K (Opacity: 30%)
BG-Color	~	Catskill	Petrol 40	~	~
Einheit					
Font	P	←	←	←	←
Font Color	Cool Grey 60K	←	←	←	Cool Grey 60K (Opacity: 30%)

German	English
SME	Subject Matter Expert
Anzahl	Quantity
Sachnummer	Article code
Beschreibung	Description
Merkmal	Characteristic
Einheit	Unit

## Text Area Dark

### Dark



German	English
Text eingeben	Insert text

## Input Field Dark

### Toggle Buttons

These buttons are used to choose one option out of different possibilities. It is a reduced depiction for a group of radio buttons.

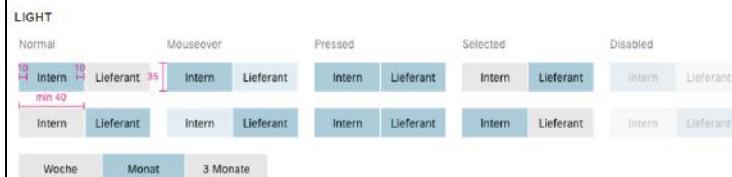
German	English
SME	Subject Matter Expert
Anzahl	Quantity
Sachnummer	Article code



Beschreibung	Description
Merkmal	Characteristic
Einheit	Unit

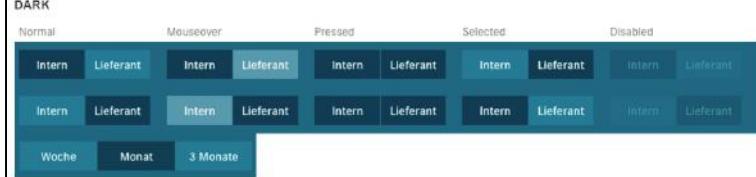
Merkmal	Normal	Mouseover	Pressed	Selected	Disabled
BG-Color	-	Petrol 60	Petrol 40K	-	-
Border Width	1, 1, 1, 1	←	1, 1, 2, 1	←	1, 1, 1, 1
Border Color	Petrol 60	←	Petrol 60, Petrol 60, White, Petrol 60	←	Petrol 60 (Opacity: 30%)
Font	P	←	←	←	←
Font Color	White	←	←	←	White (Opacity: 30%)
<b>Value Helper</b>					
Icon Size	20 dp	←	←	←	←
Icon Color	White	←	←	←	White (Opacity: 30%)
BG-Color	-	Petrol 60	Petrol 40K	←	-
<b>Einheit</b>					
Font	P	←	←	←	←
Font Color	Cool Grey 20K	←	←	←	Cool Grey 20K (Opacity: 30%)

## Spezifikation



German	English
Intern	Internal
Lieferant	Provider
Woche	Week
Monat	Month
<b>Merkmal</b>	<b>Characteristic</b>

Merkmal	Normal	Mouseover	Pressed	Selected	Disabled
BG-Color	Cool Grey	Catskill	Petrol 20	Petrol	Cool Grey (Opacity: 30%)
Font	P	←	←	←	←
Font Color	Black	←	←	White	Black (Opacity: 30%)
Icon Size	20 dp	←	←	←	←
Icon Color	Cool Grey 60K	←	←	White	Cool Grey 80K (Opacity: 30%)



Merkmal	Normal	Mouseover	Pressed	Selected	Disabled
BG-Color	Petrol 80	Petrol 60	Petrol 40K	Petrol 40K	Petrol 80 (Opacity: 30%)
Font	P	←	←	←	←
Font Color	White	←	←	←	White (Opacity: 30%)
Icon Size	20 dp	←	←	←	←
Icon Color	White	←	←	←	White (Opacity: 30%)

## Dropdown

A dropdown is used to choose one element of a list of mutually excluding possibilities. The selection is conducted by a click on a list element that opens the correlated page.

German	English
Alle Kategorien	All categories

LIGHT					
	Normal	Mouseover	Pressed	Selected	Disabled
Alle Kategorien	All Kategorien	All Kategorien	All Kategorien	All Kategorien	All Kategorien
BG-Color	White	Catskill	White	White (Opacity: 30%)	
Border Width	1, 1, 1, 1	1, 1, 2, 1	1, 1, 2, 1	1, 1, 1, 1	
Border Color	Cool Grey 20K	Cool Grey 20K, Cool Grey 20K, Petrol, Cool Grey 20K	Cool Grey 20K, Cool Grey 20K, Petrol, Cool Grey 20K	Cool Grey 20K (Opacity: 30%)	
Font	P	—	—	—	—
Font Color	Black	—	—	—	Black (Opacity: 30%)
Triangle Size	10 dp	—	—	—	—
Triangle Color	Petrol	—	—	—	Petrol (Opacity: 30%)

DARK					
	Normal	Mouseover	Pressed	Selected	Disabled
Alle Kategorien	All Kategorien				
BG-Color	Petrol 80	Petrol 60	Petrol 40K	Petrol 40K	Petrol 80 (Opacity: 30%)
Border Width	—	—	0, 0, 2, 0	—	—
Border Color	—	—	White	—	—
Font	P	—	—	—	—
Font Color	White	—	—	—	White (Opacity: 30%)
Triangle Size	10 dp	—	—	—	—
Triangle Color	White	—	—	—	White (Opacity: 30%)

Merkmal	Characteristic
---------	----------------

### Scrolling

The depiction of an explicit scroll bar should be avoided. Areas that can be scrolled should be displayed during scroll action with an indicator (e.g. see depiction below). It represents the proportions of the visible area to the total area.

German	English
Merken	Memorize
Gemerkt	Memorized
Lösungen für die Stadt von morgen	Solutions for the city of tomorrow
Jubiläumswochenende 10 Jahre Museum	Anniversary weekend 10 years museum
Es gibt Meer zu sehen	There is an ocean to see
Augenblick mal!	Wait for a moment!
Merkmal	Characteristic

Telekom.de 11:51

Lösungen für die Stadt von morgen

Sind Sie ein Stadtmensch? Wenn Sie diese Frage spontan mit „Ja“ beantwortet haben, gehören Si...

Holger Klaizik 10.08.2016 Merken

Jubiläumswochenende 10 Jahre Museum

Am Wochenende ist es so weit: Am 4. und 5. Juni feiert das Mercedes-Benz Museum sein 1...

Ralf Glaser 02.06.2016 Gemerkt 8

Es gibt Meer zu sehen

Der S213 macht sich bereit. Heute zeigen wir ein erstes reales Bild, auch w...

Maximilian Schmitz 02.06.2016 Merken

Augenblick mal! Tipps für frische Augen bei digitalem Sehstress

Kennen Sie das? Gerötete,

Merkmal	Normal
BG-Color	Black (Opacity: 30%)

German	English
Sortiert nach	Sort for
Mit Icon	With the icon
Numerisch	Numerical
Nur Icon	Only the icon
Referenz	Reference
Wert	Value
Max Mustermann	Random name
SME	Subject Matter Expert
Weitere Ergebnisse laden...	Load more notifications...

In the depiction below the topic "**Lazy Loading**" is shown. That means that only a certain amount of entries are loaded in the beginning to quickly provide the user the necessary data. The list expands as soon as the user reaches the end (Weitere Ergebnisse laden...).

Sortiert nach	Mit Icon	Numerisch	Nur Icon	Referenz
Wert	Max Mustermann	12,56	✓	SME - 381291
Wert	Max Mustermann	12,56	✎	SME - 381291
Wert	Max Mustermann	12,56	✎	SME - 381291
Wert	Max Mustermann	12,56	✓	SME - 381291
Wert	Max Mustermann	12,56	✎	SME - 381291
Wert	Max Mustermann	12,56	✓	SME - 381291
Wert	Max Mustermann	12,56	✓	SME - 381291
Wert	Max Mustermann	12,56	✓	SME - 381291
Weitere Ergebnisse laden...				

German	English
Letzte Änderung	Last change
Merkmal	Characteristic

## Custom Controls

### **Meta Information**

It is used for additional information that can be helpful for the user.

Spezifikation				
Normal	Mouseover	Pressed	Selected	Ohne Aktion / Ohne Label
Merkmal	Normal	Mouseover	Pressed	Selected
BG-Color	White	Catskill	Petrol 40	Petrol
Icon	20 dp, Cool Grey 60K	—	—	White
Label				
Font	H4 ST	←	←	←
Font Color	Cool Grey 60K	←	←	Cool Grey 20K
Value				
Font	H4 ST	←	←	←
Font Color	Black	←	←	White

German	English
Spezifikation	Specification
Merkmal	Characteristic
KPI	Key Performance Index
Beschreibung / Einheit	Description / unit

### **App Tile**

It is used for a module or application request. An App tile consists of a title, a description and an icon. An App tile can also include KPI-information which give the user a hint about its current state or his tasks.

Spezifikation				
Normal	Mouseover	Pressed	Selected	Other
Merkmal	Normal	Mouseover	Pressed	Selected
BG-Color	White	Catskill	Petrol 40	—
Icon Size	40 dp	←	←	—
Icon Color	Petrol	←	←	—
Application Name				
Font	H4	←	←	—
Font Color	Black	←	←	—
KPI				
Font	H3	←	←	—
Font Color	Black	←	←	—
Beschreibung / Einheit				
Font	H4 ST	←	←	—
Font Color	Cool Grey 60K	←	←	—

German	English
Lorem ipsum dolor sit amet	Random latin text
Externer Upload	External Upload
... wird hochgeladen	... is currently uploaded
... konnte nicht hochgeladen werden	..Could not be uploaded
Merkmal	Characteristic
Dateiname	File name
Beschreibung	Description
Zusatzinformation	Additional information

### **Attachment**

It is used for uploaded data and consists for our project of:

- 1) A picture tile. The icon should mirror the file type
- 2) A file name
- 3) The file size
- 4) The date when the file was uploaded
- 5) None of the right icons should be displayed but a recycle bin instead

## Spezifikation



Merkmal	Normal	Mouseover	Pressed
BG-Color	White	Catskill	Petrol 40
BG-Color Icon Buttons	Alabaster	—	—
Border	1 dp. Cool Grey 20K	—	—
Icon Size	40 dp	—	—
Icon Color	Cool Grey 40K	—	—
Dateiname			
Font	H3 ST	—	—
Font Color	Petrol	—	—
<b>Beschreibung</b>			
Font	H4 ST	—	—
Font Color	Black	—	—
<b>Zusatzinformation</b>			
Font	H4 ST	—	—
Font Color	Cool Grey 60K	—	—

## Feed Tiles

It is used for displaying special information within an application. They consist of a title and a freely choosable way to visualize data.

German	English
Spezifikation	Specification
Lösungen für die Stadt von morgen	Solutions for the city of tomorrow
Weitere Meldungen	More notifications
... konnte nicht hochgeladen werden	... could'nt be uploaded
Merkmal	Characteristic

## Spezifikation



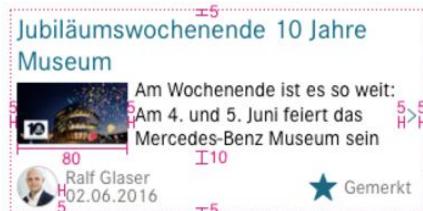
Merkmal	Normal	Mouseover	Pressed
BG-Color	White	Catskill	Petrol 40
TitleHeader/Application Name			
Font	H4 ST	—	—
Font Color	Cool Grey 60K	—	—

## News List-Entry

It is used as a preview of the actual article.

German	English
Spezifikation	Specification
Jubiläumswochenende 10 Jahre Museum	Anniversary weekend 10 years museum
Am Wochenende ist es so weit....	Random description text
Gemerkt	Memorized
Merkmal	Characteristic
Zusatz	Addition

# Spezifikation



Merkmal	Normal
<b>Title</b>	
Font	H4
Font Color	Petrol
<b>Text</b>	
Font	P
Font Color	Black
<b>Zusatz</b>	
Font	H4 ST
Font Color	Cool Grey 60K

## Fonts, Icons & Colors

- Fonts
- Icons
- Colors
  - Primary Color
  - Secondary Color

## Fonts

Font	Profile	Size (in dp)	Line Height (in dp)	Naming	Use
Daimler CS	Regular	40	-	<b>H1</b>	-
Daimler CS	Regular	34	-	<b>H2</b>	-
Daimler CS	Regular	28	-	<b>H3</b>	<ul style="list-style-type: none"> <li>• News Title (Tablet, Desktop)</li> <li>• News List-Entry Überschrift</li> <li>• Content Group Title</li> <li>• App Tile Value</li> </ul>
Daimler CS	Regular	26	-	<b>H1 ST</b>	<ul style="list-style-type: none"> <li>• Secondary Text H1</li> </ul>
Daimler CS	Regular	22	-	<b>H2 ST</b>	<ul style="list-style-type: none"> <li>• Secondary Text H2</li> </ul>
Daimler CS	Regular	20	-	<b>H4</b>	<ul style="list-style-type: none"> <li>• News Title (Phone)</li> <li>• App Tile Überschrift</li> <li>• Tab</li> <li>• App Title (Tablet, Desktop)</li> </ul>
Daimler CS	Regular	18	-	<b>H3 ST</b>	<ul style="list-style-type: none"> <li>• Secondary Text H3</li> </ul>
Daimler CS	Regular	15	-	<b>P</b>	<ul style="list-style-type: none"> <li>• Standard text</li> <li>• App Tile (Phone)</li> <li>• Module Title</li> </ul>
<b>Daimler CS</b>	Demi	15	-	<b>PD</b>	<ul style="list-style-type: none"> <li>• Important values within content</li> </ul>

Daimler CS	Regular	14		-	H4 ST	<ul style="list-style-type: none"> <li>• Secondary Text H4</li> <li>• Additional information</li> <li>• Notifications</li> <li>• Icon Button Label</li> </ul>
------------	---------	----	--	---	-------	---------------------------------------------------------------------------------------------------------------------------------------------------------------

## Icons



Icon list available under the link:

<http://styleguide.daimler.com/de/stilelemente/icons/>

## Colors

### Primary Color

Hex-Value	Naming	Use
#00677f	<b>Petrol</b>	<ul style="list-style-type: none"> <li>• Background</li> <li>• Header dividing line</li> <li>• Icons</li> <li>• Titles</li> </ul>
#003340	<b>Petrol 60K</b>	
#004355	<b>Petrol 40K</b>	<ul style="list-style-type: none"> <li>• Selection</li> <li>• Pressed (Dark)</li> </ul>
#00566a	<b>Petrol 20K</b>	<ul style="list-style-type: none"> <li>• Feed Tile Action</li> </ul>
#007a93	<b>Petrol 80</b>	

#5097ab	<b>Petrol 60</b>	• Mouseover (Dark)
#79aebf	<b>Petrol 40</b>	
#a6cad8	<b>Petrol 20</b>	• Dividing line (Tabs, Content Group) • Pressed (Light)
#dfedf2	<b>Catskill</b>	• Mouseover (Light)
#e6e6e6	<b>Cool Grey</b>	• Buttons
#444444	<b>Cool Grey 80K</b>	
#707070	<b>Cool Grey 60K</b>	• Additional information/Secondary Text
#9e9e9e	<b>Cool Grey 40K</b>	• Icons
#c8c8c8	<b>Cool Grey 20K</b>	• Dividing line (List) • Paginator (News Feed)
#fafafa	<b>Alabaster</b>	• Background content
#72170c	<b>Deep Red</b>	
#440e07	<b>Deep Red 40K</b>	
#5a130a	<b>Deep Red 20K</b>	
#8c463c	<b>Deep Red 80</b>	
#aa736e	<b>Deep Red 60</b>	
#c8a0a0	<b>Deep Red 40</b>	
#e6d2d2	<b>Deep Red 20</b>	
#ff0000	<b>Signal Red</b>	• Errors • Critical state
#9f1924	<b>Signal Red 40K</b>	
#000000	<b>Black</b>	• Text on a bright background
#ffffff	<b>White</b>	• Text on a dark background

#### Secondary Color

Hex-Wert	Bezeichnung	Verwendung
#e69123	<b>Orange</b>	• Notifications • Warnings
#eba550	<b>Orange 80</b>	
#f0be7d	<b>Orange 60</b>	
#f5d2aa	<b>Orange 40</b>	
#fae6d2	<b>Orange 20</b>	
#6ea046	<b>Green</b>	• Positiv content
#8cb46e	<b>Green 80</b>	
#aac891	<b>Green 60</b>	
#c8dcb4	<b>Green 40</b>	
#e1ebdc	<b>Green 20</b>	

#### Relevant Building Blocks

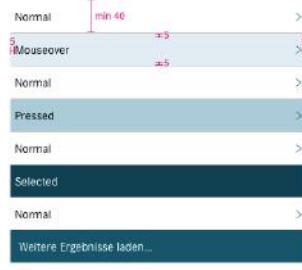
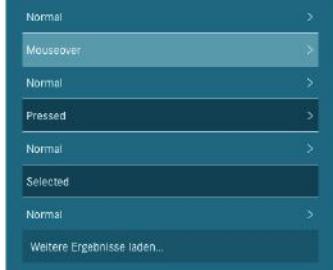
- List
- Form Container
- Content Container
- Tables
  - Specification of tables
  - Filters
- Glossary

## Glossary

Building Blocks are UI-elements that are used to structure data. **Standard controls** and **Custom Controls** can be used for filling them.

### List

Lists are used to give an overview over objects and data.

Spezifikation				
				>
				>
				>
				>
<b>LIGHT</b>				
Merkmal	Normal	Mouseover	Pressed	Selected
Trennlinie List Items	1 dp, Cool Grey			
BG-Color	White	Catskill	Petrol 20	Petrol 40K
Font	P. Black	←	←	P. White
Triangle	10 dp, Petrol	←	←	—
<b>DARK</b>				
Merkmal	Normal	Mouseover	Pressed	Selected
Trennlinie List Items	1 dp, Petrol 20			
BG-Color	Petrol	Petrol 60	Petrol 40	Petrol 40K
Font	P. White	←	←	←
Triangle	10 dp, White	←	←	—

German	English
Spezifikation	Specification
Weitere Ergebnisse laden...	Load more entries...
Merkmale	Characterisitcs
Trennlinie	Dividing line

### Form Container

This groups connected elements with a heading and a dividing line. The identification takes place through a labelled frame.

## Spezifikation

LIGHT

 Normal  30 

 Collapsed  30

▼ Open

Merkmal	Normal	Mouseover	Pressed	Selected
Trennlinie Container	1 dp, Petrol 20			
Font	H4, Cool Grey 60K	—	—	—
Triangle	12 dp			

DARK

 Normal 

 > Collapsed

▼ Open

Merkmal	Normal	Mouseover	Pressed	Selected
Trennlinie Container	1 dp, Petrol 20			
Font Phone	H4, White	—	—	—
Triangle	12 dp			

## Content Container

This is used to structure content.

## Spezifikation

LIGHT

 Normal  40

Tablet/Desktop

 Normal  30

Phone

Merkmal	Normal
Trennlinie Container	1 dp, Cool Grey
Font Tablet/Desktop	H3, Cool Grey 60K
Font Phone	H4, Cool Grey 60K

DARK

 Normal 

Tablet/Desktop

German	English
Merkmal	Characteristic
Trennlinie	Dividing line

## Tables

Tables are used to structure huge amounts of data and objects clearly arranged and comparable.

### Specification of tables

German	English
Spezifikation	Specification
Trennlinie	Dividing line

## Spezifikation

	Mit Icon	Numerisch	Nur Icon	Referenz
Normal	Max Mustermann	4711 ✓	SME - 381291	
Mouseover	Max Mustermann	4711 ✎	SME - 381291	
Normal	Max Mustermann	4711 ✎	SME - 381291	
Pressed	Max Mustermann	4711 ✓	SME - 381291	
Normal	Max Mustermann	4711 ✎	SME - 381291	
Selected	Max Mustermann	4711 ✓	SME - 381291	
Normal	Max Mustermann	4711 ✓	SME - 381291	
Normal	Max Mustermann	4711 ✓	SME - 381291	
Weitere Ergebnisse laden...				

Merkmal	Normal	Mouseover	Pressed	Selected
Trennlinie	1 dp, Cool Grey			
BG-Color	White	Catskill	Petrol 20	Petrol 40K
Font	P, Black	←	←	P, White
Triangle	10 dp, Petrol	←	←	-

## Filters

It is used to filter content.

	Mit Icon	Numerisch	Nur Icon	Referenz
Wert	Max Mustermann	12,56 ✓	SME - 381291	
Wert	Max Mustermann	12,56 ✎	SME - 381291	
Wert	Max Mustermann	12,56 ✎	SME - 381291	
Wert	Max Mustermann	12,56 ✓	SME - 381291	
Wert	Max Mustermann	12,56 ✎	SME - 381291	
Wert	Max Mustermann	12,56 ✓	SME - 381291	
Wert	Max Mustermann	12,56 ✓	SME - 381291	
Wert	Max Mustermann	12,56 ✓	SME - 381291	
Weitere Ergebnisse laden...				

German	English
Spezifikation	Specification
Sortiert nach	Sorted by
Mit Icon	With the icon
Numerisch	Numerical
Nur Icon	Only the icon
Referenz	Reference
SME	Subject Matter Expert
Max Mustermann	Random name
Weitere Ergebnisse laden	Load new entries
Merkmal	Characteristic
Trennlinie	Dividing line

German	English
Sortiert nach	Sorted by
Mit Icon	With the icon
Numerisch	Numerical
Nur Icon	Only the icon
Referenz	Reference
Wert	Value
SME	Subject Matter Expert
Max Mustermann	Random name
Weitere Ergebnisse laden	Load new entries

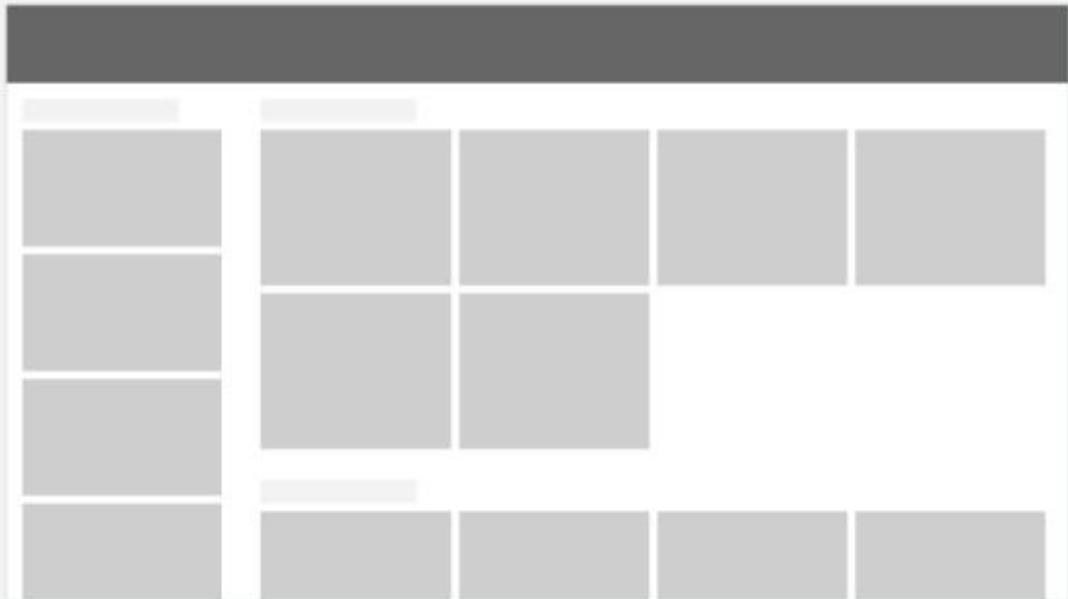
## Relevant Layout Types

- Home
- Launchpad
- Master Detail (Task list)
- Plain

### **Home**

This is the welcome page of the application from which the user can navigate through the single modules. The left part is the Feed column with all the **Feed Tiles** and the right part is a container for the **App Tiles**.

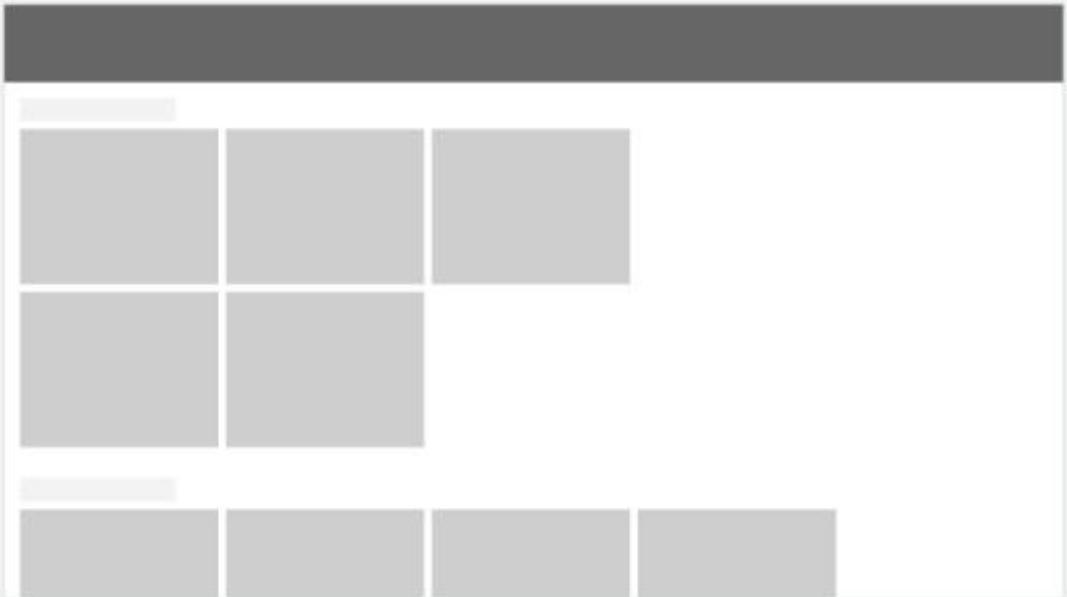
It is also possible to navigate through the application with the Feed Tiles.



## Home

### ***Launchpad***

The Launchpad is similar to the Home page but it is used to structure elements in tiles in the hierachically lower modules of the application. There is no Feed column.



## Launchpad

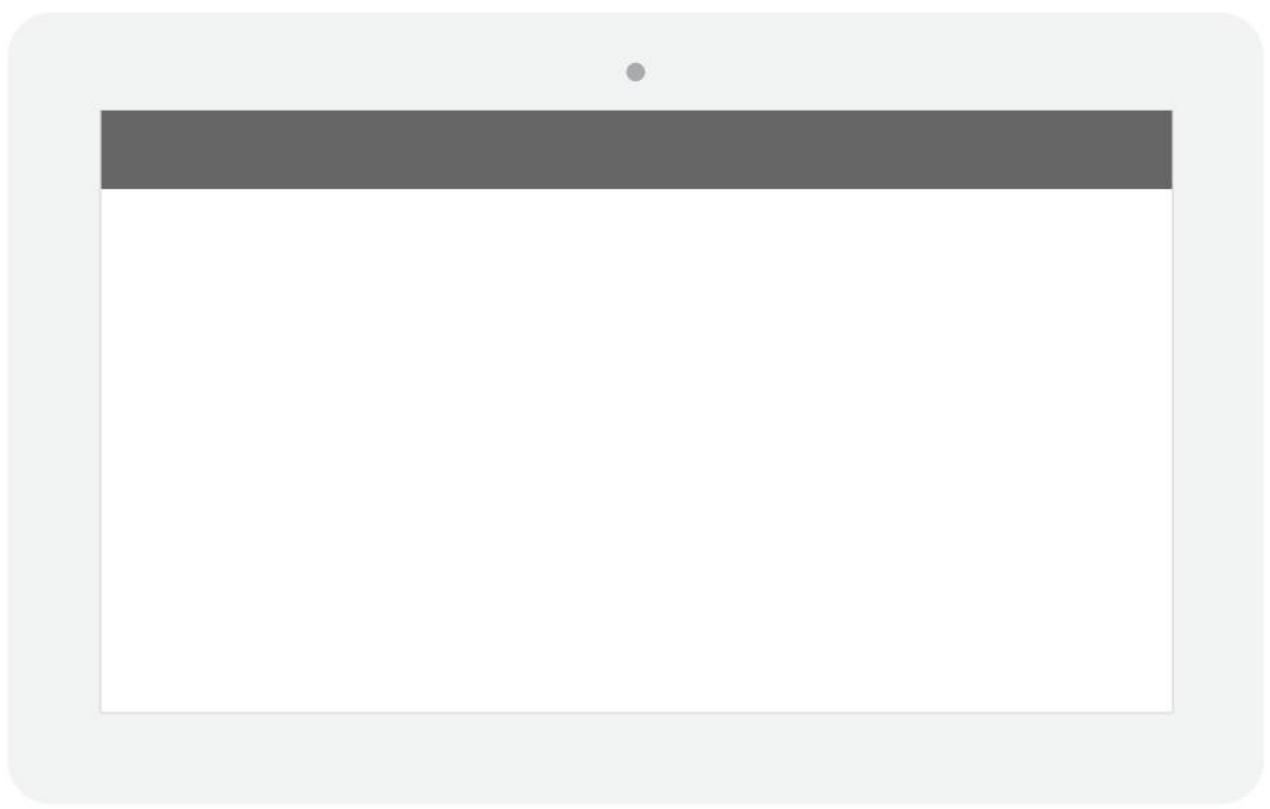
### ***Master Detail (Task list)***

The Master Detail layout gives the user an overview over multiple objects on the left side at the same as it also give a detailed view of one object on the right side. It allows a faster run through the objects,



## **Plain**

The Plain layout is the basis of every screen within VTAS. It can be filled with any **Building Blocks** or **Controls**.



## User Assistance

### Glossary

- Notification
  - Modal dialog type
  - Amodal dialog type
- Tooltip
- Glossary

### Notification

Notifications are means to inform users about an abnormal system state. They should be used wisely because they interrupt the user's workflow.

There are 3 different types of notifications.

--> **Error:** For fatal problems. The user shouldn't repeat inserting previously correctly inserted data.

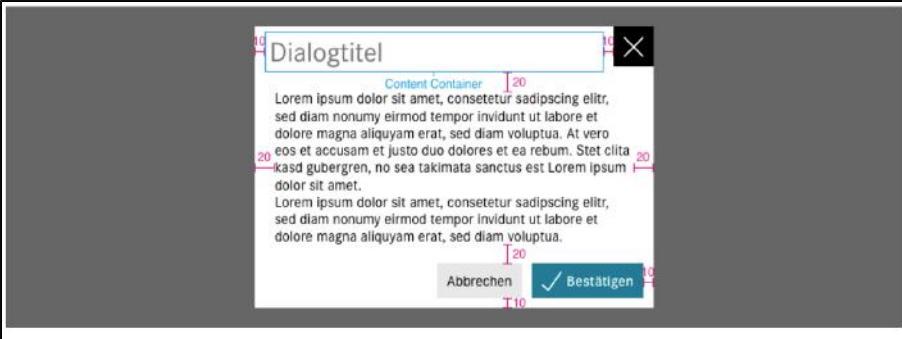
--> **Warning:** Informs the user about a system state that demands a decision. It normally gives the user information about a possible problem in the future.

--> **Information / Confirmation:** Gives the user information, clarification or asks him for confirmation of an action. If there is a possible data loss a confirmation must be demanded from the user.

### Modal dialog type

User will be interrupted during his operational procedure.

German	English
Dialogtitel	Dialog title



Lorem Ipsum dolor sit amet....	Random latin text
Abbrechen	Discard
Bestätigen	Confirm
Merkmal	Characteristic
Trennlinie	Dividing line

Merkmal	Normal
Trennlinie Container	1 dp. Cool Grey
Font Tablet/Desktop	H3, Cool Grey 60K
Font Phone	H4, Cool Grey 60K

#### ***Amodal dialog type***

Here the user won't be interrupted with his operational procedure.

- > In-place-notification
- > Notification within a status bar
- > Log Files for notifications



#### ***Tooltip***

Tooltips appear automatically when the user conducts a mouseover.

- 1) Tooltips should be utilised often. **All controls** (also objects like icons, pictures and diagrams) should be provided with them.
- 2) **Abbreviated names** (e.g. VTAS) should be displayed in their complete (e.g. Vehicle testing & analyzing system) form in the tooltip.
- 3) Tooltips are supposed to have a **value**. Therefore the name of an object is only displayed when the name **isn't already** shown. It should also give a **short description**.
- 4) **Menu items or self defining elements don't** have tooltips.

## Working With Git

1. **Git Utility Commands - Listing**
2. **Utility Commands - Creating, Deleting, Renaming, Moving & files and folders**
3. **3 GIT States of GIT**
4. **GIT Configuration**
5. **Configuring GIT for users working under global level**
6. **Configuring GIT for users working under local repository level**
7. **Copy the repository (Cloning)**
8. **Commit/pushing files to remote repository**
9. **Ignoring files to commit**
10. **Identifying & ignoring the difference in files**
11. **Identifying & ignoring the difference in files**
12. **Understanding GIT pull & fetch command**
  - 12.1 **Disadvantage of pull command**
  - 12.2 **Resolving merge conflicts with pull command**
13. **Understanding GIT Branch**
  - 13.1 **Working with GIT local branches**
  - 13.2 **GIT merging branches and pushing branches to remote**
  - 13.3 **Deleting local and remote branches**
  - 13.4 **Deleting local branches forcefully**
14. **GIT checkout command**
15. **Tagging In GIT**
16. **Stashing in GIT**
17. **Git Rebase**
  - 17.1 **git merge v/s rebase**
18. **Generating & Mapping SSH keys for Github**
19. **Github FORK & PULL requests**

## GIT Utility commands - Listing

**git –version:** to validate the installation of GIT

**pwd :** to find out the present working directory

**ls -l** : to list out the details of the folder  
**ls -al**: to display the hidden files and folder  
**mkdir <dir\_name>** : to create a directory  
**cd <dir\_name>** : to navigate into a directory  
**cd ..** : to navigate back to one level  
**cd ~** : to navigate back to user root directory  
**cd** : to navigate back to user root directory (same like above)  
**mkdir -p directory\_name1/directory\_name1-2/directory\_name2-3** : to create multiple sub level directory in a single command  
**clear**: to clear out your screen  
**exit**: to exit the terminal  
**git help <command>** : to display the information about the command

## Utility Commands - Creating, Deleting, Renaming, Moving & files and folders

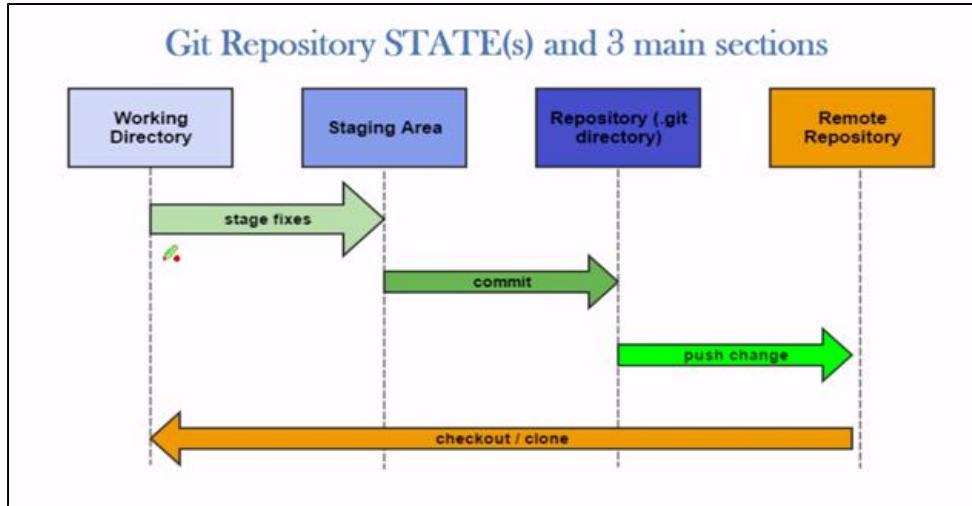
**touch <file\_name>** : to create a specific file  
**notepad <file\_name>** : to open a file via a notepad editor and also can be used to enter contents for the file  
**cat file\_name** : to display the content of the file. This is good for small and simple file. The file contents can be browsed by moving the scroll bar  
**less file\_name** : again, to display the content of the file. The file contents can be browsed with up & down arrow keys  
**rm file\_name** : to remove a specific file  
**rmdir directory\_name** : to remove a specific directory  
**rm -rf directory\_name/** : to delete the complete folder with all of its contents, recursively (rf = recursively and forcefully)  
**mv older\_folderName new\_folderName** : to rename a existing folder to a new name  
**echo "Hello world"** : it will simply echo out the given string  
**echo \$PATH** : to display the complete path information  
**echo "The current path is \$PATH"** : this will display the PATH information prefixing the given string  
**echo "file\_contents" >> file\_name** : to create a file with contents redirected to a file. If file is not created, then it will create the file. Otherwise it will append the contents  
**echo "file\_contents" > file\_name**: to create a file with contents. If file is not existed then, it creates a new file with content, otherwise new contents will replace old contents  
**ls -l > listing.txt** : to redirect all output to an file

## 3 GIT States of GIT

**Working directory**- root directory of your GIT project

**Staging area** – this is where all related changes are built up

**Repository (.git directory) / Commit area**– this is where all artifacts are stacked safely in GIT database



## GIT Configuration

### **Configuring GIT for users working under System level**

**git config --system user.name "user\_name"** : to configure user\_name into git

**git config --system user.email "user\_emailAddress"** : to configure user\_password into git

**git config --system --list** : to find the list of users configured into git

### **Configuring GIT for users working under global level**

This will override any configuration done at system level

**git config --global user.name "user\_name"** : to configure user\_name into git

**git config --global user.email "user\_emailAddress"** : to configure user\_password into git

**git config --global --list** : to find the list of users configured into git

### **Configuring GIT for users working under local repository level**

This will override any configuration done on system & global level. This is required when a user is working in multiple projects and wants to have different configuration for different projects.

**git config --local user.name "user\_name"** : to configure user\_name into git

**git config --local user.email "user\_emailAddress"** : to configure user\_password into git

**git config --local --list** : to find the list of users configured into git

## Copy the repository (Cloning)

# paste in your GitHub HTTPS clone URL

**git clone https://github.com/kpanda/github-demo.git** : to clone a remote repository

**git clone https://github.com/kpanda/github-demo.git kiran\_repo** : to clone a remote repository under Kiran\_repo repository

**cd folder\_name** : to navigate into the repository

**ls** : lists all files & folders of your cloned directory

**git status** : displays the status of your folder i.e. is there any uncommitted/changed/unstaged file(s)

**git remote -v** : displays all origin names from remote repository

**git remote add origin <https://github url/repo name>** - if there is no map created between your local and remote repos; and now local repo want to establish a relationship with remote repository (github)

**git remote remove origin** : to delete the cloned repository from local system

## Commit/pushing files to remote repository

**git commit -m "commit\_message"** : to commit a file into the staging directory

**git commit -am "commit message"** : to simultaneously add and commit

**git push origin master** : to push the changes from local to remote repository

**Note:** origin refers to the git hub copy of our remote repository and master refers to remote's only default branch. And your local repository is always called a master, unless you create a different branch

**git remove -v**: to locate the complete information of origin

**git remote add origin <https://github url/repo name>** - if there is no map created between your local and remote repos; and now local repo want to establish a relationship with remote repository (github)

## Ignoring files to commit

**touch .gitignore** : create a file inside your project folder

then add all required extensions and folders to get ignored in the .gitignore file e.g.

.idea, .iml, \*.txt

**!four.txt** - to exclude a specific file from the matching pattern

## Identifying & ignoring the difference in files

**git diff file\_name** : to see the difference in the changed file v/s earlier file

**git checkout -- file\_name** : to discard the changes from the already tracked file i.e. you do not want to bring the new changes to staging area

## Understanding GIT log command

**git log** : display the complete commit information (to exit from the log view, type 'q')

**git log -4** : displays the last 4 commit information

**git log --oneline**: to have a single line view

**git log file\_name**: to view the commit history of an specific file

**git log <since>..<until>**: to view the commit history between 2 commit ids

## Understanding GIT pull & fetch command

**git pull repo\_name branch\_name** : to pull new changes from a repo and merge with local repo

**Note:** git pull = git fetch + git merge

**Disadvantage of pull command -**

- a) Can be run only when local changes are committed
- b) In case of conflicting changes, the user has to manually merge the changes and commit

## Resolving merge conflicts with pull command

1. Change a file – vi myfile.txt
2. Do not commit the changed file to local repository
3. Pull the file (with same name) from remote repository – conflict will arise – *git pull origin master*
4. Add the file to staging area– git add .
6. Commit the changed file – *git commit -m "description"*

7. Pull the file from remote repository – conflict would have resolved – `git pull origin master`
8. Open the file resolve the merge issue, manually
9. Add the file to staging area – `git add myfile.txt`
10. Commit the merged file – `git commit -m "desc"`
11. Now, pull the latest from repository – `git pull origin master` – there won't be any conflict, as we have resolved the conflict by merging the changes
12. Now, we can safely push the changes to remote repository – `git push origin master`

**git fetch** repo\_name branch\_name : *to pull changes from remote repository into commit area (remote tracking branch) but not to merge with local repository*

**git merge** repo\_name/branch\_name : *to merge the remote changes with local changes or vice-versa*

- a) Let the developer work on current repo without merging the changes automatically
- b) Merging should then be explicitly by running the "merge" command
- c) If there are any conflicts, merging should be taken care by the user

## Understanding GIT Branch

- a. GIT branch is one of the key features where it outshines traditional VCS
- b. Branches can be local as well as remote
- c. The default branch of every repo is called "master"
- d. Any number of branches can be created

### Working with GIT local branches

**git branch** : *displays the name of current branch*

**git branch --list** : *to display all branch names, created in our local repository*

**git branch --list -r** : *to view all of the branches in our local repository including the remote tracking branch*

**git branch new\_branch\_name** : *to create a new branch in our local repository*

**Note:** New branch is just a pointer to same code on master branch, where all codes from master will be copied to the newly created branch

**git checkout new\_branch\_name** - to switch to the newly created branch

**git checkout -b new\_branch\_name** : *to create a new branch and simultaneously switch to the new branch*

#### Note:

- a) Every branch we create is having its own staging area and commit area.
- b) All the changes what we made on the new branch is also visible to all other branches. Until, the changes are committed.

### GIT merging branches and pushing branches to remote

**git merge branch\_name** : *to merge the changes from source branch to destination branch*

**Note:** you should be in destination branch before merging the changes. If there are any conflicts, then developer has to resolve manually

**git push origin local\_branch** - *to push the newly created local branch to remote repository*

## Deleting local and remote branches

**git branch -d local\_branch\_name** : *deleting a branch from the local repository*

**Note:** you should be not in that specific branch while deleting the branch

**git push --delete origin remote\_branch\_name** : *deleting a branch from remote repository*

### **Deleting local branches forcefully**

**git branch -D local\_branch\_name** : *deleting local branch forcefully, before merging the changes to master branch*

(Because, if a branch is not merged with master then it will not allow you to delete that specific branch, so use capital 'D' option to delete the branch forcefully)

## **GIT checkout command**

1. **It can be used to switch branches : git checkout <branch\_name>**

2. **Can be used to checkout commits, where the whole repository will revert back to the specific commit id: git checkout <commit\_id>**

By this head will be detached and will point to the commit id. Any changes in this stage will not harm the original branch and also is not permanent in the same commit id branch i.e. whatever we do here will not save into the main branch or in the current branch(master or on any specific branch)– to save the changes follow special instruction , what git suggests OR create a new branch with git checkout -b <newbranch\_name> to retain the changes made in the commit id branch (i.e. here we are saving the changes in a different branch, as the commit id branch is always a read-only branch)

*Note: During the normal course of development, the HEAD usually points to master or some other local branch, but when you check out a previous commit, HEAD no longer points to a branch—it points directly to a commit.*

To go back to master, type git checkout master, which again point back to the head.

3. **Can be also used to checkout files: git checkout <commit\_id> <file\_name>**

By this we are reverting back to a specific commit for a specific file, not reverting back the whole repository...This will also alter the state of the repository unlike the previous point.

## **Tagging In GIT**

- a) To create a checkpoint for the commit
- b) Does not allow changes to be performed on the tags
- c) Used for deployment purposes
- d) A feature supported by all version controlled systems

**git tag** : *to list all the tags on the current repository (local)*

**git tag tag\_name** : *to create a tag*

**git push tag tag\_name** : *to push a tag into remote repository*

**git tag -d tag\_name** : *to delete a tag from local repository*

**git push origin :refs/tag\_name** : *to delete a tag from remote repository*

## **Stashing in GIT**

- a) Is a very powerful command, when working with unsaved changes
- b) To store the uncommitted changes in a temporary location
- c) After stashing the working copy will be pointing to the last commit
- d) Can be used to move the uncommitted changes from one branch to another effectively

**git stash save "stash message"** : *to stash the uncommitted changes and move the head to previous commit*

**git stash list** : *to view the list of stash*

**git stash pop** : when you're ready to come back to your incomplete work

**Note:** The git stash pop command always re-applies the most recent snapshot, the one at the top of the stash stack.

**git stash apply stash@{1}** : to pick up a specific stash

**Note:** This will not automatically remove the snapshot from the stash stack. Instead, you'll need to manually delete it with the drop command

**git stash drop stash@{1}** : to drop a specific stash from the stash area

## Git Rebase

**git rebase** command allows you to easily change a series of commits, modifying the history of your repository. You can reorder, edit, or squash commits together. Typically, you would use git rebase to:

- a) Edit previous commit messages
- b) Combine multiple commits into one
- c) Delete or revert commits that are no longer necessary

**Note:** Because changing your commit history can make things difficult for everyone else using the repository, it's considered bad practice to rebase commits when you've already pushed to a repository

**git rebase --interactive other\_branch\_name** : to rebase all the commits between another branch and the current branch (interactive mode)

**git rebase --interactive HEAD~7** : to rebase the last few commits in your current branch (interactive mode)

## git merge v/s rebase

a) Merge takes all the changes in one branch and merges them into another branch in one commit.

- Let's say you have created a branch for the purpose of developing a single feature. When you want to bring those changes back to master, you probably want merge

b) Rebase says I want the point at which I branched to move to a new starting point

- A second scenario would be if you started doing some development and then another developer made an unrelated change. You probably want to pull and then rebase to base your changes from the current version from the repo

## Generating & Mapping SSH keys for Github

a) This creates a trusted relationship between your computer and remote repo

b) You no need to enter your username & password for multiple push to remote repo; **provided you should have cloned your local repository using SSH clone URL**

`ssh-keygen -t rsa -C your_email@example.com` : to generate the ssh key

`clip < ~/.ssh/id_rsa.pub` : to copy the RSA key to the clipboard from the pub folder (you can also navigate to the location of the pub folder and copy the ssh key manually)

Navigate to Github site -> Settings ->SSH Keys->Add SSH key->Paste your SSH key under "Keys" text area: to map your SSH key in Github

## Github FORK & PULL requests

a) To own a copy of a repository in github (someone else's repo) and start contributing it

b) Fork can be done on gitub

c) After forking the forked repository will be added to your profile (it will also have complete information on fork)

d) Now, you can start working in the copied/forked repository

e) Once you're changes are completed,you want the original author to accept the changes you made to forked repository is called "pull request".

## \_to\_delete\_Branching concept

### Git Process Workflow – branching/merging

**Central repo holds 2 main branches with an infinite lifetime:**

- master: origin/master will be considered as main branch where the source code of HEAD always reflects a production-ready state
- develop: origin/develop will be considered as main branch where the source code of HEAD always reflects a state with the latest development changes for the next release

**The different types of branches used are**

- Master branch
- Release branches
- Development branches
- Feature branches
- Hotfix branches

**Master Branch** is the permanent branch, which always reflects a production ready state. In other words, it's the main branch.

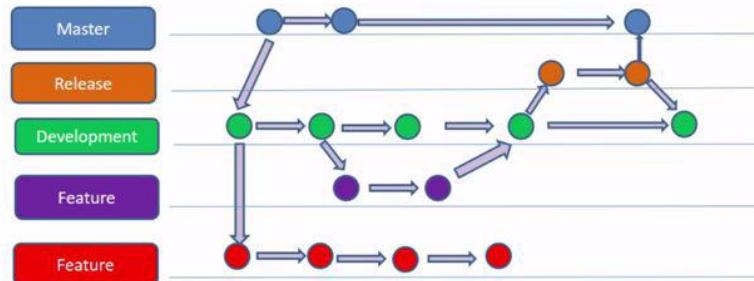
**Development branch** (will be created from Master branch) is the branch which will be always moving ahead due to continual work by developer. Once developer branch has acquired enough features for a release then the developer create a Release branch from the developer branch.

**Release branch** is the temporary supporting branch to support the regression of new production release. Creating this branch starts the next release cycle, so no new features can be added after this point. This branch is mainly from bug fixing, documentation & etc

When developers start working on new features they start creating new **feature branches** and commit into them. These branches are created, so the main line of development and production ready master branch will remain un-disturbed.

After the release has been deployed to live and a critical bug is discovered, we branch a **hotfix branch** from master (e.g. **hotfix/ISSUE\_NUMBER**), merge it back into master and deploy again.

## Real world branching scenario



## Branching and versioning concept 2.0

- Branching
  - Why we do it
    - Release Versions
  - How we do it
    - Naming concept
    - During a Sprint

- After a sprint review
- Hotfix
- Versioning
  - How to release(only architects or leads shall do this!)

## Branching

### ***Why we do it***

Branching is important to work with multiple people on a project.

Additionally it can represent the application in different environments.

### **Release Versions**

A release-version is a deliverable version with a unique versionnumber and a tag in the git repository.

Snapshot-Version have the problem that they can be overwritten.

One premise of a release version is that every dependency is also a release version.

When a bug occurs it is important to have the exact same version on your development environment to find the source of the bug and test the solution.

### ***How we do it***

Each microservice has its own git repository. You can find all repositories under [Production Line#Repositories](#).

For each microservice following process has to be applied.

#### **Naming concept**

See [Naming convention](#).

#### **During a Sprint**

For each feature create a feature-branch. After the new feature is complete merge it to master.

The exact process can be found here: [Git Development process workflow](#).

#### **After a sprint review**

After our customer has approved in the Sprint Review(see [Meetings and Sprint Ceremonies](#)) the current master-branch will be merged to the release-branch.

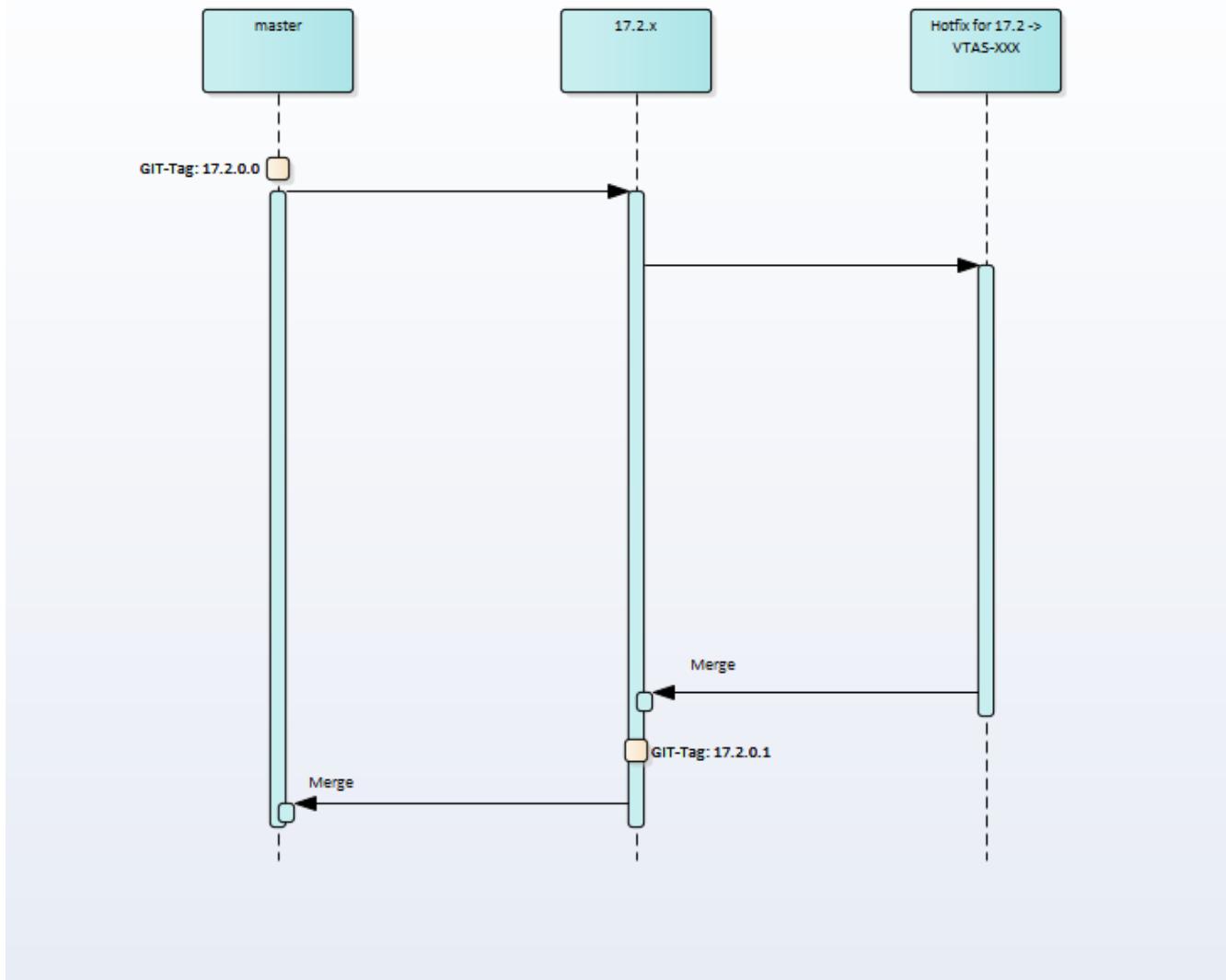
A initial version is released and will be merged back to the master branch.

#### **Hotfix**

If a critical bug was found and needs to be fixed, a new branch is created from the release branch.

When the bug is fixed and tested, the hotfix branch will be merged back into the release branch.

After that a new version is released and everything merged back to the master branch.



## Versioning

Version in VTAS consists of 3 parts.

- Release e.g. 17.2 representing Release 17.2
- Major version - if something big changed, or an additional sprint was added to this release (architects decide for major version number)
- Minor version e.g. 0, starting with zero and increment each time a hotfix is done

A possible version number would then look like this: **17.2.1.2**

### ***How to release(only architects or leads shall do this!)***

Own jenkins job which will be executed manually.

<https://vtas.s2-eu.capgemini.com/jenkins/job/VersionRepo/>

### Parameters

Version	17.2.1.1
vtas_main	<input checked="" type="checkbox"/>
vtas_administration	<input checked="" type="checkbox"/>
vtas_cache	<input checked="" type="checkbox"/>
vtas_commons	<input checked="" type="checkbox"/>
vtasExternalsystems	<input checked="" type="checkbox"/>
vtasProjectplanning	<input checked="" type="checkbox"/>
vtasSecurity	<input checked="" type="checkbox"/>
vtasUsermanagement	<input checked="" type="checkbox"/>

Write the version you want to tag and click the repositories you want to have included.

After the sucessful run each repository has a git-tag at the newest commit, and an artifact has been deployed to Nexus.

The screenshot shows the Nexus Repository Manager OSS interface. On the left, there's a sidebar with various navigation options like Sonatype™, Artifact Search, Views/Repositories, Security, Administration, and Help. The main area has a 'Welcome' tab and a 'Repositories' tab which is currently selected. In the 'Repositories' tab, there's a table listing several repositories: Public Repositories, 3rd party, Apache Snapshots, Central, Central M1 shadow, Releases, and Snapshots. Each row shows details like Type, Health Check status (ANALYZE), Format, Policy, and Repository Status (In Service). To the right of the table, there's a 'Repository Path' column with URLs. Below the table, there's a 'Releases' section with a 'Browse Storage' tab selected. This tab shows a hierarchical tree view of artifacts under 'com/daimler/vtas'. Under '17.2.1.1', there are several files listed: vtas-administration-17.2.1.1.pom, vtas-administration-17.2.1.1.pom.md5, vtas-administration-17.2.1.1.pom.sha1, vtas-administration-17.2.1.1.war, and vtas-administration-17.2.1.1.war.md5.

## Git Developer Guide

- Tortoise Git Tool
- Initial steps
- Steps to push changes to feature branch
- Steps to merge feature branch and push the changes for review
- Resolving conflicts using TortoiseGit merge tool
- Steps to push a gerrit review patch

Let us consider **git-demo** project and Git CMD tool for git actions demonstration.

All My **Projects** People Plugins Documentation

List Create New Project

Projects

Filter

S Project Name	Project Description
>All-Projects	Access inherited by all other projects.
All-Users	Individual user settings and preferences.
VTAS-Gerrit-Access	Custom access rules for VTAS project (refs/heads/* is unprotected)
<b>git-demo</b>	<b>Project to demonstrate Git</b>
testingGit	Administration microservice
vtas-administration	This project contains a library which contains utility classes relevant for all projects.
vtas-commons	This repository contains stuff related to infrastructure of the VTAs project
vtas-infrastructure	Contains a generic Jenkinsfile which we use for every Java Repository
vtas-infrastructure-jenkinsfile	This is the main repository of VTAS where the source code is contained.
vtas-jenkinsfile	This is the VTAS project containing the ProjectPlanning module.
vtas-main	Authentication and Authorization project.
vtas-projectplanning	
vtas-security	

Powered by Jenkins

### Tortoise Git Tool

This is the tool which can be used to work with git. This guide uses this tool for resolving merge or rebase conflicts only.

Step 1: Download TortoiseGit here: <https://tortoisegit.org/>

Step 2: Configure this tool with Git CMD as a merge tool. Add the below lines in **.gitConfig** file which can be found at **C:/Users/{Your user name}** folder.

```
[merge]
tool = tortoisemerge
[mergetool "tortoise"]
cmd = "TortoiseMerge.exe" -base:"$BASE" -theirs:"$REMOTE" -mine:"$LOCAL" -merged:"$MERGED"
[mergetool]
keepbackup = false
```

### Initial steps

1.) To checkout a project repository local copy for the first time in our system, we need to clone the repository. Please check the confluence Eclipse page to clone a repository via Eclipse IDE.

```
git clone https://vtas.s2-eu.capgemini.com/gerrit/p/git-demo.git
```

```
nipathip@DIN39001260 MINGW64 ~/git (master)
$ git clone https://vtas.s2-eu.capgemini.com/gerrit/p/git-demo.git
Cloning into 'git-demo'...
remote: Counting objects: 2, done
remote: Finding sources: 100% (2/2)
remote: Total 2 (delta 0), reused 0 (delta 0)
Unpacking objects: 100% (2/2), done.
```

2.) Change the working directory to the cloned repository folder and check the current branch. First step after cloning a project is to initialize the project with commit hooks. For downloading commit hook, please refer to Set Default Git Hook on confluence page [Eclipse](#).

```
git init
```

```

nopathip@DIN39001260 MINGW64 ~/git (master)
$ cd git-demo/
nopathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git branch -r
 origin/HEAD -> origin/master
 origin/master

nopathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git init
Reinitialized existing Git repository in C:/Users/nopathip/git/git-demo/.git/
nopathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ cd .git/hooks
nopathip@DIN39001260 MINGW64 ~/git/git-demo/.git/hooks (GIT_DIR!)
$ dir
applypatch-msg.sample commit-msg.sample pre-applypatch.sample prepare-commit-msg.sample pre-rebase.sample update.sample
commit-msg post-update.sample pre-commit.sample pre-push.sample pre-receive.sample

```

3.) Create a feature branch using Gerrit UI. The naming convention to follow while creating a feature branch is

**User Story or Task Number + underscore + Comments**

**Eg:** In a User Story VTAS-125, if a task exists like VTAS-343 with description as Java Implementation, then the feature branch name should be..

**VTAS-343\_Backend (or) VTAS-343\_Java**

The screenshot shows the Gerrit web interface with the 'Projects' tab selected. The top navigation bar includes 'All', 'My', 'Projects', 'People', 'Plugins', and 'Documentation'. Below the navigation is a secondary menu with 'List', 'General', 'Branches' (which is selected), 'Tags', 'Access', 'Dashboards', and 'Create New Project'. The main content area is titled 'Project git-demo'. A 'Filter' input field is present. Below it is a table showing current branches:

Branch Name	Revision	
HEAD	master	(gitweb)
refs/meta/config	8506656e78a2d8c7e066e80bda7da3b440033df9	(gitweb)
master	52b868fb10e1ebf7a9ff7893f069faece924ba86	(gitweb)

Below the table is a form for creating a new branch:

Branch Name:

Initial Revision:

**Create Branch**

Clicking on Create Branch button will add a branch in the list.

## Project git-demo

Filter

Branch Name	Revision		
HEAD	master		(gitweb)
refs/meta/config	8506656e78a2d8c7e066e80bda7da3b440033df9		(gitweb)
▶ <input type="checkbox"/> VTAS-413_fb	52b868fb10e1ebf7a9ff7893f069faece924ba86		(gitweb)
master	52b868fb10e1ebf7a9ff7893f069faece924ba86		(gitweb)

[Delete](#)

Branch Name:

Initial Revision:

[Create Branch](#)

### Steps to push changes to feature branch

- 1.) After creating a branch using Gerrit UI or remotely, we have to fetch the newly created branches to your local.

`git fetch`

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git fetch
From https://vtas.s2-eu.capgemini.com/gerrit/p/git-demo
 * [new branch] VTAS-413_fb -> origin/VTAS-413_fb
```

- 2.) Checkout the newly created branch to local.

`git checkout VTAS-413_fb`

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git checkout VTAS-413_fb
Switched to a new branch 'VTAS-413_fb'
Branch VTAS-413_fb set up to track remote branch VTAS-413_fb from origin.
```

- 3.) The first task for a developer everyday before starting his development task is to **rebase** their feature branches with master.

`git rebase master`

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git rebase master
First, rewinding head to replay your work on top of it...
Applying: [VTAS-413]: Added source1 file in feature branch
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git status
On branch VTAS-413_fb
Your branch and 'origin/VTAS-413_fb' have diverged,
and have 2 and 1 different commits each, respectively.
(use "git pull" to merge the remote branch into yours)
nothing to commit, working tree clean
```

- 4.) After rebasing, force push the changes instead of pull.

```
git push --f
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git push -f
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 426 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
remote: Processing changes: closed: 1, refs: 1, done
To https://vtas.s2-eu.capgemini.com/gerrit/p/git-demo.git
 + 283426e...60ad164 VTAS-413_fb -> VTAS-413_fb (forced update)
```

- 5.) Any changes done on your feature branch should be added to the staging. . We have to add these untracked (newly created files) and tracked files to local repository. This is mandatory step before committing.

There are multiple ways to add files.

- 1.) Add each file by name with space.

```
git add src/source1.txt src/source2.txt
```

- 2.) Add all the files at one shot

```
git add -A
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git status
On branch VTAS-413_fb
Your branch is up-to-date with 'origin/VTAS-413_fb'.
Changes not staged for commit:
 (use "git add <file>..." to update what will be committed)
 (use "git checkout -- <file>..." to discard changes in working directory)

 modified: src/source1.txt

Untracked files:
 (use "git add <file>..." to include in what will be committed)

 src/source2.txt

no changes added to commit (use "git add" and/or "git commit -a")

nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git add -A

nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git status
On branch VTAS-413_fb
Your branch is up-to-date with 'origin/VTAS-413_fb'.
Changes to be committed:
 (use "git reset HEAD <file>..." to unstage)

 modified: src/source1.txt
 new file: src/source2.txt
```

- 6.) Commit the changes to local repository. Commit message should start with user story number.

```
git commit -m "[VTAS-XXX] : some commit message"
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git commit -m "[VTAS-413]: Modified source1 and added source 2 in fb"
[VTAS-413_fb 69a02ec] [VTAS-413]: Modified source1 and added source 2 in fb
2 files changed, 4 insertions(+), 1 deletion(-)
create mode 100644 src/source2.txt
```

- 7.) Push these changes to feature branch. You can use any of the below commands to push changes directly.

```
git push -u origin VTAS-413_fb [OR]
```

```
git push
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git push
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 416 bytes | 0 bytes/s, done.
Total 4 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1)
remote: Processing changes: refs: 1, done
To https://vtas.s2-eu.capgemini.com/gerrit/p/git-demo.git
 60ad164..69a02ec VTAS-413_fb -> VTAS-413_fb
```

#### **Steps to merge feature branch and push the changes for review**

- 1.) Checkout the master and pull the updates to keep remote repository and local repository in sync.

This is mandatory step to perform to check any changes happened on master after your rebase.

```
git checkout master
```

```
git pull
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git checkout master
Switched to branch 'master'
Your branch is up-to-date with 'origin/master'.

nipathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git pull
Already up-to-date.
```

- 2.) Merge feature branch to master with --squash option.

```
git merge --squash VTAS-413_fb
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git merge --squash VTAS-413_fb
Updating a7701fb..69a02ec
Fast-forward
Squash commit -- not updating HEAD
 src/source1.txt | 3 +++
 src/source2.txt | 1 +
 2 files changed, 4 insertions(+)
 create mode 100644 src/source1.txt
 create mode 100644 src/source2.txt

nipathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
Changes to be committed:
 (use "git reset HEAD <file>..." to unstage)

 new file: src/source1.txt
 new file: src/source2.txt
```

- 3.) Commit the merged changes in master.

```
git commit -m "[VTAS-XXX] : some commit message"
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git commit -m "[VTAS-413]: Added source1 and source2 for master"
[master 9c86d90] [VTAS-413]: Added source1 and source2 for master
 2 files changed, 4 insertions(+)
 create mode 100644 src/source1.txt
 create mode 100644 src/source2.txt
```

- 4.) Push the changes for review.

```
git push origin HEAD:refs/for/master
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (master)
$ git push origin HEAD:refs/for/master
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 465 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
remote: Processing changes: new: 1, refs: 1, done
remote:
remote: New Changes:
remote: https://vtas.s2-eu.capgemini.com/gerrit/208 [VTAS-413]: Added source1 and source2 for master
remote:
To https://vtas.s2-eu.capgemini.com/gerrit/p/git-demo.git
 * [new branch] HEAD -> refs/for/master
```

- 5.) Open the gerrit URL that is generated after push and add a reviewer so that the reviewer receives an email.

After the review, reviewer submits the changes to master remote branch in git.

### ***Resolving conflicts using TortoiseGit merge tool***

Let us consider rebase scenario where we get conflicts.

- 1.) Rebasing feature branch with master.

While rebasing, git replays all the commits on master branch copy one by one as steps that were existing on feature branch. In this process, it will stop at first conflict.

```
git rebase master
```

```
nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git rebase master
First, rewinding head to replay your work on top of it...
Applying: [VTAS-413]: Modified main and source2 in feature branch
Applying: [VTAS-413]: Added lines 4,5 in source1 in fb
error: Failed to merge in the changes.
Using index info to reconstruct a base tree...
M src/source1.txt
Falling back to patching base and 3-way merge...
Auto-merging src/source1.txt
CONFLICT (content): Merge conflict in src/source1.txt
Patch failed at 0002 [VTAS-413]: Added lines 4,5 in source1 in fb
The copy of the patch that failed is found in: .git/rebase-apply/patch

When you have resolved this problem, run "git rebase --continue".
If you prefer to skip this patch, run "git rebase --skip" instead.
To check out the original branch and stop rebasing, run "git rebase --abort".
```

- 2.) use git merge tool to resolve conflicts.

```
git mergetool
```

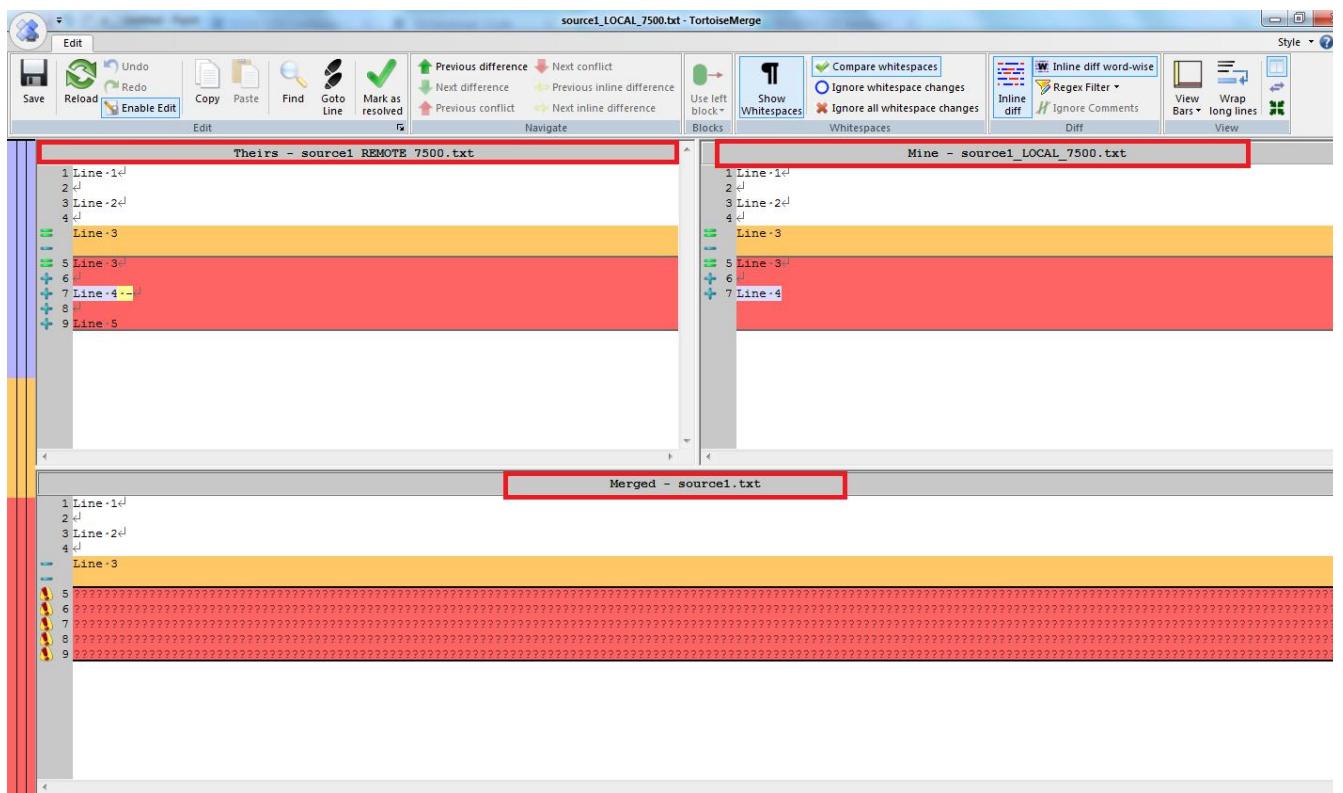
This command opens tortoise git tool.

```

nipathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb) REBASE 2/2
$ git mergetool
Merging:
src/source1.txt

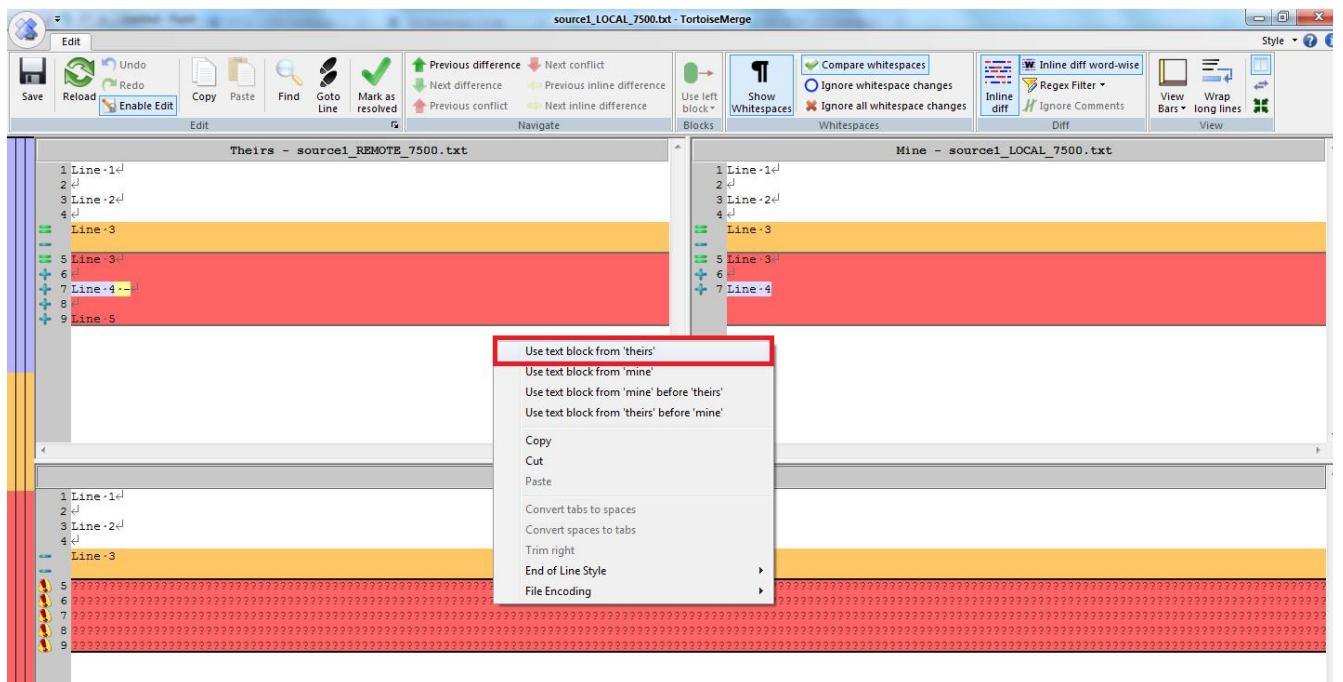
Normal merge conflict for 'src/source1.txt':
{local}: modified file
{remote}: modified file

```

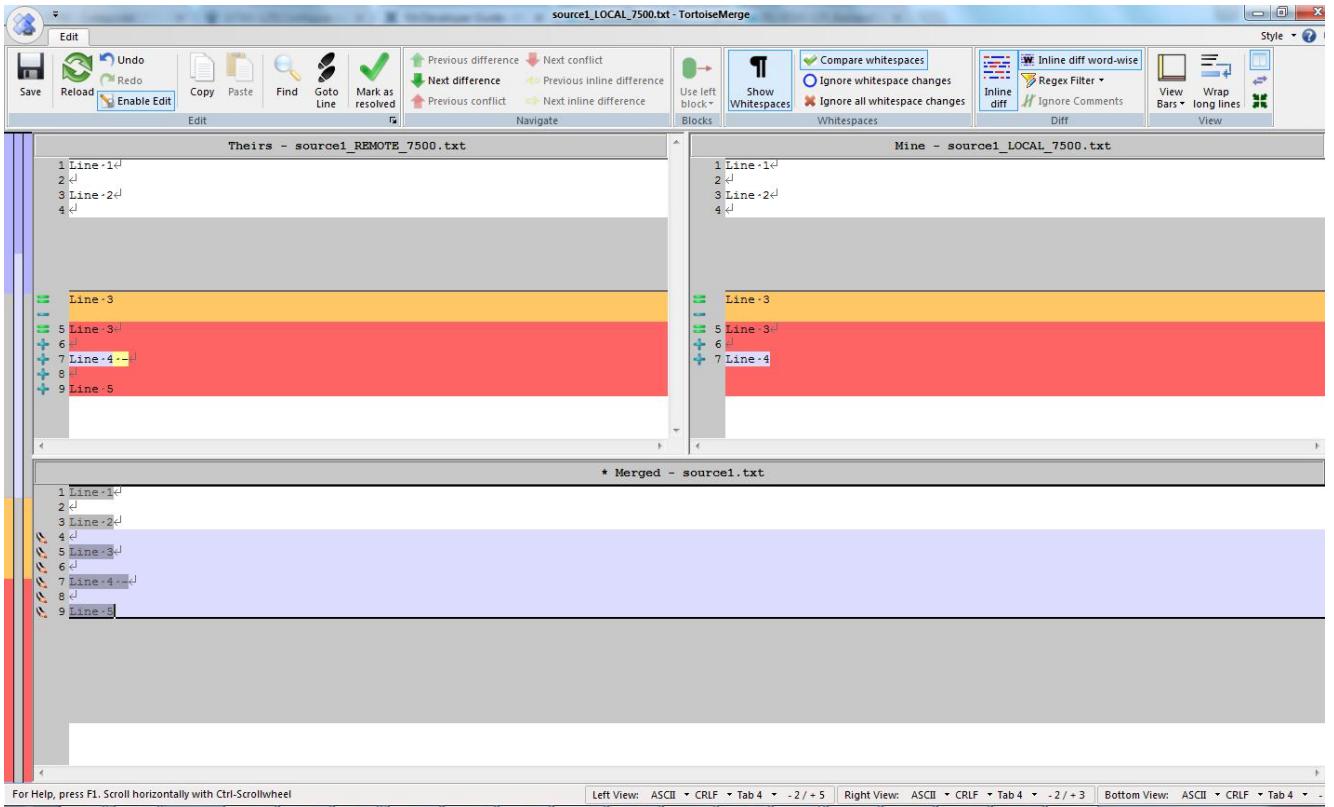


3.) Now, Select the changes from **Mine**(This is feature branch change) and **theirs**(master branch change) sections that we need in to the Merged section

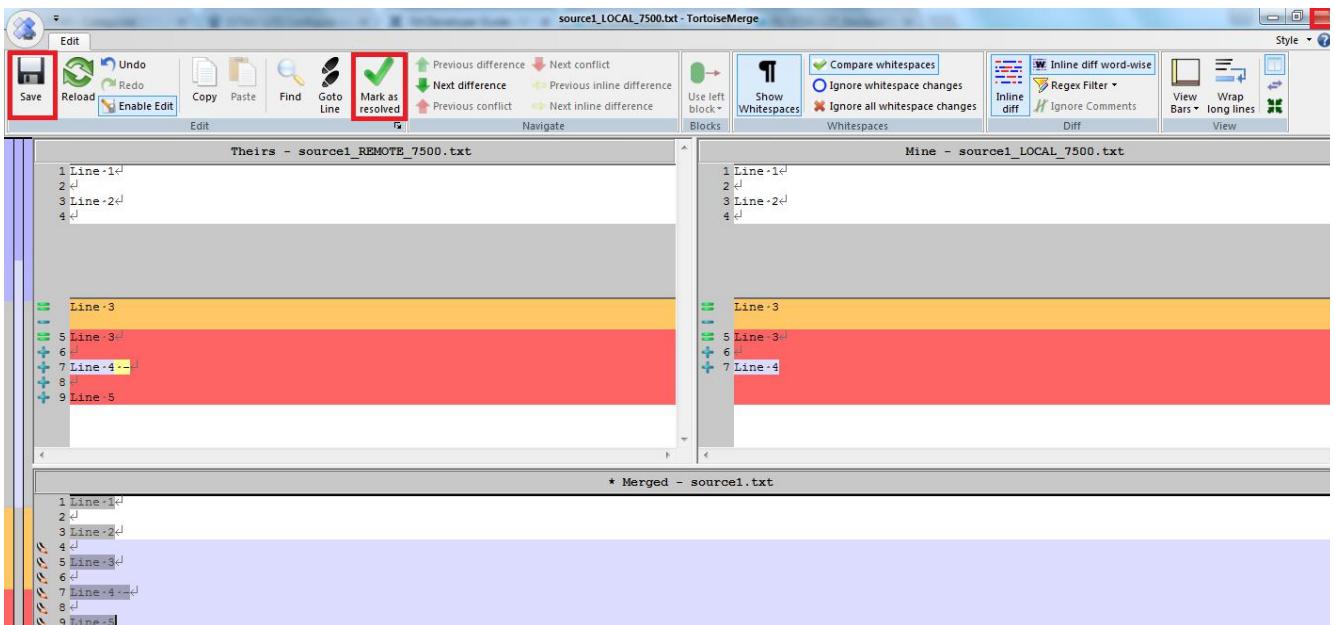
Right click on the Merged section to apply changes from both Mine and Theirs. Here, we want the changes from master where all the changes that are present in feature branch also exists.



4.) Modify the Merged section after applying changes where necessary.



5.) Now, Click on "Save" button and then click "Mark as Resolved" button.



6.) Close the tool window. Then the git command line will complete the merge process for that conflict.

```

nopathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb|REBASE 2/2)
$ git mergetool
Merging:
src/source1.txt

Normal merge conflict for 'src/source1.txt':
 {local}: modified file
 {remote}: modified file

nopathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb|REBASE 2/2)
$ git status
rebase in progress; onto 646db32
You are currently rebasing branch 'VTAS-413_fb' on '646db32'.
(all conflicts fixed: run "git rebase --continue")

Changes to be committed:
 (use "git reset HEAD <file>..." to unstage)

 modified: src/source1.txt

```

7.) After each conflict resolving, Check the status.

a.) If there are any files that needed to be added to staging, add them and continue the rebasing activity.

```
git add file1.txt file2.txt
```

```
git rebase --continue
```

b.) If there are no changes to be added to staging, then directly continue the rebasing activity.

```
git rebase --continue
```

Here, in our case we don't have files to add to staging.

```

nopathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb|REBASE 2/2)
$ git rebase --continue
Applying: [VTAS-413]: Added lines 4,5 in source1 in fb

nopathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$
```

**Note:** Repeat the steps 3 to 7 until the rebase steps completes.

8.) We have some commits to be pushed to feature branch after rebasing.

```
git push -f
```

```

nopathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git status
On branch VTAS-413_fb
Your branch and 'origin/VTAS-413_fb' have diverged,
and have 3 and 2 different commits each, respectively.
 (use "git pull" to merge the remote branch into yours)
nothing to commit, working tree clean

nopathip@DIN39001260 MINGW64 ~/git/git-demo (VTAS-413_fb)
$ git push -f
Counting objects: 10, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (10/10), 929 bytes | 0 bytes/s, done.
Total 10 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1)
remote: Processing changes: closed: 1, refs: 1, done
To https://vtas.s2-eu.cappgemini.com/gerrit/p/git-demo.git
 + 91ae9aa...e41be57 VTAS-413_fb -> VTAS-413_fb (forced update)

```

## Steps to push a gerrit review patch

- 1.) Consider a commit is pushed for review in gerrit

```
git push origin HEAD:refs/for/master
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit (master)
$ git push origin HEAD:refs/for/master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 432 bytes | 0 bytes/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1)
remote: Processing changes: new: 1, refs: 1, done
remote:
remote: New Changes:
remote: https://vtas.s2-eu.capgemini.com/gerrit/33 [VTAS-000]: Testing commit of a gerrit review change
remote:
To https://vtas.s2-eu.capgemini.com/gerrit/p/testingGit.git
 * [new branch] HEAD -> refs/for/master
```

- 2.) Opening the gerrit UI for a commit which is sent for review...

<https://vtas.s2-eu.capgemini.com/gerrit/33>

The screenshot shows the Gerrit web interface for a code review. At the top, there's a navigation bar with tabs like All, My, Projects, People, Documentation, and a search bar. Below the navigation, the commit details are listed:

- Change 33 - Needs Verified
- [VTAS-000]: Testing commit of a gerrit review change
- Change-Id: Ic7dff10d495afc149b2ee3979bf5c150ca285a47b

Below the commit details, there's a modal dialog for adding reviewers:

- Owner: Niranjan Pathipati
- Reviewers: Name or Email or Group: Kiran Kumar Panda
- Add button
- Cancel button

Under the modal, the commit metadata is shown:

- Author: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
- Committer: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
- Commit: b4a5b09489aa7f4847e08f109dd640c81e70a5c4 (gitweb)
- Parent(s): 46581c7b0fb0a5fb62fcf214983d563cb487c73 (gitweb)
- Change-Id: Ic7dff10d495afc149b2ee3979bf5c150ca285a47b (gitweb)

Below the commit metadata, there's a 'Files' section with a tree view showing 'Commit Message' and 'niranjan\_file.txt'. To the right, there's a 'Comments Size' section with a green progress bar showing '+1, -1'. At the bottom, the 'History' section shows 'Niranjan Pathipati Uploaded patch set 1.'

Reviewer replies the team member to look in to review comment.

All My Projects People Plugins Documentation

Changes Drafts Draft Comments Edits Watched Changes Starred Changes Groups

Search term

Change 33 - Needs Verified

[VTAS-000]: Testing commit of a gerrit review change

Change-Id: Ic7df10d495afc149b2ee3979bf5c150ca285a47b

Reply...  
Pls incorporate the suggestions!

-2 -1 0 +1 +2  
Code-Review ○ ○ ● ○ No score  
Verified ○ ● ○ No score

niranjan\_file.txt  
Line 6: Advised few suggestions to incorporate into the file

**Post** **Cancel**

Author: Nirajan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM  
 Committer: Nirajan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM  
 Commit: b4a5b09489aa714647e00f109dd640c81e70a5c4  
 Parent(s): 46581c7b7fb0a5d62fc214983d563cb487c73  
 Change-Id: Ic7df10d495afc149b2ee3979bf5c150ca285a47b

**Files** **Open All** **Diff against:** **Base** **Edit**

File Path: Commit Message  
 Commit Message  
 niranjan\_file.txt

Comments Size:  
 drafts: 1 2  
 +1, -1

**History** **Expand All**  
 Nirajan Pathipati Uploaded patch set 1. 7:12 PM

Let's assume reviewer gives a comment suggesting changes to a particular file.

All My Projects People Plugins Documentation

Changes Drafts Draft Comments Edits Watched Changes Starred Changes Groups

Search term

Kiran Kumar Panda

TestingGM/niranjan\_file.txt Patch Set Base 1

Added by Nirajan.  
 Checking for Gerrit issues.  
 How to push patch changes for a specific commit under review  
 Advised few suggestions to incorporate into the file

Powered by Gerrit Code Review (2.12.3) | Press '?' to view keyboard shortcuts

Team member receives an email with all the changes suggested by the reviewer.

## Change in testingGit[master]: [VTAS-000]: Testing commit of a gerrit review change

Kiran Kumar Panda (Code Review) [gerrit2@095126e00255]

Extra line breaks in this message were removed.

Sent: Mon 4/10/2017 7:21 PM

To: Pathipati, Niranjan

Kiran Kumar Panda has posted comments on this change.

Change subject: [VTAS-000]: Testing commit of a gerrit review change

Patch Set 1:

(1 comment)

Pls incorporate the suggestions

[https://vtas.s2-eu.capgemini.com/gerrit/#/c/33/1/niranjan\\_file.txt](https://vtas.s2-eu.capgemini.com/gerrit/#/c/33/1/niranjan_file.txt)

File niranjan\_file.txt:

PS1, Line 5: .

Advised few suggestions to incorporate into the file

--  
To view, visit <https://vtas.s2-eu.capgemini.com/gerrit/33>  
To unsubscribe, visit <https://vtas.s2-eu.capgemini.com/gerrit/settings>

Click on each file related link in the email to view the review comments of that file.

The screenshot shows the Gerrit Code Review web interface. At the top, there's a navigation bar with links for All, My, Projects, People, Documentation, Changes, Drafts, Draft Comments, Edits, Watched Changes, Starred Changes, and Groups. A search bar is also present. Below the navigation, a list of changes is shown, with one specific change selected: "testingGit/niranjan\_file.txt". This change is part of "Patch Set Base 1". The list contains the following commits:

- 1 Added by Niranjan.
- 2
- 3 Checking for gerrit issues.
- 4
- 5 Checking for refs/heads/master..-2

A detailed view of commit 5 is expanded, showing a green comment from "Kiran Kumar Panda" dated "7:21 PM". The comment text is: "How to push patch changes for a specific commit under review." Below the comment, it says "Advised few suggestions to incorporate into the file". The bottom right corner of the interface displays the text "Powered by Gerrit Code Review (2.12.3) | Press '?' to view keyboard shortcuts".

If team member wants to justify his code without any code changes, he needs to update the comments by clicking on the review comment and then reply.

The screenshot shows the Gerrit Code Review interface. On the left, there's a list of changes under the project 'testingGit'. One change, 'miranjan\_file.txt', is selected and shown in detail. The patch set 'Base 1' is displayed with commit message 5: 'Checking for refs/heads/master..2'. A yellow comment box from 'Kiran Kumar Panda' is overlaid on the patch set, containing the text: 'How to push patch changes for a specific commit under review?' and 'Advised few suggestions to incorporate into the file'. The bottom right corner of the comment box shows the timestamp '7:21 PM'. At the bottom of the screen, a footer bar says 'Powered by Gerrit Code Review (2.12.3) | Press ? to view keyboard shortcuts'.

If team member needs to incorporate the changes suggested by reviewer, first checkout the changes only related to a commit by using a commit id which can be found on gerrit UI or git CMD tool.

The screenshot shows the Gerrit Change Detail page for 'Change 33 - Needs Verified'. The commit details are listed as follows:

- Author: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
- Committer: Niranjan Pathipati <niranjan.pathipati@capgemini.com> Apr 10, 2017 7:10 PM
- Commit: b4a5b09489aa7f4847e08f109dd640c81e70a5c4
- Parents: 45391c1bd0b035d02c12149b2ee3979bf5c150ca285a47b
- Change-Id: 1c7df10d495afc149b2ee3979bf5c150ca285a47b

Or by using git log command,

`git log`

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit (master)
$ git log
commit b4a5b09489aa7f4847e08f109dd640c81e70a5c4
Author: Niranjan Pathipati <niranjan.pathipati@capgemini.com>
Date: Mon Apr 10 19:10:24 2017 +0530

[VTAS-000]: Testing commit of a gerrit review change

Change-Id: 1c7df10d495afc149b2ee3979bf5c150ca285a47b
```

`git checkout b4a5b09489aa7f4847e08f109dd640c81e70a5c4`

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit (master)
$ git checkout b4a5b09489aa/f4847e08f109dd640c81e70a5c4
Note: checking out b4a5b09489aa/f4847e08f109dd640c81e70a5c4'.
You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by performing another checkout.
If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -b with the checkout command again. Example:
 git checkout -b <new-branch-name>
HEAD is now at b4a5b09... [VTAS-000]: Testing commit of a gerrit review change
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
```

Then, modify the file according to the reviewer comments. We can see the files are ready to be added to staging.

```
git status
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git status
HEAD detached at b4a5b09
Changes not staged for commit:
 (use "git add <file>..." to update what will be committed)
 (use "git checkout -- <file>..." to discard changes in working directory)

 modified: niranjan_file.txt

no changes added to commit (use "git add" and/or "git commit -a")
```

Add the files to local repository.

```
git add -A
```

```
nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git add -A

nipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git status
HEAD detached at b4a5b09
Changes to be committed:
 (use "git reset HEAD <file>..." to unstage)

 modified: niranjan_file.txt
```

Then commit the changes using git amend as below:

```
git commit - --amend
```

A commit window gets opened. Modify the existing commit message if we need otherwise save the commit.

```
MINGW64 /c/Users/nipathip/git/testingGit
[VTAS-000]: Testing commit of a gerrit review change
change-Id: 1c7df10d495afc149b2ee3979bf5c150ca285a47b
Please enter the commit message for your changes. Lines starting
with '#' will be ignored, and an empty message aborts the commit.
Date: Mon Apr 10 19:10:24 2017 +0530
HEAD detached at b4a5b09
Changes to be committed:
 modified: niranjan_file.txt

git/testingGit/.git/COMMIT_EDITMSG [unix] (19:52 10/04/2017)
'C:/users/nipathip/git/testingGit/.git/COMMIT_EDITMSG' [unix] 1 JL, 3/9C
```

```
hipathip@DIN39001260 MINGW64 ~/git/testingGit ((b4a5b09...))
$ git commit --amend
[detached HEAD 85f9961] [VTAS-000]: Testing commit of a gerrit review change
 Date: Mon Apr 10 19:10:24 2017 +0530
 1 file changed, 3 insertions(+), 1 deletion(-)
```

Now, push these patch changes again to gerrit for review..

```
hipathip@DIN39001260 MINGW64 ~/git/testingGit ((85f9961...))
$ git push origin HEAD:refs/for/master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 456 bytes | 0 bytes/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1)
remote: Processing changes: updated: 1, refs: 1, done
remote: Updated Changes:
remote: https://vtas.s2-eu.capgemini.com/gerrit/33 [VTAS-000]: Testing commit of a gerrit review change
remote:
To https://vtas.s2-eu.capgemini.com/gerrit/p/testingGit.git
 * [new branch] HEAD -> refs/for/master
```

Reviewer gets notified about your changes.

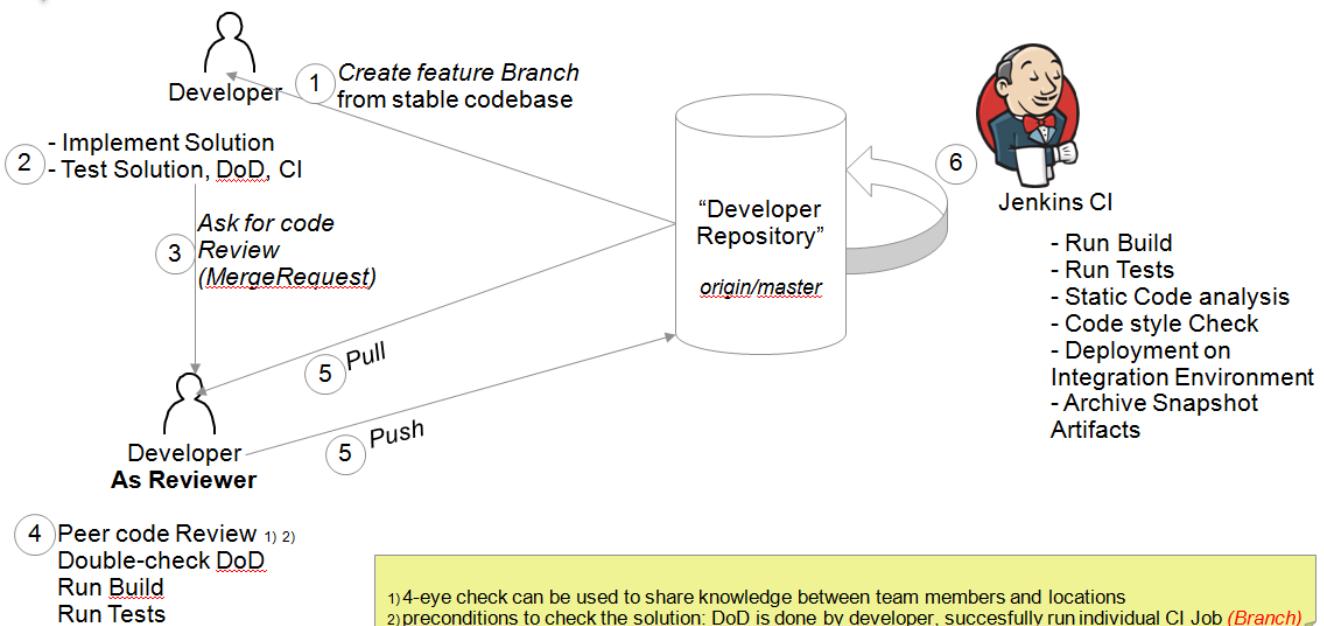
## Git Development process workflow

Gitflow provides an established branching and merging concept to work with git. For more details visit: [Gitflow branching model](#).

- Git Process Workflow – Development View
- For Developer's understanding
  - Step 1. Create feature branch from remote master (origin/master)
  - Step 2. Developer start working on the new feature in the feature branch created in Step 1.
  - Step 3. When the feature branch is ready for testing - ask team member for code review
  - Step 4. Doing code review

- Step 5. Implement code review comment if any, otherwise push to master
- Step 6.Jenkins

## Git Process Workflow – Development View



## For Developer's understanding

### Step 1. Create feature branch from remote master (origin/master)

#### Commands:

First, you must create your branch locally

```
git checkout -b <branch_name>
```

After that, you can work locally in your branch, when you are ready to share the branch, push it. The next command push the branch to the remote repository origin and tracks it

```
git push <remote-name> <branch_name>
```

Where <remote-name> is typically origin, the name which git gives to the remote you cloned from.

### Step 2. Developer start working on the new feature in the feature branch created in Step 1.

#### Commands:

Get inside the newly created feature branch.

```
git checkout <branch_name>
```

to get the latest files & folders from remote master into local master branch

```
git pull origin master
```

**Note:** A single feature (user story) can have multiple development sub-tasks, in such scenario the feature branch should be pushed into remote repository for collaboration between developers working on the same user story. And in parallel, developers working on the same user story should be coordinating with each other to push & pull their latest changes regularly, in order to keep their files in sync. Once the feature is ready, then it will be merged with remote origin/master for testing.

### Step 3. When the feature branch is ready for testing - ask team member for code review

i.e. with complete [definition of done](#),CI Jobs are green and Sonar has green Signal we ask a team member for a peer code review.

### Step 4. Doing code review

peer code review as mentioned in the following page: [Code Review](#)

### **Step 5. Implement code review comment if any, otherwise push to master**

If it's not accepted, go to step 2 and implement the code review comments.

If it's accepted i.e. if all acceptance testing criteria are accepted, then **feature branch** will be merged it into the **master**.

Commands:

1. Switch to feature branch and get the latest changes from master into feature branch

Get inside the feature branch

```
git checkout <branch_name>
```

Get the latest changes from master.

```
git rebase origin/master <branch_name>
```

Push the changes done after rebase to remote origin/<branch\_name>

```
git push
```

2. Switch to master, merge the changes from feature branch into master and finally push to remote origin/master

Get inside the master branch

```
git checkout master
```

Merge the local feature branch changes into master

```
git merge <branch_name> (git merge origin/<branch_name> could be used as well)
```

Push to remote origin/master

```
git push
```

Note: **use git fetch and git pull commands very often to fetch the remote changes(master) into local feature branch(stay inside local feature branch when executing this command).** Command:

```
git fetch origin <branch_name>
```

### **Step 6.Jenkins**

Job will run after every push to remote master or to remote feature branch.

## **GIT Version control best practices**

1. Commit only related changes
2. Commit Often
3. Commit with proper comments
4. Don not commit half done work
5. Test before you commit
6. Use branches
7. Agree on the decided workflow (do choose a workflow)

## **Naming convention**

Versioning Naming Scheme:

- Feature branches: name equivalent to JIRA Ticket. E.g. VTAS-75
- master branch: master
- Release branch: "release-" release version without hotfix , e.g. release-172.8
- Hotfix branches: "HF\_" + hotfix JIRA Ticket, e.g. HF\_VTAS-77

## **External Widget Creation**

To create new widget we should follow below steps:

**step 1:** Copy vtas-main project and rename it as FAVwidget

**Step 2:** Remove all unused files like html, java script and css.

**Step 3:** Modify the Base files of the project

```
- settings.gradle file change rootproject.name from vtas-main to
'FAVwidget'

rootProject.name = 'FAVwidget'

-->.project file change name and comment in project desction

<name>FAVwidget</name>
<comment>Project FAVwidget created by Buildship.</comment>
```

**Step 4:** Copy cat url in config.js file.

```
var dojoConfig = {
 async: true,
 parseOnLoad: true,
 favUrl: 'https://cat-int.app.corpintra.net/rest/iras/mrs/'
};
```

**Step4:** Create widget in FAVwidget.js file like below.

```

define('app/widgets/favwidget', [
 'bootstrap',
 'dijit/_WidgetBase',
 'dijit/_TemplatedMixin',
 'dojo/_base/declare',
 'dojo/dom-attr',
 'dojo/dom',
 'dojo/_base/json',
 "dojo/query",
 'dojo/_base/array',
 'dojo/text!./templates/favwidget.html',
 'dojo/store/Memory',
 'dojox/storage',
 'app/modules/xhrCall',
 'app/modules/dgrid',
 "dojo/on",
 "dojo/query",
 'dojo/domReady!'
], function(bootstrap,_WidgetBase, _TemplatedMixin, declare,
domAttr,dom,json,query,array,template,Memory,storage,xhrCall,dgrid,on,query) {
 return declare('app.widgets.favwidget', [_WidgetBase,
 _TemplatedMixin], {
 templateString: template,
 constructor: function(args) {
 declare.safeMixin(this, args);
 },
 apicall: function(){
 var mrsPlant = dom.byId('mrsplant').value;
 var faultId = dom.byId('faultid').value;
 var urlParams = {
 url: dojoConfig.favUrl+mrsPlant+'?mrsid='+faultId,
 method: 'GET',
 sync: true,
 dataObject: ''
 }
 var catResp = com.daimler.xhrCall.callingApi(urlParams);
 // will return fav list and then we should display in dgrid as per
 requirement.
 }
 });
}

```

**step5:** Copy below code wherever you want to include widget.

```

<body class="contentHomeBody">
 <div id="fav" data-dojo-type='app/widgets/favwidget'></div>
</body>

```

#### Steps to test FAVwidget:

Connect to VPN - [prav.ce.capgemini.com](http://prav.ce.capgemini.com)

Paste the given url and hit <https://cat-int.app.corpintra.net/Design/StartFrame.aspx>

Hit the given url for demo page <http://localhost:8080/FAVwidget>

Enter MRS plant - 0500 and Fault Id: 123

Click on StartFAP button then call will go to CAT system and get the response and display in the dgrid.

## Exception Handling with I18N

### Will be not used anymore in 18.1 .

- Will be not used anymore in 18.1 .
- Requirement
- Technical Exception vs Business Exception
  - The json response which depicts Business Exception for e.g. no categories found, in this case a error pop up will appear
  - The example of json response which redirects to an error page when some Technical / Runtime Exception occurs
  - The error response which will shown on screen in the case of Optimistic Technical/Runtime Exception occurs
- How to access error code of technical/business exception
- Integration of Exception Handling in new Microservices
  - Implementation:
    - Create a class for the purpose of handling errorMessage , with this specific naming convention :NlsBundle + microservice specific name + Root
    - Create an Exception class correspondent to business exception which extends NlsRuntimeException class.
    - Create Business Exception class as per your use case, which should extends above created AdministrationNlsException class.
    - Now, we have to create Exception class which may handle technical exception and it should extends AdministrationNlsException class.
    - Since we need exception obj for display on ui, thus we need to create a class which holds message, url, random generated error id,error key and information about whether it is technical or not
    - Create an Exception handler class which handles different kinds of exceptions. This is the example of handling business exception
    - Create an Exception handler class which handles different kinds of exceptions. This is the example of handling technical exception
    - Example of rest controller which depicts example of throwing business exception
    - Example of rest controller which depicts example of throwing technical and optimistic exception

## Requirement

Exception handling implementation which should address the following requirements:

1. When an exception occurs, controller should throw it and send an exception object as response which should contain request url, error message, random error id.
2. Internationalization when sending error message.

## Technical Exception vs Business Exception

The json response which depicts **Business Exception** for e.g. no categories found, in this case a error pop up will appear

In this case errorType is null , since in backend there is no any error occur.It is just a validation of business scenario

### Json Response for Business Exception

```
{
 "errorMessage": "No categories found.",
 "url":
"http://localhost:8082/vtas-administration/administration/v1/categories/
",
 "errorId": "286392eb-5a26-4b7a-aaff-5dd3dfecclcf",
 "errorKey": "noCategoriesFound",
 "technical": false,
 "errorType": null

}
```

The example of json response which redirects to an error page when some **Technical / Runtime Exception** occurs

### Json Response for Technical Exception

```
{
 "errorMessage": "Sorry For Inconveince , Please Contact
Administrator",
 "url":
"http://localhost:8082/vtas-administration/administration/v1/categories"

 "errorId": "0065b85e-1c40-40bd-a3cd-d6be8c9906fe",
 "errorKey": "pleaseContactAdmin",
 "technical": true,
 "errorType": "SERVICE_UNAVAILABLE"

}
```

The error response which will shown on screen in the case of **Optimistic Technical/Runtime Exception** occurs

```
{
 "errorMessage": "Sorry For Inconveince , Please Contact
Administrator",
 "url":
"http://localhost:8082/vtas-administration/administration/v1/categories"

 "errorId": "0065b85e-1c40-40bd-a3cd-d6be8c9906fe",
 "errorKey": "pleaseContactAdmin",
 "technical": true,
 "errorType": "OPTIMISTIC"

}
```

### How to access error code of technical/business exception

We can access error by below mentioned way:

```
ErrorType.OPTIMISTIC.value();
```

In above mentioned snippet we are accessing "error code" of OPTIMISTIC exception.In similar fashion we can get code of other exception as well

## Integration of Exception Handling in new Microservices

### Implementation:

We use Spring MVC exception handling annotations and mmm-util-core library (for i18n) to implement our requirement.

1. Add the required dependencies in **build.gradle** file.
  - a. compile ("org.springframework.boot:spring-boot-starter-web")
  - b. compile ("net.sf.m-m-m:mmm-util-core:7.4.0")
2. Create Resource Bundle Files
  - a. Resource bundle files should be placed in `src\main\resources\com\daimler\vtas\{microservice name}\i18n\common\api\nls\NlsBundle{microservice name}.properties`
  - b. The resource file must be created with key value pair

#### c. NlsBundleAdministration-Properties

```
noCategoriesFound = No categories found.
```

- d. The above mentioned key and value must match to the below mentioned class, method name and parameter which we pass to `@NlsBundleMessage` annotation respectively.
3. Create a resource bundle class which contains the error messages. The resource bundle class name should be like

*Create a class for the purpose of handling errorMessage , with this specific naming convention :NlsBundle + microservice specific name + Root*

#### NlsBundle+Category specific name + root

```
package com.daimler.vtas.administration.i18n.common.api.nls;
import javax.inject.Named;
import net.sf.mmm.util.nls.api.NlsBundle;
import net.sf.mmm.util.nls.api.NlsBundleMessage;
import net.sf.mmm.util.nls.api.NlsMessage;
/**
 * This is the message bundle with default locale as English(en) which defines all the messages.
 *
 */
public interface NlsBundleAdministrationRoot extends NlsBundle {
 /**
 * @return NlsMessage
 */
 @NlsBundleMessage("No categories found.")
 NlsMessage noCategoriesFound();
}
```

***Create an Exception class correspondent to business exception which extends NlsRuntimeException class.***

This class must be extended by every business exception

## AdministrationNlsException

```
package com.daimler.vtas.administration.exceptions;
import net.sf.mmm.util.exception.api.NlsRuntimeException;
import net.sf.mmm.util.nls.api.NlsMessage;
import
com.daimler.vtas.administration.i18n.common.api.nls.NlsBundleAdministrat
ionRoot;
/**
 * This is common exception class for administration micro service which
provides message bundle details.
 *
 */
public abstract class AdministrationNlsException extends
NlsRuntimeException {
 private static final long serialVersionUID = 1L;
 /**
 * The constructor.
 *
 * @param nlsMessage - Exception message.
 */
 public AdministrationNlsException(NlsMessage nlsMessage) {
 super(nlsMessage);
 }
 /**
 * The constructor.
 *
 * @param internationalizedMessage - Message with locale.
 */
 public AdministrationNlsException(String internationalizedMessage) {
 super(internationalizedMessage);
 }
 /**
 * This method returns NlsBundle instance.
 *
 * @return NlsBundle
 */
 public static NlsBundleAdministrationRoot getMessageBundle() {
 return createBundle(NlsBundleAdministrationRoot.class);
 }
 /**
 * This is to decide business and technical
 */
 @Override
 public boolean isTechnical() {
 return false;
 }
 /**
 * @return String String
 */
 public abstract String getErrorKey();
}
```

*Create Business Exception class as per your use case, which should extends above created AdministrationNlsException class.*

### NoCategoryFoundException

```
package com.daimler.vtas.administration.exceptions.categories;
import static
com.daimler.vtas.administration.common.AdministrationConstants.NO_CATEGO
RIES_FOUND;
import java.util.Locale;
import
com.daimler.vtas.administration.exceptions.AdministrationNlsException;
/**
 * Exception class which is thrown when no categories found.
 *
 */
public class NoCategoryFoundException extends AdministrationNlsException
{
 /**
 * Used for Serialization and deserialization.
 */
 private static final long serialVersionUID = -8625430965583198206L;
 /**
 * Exception message in default locale
 */
 public NoCategoryFoundException() {
 super(getMessageBundle().noCategoriesFound());
 }
 /**
 * Exception message in specific locale
 *
 * @param locale - de, en, etc
 */
 public NoCategoryFoundException(Locale locale) {

 super(getMessageBundle().noCategoriesFound().getLocalizedMessage(locale)
);
 }
 /**
 *
 */
 @Override
 public String getErrorKey() {
 return NO_CATEGORIES_FOUND;
 }
}
```

*Now, we have to create Exception class which may handle technical exception and it should extends AdministrationNlsException class.*

### AdministrationTechnicalException

```
package com.daimler.vtas.administration.exceptions;
import static
com.daimler.vtas.administration.common.AdministrationConstants.TECHNICAL
_ERROR_KEY;
```

```
import java.util.Locale;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import
com.daimler.vtas.administration.i18n.common.api.nls.NlsBundleAdministrat
ionRoot;
/**
 * This is custom run time exception
 *
 */
public class AdministrationTechnicalException extends
AdministrationNlsException {
 private static final Logger LOGGER =
LoggerFactory.getLogger(AdministrationTechnicalException.class);
 /**
 *
 */
 private static final long serialVersionUID = -7709881716179014712L;
 /**
 * The constructor.
 *
 * @param message message
 */
 public AdministrationTechnicalException(String message) {
 super(message);
 }
 /**
 * The constructor.
 *
 * @param re RuntimeException
 * @param locale locale
 * @param isOptimistic isOptimistic
 */
 public AdministrationTechnicalException(Exception re, Locale locale,
boolean isOptimistic) {

super(getMessageBundle().pleaseContactAdmin().getLocalizedMessage(locale));
 this.isOptimisticException = isOptimistic;
 LOGGER.error(re.getLocalizedMessage());
 }
 /**
 * This method returns NlsBundle instance.
 *
 * @return NlsBundle
 */
 public static NlsBundleAdministrationRoot getMessageBundle() {
 return createBundle(NlsBundleAdministrationRoot.class);
 }
 /**
 * This will provide error key
 */
 @Override
 public String getErrorKey() {
 return TECHNICAL_ERROR_KEY;
 }
 /**

```

```
* This is to decide business and technical
*/
@Override
public boolean isTechnical() {
 return true;
}
/**
 *
 * @return isOptimisticException
 */
public boolean isOptimisticLockingException() {
 return this.isOptimisticException;
}
```

```
}
```

Since we need exception obj for display on ui, thus we need to create a class which holds message, url, random generated error id,error key and information about whether it is technical or not

### ExceptionInfo

```
package com.daimler.vtas.administration.exceptions;
/**
 * Exception object that is sent in the response body.
 *
 */
public class ExceptionInfo {
 private String errorMessage;
 private String url;
 private String errorId;
 private boolean isTechnical;
 private String errorKey;
 private ErrorType errorType;
 /**
 * The constructor.
 *
 * @param errorMessage - Error Message
 * @param url - Request Url
 * @param errorKey - errorKey
 * @param errorId - Random generated id
 * @param isTechnical isTechnical
 * @param errorType httpStatus
 */
 public ExceptionInfo(String errorMessage, String url, String errorKey,
String errorId, boolean isTechnical,
 ErrorType errorType) {
 this.errorMessage = errorMessage;
 this.url = url;
 this.errorId = errorId;
 this.errorKey = errorKey;
 this.isTechnical = isTechnical;
 this.errorType = errorType;
 }
}
```

Create an Exception handler class which handles different kinds of exceptions. This is the example of handling business exception

### AdministrationExceptionHandler + Business Exception

```
package com.daimler.vtas.administration.exceptions;
import static
com.daimler.vtas.administration.common.AdministrationConstants.NEW_LINE;
import static
com.daimler.vtas.administration.common.AdministrationConstants.TAB;
import java.util.Arrays;
import javax.servlet.http.HttpServletRequest;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.http.HttpStatus;
import org.springframework.web.bind.annotation.ControllerAdvice;
import org.springframework.web.bind.annotation.ExceptionHandler;
import org.springframework.web.bind.annotation.ResponseBody;
import org.springframework.web.bind.annotation.ResponseStatus;
import
com.daimler.vtas.administration.exceptions.categories.CategoryAlreadyExi
stsException;
import
com.daimler.vtas.administration.exceptions.categories.NoCategoryFoundExc
eption;
import
com.daimler.vtas.administration.exceptions.uilabels.NoLabelFoundExceptio
n;
/**
 * Handles all the exceptions for web requests.
 *
 */
@ControllerAdvice
public class AdministrationExceptionHandler {
 private static final Logger LOGGER =
LoggerFactory.getLogger(AdministrationExceptionHandler.class);
 /**
 * @param httpRequest - Http Request
 * @param nlsException - Exception
 * @return ExceptionInfo
 */
 @ExceptionHandler({ NoCategoryFoundException.class })
 @ResponseBody
 public ExceptionInfo handleNoCategoryNotFoundException(HttpServletRequest
httpRequest,
 AdministrationNlsException nlsException) {
 LOGGER.info("In AdministrationExceptionHandler >>>> Handling Not
Found Exceptions");
 return buildBusinessExceptionInfo(httpRequest, nlsException);
 }
}
```

Create an Exception handler class which handles different kinds of exceptions. This is the example of handling technical exception

### **AdministrationExceptionHandler + Technical Exception**

```
import javax.servlet.http.HttpServletRequest;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.http.HttpStatus;
import org.springframework.web.bind.annotation.ControllerAdvice;
import org.springframework.web.bind.annotation.ExceptionHandler;
import org.springframework.web.bind.annotation.ResponseBody;
import org.springframework.web.bind.annotationResponseStatus;
import
com.daimler.vtas.administration.exceptions.categories.CategoryAlreadyExi
stsException;
import
com.daimler.vtas.administration.exceptions.categories.NoCategoryFoundExc
eption;
import
com.daimler.vtas.administration.exceptions.uilabels.NoLabelFoundExceptio
n;
/**
 * Handles all the exceptions for web requests.
 *
 */
@ControllerAdvice
public class AdministrationExceptionHandler {
 private static final Logger LOGGER =
LoggerFactory.getLogger(AdministrationExceptionHandler.class);

 /**
 *
 * @param httpRequest - Http Request
 * @param nlsException - Exception
 * @return ExceptionInfo
 */
 @ResponseStatus(HttpStatus.SERVICE_UNAVAILABLE)
 @ExceptionHandler(AdministrationTechnicalException.class)
 @ResponseBody
 public ExceptionInfo
handleAdministrationTechnicalException(HttpServletRequest httpRequest,
 AdministrationTechnicalException nlsException) {
 LOGGER.info("In AdministrationExceptionHandler >>>> Handling
Already Exists Exceptions");
 return buildTechnicalExceptionInfo(httpRequest, nlsException);
 }
}
```

*Example of rest controller which depicts example of throwing business exception*

### **CategoryRestController + Business Exception**

```
package com.daimler.vtas.administration.controller.categories;
import static
com.daimler.vtas.administration.common.AdministrationConstants.ADMINISTR
ATION_BASE_URI;
import static
```

```

com.daimler.vtas.administration.common.AdministrationConstants.DEFAULT_L
OCALE;
import static
com.daimler.vtas.administration.common.AdministrationConstants.LOCALE;
import java.util.List;
import java.util.Locale;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.MediaType;
import org.springframework.web.bind.annotation.CrossOrigin;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestHeader;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RestController;
import com.daimler.vtas.administration.dao.entity.categories.Category;
import
com.daimler.vtas.administration.exceptions.AdministrationTechnicalExcept
ion;
import
com.daimler.vtas.administration.exceptions.categories.CategoryAlreadyExi
stsException;
import
com.daimler.vtas.administration.exceptions.categories.NoCategoryFoundExc
eption;
import
com.daimler.vtas.administration.service.categories.CategoryService;
/**
 * Rest controller class to process http request uri
 *
 */
@RestController
@RequestMapping(value = ADMINISTRATION_BASE_URI + "/categories")
@CrossOrigin(origins = "${vtas.administration.cors.allowed-origins}")
public class CategoryRestController {
 @Autowired
 CategoryService categoryService;
 private static final Logger LOGGER =
 LoggerFactory.getLogger(CategoryRestController.class);
 /**
 * Retrieves and send all the categories sorted by Id in desc order as
 response.
 *
 * @param locale - locale to construct any messages to be sent in
 response.
 *
 * @return List<Category>
 * @throws NoCategoryFoundException - Exception
 */
 @RequestMapping(method = RequestMethod.GET)
 public List<Category> getAllCategories(@RequestHeader(value = LOCALE,
defaultValue = DEFAULT_LOCALE) String locale) {
 LOGGER.info("In Administration Rest Controller >>>>Fetch all
Categories ");
 List<Category> categories = null;
 if (categories.isEmpty()) {

```

```
throw new NoCategoryFoundException(new Locale(locale));
```

```

 }
 return categories;
}

```

*Example of rest controller which depicts example of throwing technical and optimistic exception*

### CategoryRestController+Technical Exception

```

package com.daimler.vtas.administration.controller.categories;
import static
com.daimler.vtas.administration.common.AdministrationConstants.ADMINISTR
ATION_BASE_URI;
import static
com.daimler.vtas.administration.common.AdministrationConstants.DEFAULT_L
OCALE;
import static
com.daimler.vtas.administration.common.AdministrationConstants.LOCALE;
import java.util.List;
import java.util.Locale;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.MediaType;
import org.springframework.web.bind.annotation.CrossOrigin;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestHeader;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RestController;
import com.daimler.vtas.administration.dao.entity.categories.Category;
import
com.daimler.vtas.administration.exceptions.AdministrationTechnicalExcept
ion;
import
com.daimler.vtas.administration.exceptions.categories.CategoryAlreadyExi
stsException;
import
com.daimler.vtas.administration.exceptions.categories.NoCategoryFoundExc
eption;
import
com.daimler.vtas.administration.service.categories.CategoryService;
/**
 * Rest controller class to process http request uri
 *
 */
@RestController
@RequestMapping(value = ADMINISTRATION_BASE_URI)
public class CategoryValueRestController {
 @Autowired
 CategoryValueService categoryValueService;
 private static final Logger LOGGER =
LoggerFactory.getLogger(CategoryValueRestController.class);

 /**
 * Edit categoryValue and send the category object as response.

```

```
*
* @param categoryValue - Category Value Details
* @param locale locale
*
* @return CategoryValue
* @throws AdministrationTechnicalException VtasTechnicalException
*/

@RequestMapping(value = "/categories/values", method =
RequestMethod.PUT, consumes = MediaType.APPLICATION_JSON_VALUE)
 public CategoryValue editCategoryValue(@RequestBody CategoryValue
categoryValue,
 @RequestHeader(value = LOCALE, defaultValue = DEFAULT_LOCALE)
String locale) {
 CategoryValue editCategoryValue;
 LOGGER
 .info(String.format("In Administration Rest Controller >>>>Edit
CategoryValue: %s", categoryValue.getName()));
 if (this.categoryValueService.isNotEditable(categoryValue)) {
 throw new
CategoryValueAlreadyExistsException(categoryValue.getName(), new
Locale(locale));
 }
 try {
 editCategoryValue =
this.categoryValueService.editCategoryValue(categoryValue);
 } catch (ObjectOptimisticLockingFailureException olfe) {
 throw new AdministrationTechnicalException(olfe, new
Locale(locale), true);
 } catch (ParseException | RuntimeException re) {
 throw new AdministrationTechnicalException(re, new Locale(locale),
false);
 }
}
```

```

 return editCategoryValue;
 }
}
}

```

By following the above mentioned steps we can successfully integrate business and technical exception in our micro services.

## Date Conversion Utility Implementation

- Introduction
- Implementation details in vtas-commons project
- How to integrate Date Utility with other micro services projects
  - Usage - Converting user provided Date into UTC
  - Usage - Converting UTC date into User specific time zone

### ***Introduction***

This document specifies about the DateUtility functionality implementation in vtas-commons project, which will convert user time to UTC and UTC to user specific zone date and time.

This utility can be used across all micro services.

### ***Implementation details in vtas-commons project***

**UTCDateToUserSpecificTimeZone.java** is an interface, which contains a **default method** `scanForDateFieldsAndConvertToUserTimeZone()` implementation. The method will allow generic entity and zoneName as input parameters and returns an entity object.

T entity - this is the entity class which contains date fields either directly or within its

#### **UTCDateToUserSpecificTimeZone**

```

/**
 * Implementation for UTCDateToUserSpecificTimeZone
 */
public interface UTCDateToUserSpecificTimeZone {
 /**
 * @param entity
 * @param zoneName
 * @return
 * @throws Exception
 */
 default <T> T scanForDateFieldsAndConvertToUserTimeZone(T entity,
String zoneName) throws Exception
 {
 return DateFieldFinder.scanDateAttributes(entity, zoneName);
 }
}

```

**DateFieldFinder.java** have two methods, one method will identify different levels of entity inheritance hierarchy and the other method will scan through the entity for date attributes and change the date values accordingly using date conversion method of DateUtility java class

#### **DateFieldFinder**

```

import java.lang.reflect.Field;
import java.util.Date;
import java.util.List;
import java.util.Set;
import org.springframework.util.ClassUtils;
/**
 * Implementation for DateFieldFinder

```

```

*/
public class DateFieldFinder {
 /**
 * private constructor
 */
 private DateFieldFinder() {
 }
 /**
 * It scans the date attributes in abstract level
 * @param entityClass
 * @param zoneName
 * @return
 * @throws Exception
 */
 public static <T> T scanDateAttributes(T entityClass, String zoneName)
throws Exception {
 if (null != entityClass.getClass().getGenericSuperclass()) {
 scanDateAttributesAndChangeValue(entityClass, zoneName,
 entityClass.getClass().getSuperclass().getDeclaredFields());
 }
 return scanDateAttributesAndChangeValue(entityClass, zoneName,
entityClass.getClass().getDeclaredFields());
}
/**
 * It scans the date attributes and pass it to convertUTCToUserTimeZone
method.
 * @param entityClass
 * @param zoneName
 * @param fields
 * @return
 * @throws Exception
 */
@SuppressWarnings("unchecked")
public static <T> T scanDateAttributesAndChangeValue(T entityClass,
String zoneName, Field... fields)
throws Exception {
for (Field field : fields) {
 field.setAccessible(true);
 if(isStringOrPrimitiveType(field))
 {
 if (field.getType().isAssignableFrom(Date.class)) {
 Date date = DateUtility.convertUTCToUserTimeZone((Date)
field.get(entityClass), zoneName);
 field.set(entityClass, date);
 } else if (isListType(entityClass, field)) {
 processListFields(entityClass, zoneName, field);
 } else if (isSetType(entityClass, field)) {
 processSetFields(entityClass, zoneName, field);
 } else if (null != field.get(entityClass)) {
 T targetType = (T) field.get(entityClass);
 scanDateAttributesAndChangeValue(targetType, zoneName,
 targetType.getClass().getDeclaredFields());
 }
 }
}
return entityClass;
}

```

```

/** This method will scan through Set for Date attributes
 * @param entityClass
 * @param zoneName
 * @param field
 * @throws Exception
 */
@SuppressWarnings("unchecked")
private static <T> void processSetFields(T entityClass, String
zoneName, Field field)
throws Exception {
for (T obj : (Set<T>) field.get(entityClass)) {
 scanDateAttributesAndChangeValue(obj, zoneName,
obj.getClass().getDeclaredFields());
}
}

/** This method will scan through List for Date attributes
 * @param entityClass
 * @param zoneName
 * @param field
 * @throws Exception
*/
@SuppressWarnings("unchecked")
private static <T> void processListFields(T entityClass, String
zoneName, Field field)
throws Exception {
for (T obj : (List<T>) field.get(entityClass)) {
 scanDateAttributesAndChangeValue(obj, zoneName,
obj.getClass().getDeclaredFields());
}
}

/** This method will check for set data type
 * @param entityClass
 * @param field
 * @return
 * @throws IllegalAccessException
*/
private static <T> boolean isSetType(T entityClass, Field field) throws
IllegalAccessException {
 return null != field.get(entityClass) &&
field.getType().isAssignableFrom(Set.class);
}

/** This method will check for list data types
 * @param entityClass
 * @param field
 * @return boolean
 * @throws IllegalAccessException
*/
private static <T> boolean isListType(T entityClass, Field field)
throws IllegalAccessException {
 return null != field.get(entityClass) &&
field.getType().isAssignableFrom(List.class);
}

/** This method will check for String and Primitive data type
 * @param field
 * @return boolean
*/
private static boolean isStringOrPrimitiveType(Field field) {

```

```
return !(field.getType() == String.class) &&
 !ClassUtils.isPrimitiveOrWrapper(field.getType());
}
```

```
}
```

## DateUtility.java

This class has methods, which converts user time zone to UTC and UTC to user specific time zone.

### DateUtility

```
import java.text.DateFormat;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Calendar;
import java.util.Date;
import java.util.TimeZone;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
/**
 * Implementation for DateUtility
 */
public class DateUtility {
 private static final Logger LOGGER =
LoggerFactory.getLogger(DateUtility.class);
 private static final String STANDARD_TIME_ZONE = "Europe/Berlin";
 private static final String DATE_FORMAT = "MM/dd/yyyy HH:mm:ss";

 private DateUtility() {
 // private constructor
 }
 /**
 * Converts UTC date to user specific time zone date.
 * @param date
 * @param zoneName
 * @return Date - Date in User specific zone.
 * @throws ParseException
 */
 public static Date convertUTCToUserTimeZone(Date date, String zoneName)
 {
 LOGGER.info("Date Utility : Converting UTC to user specific time");
 if(null == date)
 {
 return date;
 }
 else
 {
 String zone = null;
 if (zoneName == null || zoneName.trim().isEmpty()) {
 zone = STANDARD_TIME_ZONE;
 } else {
 zone = zoneName;
 }
 Calendar calendar = Calendar.getInstance();
 TimeZone fromTimeZone = TimeZone.getTimeZone("UTC");
 calendar.setTimeZone(fromTimeZone);
 calendar.setTime(date);
```

```
TimeZone toTimeZone = TimeZone.getTimeZone(zone);
calendar.add(Calendar.MILLISECOND, fromTimeZone.getRawOffset() * -1);
if (fromTimeZone.inDaylightTime(calendar.getTime())) {
 calendar.add(Calendar.MILLISECOND,
calendar.getTimeZone().getDSTSavings() * -1);
}
calendar.add(Calendar.MILLISECOND, toTimeZone.getRawOffset());
if (toTimeZone.inDaylightTime(calendar.getTime())) {
 calendar.add(Calendar.MILLISECOND, toTimeZone.getDSTSavings());
}
return calendar.getTime();
}
}
/***
 * Converts to UTC date.
 * @param date
 * @return Date - Date in UTC format
 * @throws ParseException
 */
public static Date convertUserTimeZoneToUTC(Date date) throws
ParseException {
 LOGGER.info("Date Utility : Converting User specific time to UTC");
 if (null == date)
 {
 return date;
 }
 else
 {
 DateFormat formatter = new SimpleDateFormat(DATE_FORMAT);
 formatter.setTimeZone(TimeZone.getTimeZone("UTC"));
 String sDate1 = formatter.format(date);
 return new SimpleDateFormat(DATE_FORMAT).parse(sDate1);
 }
}
```

```
}
```

### How to integrate Date Utility with other micro services projects

- 1). Add a vtas-commons project as a dependency in build.gradle file - `compile("com.daimler.vtas:vtas-commons:1.4-SNAPSHOT")`
- 2). Integration and implementation has to be done in Service implementation layer. For example here is the sample implementation in vtas-administration project (VTAS-125)

#### Usage - Converting user provided Date into UTC

If any input field is a date type and has to save into database, the input date and time should be converted into UTC & then save into database. The integration or implementation should be done in Service implementation layer only. In this case CategoryServiceImpl

For example Category entity has an option to edit and save a category, in that case if any category has been updated and saved, then the current timestamp will be converted into UTC and saved against changedOn column in the respective table in the database.

For example Category entity has changedOn field, which is date type. below given is a sample for reference.

#### CategoryServiceImpl

```
import java.text.ParseException;
import java.util.ArrayList;
import java.util.Date;
import java.util.List;
import java.util.Optional;
import java.util.stream.Collectors;
import javax.annotation.PostConstruct;
import javax.transaction.Transactional;
import org.dozer.DozerBeanMapper;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
import
com.daimler.vtas.administration.dao.categories.CategoryRepository;
import com.daimler.vtas.administration.dao.entity.categories.Category;
import com.daimler.vtas.administration.dto.categories.CategoryDTO;
import com.daimler.vtas.commons.util.CustomDozerFieldMapper;
import com.daimler.vtas.commons.util.DateUtility;
import com.daimler.vtas.commons.util.UTCDateToUserSpecificTimeZone;
/**
 * Implementation for CategoryService
 *
 */
@Service
public class CategoryServiceImpl implements CategoryService,
UTCDateToUserSpecificTimeZone {

 private static final Logger LOGGER =
LoggerFactory.getLogger(CategoryServiceImpl.class);
 @Autowired
 private CategoryRepository categoryRepository;
 @Autowired
 DozerBeanMapper dozerBeanMapper;
```

```
@Autowired
private CustomDozerFieldMapper customDozerFieldMapper;
/**
 * Set custom field mapper property to dozer mapper
 */
@PostConstruct
public void init() {

 this.dozerBeanMapper.setCustomFieldMapper(this.customDozerFieldMapper);
}

/**
 * @param categoryDTO categoryDTO
 * @return CategoryDTO
 * @throws ParseException - May throw ParseException
 *
 */
@Transactional
@Override
public CategoryDTO editCategory(CategoryDTO categoryDTO) throws
ParseException {
 LOGGER.info("CategoryServiceImpl >>> Editing a category");
 Category categoryToEdit =
this.categoryRepository.findCategoryByKey(categoryDTO.getKey());
 categoryToEdit.setKey(categoryDTO.getKey());
 categoryToEdit.setDescription(categoryDTO.getDescription());
 categoryToEdit.setChangedBy(categoryDTO.getChangedBy());
 categoryToEdit.setChangedOn(DateUtility.convertUserTimeZoneToUTC(new
Date())); //Converting user provided Date to UTC date
 return
this.dozerBeanMapper.map(this.categoryRepository.saveCategory(categoryTo
Edit), CategoryDTO.class);
}
```

```
}
```

#### Usage - Converting UTC date into User specific time zone

If any date and time field to display in GUI, it should display in user specific time zone. For example display all categories in GUI

To achieve UTC date into user specific time zone conversion, we have to invoke 'scanForDateFieldsAndConvertToUserTimeZone' method from *vtas-commons project* in your Service implementation class, which will invoke *scanDateAttributes method internally to identify all date attributes and*

Internally the method will converts all date fields from UTC date (from database) into user specific time zone and then return the entity.

Invoke the date utility method 'scanForDateFieldsAndConvertToUserTimeZone' in your service implementation class. Ensure, you will be covering the below given points inside your respective method(s)

1. Invoke specific method(s) to retrieve the results from database - as per business requirement
2. Invoke the date utility method (*scanForDateFieldsAndConvertToUserTimeZone*) in service implementation layer ; pass the **entity result object** and **user specific time zone** as parameters. *The utility method will traverse through the parameterized object and will convert the database time to user specific time (as per provided time zone)*
3. Return the value object to the caller method

**FYI: Please find the below-given sample code flow from top (controller) to down (Service implementation) for more understanding**

#### Service implementation

##### CategoryServiceImpl

```
import java.text.ParseException;
import java.util.ArrayList;
import java.util.Date;
import java.util.List;
import java.util.Optional;
import java.util.stream.Collectors;
import javax.annotation.PostConstruct;
import javax.transaction.Transactional;
import org.dozer.DozerBeanMapper;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
import
com.daimler.vtas.administration.dao.categories.CategoryRepository;
import
com.daimler.vtas.administration.dao.entity.categories.Category;
import com.daimler.vtas.administration.dto.categories.CategoryDTO;
import com.daimler.vtas.common.util.CustomDozerFieldMapper;
import com.daimler.vtas.common.util.DateUtility;
import com.daimler.vtas.common.util.UTCDateToUserSpecificTimeZone;
/**
 * Implementation for CategoryService
 *
 */
@Service
public class CategoryServiceImpl implements CategoryService,
UTCDateToUserSpecificTimeZone {

 private static final Logger LOGGER =
```

```
LoggerFactory.getLogger(CategoryServiceImpl.class);
 @Autowired
 private CategoryRepository categoryRepository;
 @Autowired
 DozerBeanMapper dozerBeanMapper;

 @Autowired
 private CustomDozerFieldMapper customDozerFieldMapper;
 /**
 * Set custom field mapper property to dozer mapper
 */
 @PostConstruct
 public void init() {

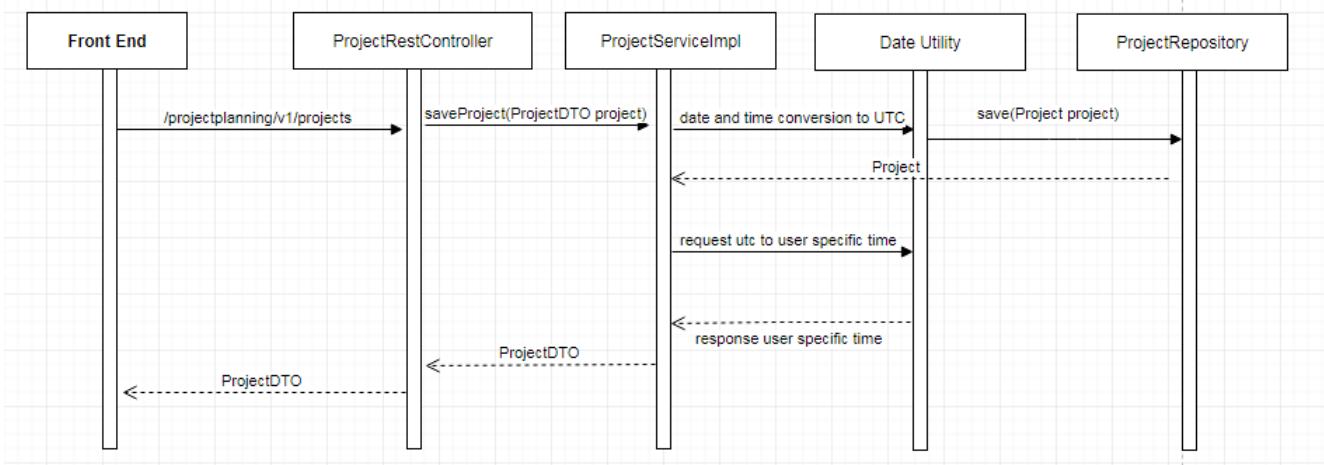
 this.dozerBeanMapper.setCustomFieldMapper(this.customDozerFieldMapper);
 }
 /**
 * @throws IllegalAccessException - May throw Illegal Access
 * Exception
 */
 @Override
 public List<Category> fetchAllCategories(String timeZone) throws
IllegalAccessException {
 LOGGER.info("CategoryServiceImpl >>> Fetching all categories");
 List<Category> categories =
this.categoryRepository.findAllCategories(timeZone).stream().collect(Collectors.toList());
 List<Category> updatedCategories = new ArrayList<>();
 for (Category category : categories) {

 updatedCategories.add(scanForDateFieldsAndConvertToUserTimeZone(cat
egory, timeZone)); //scanning date attributes inside the parent as
well as in child entities and convrting them to user time zone
 }
 return updatedCategories;
 }
}
```

```
}
```

### Step 3:

Validate the flow in your project according to the below listed sequence diagram



## Logging

### Logging Levels & Best practices

- Logging levels
  - ERROR
  - WARN
  - INFO
  - DEBUG
  - TRACE
- Best Practices

#### *Logging levels*

##### **ERROR**

- Something terribly wrong had happened, that must be investigated immediately.

Example:

- NPE, database unavailable, mission critical use case cannot be continued.
- Request-level processing error, e.g. the application encounters an error which is preventing a particular request from completing, but there is no indication of systematic failure which would prevent other requests from being successfully processed.

##### **WARN**

- The process might be continued, but take extra caution. The application can tolerate warning messages, but they should always be justified and examined. Actually we should always have two levels here: one for obvious problems where work-around exists (for example: "Current data unavailable, using cached values") and second (name it: ATTENTION) for potential problems and suggestions.

Example:

- When a software component detects inconsistency within an external data feed and it performs a corrective action to compensate for it. Let's say we process a list of key/value pairs and encounter a duplicate key: we can either overwrite the

- old occurrence, ignore the new occurrence or abort. If we take any of the first two actions, we should report a **WARN** event.
- If we take the third, we should report an **ERROR** event
- “Application running in development mode” or “Administration console is not secured with a password”.

#### **INFO**

– Contains some contextual information, shouldn't be too "chatty". INFO messages should be generally meaningful and significant, like the application being started and stopped. Things that you might want to know if you encounter a problem.

Example:

- If an application is all about booking airplane tickets, there should be only one INFO statement per each ticket saying “[Who] booked ticket from [Where] to [Where]”.
- Each software component should log at least four events on this level:
  - when it starts its initialization
  - when it becomes operational,
  - when it starts orderly shutdown,
  - just before it terminates normally

#### **DEBUG**

– Developers stuff – extensive contextual information. They are mostly used for problem diagnosis.

Example:

- We should write everything we need to debug an application

#### **TRACE**

– Very detailed information, intended only for development. You might keep trace messages for a short period of time after deployment on production environment, but treat these log statements as temporary, that should or might be turned-off eventually.

Example:

- If you put logging statement and remove it after the feature has been developed and tested, it should probably be on TRACE level.

### **Best Practices**

- Never log sensitive information like Password, Social Security number, credit card numbers or account number as plain text in log file
- Always log decision-making statements. For example, you have a Java application which loads some settings from preference file or environment and if it doesn't find than loads default settings. If you are using default setting than log this information like below :

```
logger.info("Not able to load personal settings, default Setting selected for user : {user});
```

- Log all important information which is necessary to debug or troubleshoot a problem if it happens. One example is this we often convert String to Date in our application and if String is not a valid date it throws ParseException, You need those value to troubleshoot or find the actual cause, a better logging statement could be:

```
logger.info("invalid startDate : {startDate});
```

- Use parameterized logging

```
class Foo {
 private static final Logger LOG =
LoggerFactory.getLogger(Foo.class);

 // GOOD: string literal, no dynamic objects
 public void good_method(Object arg) {
 LOG.debug("Method called with arg {}", arg);
 }

 // BAD: string varies with argument
 public bad_method1(Object arg) {
 LOG.debug("Method called with arg " + arg);
 }

 // BAD: code clutter
 public void bad_method2(Object arg) {
 if (LOG.isDebugEnabled()) {
 LOG.debug("Method called with arg {}", arg);
 }
 }

 // BAD: wrong level of language, this would be okay on TRACE
 public bad_method3(Object arg) {
 LOG.debug("arg is {}", arg);
 }
}
```

```

class Foo {
 private static final Logger LOG =
LoggerFactory.getLogger(Foo.class);

 // GOOD: note how there is no "{}" for ex
 public void good_method(Object arg) {
 try {
 doSomething(arg);
 ...
 } catch (SomeException ex) {
 LOG.warn("Failed to do something with {}, continuing",
arg, ex);
 }
 }

 // BAD:
 // - exception is interpreted as an object
 // - exception chaining cause is lost
 // - stack trace is lost
 public void bad_method(Object arg) {
 try {
 doSomething(arg);
 ...
 } catch (SomeException ex) {
 LOG.warn("Failed to do something with {} because {}",
continuing", arg, ex);
 }
 }
}

```

- Do Not, in general, use isTrace/Debug/Info/Warn/ErrorEnabled()

```

//BAD
List<Interface> interfaces;
if (LOG.isDebugEnabled()) {
 LOG.info("Interfaces: {}", interfaces.toString());
}

//GOOD
LOG.info("Interfaces: {}", interfaces); // no need to guard this
with isDebugEnabled!

```

- Provide useful context - Each logging call should provide useful context in which it occurred.

```

//Here are some typical anti-patterns which contribute to mitigate
ability to diagnose problems when they happen
class Foo {
 private static final Logger LOG =
LoggerFactory.getLogger(Foo.class);

 // VERY BAD:
 // - no context provided

```

```
// - non-constant message string
// - assumes useful toString()
public bad_method1(Object arg) {
 LOG.debug(arg.toString());
}

// VERY BAD:
// - no context provided
public bad_method2(Object arg) {
 LOG.debug("{}", arg);
}

// COMPLETELY BAD:
// - silently ignoring errors!!!
public bad_method3(Object arg) {
 try {
 doSomething(arg);
 ...
 } catch (SomeException ex) {
 }
}

// EXTREMELY BAD:
// - message is not constant
// - no context is provided
// - ex.getCause() is lost
// - call stack is lost
public void bad_method4(Object arg) {
 try {
 doSomething(arg);
 ...
 } catch (SomeException ex) {
 LOG.warn(ex.getMessage());
 }
}

// EXTREMELY BAD:
// - message is not constant
// - no context is provided
// - ex.getCause() is probably lost
// - call stack is probably lost
// - assumes useful toString()
public void bad_method5(Object arg) {
 try {
 doSomething(arg);
 ...
 } catch (SomeException ex) {
 LOG.warn(ex.toString());
 }
}

// VERY BAD:
// - no useful context is provided
// - ex.getCause() is probably lost
// - call stack is probably lost
// - administrators don't know what an Exception is!
public void bad_method6(Object arg) {
```

```
try {
 doSomething(arg);
 ...
} catch (SomeException ex) {
 LOG.warn("Exception {}", ex);
```

```

 }
 }
}

```

The proper fix for these anti-patterns is to always provide key information in the logging event:

- what went wrong
- how badly it went wrong

in case we recover, shortly describe how (especially on **WARN** level)

```

class Foo {
 private static final Logger LOG =
LoggerFactory.getLogger(Foo.class);

 // GOOD:
 // - string literal
 // - we explain what we tried to do
 // - we pass along information we have about the failure
 // - we explain that we recovered from the failure
 public void good_method1(Object arg) {
 try {
 doSomething(arg);
 ...
 } catch (SomeException ex) {
 LOG.warn("Failed to do something with {}, ignoring it",
arg, ex);
 }
 }

 // GOOD:
 // - string literal
 // - we explain what we tried to do
 // - we pass along information we have about the failure
 // - we escalate the failure to our caller
 // - we also 'chain' the exception so it is not lost and can be
 // correlated
 public void good_method2(Object arg) {
 try {
 doSomething(arg);
 ...
 } catch (SomeException ex) {
 LOG.error("Failed to do something with {}", arg, ex);
 throw new RuntimeException("Failed to do something",
ex);
 }
 }
}

```

## OASP Logging

- Why logging is required in software development?
- Benefits
- Logging frameworks
- With respect to VTAS architecture

- Why SLF4J?
- Logback
  - Logback's architecture
  - Logger, Appenders and Layouts
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- Usage of logging in Devon framework
  - Logger Access
  - Security
  - Correlating separate requests

### Why logging is required in software development?

Logging is one of the most powerful tools in a programmer's toolbox. Logging is an essential part of software development.

It provides developers and support teams with special 'glasses' which enable them to see what the application code is really doing. Logging gives the data about what the code is doing.

A large part of software developers' lives are developing, testing, troubleshooting and debugging. Logging makes this a much easier and smoother process.

### Benefits

#### Visibility while developing

- The primary benefit of logging is visibility into what my code is doing
- The second is visibility into your code during development
- Logging allows other developers to see exactly code is doing

Visibility into code helps manage complexity.

Visibility after shipping.

- Sufficient logging allows answering nearly any question about what a program is doing.

### Logging frameworks

Log4J, Java Logging API, Logging, SLF4J, tinylog, Logback

#### With respect to VTAS architecture

SLF4J as API for logging and recommended implementation is Logback

### Why SLF4J?

Simple Logging Facade for Java (SLF4J) provides a Java logging API by means of a simple facade pattern. The underlying logging backend is determined at runtime by adding the desired binding to the classpath and may be the standard Sun Java logging package java.util.logging, log4j, logback or tinylog.

### Decouple from Application

The separation of the client API from the logging backend reduces the coupling between an application and any particular logging framework. This can make it easier to integrate with existing or third-party code or to deliver code into other projects that have already made a choice of logging backend.

### Logback

Logback is the successor of log4j logger API, but logback offers some advantages over log4j, like **better performance** and **less memory consumption**, **automatic reloading** of configuration files, or **filter capabilities**, to cite a few features.

Native implementation of slf4j is logback, thus using both as logger framework implies zero memory and computational overhead.

#### Logback's architecture

Logback is divided into three modules, logback-core, logback-classic and logback-access.

- The *core* module lays the groundwork for the other two modules.
- The *classic* module extends *core*. **Logback-classic natively implements the SLF4J API** so that you can readily switch back and forth between logback and other logging systems such as log4j or java.util.logging etc.
- The *access* module integrates with Servlet containers to provide HTTP-access log functionality.

### Logger, Appenders and Layouts

Logback is built upon three main classes: `Logger`, `Appender` and `Layout`.

These three types of components work together to enable developers to log messages according to message type and level, and to control at runtime how these messages are formatted and where they are reported.

- The `Logger` class is part of the logback-classic module.
- The `Appender` and `Layout` interfaces are part of logback-core.
- As a general-purpose module, logback-core has no notion of loggers.

#### `Logger context`

Loggers are named entities. Their names are case-sensitive and they follow the hierarchical naming rule:

Named Hierarchy - A logger is said to be an ancestor of another logger if its name followed by a dot is a prefix of the descendant logger name. A logger is said to be a parent of a child logger if there are no ancestors between itself and the descendant logger.

The root logger resides at the top of the logger hierarchy. It is exceptional in that it is part of every hierarchy at its inception. Like every logger, it can be retrieved by its name, as follows:

```
Logger rootLogger = LoggerFactory.getLogger(org.slf4j.Logger.ROOT_LOGGER_NAME);
```

All other loggers are also retrieved with the class static `getLogger` method found in the `org.slf4j.LoggerFactory` class. This method takes the name of the desired logger as a parameter.

Some of the basic methods in the `Logger` interface are listed below.

```
package org.slf4j;
public interface Logger {
 // Printing methods:
 public void trace(String message);
 public void debug(String message);
 public void info(String message);
 public void warn(String message);
 public void error(String message);
}
```

Loggers may be assigned levels. The set of possible levels (TRACE, DEBUG, INFO, WARN and ERROR) are defined in the `ch.qos.logback.classic.Level` class.

Note that in logback, the `Level` class is final and cannot be sub-classed, as a much more flexible approach exists in the form of `Marker` objects.

If a given logger is not assigned a level, then it inherits one from its closest ancestor with an assigned level.

The effective level for a given logger  $L$ , is equal to the first non-null level in its hierarchy, starting at  $L$  itself and proceeding upwards in the hierarchy towards the root logger.

To ensure that all loggers can eventually inherit a level, the root logger always has an assigned level. By default, this level is DEBUG.

This rule is at the heart of logback. It assumes that levels are ordered as follows: TRACE < DEBUG < INFO < WARN < ERROR.

In a more graphic way, here is how the selection rule works. In the following table, the vertical header shows the level of the logging request, designated by  $p$ , while the horizontal header shows effective level of the logger, designated by  $q$ . The intersection of the rows (level request) and columns (effective level) is the boolean resulting from the basic selection rule.

level of request $p$	effective level $q$					
	TRACE	DEBUG	INFO	WARN	ERROR	OFF
TRACE	YES	NO	NO	NO	NO	NO
DEBUG	YES	YES	NO	NO	NO	NO
INFO	YES	YES	YES	NO	NO	NO
WARN	YES	YES	YES	YES	NO	NO
ERROR	YES	YES	YES	YES	YES	NO

			x: Visible				
	FATAL	ERROR	WARN	INFO	DEBUG	TRACE	ALL
OFF							
FATAL	x						
ERROR	x	x					
WARN	x	x	x				
INFO	x	x	x	x			
DEBUG	x	x	x	x	x		
TRACE	x	x	x	x	x	x	
ALL	x	x	x	x	x	x	x

Here is an example of the basic selection rule.

```

import ch.qos.logback.classic.Level;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
...

// get a logger instance named "com.foo". Let us further assume that the
// logger is of type ch.qos.logback.classic.Logger so that we can
// set its level
ch.qos.logback.classic.Logger logger =
 (ch.qos.logback.classic.Logger) LoggerFactory.getLogger("com.foo");
//set its Level to INFO. The setLevel() method requires a logback logger
logger.setLevel(Level.INFO);

Logger barlogger = LoggerFactory.getLogger("com.foo.Bar");

// This request is enabled, because WARN >= INFO
logger.warn("Low fuel level.");

// This request is disabled, because DEBUG < INFO.
logger.debug("Starting search for nearest gas station.");

// The logger instance barlogger, named "com.foo.Bar",
// will inherit its level from the logger named
// "com.foo" Thus, the following request is enabled
// because INFO >= INFO.
barlogger.info("Located nearest gas station.");

// This request is disabled, because DEBUG < INFO.
barlogger.debug("Exiting gas station search");

```

### Appenders

The ability to selectively enable or disable logging requests based on their logger is only part of the picture. Logback allows logging requests to print to multiple destinations. In logback speak, an output destination is called an appender. Currently, appenders exist for the console, files, remote socket servers, to MySQL, PostgreSQL, Oracle and other databases, JMS, and remote UNIX Syslog daemons.

More than one appender can be attached to a logger.

### Layouts

The layout is responsible for formatting the logging request according to the user's wishes, whereas an appender takes care of sending the formatted output to its destination. The `PatternLayout`, part of the standard logback distribution, lets the user specify the output format according to conversion patterns.

For example, the `PatternLayout` with the conversion pattern "%-4relative [%thread] %-5level %logger{32} - %msg%n" will output something akin to:

176 [main] DEBUG manual.architecture.HelloWorld2 - Hello world.

The first field is the number of milliseconds elapsed since the start of the program. The second field is the thread making the log request. The third field is the level of the log request. The fourth field is the name of the logger associated with the log request. The text after the '-' is the message of the request.

#### Parameterized logging

Given that loggers in logback-classic implement the [SLF4J's Logger interface](#), certain printing methods admit more than one parameter. These printing method variants are mainly intended to improve performance while minimizing the impact on the readability of the code.

For some `Logger logger`, writing,

```
logger.debug("Entry number: " + i + " is " + String.valueOf(entry[i]));
```

incurs the cost of constructing the message parameter, that is converting both integer `i` and `entry[i]` to a String, and concatenating intermediate strings. This is regardless of whether the message will be logged or not.

One possible way to avoid the cost of parameter construction is by surrounding the log statement with a test. Here is an example.

```
if(logger.isDebugEnabled()) {
 logger.debug("Entry number: " + i + " is " + String.valueOf(entry[i]));
}
```

This way you will not incur the cost of parameter construction if debugging is disabled for `logger`. On the other hand, if the logger is enabled for the DEBUG level, you will incur the cost of evaluating whether the logger is enabled or not, twice: once in `debugEnabled` and once in `debug`. In practice, this overhead is insignificant because evaluating a logger takes less than 1% of the time it takes to actually log a request.

Steps logback takes when the user invokes the `info()` method of a logger named `com.wombat`.

#### 1. Get the filter chain decision

If it exists, the `TurboFilter` chain is invoked. Turbo filters can set a context-wide threshold, or filter out certain events based on information such as `Marker`, `Level`, `Logger`, `message`, or the `Throwable` that are associated with each logging request. If the reply of the filter chain is `FilterReply.DENY`, then the logging request is dropped. If it is `FilterReply.NEUTRAL`, then we continue with the next step, i.e. step 2. In case the reply is `FilterReply.ACCEPT`, we skip the next and directly jump to step 3.

#### 2. Apply the basic selection rule

At this step, logback compares the effective level of the logger with the level of the request. If the logging request is disabled according to this test, then logback will drop the request without further processing. Otherwise, it proceeds to the next step.

#### 3. Create a LoggingEvent object

If the request survived the previous filters, logback will create a `ch.qos.logback.classic.LoggingEvent` object containing all the relevant parameters of the request, such as the logger of the request, the request level, the message itself, the exception that might have been passed along with the request, the current time, the current thread, various data about the class that issued the logging request and the `MDC`. Note that some of these fields are initialized lazily, that is only when they are actually needed. The `MDC` is used to decorate the logging request with additional contextual information.

#### 4. Invoking appenders

After the creation of a `LoggingEvent` object, logback will invoke the `doAppend()` methods of all the applicable appenders, that is, the appenders inherited from the logger context.

All appenders shipped with the logback distribution extend the `AppenderBase` abstract class that implements the `doAppend` method in a synchronized block ensuring thread-safety. The `doAppend()` method of `AppenderBase` also invokes custom filters attached to the appender, if any such filters exist. Custom filters, which can be dynamically attached to any appender.

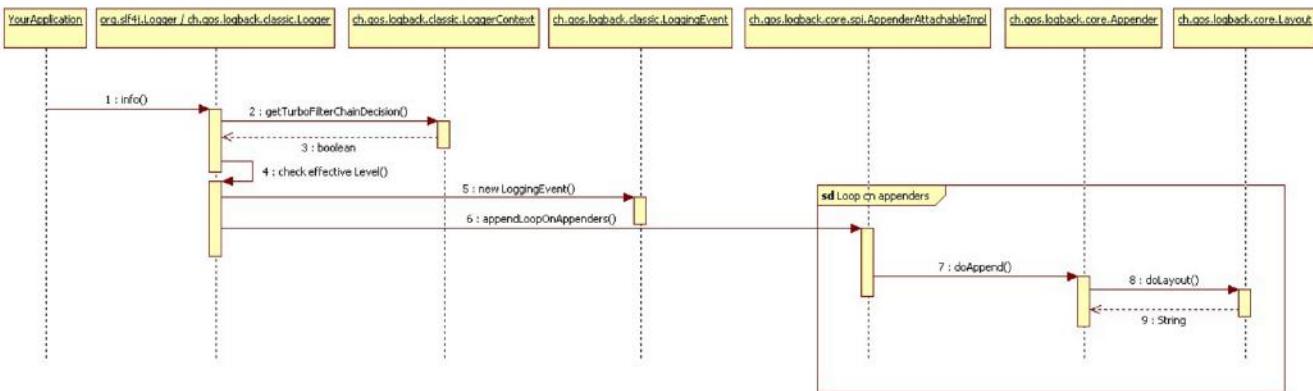
#### 5. Formatting the output

It is responsibility of the invoked appender to format the logging event. However, some (but not all) appenders delegate the task of formatting the logging event to a layout. A layout formats the `LoggingEvent` instance and returns the result as a String. Note that some appenders, such as the `SocketAppender`, do not transform the logging event into a string but serialize it instead. Consequently, they do not have nor require a layout.

#### 6. Sending out the LoggingEvent

After the logging event is fully formatted it is sent to its destination by each appender.

Here is a sequence UML diagram to show how everything works.



### Logback performance

One of the often-cited arguments against logging is its computational cost. This is a legitimate concern as even moderately-sized applications can generate thousands of log requests. Much of our development effort is spent measuring and tweaking logback's performance. Independently of these efforts, the user should still be aware of the following performance issues.

Logging performance when logging is turned off entirely

You can turn off logging entirely by setting the level of the root logger to `Level.OFF`, the highest possible level. When logging is turned off entirely, the cost of a log request consists of a method invocation plus an integer comparison. On a 3.2Ghz Pentium D machine this cost is typically around 20 nanoseconds.

However, any method invocation involves the "hidden" cost of parameter construction.  
The performance of deciding whether to log or not to log when logging is turned on.

In logback, there is no need to walk the logger hierarchy. A logger knows its effective level (that is, its level, once level inheritance has been taken into consideration) when it is created. Should the level of a parent logger be changed, then all child loggers are contacted to take notice of the change. Thus, before accepting or denying a request based on the effective level, the logger can make a quasi-instantaneous decision, without needing to consult its ancestors.

Actual logging (formatting and writing to the output device)

This is the cost of formatting the log output and sending it to its target destination. Here again, a serious effort was made to make layouts (formatters) perform as quickly as possible. The same is true for appenders. The typical cost of actually logging is about 9 to 12 microseconds when logging to a file on the local machine. It goes up to several milliseconds when logging to a database on a remote server.

Although feature-rich, one of the foremost design goals of **logback was speed of execution**, a requirement which is second only to reliability. Some logback components have been rewritten several times to improve performance.

### Configuration in logback

Logback can be configured either programmatically or with a configuration script expressed in XML.

initialization steps that logback follows to try to configure itself:

1. Logback tries to find a file called `logback-test.xml` in the classpath.
2. If no such file is found, logback tries to find a file called `logback.groovy` in the classpath.
3. If no such file is found, it checks for the file `logback.xml` in the classpath..
4. If no such file is found, [service-provider loading facility](#) (introduced in JDK 1.6) is used to resolve the implementation of `com.qos.lo gback.classic.spi.Configurator` interface by looking up the file `META-INF/services/ch.qos.logback.classic.spi.Configurator` i n the class path. Its contents should specify the fully qualified class name of the desired Configurator implementation.
5. If none of the above succeeds, logback configures itself automatically using the `BasicConfigurator` which will cause logging output to be directed to the console.

The last step is meant as last-ditch effort to provide a default (but very basic) logging functionality in the absence of a configuration file.  
Automatic configuration with `logback-test.xml` or `logback.xml`

Logback will try to configure itself using the files `logback-test.xml` or `logback.xml` if found on the class path. Here is a configuration file equivalent to the one established by `BasicConfigurator`.

Example: Basic configuration file

```

<configuration>
 <appender name="STDOUT" class="ch.qos.logback.core.ConsoleAppender">
 <!-- encoders are assigned the type ch.qos.logback.classic.encoder.PatternLayoutEncoder by default -->
 <encoder>
 <pattern>%d{HH:mm:ss.SSS} [%thread] %-5level %logger{36} - %msg%n</pattern>
 </encoder>
 </appender>

 <root level="debug">
 <appender-ref ref="STDOUT" />
 </root>

```

```
</configuration>
```

Here are a few `logback.xml` examples

## 1. Send logs to Console

All logging will be redirected to console.

### ***logback.xml***

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
 <appender name="STDOUT" class="ch.qos.logback.core.ConsoleAppender">
 <layout class="ch.qos.logback.classic.PatternLayout">
 <Pattern>
 %d{yyyy-MM-dd HH:mm:ss} [%thread] %-5level %logger{36} - %msg%n
 </Pattern>
 </layout>
 </appender>

 <logger name="com.mkyong.web" level="debug" additivity="false">
 <appender-ref ref="STDOUT" />
 </logger>

 <root level="error">
 <appender-ref ref="STDOUT" />
 </root>
</configuration>
```

## 2. Send logs to File

All logging will be redirected to a file `c:/logs/debug.log`. Furthermore, this log file will be archived daily or the file size is larger than 10MB.

### ***logback.xml***

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>

 <property name="DEV_HOME" value="c:/logs" />

 <appender name="FILE-AUDIT" class="ch.qos.logback.core.rolling.RollingFileAppender">
 <file>${DEV_HOME}/debug.log</file>
 <encoder class="ch.qos.logback.classic.encoder.PatternLayoutEncoder">
 <Pattern>
 %d{yyyy-MM-dd HH:mm:ss} - %msg%n
 </Pattern>
 </encoder>

 <rollingPolicy class="ch.qos.logback.core.rolling.TimeBasedRollingPolicy">
 <!-- rollover daily -->
 <fileNamePattern>${DEV_HOME}/archived/debug.%d{yyyy-MM-dd}.%i.log</fileNamePattern>
 <timeBasedFileNamingAndTriggeringPolicy class="ch.qos.logback.core.rolling.SizeAndTimeBasedFNATP">
 <maxFileSize>10MB</maxFileSize>
 </timeBasedFileNamingAndTriggeringPolicy>
 </rollingPolicy>
 </appender>

 <logger name="com.mkyong.web" level="debug" additivity="false">
 <appender-ref ref="FILE-AUDIT" />
 </logger>

 <root level="error">
 <appender-ref ref="FILE-AUDIT" />
 </root>
</configuration>
```

## Usage of logging in Devon framework

Devon framework provided additional value such as configuration templates and an appender that prevents log-forging and reformatting of stack-traces for operational optimizations.

The configuration file is logback.xml and is to put in the directory src/main/resources of main application.

OASP4J provides a production ready configuration here. Simply copy this configuration into your application in order to benefit from the provided operational and aspects. We do not include the configuration into the oasp4j-logging module to give you the freedom of customizations (e.g. tune log levels for components and integrated products and libraries of your application). The provided logback.xml is configured to use variables defined on the config/application.properties file. On our example, the log files path point to ../logs/ in order to log to tomcat log directory when starting tomcat on the bin folder. Change it according to your custom needs.

#### config/application.properties

log.dir=../logs/

#### Logger Access

The general pattern for accessing loggers from the code is a static logger instance per class. Devon preconfigured the development environment so you can just type LOG and hit [ctrl][space] (and then [arrow up]) to insert the code pattern line into your class as follows:

```
public class MyClass {
 private static final Logger LOG = LoggerFactory.getLogger(MyClass.class);
 ...
}
```

Devon advised three types of Log Files

1. Error Log: Includes log entries to detect errors.
2. Info Log: Used to analyze system status and to detect bottlenecks.
3. Debug Log: Detailed information for error detection.

The log file name pattern is as follows:

<LOGTYPE>\_log\_<HOST>\_<APPLICATION>\_<TIMESTAMP>.log

Segments of Logfilename

Element	Value	Description
<LOGTYPE>	info, error, debug	Type of log file
<HOST>	e.g. mywebserver01	Name of server, where logs are generated
<APPLICATION>	e.g. myapp	Name of application, which causes logs
<TIMESTAMP>	YYYY-MM-DD_HH00	date of log file

Example: error\_log\_mywebserver01\_myapp\_2013-09-16\_0900.log

Error log from mywebserver01 at application myapp at 16th September 2013 9pm.

#### Output format

Devon suggests the following output format for all log entries to ensure that searching and filtering of log entries work consistent for all logfiles:

```
[D: <timestamp>] [P: <priority (Level)>] [C: <NDC>] [T: <thread>] [L: <logger name>] - [M: <message>]
```

- D: Date ( ISO8601: 2013-09-05 16:40:36,464)
- P: Priority (the log level)
- C: Correlation ID (ID to identify users across multiple systems, needed when application is distributed)

- T: Thread (Name of thread)
- L: Logger name (use class name)
- M: Message (log message)

Example:

[D: 2013-09-05 16:40:36,464] [P: DEBUG] [C: 12345] [T: main] [L: my.package.MyClass]-[M: My message...]

### **Security**

In order to prevent log forging attacks we provide a special appender for logback in oasp4j-logging. If you use it (see ) you are safe from such attacks.

### **Correlating separate requests**

In order to correlate separate HTTP requests to services belonging to the same user / session, we provide a servlet filter called "DiagnosticContextFilter". This filter first searches for a configurable HTTP header containing a correlation id. If none was found, it will generate a new correlation id. By default the HTTP header used is called "CorrelationId".

## **VTAS AOP Logging**

- Introduction
- Aspect Oriented Programming Core Concepts
- AOP Advice Types
  - AspectJ annotations :
- Steps to configure AOP Logging in each Micro Service

## **Introduction**

Aspect Oriented Programming is used in VTAS application for logging. AOP allows the developers to concentrate on the business logic, instead of the cross-cutting concerns.

## **Aspect Oriented Programming Core Concepts**

1. **Aspect:** An aspect is a class that implements enterprise application concerns that cut across multiple classes, such as transaction management, logging etc.. Aspects can be a normal class configured through Spring XML configuration or we can use Spring AspectJ integration to define a class as Aspect using `@Aspect` annotation.
2. **Join Point:** A join point is the specific point in the application such as method execution, exception handling, changing object variable values etc. In Spring AOP a join points is always the execution of a method.
3. **Advice:** Advices are actions taken for a particular join point. In terms of programming, they are methods that gets executed when a certain join point with matching pointcut is reached in the application.
4. **Pointcut:** Pointcut are expressions that is matched with join points to determine whether advice needs to be executed or not. Pointcut uses different kinds of expressions that are matched with the join points and Spring framework uses the AspectJ pointcut expression language.
5. **Target Object:** They are the object on which advices are applied. Spring AOP is implemented using runtime proxies so this object is always a proxied object. What is means is that a subclass is created at runtime where the target method is overridden and advices are included based on their configuration.
6. **AOP proxy:** Spring AOP implementation uses JDK dynamic proxy to create the Proxy classes with target classes and advice invocations, these are called AOP proxy classes. We can also use CGLIB proxy by adding it as the dependency in the Spring AOP project.
7. **Weaving:** It is the process of linking aspects with other objects to create the advised proxy objects. This can be done at compile time, load time or at runtime. Spring AOP performs weaving at the runtime.

### **AOP Advice Types**

#### **AspectJ annotations :**

1. **@Before** – Run before the method execution
2. **@After** – Run after the method returned a result
3. **@AfterReturning** – Run after the method returned a result, intercept the returned result as well.
4. **@AfterThrowing** – Run after the method throws an exception
5. **@Around** – Run around the method execution, combine all three advices above.

## Steps to configure AOP Logging in each Micro Service

**Step 1:** Add AOP Logging configuration class in each micro service.

**Step 2:** Define different advices like Before entering in to the method, After return the result and After throwing exceptions for controller, service and util classes. If any extra package need to be covered which can be added in the same configuration class as another advice.  
**AOP Logger**

### AOP Configuration

```
import java.util.Arrays;

import org.aspectj.lang.JoinPoint;
import org.aspectj.lang.annotation.AfterReturning;
import org.aspectj.lang.annotation.AfterThrowing;
import org.aspectj.lang.annotation.Aspect;
import org.aspectj.lang.annotation.Before;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.stereotype.Component;

import com.daimler.vtas.usermanagement.common.UserProfileConstants;

/**
 *
 */
@Aspect
@Component
public class UserManagementLogger {

 private static final Logger LOGGER =
 LoggerFactory.getLogger(UserManagementLogger.class);

 /**
 * @param joinPoint - joinPoint
 */

 @Before("within(@org.springframework.web.bind.annotation.RestController
) && execution(*.*(..)) && args(..)")
 public void logControllerBefore(JoinPoint joinPoint) {

 LOGGER.debug(UserProfileConstants.LOGGER_ENTERING,
joinPoint.getSignature().getDeclaringTypeName(),
 joinPoint.getSignature().getName(),
Arrays.toString(joinPoint.getArgs()));
 }

 /**
 * @param joinPoint -joinPoint
 * @param result - result
 */
 @AfterReturning(pointcut =
"within(@org.springframework.web.bind.annotation.RestController *) &&
execution(* *.*(..)", returning = "result")
 public void logAfterController(JoinPoint joinPoint, Object result) {

 LOGGER.debug(UserProfileConstants.LOGGER_LEAVING,
joinPoint.getSignature().getDeclaringTypeName(),
```

```

 joinPoint.getSignature().getName(), result.toString());
 }

 /**
 * @param joinPoint - joinPoint
 * @param exception - exception
 */
 @AfterThrowing(pointcut =
"within(@org.springframework.web.bind.annotation.RestController *) &&
execution(* *.*(..))", throwing = "exception")
 public void logAfterThrowing(JoinPoint joinPoint, Throwable exception)
{

 LOGGER.error(UserProfileConstants.LOGGER_EXCEPTION, exception);
}

 /**
 * @param joinPoint - joinPoint
 */
 @Before("within(@org.springframework.stereotype.Service *) &&
execution(* *.*(..)) && args(..)")
 public void logServiceBefore(JoinPoint joinPoint) {

 LOGGER.debug(UserProfileConstants.LOGGER_ENTERING,
joinPoint.getSignature().getDeclaringTypeName(),
joinPoint.getSignature().getName(),
Arrays.toString(joinPoint.getArgs()));
 }

 /**
 * @param joinPoint -joinPoint
 * @param result - result
 */
 @AfterReturning(pointcut =
"within(@org.springframework.stereotype.Service *) && execution(*
.(..))", returning = "result")
 public void logAfterService(JoinPoint joinPoint, Object result) {

 LOGGER.debug(UserProfileConstants.LOGGER_LEAVING,
joinPoint.getSignature().getDeclaringTypeName(),
joinPoint.getSignature().getName(), result.toString());
 }

 /**
 * @param joinPoint - joinPoint
 * @param exception - exception
 */
 @AfterThrowing(pointcut =
"within(@org.springframework.stereotype.Service *) && execution(*
.(..))", throwing = "exception")
 public void logAfterThrowingService(JoinPoint joinPoint, Throwable
exception) {

 LOGGER.error(UserProfileConstants.LOGGER_EXCEPTION, exception);
 }
}

```

Logs will be printed as mentioned below with args, return value and exceptions.

**e.g.  
Debug Log**

```
[M: Entering
com.daimler.vtas.administration.controller.categories.CategoryValueRestController.getAllCategoryValues()
() Args :[Europe/Berlin, en]]
[M: Entering
com.daimler.vtas.administration.service.categories.CategoryValueServiceImpl.fetchAllCategoryValues()
Args :[Europe/Berlin]
[M: Leaving
com.daimler.vtas.administration.service.categories.CategoryValueServiceImpl.fetchAllCategoryValues()
Return Value :[]]
```

## VTAS Logging

- Introduction
- Logging Implementation Details in Commons Project
  - logback-spring.xml
  - Correlation-Id
- Steps to Integrate Logging in each Micro Service

### *Introduction*

In VTAS project, OASP4J Logging is used to generate logs. OASP4J logging provides features like correlation-id, performance log filter etc. As VTAS project is using Microservice architecture, log configuration should be easy to configure. In order to achieve this, log configurations are bundled into commons project which can be used as a dependency in each Micro service. Using a Correlation-id, for all rest service calls; passing it to other micro-services to log the same event(s) which will be helpful to trace the event(s) across multiple log files in multiple/same locations.

## ***Logging Implementation Details in Commons Project***

### **logback-spring.xml**

Logback-spring.xml file is placed under [src/main/resources](#) folder in commons project which will be loaded into class path when application is started.

### logback-spring.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Configuration file for logback -->
<configuration scan="true" scanPeriod="60 seconds">
 <property
resource="io/oasp/logging/logback/application-logging.properties" />
 <if condition='!isNull("catalina.base")'>
 <then>
 <property name="logPath" value="${catalina.base}${LOG_PATH}" />
 </then>
 <else>
 <property name="logPath" value="${LOG_PATH}" />
 </else>
 </if>
 <property name="appname" value="${LOG_FILE}" />
 <include resource="io/oasp/logging/logback/appenders-file-all.xml" />
 <include resource="io/oasp/logging/logback/appender-console.xml" />
 <root level="DEBUG">
 <appender-ref ref="ERROR_APPENDER" />
 <appender-ref ref="INFO_APPENDER" />
 <appender-ref ref="DEBUG_APPENDER" />
 <appender-ref ref="CONSOLE_APPENDER" />
 </root>
 <!-- Minimize infrastructure debug logs -->
 <logger name="org.dozer" level="INFO"/>
 <logger name="org.flywaydb" level="INFO"/>
 <logger name="org.springframework" level="INFO"/>
 <logger name="org.hibernate" level="INFO"/>
</configuration>
```

## Correlation-Id

The `CommonConfig.java` will be under commons project; the class contains `FilterRegistrationBean` and `DiagnosticContextFacade` bean configuration which is used to generate correlation id when there is a request. Correlation id should be set to each request http-headers while making a rest-template or client call from one Micro service to another.

`DiagnosticContextFacade` class should be autowired to get the correlation id. `DiagnosticContextFacade .getCorrelationId()` method is to get the correlation id which is a uuid generated by the oasp4j dependency. "X-Correlation-Id" is the key to set the correlation id in to the header.

### CommonConfig.java

```
import javax.servlet.Filter;
import org.springframework.beans.factory.annotation.Autowired;
import
org.springframework.beans.factory.config.AutowireCapableBeanFactory;
import org.springframework.boot.web.servlet.FilterRegistrationBean;
import org.springframework.context.annotation.Bean;
import org.springframework.context.annotation.Configuration;
import org.springframework.http.HttpHeaders;
import org.springframework.web.client.RestTemplate;
import io.oasp.module.logging.common.api.DiagnosticContextFacade;
import io.oasp.module.logging.common.impl.DiagnosticContextFacadeImpl;
import io.oasp.module.logging.common.impl.DiagnosticContextFilter;
```

```
import io.oasp.module.logging.common.impl.PerformanceLogFilter;
/**
 * Spring Configuration class
 *
 */
@Configuration
public class CommonConfig {
 @Autowired
 private AutowireCapableBeanFactory beanFactory;
 /**
 * Bean definition for DiagnosticContextFacade.
 *
 * @return DiagnosticContextFacade
 */
 @Bean(name = "DiagnosticContextFacade")
 public DiagnosticContextFacade diagnosticContextFacade() {
 return new DiagnosticContextFacadeImpl();
 }
 /**
 * Register PerformanceLogFilter to log running time of requests.
 *
 * @return filter
 */
 @Bean
 public FilterRegistrationBean performanceLogFilter() {
 FilterRegistrationBean registration = new FilterRegistrationBean();
 Filter performanceLogFilter = new PerformanceLogFilter();
 this.beanFactory.autowireBean(performanceLogFilter);
 registration.setFilter(performanceLogFilter);
 registration.addUrlPatterns("/*");
 return registration;
 }
 /**
 * Register DiagnosticContextFilter to log service calls with
 correlation id.
 *
 * @return filter
 */
 @Bean
 public FilterRegistrationBean diagnosticContextFilter() {
 FilterRegistrationBean registration = new FilterRegistrationBean();
 Filter diagnosticContextFilter = new DiagnosticContextFilter();
 this.beanFactory.autowireBean(diagnosticContextFilter);
 registration.setFilter(diagnosticContextFilter);
 registration.addUrlPatterns("/*");
 return registration;
 }
 /**
 * Bean definition for RestTemplate
 *
 * @return RestTemplate
 */
 @Bean
 public RestTemplate getRestTemplate() {
 return new RestTemplate();
 }
 /**
```

```
* Bean definition for HttpHeaders
*
* @return HttpHeaders
*/
@Bean
public HttpHeaders getHttpHeaders() {
 return new HttpHeaders();
```

```
}
```

```
}
```

### Steps to Integrate Logging in each Micro Service

**Step 1:** Add vtas-commons project as a dependency in build.gradle file

```
compile("com.daimler.vtas:vtas-commons:1.2-SNAPSHOT")
```

Version number (1.2-SNAPSHOT) can vary depends on the changes in the commons project.

**Step 2 :** Configure the log path and log name in your *application.yml* file. Logs will be written in the logs folder of the tomcat \${catalina.home} . At this moment, logging path is not finalized, but refrain using some other name.

#### application.yml

```
logging:
 path: /logs/vtas/
 file: vtas-projectplanning
```

e.g.

```
debug_log_DIN39001236_vtas-administration
info_log_DIN39001236_vtas-administration
error_log_DIN39001236_vtas-administration
```

where *DIN39001236* indicate the host name or server name and *vtas-administration* is the project/ Micro service name.

**Step 3:** Add AppConfig class file under each Micro service as a configuration bean.

#### AppConfig.java

```
import org.springframework.context.annotation.Configuration;
import org.springframework.context.annotation.Import;

import com.daimler.vtas.commons.config.CommonConfig;

/**
 * Application Spring configuration file
 *
 */
@Configuration
@Import(CommonConfig.class)
public class AppConfig {

}
```

*AppConfig* configuration bean will import the *CommonConfig* configuration class into each Micro service from commons dependency. *CommonConfig* class contains Spring bean configurations to generate the correlation-id when there is a request.

**Step 4:** After the log configuration logs are ready to use, below is the code snippet to initialize logger in each class.

```

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
...
private static final Logger LOGGER =
LoggerFactory.getLogger(ApplicationClassName.class);
...
LOGGER.info(String msg);
LOGGER.debug(String msg);
LOGGER.error(String msg);
...

```

**Step 5:** Set the correlation-id in http header while making a request from one Micro service to other. RestCorrelationIdEnhancer class is available in commons project which can be used as a reference to make client requests and also to set the correlation id in http header.

Note: The sample code snipped has been given to invoke a GET request. Where in, you can use other HTTP methods with same approach to invoke a call from one service to other.

#### RestCorrelationIdEnhancer.java

```

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpEntity;
import org.springframework.http.HttpHeaders;
import org.springframework.http.HttpMethod;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.web.client.RestTemplate;
import io.oasp.module.logging.common.api.DiagnosticContextFacade;
import io.oasp.module.logging.common.impl.DiagnosticContextFilter;
/**
 * Rest Template class to process all client request with correlation id
 *
 */
public class RestCorrelationIdEnhancer {
 @Autowired
 private DiagnosticContextFacade diagnosticContextFacade;
 a
 /**
 * process the get request and return the ResponseEntity
 *
 * @param url - rest url
 * @return ResponseEntity
 */
 public ResponseEntity<String> processGetRequest(String url) {
 this.headers.setContentType(MediaType.APPLICATION_JSON);

 this.headers.set(DiagnosticContextFilter.CORRELATION_ID_HEADER_NAME_DEFAULT,
 this.diagnosticContextFacade.getCorrelationId());
 HttpEntity<String> request = new HttpEntity<>(this.headers);
 return this.restTemplate.exchange(url, HttpMethod.GET, request,
 String.class);
 }
}

```

- *Introduction*
- *Implementation Details of Log Levels*
- *Steps to configure Runtime Log level in Each Micro Service*

### **Introduction**

In VTAS application Log Levels can be updated dynamically at run time with out restarting the application.

## **Implementation Details of Log Levels**

Create a Rest controller class to get the existing log level and update the log levels.

### **LoggerRestController.java**

```

import static
com.daimler.vtas.externalsystems.common.ExternalSystemsConstants.APP_NAM
E;
import static
com.daimler.vtas.externalsystems.common.ExternalSystemsConstants.EXTERNA
L_SYSTEMS_URI;

import java.util.HashMap;
import java.util.Map;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RestController;

import ch.qos.logback.classic.Level;

/**
 * @author ajun
 *
 */
@RestController
@RequestMapping(value = EXTERNAL_SYSTEMS_URI + "/logger")
public class LoggerRestController {

 private static final Logger LOGGER =
LoggerFactory.getLogger(LoggerRestController.class);

 /**
 * @param logLevel -
 * @return status
 */
 @RequestMapping(value = "/{loglevel}", method = RequestMethod.POST)
 public Map<String, String> setRootLogLevel(@PathVariable("loglevel")
String logLevel) {

 Logger root = LoggerFactory.getLogger(Logger.ROOT_LOGGER_NAME);
 ((ch.qos.logback.classic.Logger)
root).setLevel(Level.toLevel(logLevel));
 LOGGER.debug("Log Level updated to " + logLevel);

 return getRootLogLevel();
 }
}

```

```
/**
 * @return current log level
 */
@RequestMapping(method = RequestMethod.GET)
public Map<String, String> getRootLogLevel() {

 Map<String, String> map = new HashMap<>();

 Logger root = LoggerFactory.getLogger(Logger.ROOT_LOGGER_NAME);

 map.put("level", ((ch.qos.logback.classic.Logger)
root).getLevel().toString());
 map.put("app", APP_NAME);
 return map;
}
```

```
 }

}
```

### Steps to configure Runtime Log level in Each Micro Service

**Step 1:** Add LoggerRestController.java file in each Micro service.

**Step 2:** Add a constant in the constant class to mention the application name. This will be displayed in the UI as application name.

**Step 3:** Add the url in the config.js to configure log levels for new Micro Service.

#### Config.js Snippet

```
loggerUrls : [

 location.origin+'/vtas-administration/administration/v1/logger/' ,

 location.origin+'/vtas-projectplanning/projectplanning/v1/logger/' ,

 location.origin+'/vtas-usermanagement/usermanagement/v1/logger/' ,

 location.origin+'/vtas-externalsystems/externalsystems/v1/logger/' ,
 location.origin+'/vtas-cache/cache/v1/logger/'
]
```

## Database Entities

- Abstract Entity
- VTAS Entity
- Map Entity Model to the Physical one
- Spring configuration

### Abstract Entity

all VTAS database Entities must extends the following class *AbstractPersistenceEntity*

## AbstractPersistenceEntity

```
@MappedSuperclass
public abstract class AbstractPersistenceEntity {

 @Id
 @GeneratedValue(generator = "hibernate-uuid")
 @GenericGenerator(name = "hibernate-uuid", strategy =
"org.hibernate.id.UUIDGenerator")
 @Column(name = "UUID", nullable = false)
 protected String uuid;

 @Temporal(TemporalType.TIMESTAMP)
 @Column(name = "CHANGED_ON", nullable = false)
 protected Date changedOn;

 @Column(name = "CHANGED_BY", nullable = false)
 protected String changedBy;

 @Version
 @Column(name = "VERSION_ID", nullable = false)
 protected Integer versionId;

}
```

## VTAS Entity

Example is the Category Entity which extends the *AbstractPersistenceEntity*

As per Daimler [Database Naming Standards](#) the table name length must be exactly 8 Upper-Case characters. e.g. in the following example: ZVXR**CTGR**

Moreover as per Daimler [Database Naming Standards](#) the Column Name should starts always with the last 4 characters of the Table Name (table prefix). in this example it is **CTGR\_**

**As a developer no need to add the table prefix in the @Column Annotation for all attributes.** this will be done by the *VtasTableNamingStrategy* class. see next Section [\*\*MapEntityModeltothePhysicalone\*\*](#)

## Category Entity

```
@Entity
@Table(name = "ZVXRCTGR", schema = "ZVXCVADM")
@JsonIgnoreProperties
public class Category extends AbstractPersistenceEntity {
 @ManyToOne
 @JoinColumn(name = "CGTP_UUID")
 private CategoryType type;
 @Column(name = "NAME", nullable = false)
 private String name;

 ...
}
```

## Map Entity Model to the Physical one

the *VtasTableNamingStrategy* will be configured to map the entity model to the physical Model. **it will add the Table Name as a prefix to all Entity Columns**

### Vtas Hibernate NamingStrategy

```
public class VtasTableNamingStrategy extends
PhysicalNamingStrategyStandardImpl {
 private String tablePrefix;
 @Override
 public Identifier toPhysicalColumnName(Identifier name,
JdbcEnvironment context) {
 Identifier result = name;
 if (this.tablePrefix != null) {
 result = new Identifier(this.tablePrefix + name.getText(),
name.isQuoted());
 }
 return super.toPhysicalColumnName(result, context);
 }
 @Override
 public Identifier toPhysicalTableName(Identifier name, JdbcEnvironment
context) {
 if (name.getText().length() == 8) {
 this.tablePrefix = name.getText().substring(4, 8) + "_";
 }
 return super.toPhysicalTableName(name, context);
 }
}
```

## Spring configuration

the configuration will be done in *application.yml* file

### Mapping Configuration

```
jpa:
 hibernate:
 naming:
 physical-strategy:
 com.daimler.vtas.administration.dao.entity.VtasTableNamingStrategy
```

## Transaction

A transaction is a sequence of operations performed as a single logical unit of work. A logical unit of work must exhibit four properties, called atomicity, consistency, isolation and durability (ACID) properties to qualify as transaction.

**Atomicity:** A Transaction must be atomic unit of work either all of its data modifications are performed or none of them is performed.

**Consistency:** When completed, a transaction must leave all data in a consistent state. In a relational database, all rules must be applied to the transaction's modifications to maintain all data integrity.

**Isolation:** Modifications made by concurrent transactions must be isolated from the modifications made by any other concurrent transactions. A transaction either recognizes data in the state it was in before another concurrent transaction modified it, or it recognizes the data after the second transaction is completed, but it does not recognize an intermediate state.

**Durability:** After a transaction is completed, its effects are permanently in place in the system. The modifications persist even in the event of system failure.

## 1. Spring Transaction Management

### 1.1 Programmatic transaction management

### 1.2 Declarative transaction management

## 2. Declarative Transaction Management

### 2.1 Properties of @Transactional

#### 2.1.1 Isolation

#### 2.1.2 Propagation

#### 2.1.3 Timeout

#### 2.1.4 Rollback

## 3. Best Practices for Spring Transaction Management

## 1. Spring Transaction Management

Spring supports two types of transaction management:

### 1.1 Programmatic transaction management:

This means that you have to manage the transaction with the help of programming. That gives you extreme flexibility, but it is difficult to maintain.

### 1.2 Declarative transaction management:

This means you separate transaction management from the business code. You only use annotations or XML based configuration to manage the transactions.

### Choosing between Programmatic and Declarative Transaction Management:

1. Programmatic transaction management is good only if you have a small number of transaction operations
2. Transaction name can be explicitly set only using Programmatic transaction management.
3. Programmatic transaction management should be used when you want explicit control over managing transactions
4. Declarative Transaction management keeps transaction management out of business logic, and easy to configure.

Declarative transaction management is preferable over programmatic transaction management though it is less flexible than programmatic transaction management. But as a kind of crosscutting concern, declarative transaction management can be modularized with the AOP approach.

## 2. Declarative Transaction Management

Declarative transactions can be configured via xml or annotations. steps to configure transaction manager through annotation

**Step 1:** Add `@EnableTransactionManagement` to your Spring boot class as below:

```
@SpringBootApplication
 @Configuration
 @EnableTransactionManagement
 public class SpringBootApp
 {
```

...

}

**Step 2:** Add the @Transactional annotation to the Class (or method in a class) or Interface (or method in an interface).

## 2.1 Properties of @Transactional

### 2.1.1 Isolation

Isolation defines what should happen when @Transactional is encountered and a transaction is already in progress

e.g. @Transactional (isolation=Isolation.READ\_COMMITTED)

- **DEFAULT** : Use the default isolation level of the underlying database.
- **READ\_COMMITTED**: A constant indicating that dirty reads are prevented, non-repeatable reads and phantom reads can occur.
- **READ\_UNCOMMITTED** : This isolation level states that a transaction may read data that is still uncommitted by other transactions.
- **REPEATABLE\_READ** : A constant indicating that dirty reads and non-repeatable reads are prevented, phantom reads can occur.
- **SERIALIZABLE** : A constant indicating that dirty reads, non-repeatable reads, and phantom reads are prevented.

### Isolation Levels

- **Dirty Reads**:

Transaction 'A' writes a record, meanwhile Transaction 'B' reads that same record before Transaction A commits, later Transaction A decides to rollback and now we have changes in Transaction B that are inconsistent. This is a dirty read. Transaction B was running in READ\_UNCOMMITTED isolation level so it was able to read Transaction A changes before a commit occurred.

- **Non-Repeatable Reads**:

Transaction 'A' reads some record, then Transaction 'B' writes that same record and commits. Later Transaction A reads that same record again and may get different values because Transaction B made changes to that record and committed. This is a non-repeatable read.

- **Phantom Reads**:

Transaction 'A' reads a range of records, meanwhile Transaction 'B' inserts a new record in the same range that Transaction 'A' initially fetched and commits, later Transaction 'A' reads the same range again and will also get the record that Transaction B just inserted. This is a phantom read: a transaction fetched a range of records multiple times from the database and obtained different result sets (containing phantom records).

### 2.1.2 Propagation

Propagation defines what should happen when @Transactional is encountered and a transaction is already in progress

e.g. @Transactional(propagation=Propagation.REQUIRED)

- **REQUIRED** : Indicates that the target method can not run without an active transaction. If a transaction has already been started before the invocation of this method, then it will continue in the same transaction or a new transaction would begin soon as this method is called.
- **REQUIRES\_NEW** : Indicates that a new transaction has to start every time the target method is called. If already a transaction is going on, it will be suspended before starting a new one.
- **MANDATORY** : Indicates that the target method requires an active transaction to be running. If a transaction is not going on, it will fail by throwing an exception.
- **SUPPORTS** : Indicates that the target method can execute irrespective of a transaction. If a transaction is running, it will participate in the same transaction. If executed without a transaction it will still execute if no errors.
- **NOT\_SUPPORTED** : Indicates that the target method doesn't require the transaction context to be propagated.
- **NEVER** : Indicates that the target method will raise an exception if executed in a transactional process.

### 2.1.3 Timeout

@Transactional(timeout=60)

1. Defaults to the default timeout of the underlying transaction system.
2. Informs the transaction manager about the time duration to wait for an idle transaction before a decision is taken to rollback non-responsive transactions.

### 2.1.4 Rollback

@Transactional (rollbackFor=Exception.class)

1. Default is rollbackFor=RunTimeException.class
2. In Spring, all API classes throw RunTimeException, which means if any method fails, the container will always rollback the ongoing

transaction.

3. The problem is only with checked exceptions. So this option can be used to declaratively rollback a transaction if Checked Exception occurs.

#### **@Transactional (noRollbackFor=IllegalStateException.class)**

Indicates that a rollback should not be issued if the target method raises this exception.

### **3. Best Practices for Spring Transaction Management:**

1. Keep the @Transactional definition at the Service layer and not the DAO layer. Service beans might use multiple DAOs ACID-ly under the same transaction. If transaction management is defined at the DAO level, service beans will pay the price of creating multiple transactions for a conceptually grouped operation let alone the data inconsistencies we'll risk having not defining ACID Service operations.
2. Further underlying the previous point we can define @Transactional(propagation = Propagation.MANDATORY) at the class level of our DAOs, therefore enforcing the consumers of our DAOs to initiate transaction management.
3. Know what the defaults of the @Transactional annotation are and don't just use it by faith. Namely, if not specified otherwise, propagation is set to Propagation.REQUIRED which means use an existing transaction otherwise create a new one; isolation is set to Isolation.DEFAULT that is defined by the underlying DB default which normally results to Isolation.READ\_COMMITTED, readOnly flag is switched off by default, rollbackFor can be defined for a Throwable class but beware, by default rollback occurs only if a RuntimeException is thrown unless this parameter is setup.
4. Be careful of the readOnly flag. Although @Transactional(readOnly = true, propagation=Propagation.REQUIRED) will throw an exception upon a JDBC insert/update command within that transaction, it wouldn't have the expected behavior on an insert/update ORM operation where the operation will unintuitively go through and be committed successfully. Under an ORM environment use the flag along with Propagation.SUPPORTS. In that case we won't have to pay for the cost of creating a new transaction simply for a select operation unless there is one in place or even still consider ditching the whole @Transactional management for select operations.
5. Be careful when using Propagation.REQUIRES\_NEW that is not in the top level. It causes problems more times than not. Since every time a new transaction is wrapping that aspect, in cases where multiple REQUIRES\_NEWS are included within the same transactional service method in cases of a rollback ACID is not respected and inconsistent data are left in the DB. On the other hand, just using it on the top level of the transaction method is fine and actually equates the default Propagation.REQUIRED.

### **Process workflow diagrams**

#### **Process Flow Diagram For User story**



**Process Flow Diagram For Sub Task/ Sub Bug**



## Story Development Freeze

- Goal
- Benefits
- Concrete changes
- Time
- Validity
- People participated in discussion
- People to notify

### Goal

We want to deliver a very high quality of our stories.

Therefore we use

### Benefits

Less overnight working for the development team.

Customer gets higher quality.

Test-Team has more time to test, and doesn't need to do it latenight before a sprint review.

With higher quality delivered, we get less defects and will be faster overall.

### Concrete changes

After the story development freeze deadline is reached, a unfinished story won't be taken into consideration for the sprint review.

All finished stories will be deployed to DEV for testing.

If a defect is found, development team has time to fix it, so we can present it on the next day in the sprint review.

During the time between story development freeze and sprint review, developers can continue with unfinished stories, fix defects, start with a new story( if it's ready).

## Time

Monday (only in weeks of Sprint end) **21:00 IST**, 16:30 CET Wintertime(17:30 CET Summertime)

## Validity

It will be introduced with Sprint 15.

## People participated in discussion

Stefanie Wüstemann

Philipp Moschinger

Sergej Koshevnikow

Niranjan Pathipati

Vidya N

CHAKRAVARTHY DVS

## People to notify

Kiran Kumar Panda

Sujith Nair

## Testing Strategy

**Test Strategy presents the general test strategy of the project Vehicle Testing Analysing System (VTAS), as part of the contract for Daimler.**

**Test strategy should enable to find right balance between testing effort and suited test coverage for the business requirements and risks of the client. It also defines the roles and responsibilities of all the stakeholders in the definition and execution of tests.**



APPS2\_iVAL\_TMP\_Test-Strat...gy\_Daimler VTAS\_v0.3.docx

## Technical Interfaces

- Application-Server
- External Interfaces
  - EFA.Input
    - Contact Person
    - Firewalls
  - MRS
    - Contact Person
    - Firewalls
  - CAT
    - Information
    - Contact Persons
    - Firewall
  - FLIMs
    - Interface Documentation
    - Swagger YAML File
    - Contact Persons
- Stories for R17.2 with External Interfaces

## Application-Server

ENV	DNS	IP	Link	HTTPS-Port
PreDEV Branch	de-muc-vtasadb01	10.44.247.85	<a href="#">Application Server - de-muc-vtasadb01</a>	8443
PreDEV Master	de-muc-vtasadpdm01	10.44.247.84	<a href="#">Application Server - de-muc-vtasadpdm01</a>	8443
DEV	sedcavta0010.emea.isn.corpintra.net	53.71.41.144	<a href="#">Application Server - sedcavta0010</a>	9443
INT 1	sedcavta0020.emea.isn.corpintra.net	53.71.41.58	<a href="#">Application Server 1 - sedcavta0020</a>	9443 ?
INT 2	sedcavta0030.emea.isn.corpintra.net	53.71.41.31	<a href="#">Application Server 2 - sedcavta0030</a>	9443 ?
PROD 1	sedcavta0040.emea.isn.corpintra.net	53.71.41.88	<a href="#">Application Server 1 - sedcavta0040</a>	9443 ?
PROD 2	sedcavta0050.emea.isn.corpintra.net	53.71.41.32	<a href="#">Application Server 2 - sedcavta0050</a>	9443 ?

## External Interfaces

### EFA.Input

#### Contact Person

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Dittmer, Tanja	Salt Solutions	<a href="mailto:tanja.dittmer@salt-solutions.de">tanja.dittmer@salt-solutions.de</a>

#### Firewalls

	Firewall Exclusion	Endpoint
Local/PreDEV	<b>DONE</b>	<a href="https://mrs050-w80dev.e.corpintra.net/efainput/">https://mrs050-w80dev.e.corpintra.net/efainput/</a>
DEV	<b>NO NEED</b>	<a href="https://mrs050-w80dev.e.corpintra.net/efainput/">https://mrs050-w80dev.e.corpintra.net/efainput/</a>
INT	<b>NO NEED</b>	<a href="https://mrssh1-w80int.e.corpintra.net/efainput/">https://mrssh1-w80int.e.corpintra.net/efainput/</a>
PROD	<b>NO NEED</b>	<a href="https://50.190.248.141/efainput/">https://50.190.248.141/efainput/</a>

## MRS

#### Contact Person

Name	Company	E-Mail
Alexander A. Strobel	Daimler	<a href="mailto:alexander.a.strobel@daimler.com">alexander.a.strobel@daimler.com</a>

#### Firewalls

	Firewall Exclusion	Endpoint
Local/PreDEV	<b>DONE</b>	<a href="https://mrssh1-w80int.e.corpintra.net/">https://mrssh1-w80int.e.corpintra.net/</a>
DEV	<b>DONE</b>	<a href="https://mrssh1-w80int.e.corpintra.net/">https://mrssh1-w80int.e.corpintra.net/</a>
INT	<b>NOT CLARIFIED</b>	<a href="https://mrssh1-w80int.e.corpintra.net/">https://mrssh1-w80int.e.corpintra.net/</a>
PROD	<b>DONE</b>	<a href="https://50.190.248.141/">https://50.190.248.141/</a>

## CAT

#### Information

Services from CAT should be called over "..app..." .

User access (f.e. iFrame etc) should be done over cat-int.e. URL.

#### Contact Persons

Name	Company	E-Mail
Gregor Rothmaier	ICS-AG	Gregor.Rothmaier@ics-ag.de

## Firewall

	Firewall Exclusion	Endpoint
Local/PreDEV	DONE	<a href="https://cat-int.e.corpintra.net/">https://cat-int.e.corpintra.net/</a>
DEV	DONE	<a href="https://cat-int.e.corpintra.net/">https://cat-int.e.corpintra.net/</a>
INT	DONE	<a href="https://cat-int.e.corpintra.net/">https://cat-int.e.corpintra.net/</a>
PROD	DONE	<a href="https://cat.e.corpintra.net/">https://cat.e.corpintra.net/</a>

## FLIMs

### Interface Documentation

[https://msdev.destr.corpintra.net/FLIMS\\_WS\\_ENTW/api/\\_ext/docs](https://msdev.destr.corpintra.net/FLIMS_WS_ENTW/api/_ext/docs)

### Swagger YAML File

[https://msdev.destr.corpintra.net/FLIMS\\_WS\\_ENTW/api/\\_ext/docs/swagger](https://msdev.destr.corpintra.net/FLIMS_WS_ENTW/api/_ext/docs/swagger)

### Contact Persons

Name	Company	E-Mail
Alexander Gay	Daimler	alexander.gay@daimler.com
Ute Wiederrick	Daimler	ute.wiederrick@daimler.com
Jury Filipovich	Stein-Pliz	jury.filipovich@stein-pilz.com

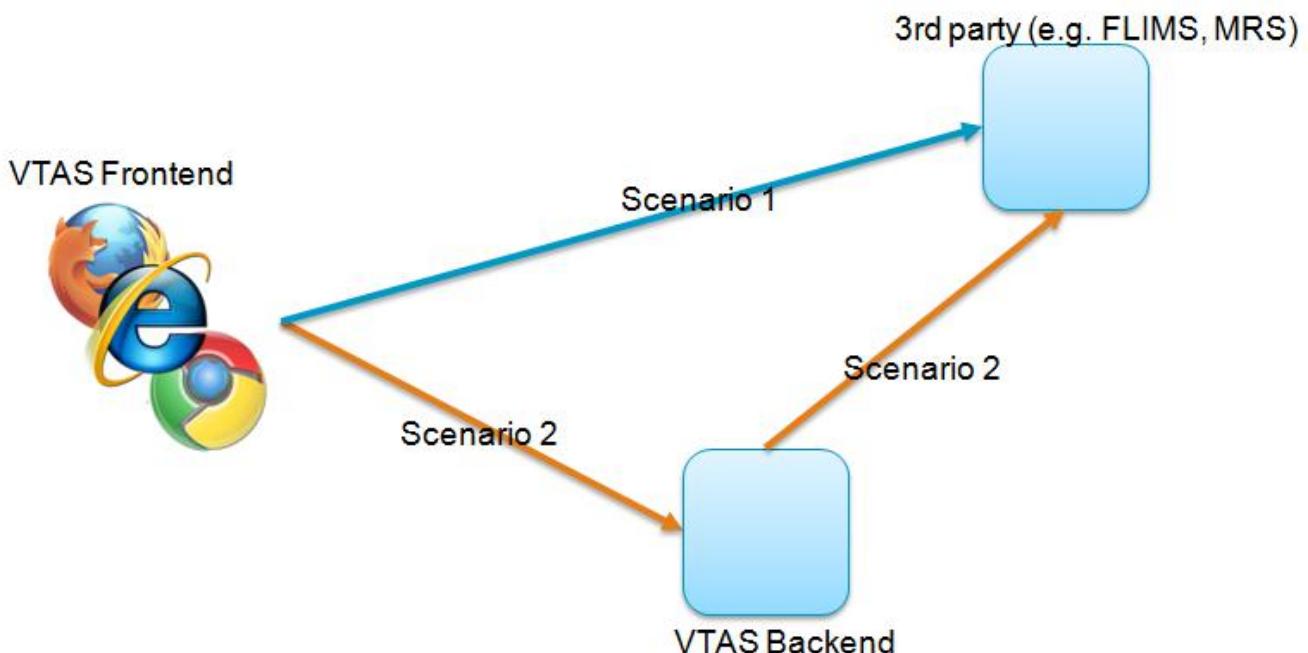
	Firewall Exclusion	Endpoint
Local/PreDEV	DONE	<a href="https://msdev.destr.corpintra.net/FLIMS_WS_ENTW/api/_ext/">https://msdev.destr.corpintra.net/FLIMS_WS_ENTW/api/_ext/</a> Authkey can be found in Keypass
DEV	DONE	<a href="https://msdev.destr.corpintra.net/FLIMS_WS_ENTW/api/_ext/">https://msdev.destr.corpintra.net/FLIMS_WS_ENTW/api/_ext/</a> Authkey can be found in Keypass
INT	NOT CLARIFIED	<a href="http://flims-app-int.es.corpintra.net/">flims-app-int.es.corpintra.net /</a> <a href="http://msdev.destr.corpintra.net">msdev.destr.corpintra.net</a>
PROD	NOT CLARIFIED	<a href="http://fria.app.corpintra.net">fria.app.corpintra.net / flims-app.es.corpintra.net</a>

## Stories for R17.2 with External Interfaces

Nummer in Schnittstellenübersicht(E xcel)	Story	System	Information to implement	Status

	<b>VTAS-284</b> - Show SA codes for a vehicle (Vehicle planning) <span style="border: 1px solid #ccc; padding: 2px;">READY FOR DELIVERY</span>	MRS		<span style="background-color: orange; color: white; padding: 2px;">IN DEVELOPMENT</span>

## Authentication 3rd party Systems



1. Scenario 1: Calling 3rd Party directly from Browser (Siteminder Single Sign-On works out of the box in same domain)
2. Scenario 2: Calling 3rd Party from VTAS Backend. In this case 3rd party Systems have to implement Basic authentication, API Key, Certificate, ...

3rd party system	protocol	Authentication type
EFA.Input	Widget	Siteminder
FLIMS	Rest	API Key
CAT	Rest	basic Authentication
MRS Reporting	Rest	Siteminder
MRS	Rest	Basic Authentication
AEMT	?	?

## CAT

- Technical Information
- Authorization
  - Basic Auth

- Siteminder
- Interfaces
  - Createlra
  - AppendTolra
  - Updatelra
  - GetIra
  - GetMrsIras
  - UpdateIraResponsibility
  - Getting a list of Sensors

## Technical Information

	Test	Prod
Server name	cat-int.app.corpintra.net	cat.app.corpintra.net
IP	53.190.248.14	53.190.248.15
Port	443	443
Credentials	?	?

## Authorization

### Basic Auth

Name / Password

### Siteminder

GetMrsIras

GET https://cat-int.e.corpintra.net/rest/iras/mrs/0500?mrsId=123

Key	Value	Description
Cookie	SMSESSION=LjVRd2fL5hYL8vljhMhufyD5WVdI576XmR7lWMdx+...	
New key	Value	Description

Status: 200 OK

## Interfaces

### Createlra

**Method:** POST

**Resource:** /api/iras/

**Parameter:** FAV Object as JSON, ID must be empty

**Output:** ID for the new FAV

**Example:**

```
{
 "IsAutoTitle":true,
 "Descr":"\"Anführungszeichen test\"\\r\\nWiederholfehler angelegt am:
 2017-10-12",
 "CancelText":null,
```

```
"LeadingPlant":"050",
"QualityClass":null,
"IssueType":"Std",
"IdentValue":"5019510",
"IdentType":"PRODNO",
"Reporter":null,
"ShiftNo":null,
"ShiftValue":null,
"PaintCode":"179",
"DCodeLocation":"20545",
"DCodeType":"06",
"PartsDescr":null,
"Supplier":null,
"HandlingUnit":null,
"LicencePlate":null,
"RegistrationDate":"2017-11-16T00:00:00",
"MileageValue":null,
"MileageType":"KM",
"ScrewJoint":null,
"ScrewConnection":null,
"TorqueSetpoint":null,
"TorqueFaultClass":null,
"TorqueUpperTolerance":null,
"TorqueLowerTolerance":null,
"TorqueUpperActionlimit":null,
"TorqueLowerActionlimit":null,
"TorqueActualValue":null,
"TorqueActualValue2":null,
"TorqueActualValue3":null,
"TorqueActualValue4":null,
"TorqueActualValue5":null,
"TorqueActualValue6":null,
"HangOnPart":null,
"HangOnPartFunction":null,
"Fault":null,
"PointNumber":null,
"JoiningType":null,
"IssueEditor":"VTAS_TEST",
"IssueEditorReq":null,
"IssueEditorRej":null,
"IraResponsible":"VTAS_TEST",
"IraResponsibleReq":null,
"IraResponsibleRej":null,
"ContmResponsible":"VTAS_TEST",
"ContmResponsibleReq":null,
"ContmResponsibleRej":null,
"CorrectActImpl":null,
"CorrectActDeterm":null,
"EffActProved":null,
"ErrorCauseText":null,
"ErrorCauseFound":"NoTroubleFound",
"ErrorCauseSection":null,
"ShortenedReason":null,
"Snr":"XYZ123456",
"Es1":null,
"Es2":null,
"Zgs":null,
```

```
"QLevel":null,
"AffCars":null,
"AffPlants":null,
"KeyWords":null,
"AffSeries":[],
"AnalysisFinisher":null,
"LessonsLearned":null,
"ModifiedOn":"2017-11-23T01:37:33.081819",
"CreatorOrga":114,
"ContmOrga":114,
"CorrectOrga":null,
"InterPlant":false,
"ContmRequired":true,
"ContmNotEff":false,
"ProdTrial":false,
"Cycle":1,
"IsRepIss":null,
"Status":"IraNew",
"Series":null,
"Id":1700012286,
"Title":null,
"Sensor":"281",
"ErrorClass":null,
"ContmImplemented":null,
"RootCauseAnalysisFinished":null,
"CreatedOn":"2017-11-23T01:37:33.081819",
```

```

 "FinishedOn":null,
 "EscLevel":"EL_I"
}
```

Values necessary to create a IRA with mandatory fields:

```
{
 "Title": "Test",
 "Sensor": "160",
 "CreatorOrga": 444,
 "ContmOrga": 440,
 "CorrectOrga": 440,
 "IssueEditor": "VTAS_TEST",
 "IraResponsible": "VTAS_TEST",
 "ContmResponsible": "VTAS_TEST",
 "EscLevel": "EL_I"
}
```

## AppendTolra

## UpdateIra

## GetIra

## GetMrsIras

## UpdateIraResponsibility

<https://cat-int.app.corpintra.net/rest/iras/{id}/request>

{id} is the IRA-ID

Method Type: POST

```
{
 "Role": "R",
 "userid": 4057
}
```

## Getting a list of Sensors

<https://cat-int.app.corpintra.net/rest/masterdatas/sensors>

-- to be implemented

Basispfad: <https://cat-int.app.corpintra.net/rest/>

GetIra

Pfad: <Basispfad>iras/{id}

Httpmethode: GET

Paramter:

{id}: FAV-Id im 10stelligen Format

Query String Paramter:  
keine  
Parameter im Anfragebody:  
keine

CreateIra  
Pfad: <Basispfad>iras  
Httpmethode: POST  
Paramter:  
keine  
Query String Paramter:  
keine  
Parameter im Anfragebody:  
FAV-Parameter null oder nicht vorhanden -> wird nicht gesetzt  
Minimale Parameter:  
Title: Titeltext  
Sensor: CAT Sensor-Id  
CreatorOrga: CAT Bereichs Id für den Anlegenden Bereich  
EscLevel: Eingriffsstufe z.B.: "EL\_I"

UpdateIra  
Pfad: <Basispfad>iras  
Httpmethode: PUT  
Paramter:  
keine  
Query String Paramter:  
keine  
Parameter im Anfragebody:  
FAV-Parameter null oder nicht vorhanden -> wird nicht verändert  
Minimale Parameter:  
Id: FAV-Id im 10stelligen Format

AppendToIra  
Pfad: <Basispfad>iras/{id}/append  
Httpmethode: PUT  
Paramter:  
{id}: FAV-Id im 10stelligen Format  
Query String Paramter:  
keine  
Parameter im Anfragebody:  
mrsId: MRS Id  
mrsPlant: MRS Werk  
causeText: Begründungstext für Wiederholfehler  
imageList: Liste mit Bild-Ids

UpdateIraResponsibility  
Pfad: <Basispfad>iras/{id}/request  
Httpmethode: POST  
Paramter:  
{id}: FAV-Id im 10stelligen Format  
Query String Paramter:  
keine  
Parameter im Anfragebody:  
role: 'R' (FAV-V), 'E' (Fehlerredakteur) oder 'C' (ABS-V)  
userId: die CAT-User-Id

GetMrsIras  
Pfad: <Basispfad>iras/mrs/{mrsPlant}  
Httpmethode: GET  
Paramter:  
{mrsPlant}: MRS Werk  
Query String Paramter:  
mrsId: MRS Id  
Parameter im Anfragebody:  
keine

GetImage  
Pfad: <Basispfad>images/{id}  
Httpmethode: GET  
Paramter:  
{id}: Bild-Id  
Query String Paramter:  
keyBold: FAV-Id im 10stelligen Format (wird zur Rechteüberprüfung benötigt)  
thumbnail: optionaler Parameter, default: false  
Parameter im Anfragebody:  
keine

CreateImage  
Pfad: <Basispfad>images

Httpmethode: POST

Paramter:

keine

Query String Paramter:

keine

Parameter im Anfragebody:

Stream: BASE64 encodiertes Bild

Filename: Der Dateiname

UploadContext: Fixer Wert: "UploadImage"

MimeType: z.B.: "image/jpeg"

UpdateImage

Pfad: <Basispfad>images/{id}

Httpmethode: PUT

Paramter:

{id}: Bild-Id

Query String Paramter:

keine

Parameter im Anfragebody:

irald: FAV-Id im 10stelligen Format

description: Bildbeschreibung

isLeadingImage: bool ob f  hrendes Bild

DeleteImage

Pfad: <Basispfad>images/{id}

Httpmethode: DELETE

Paramter:

{id}: Bild-Id

Query String Paramter:

keine

Parameter im Anfragebody:

keine

GetImages

Pfad: <Basispfad>images

Httpmethode: GET

Paramter:

keine

Query String Paramter:

irald: FAV-Id im 10stelligen Format

Parameter im Anfragebody:

keine

GetUsers

Pfad: <Basispfad>users

Httpmethode: POST

Paramter:

keine

Query String Paramter:

irald: FAV-Id im 10stelligen Format

Parameter im Anfragebody:

irald: FAV-Id im 10stelligen Format

role: 'R' (FAV-V), 'E' (Fehlerredakteur) oder 'C' (ABS-V)

excludeUserId: UserId die bei der Suche nicht ber  cksichtigt werden soll

filterUsername: Suchstring f  r Name

filterPhone: Suchstring f  r Telefon

filterEmail: Suchstring f  r Email

GetOrgas

Pfad: <Basispfad>masterdatas/orgas/{id=null}

Httpmethode: GET

Paramter:

{id=null}: optionaler Parameter; CAT Bereichs Id

wenn nicht vorhanden werde alle Toplevel Bereiche die der Benutzer sehen kann geliefert

wenn vorhanden werde alle Unterbereiche zur angegebenen Bereichs Id die der Benutzer sehen kann geliefert

Query String Paramter:

keine

Parameter im Anfragebody:

keine

GetOrgaName

Pfad: <Basispfad>masterdatas/orgas/{id}/name

Httpmethode: GET

Paramter:

{id}: CAT Bereichs Id

Query String Paramter:

keine  
 Parameter im Anfragebody:  
 keine

GetOrgaPath  
 Pfad: <Basispfad>masterdatas/orgas/{id}/path  
 Httpmethode: GET  
 Paramter:  
 {id}: CAT Bereichs Id  
 Query String Paramter:  
 keine  
 Parameter im Anfragebody:  
 keine

GetSensorsForOrga  
 Pfad: <Basispfad>masterdatas/orgas/{id}/sensors  
 Httpmethode: GET  
 Paramter:  
 {id}: CAT Bereichs Id  
 Query String Paramter:  
 keine  
 Parameter im Anfragebody:  
 keine

GetSensor  
 Pfad: <Basispfad>masterdatas/sensors/{id}  
 Httpmethode: GET  
 Paramter:  
 {id}: CAT Sensor Id  
 Query String Paramter:  
 keine  
 Parameter im Anfragebody:  
 keine

## EFA.input

- Technical Information
- What is EFA.input?

### Technical Information

	Test	Prod
Server name	<a href="https://mrssh1-w80int.e.corpintra.net/efai-services/">https://mrssh1-w80int.e.corpintra.net/efai-services/</a>	?
IP	?	?
Port	?	?
Credentials	?	?

EFA.Input portal: <https://mrssh1-w80int.e.corpintra.net/efainput/>

### What is EFA.input?

see document svn: [https://seu.sdm.de/pu/daimlervtas/svn/repository/05\\_Technical](https://seu.sdm.de/pu/daimlervtas/svn/repository/05_Technical) Interfaces/EFA.Input

### Integration of new 3rd party System - Checklist

The following requirements must be fulfilled in order to start working on new user stories related to new third party Systems:

- third party System is deployed and the URL is known to Capgemini
- **Firewall Exclusion** is implemented and tested (System is accessible from Capgemini Network and from DEV Server)
- Security/Authentication: what type of Authentication is used?
  - **Basic Authentication:** technical Users are known and authentication is tested successfully
  - Api Key: the Api Key is known and tested successfully
  - Certificate: tested successfully
- Examples:
  - in case of SOAP Services the **WSDL/XSD** files are provided.
  - in case of Rest Service a **swagger** documentation is available or **full JSON Examples**.

## Integration of EFA.INPUT widget

- Step 1: Connect to prav.ce.capgemini.com network using VPN.
- Step 2: Enable SSL for your system to support secure applications.
- Step 3: Define a role "default" in tomcat configuration.
- Step 4: Configure login in web.xml for widgets.
- Step 5: Get a site minder session before accessing any services on Daimler network.
- Step 6: Open the secured VTAS application with widget integration and when prompted, use default tomcat credentials.

### Step 1: Connect to prav.ce.capgemini.com network using VPN.

To access the third party system from Daimler network, firewall exclusion should happen for our systems/network(within capgemini n/w) at client's environment.

Here, our network prav.ce.capgemini.com is firewall excluded at Daimler environment. Connecting to this network through VPN will provide access to services on Daimler network.

### Step 2: Enable SSL for your system to support secure applications.

Please enable SSL by following the steps as described at <https://tomcat.apache.org/tomcat-7.0-doc/ssl-howto.html>

### Step 3: Define a role "default" in tomcat configuration.

This must be done in **tomcat-user-xml** located at **\$TOMCAT\_HOME\conf** folder.

```
<role rolename="default"/>
<user username="yourtomcatUser" password="yourtomcatPassword" roles="tomcat,default"/>
```

### Step 4: Configure login in web.xml for widgets.

After both web Apps (FAwidget, SSLwidget) are deployed, edit their web.xml files to configure login

```
</security-constraint>
 <login-config>
 <auth-method>BASIC</auth-method>
 </login-config>
<security-role>
```

### Step 5: Get a site minder session before accessing any services on Daimler network.

To get siteminder session, we should login to EFA Input using below link with our EMEA account credentials.

[EFA Input Login](#)

### Step 6: Open the secured VTAS application with widget integration and when prompted, use default tomcat credentials.

User Name: **tomcat**

Password: **tomcat**

## MRS

- Authentication
- Usage
- XSDe
  - ComplaintListResponse v 3.0
    - ComplaintSymptom
    - ComplaintCause
    - ComplaintRework

## **Authentication**

to be filled

Des Weiteren noch die Anmerkung zum Verwenden der Seite aus dem Code heraus, basierend auf unseren Erfahrungen mit MRS.

CAT benutzt für MRS 2 verschiedene Aufrufe. Einmal ein Aufruf mit einem festgelegten WiW (Who is Who) User und einen Aufruf mittels des Users der gerade aktiv ist.

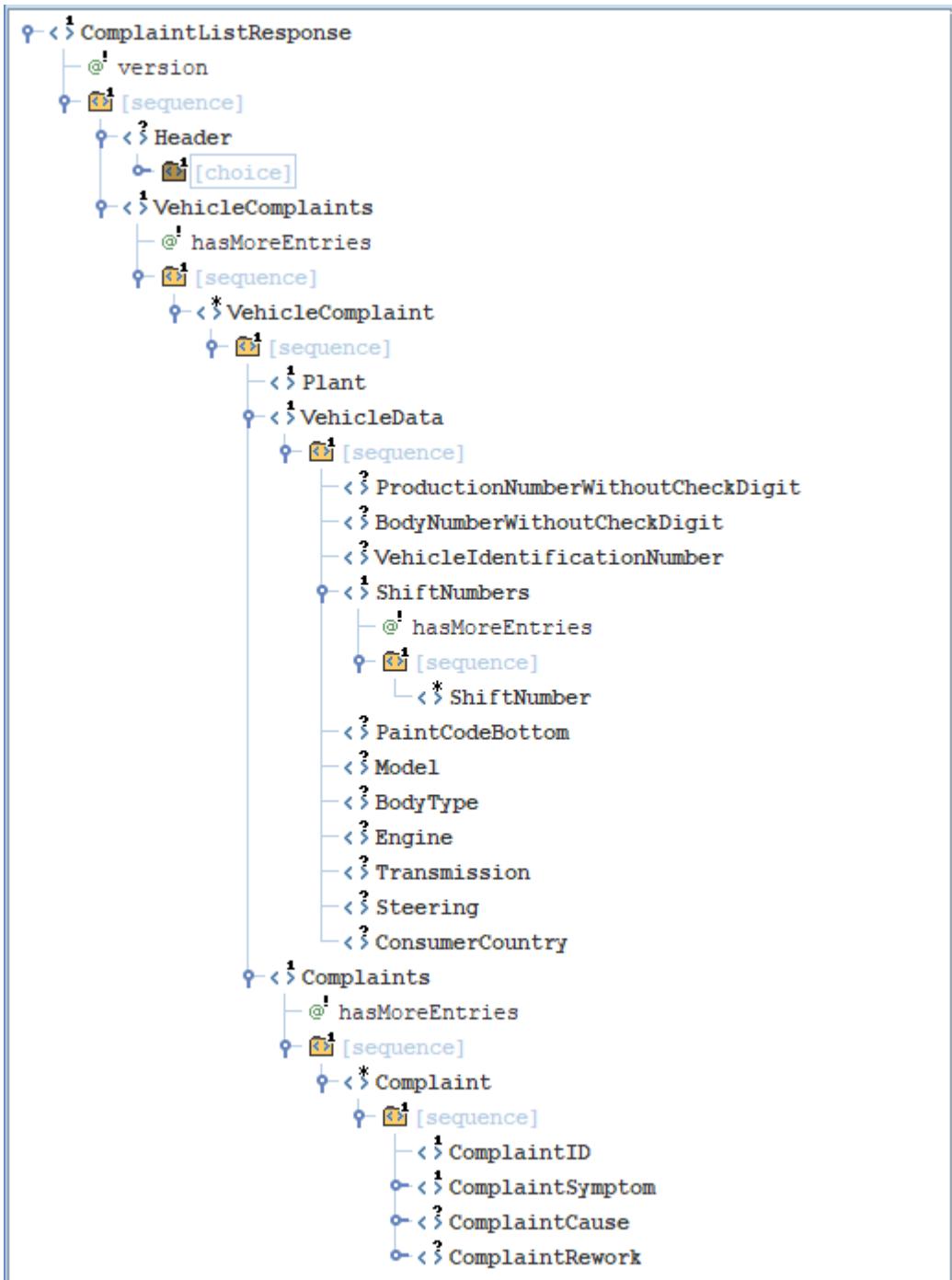
Der Schwierige von beiden (bei dem man „ping pong“ spielen muss) ist ersterer, da man hier noch nicht über eine gültige siteminder Session verfügt. Dieser betrifft sie aber nicht, da sie ja mit den Userdaten des aktiven Users arbeiten wollen (2. Fall). Hier genügt es nach meinem Verständnis und mit Blick auf unseren Code, wenn sie das Siteminder-Session-Cookie (SMSESSION) des User Requests an den Request für das AnalyseCtrl, bzw. beim Aufruf von REST Services an diesen Request anhängen.

## **Usage**

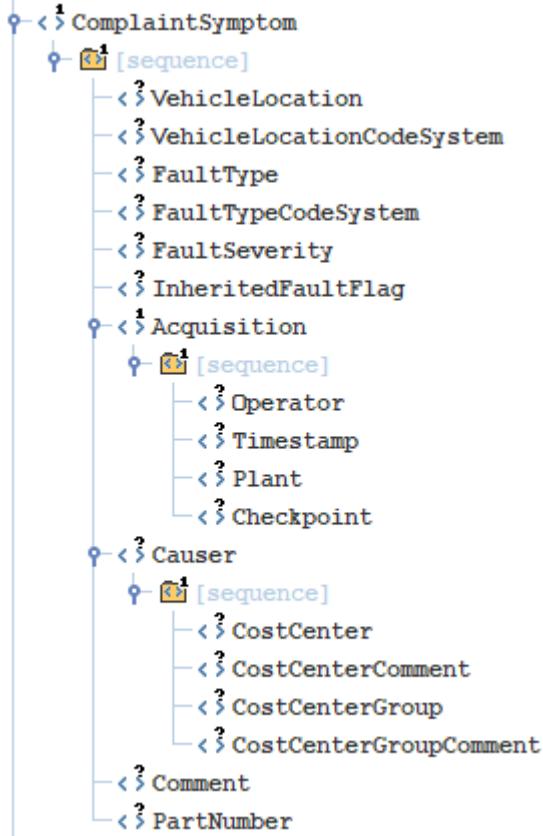
to be filled

## **XSDs**

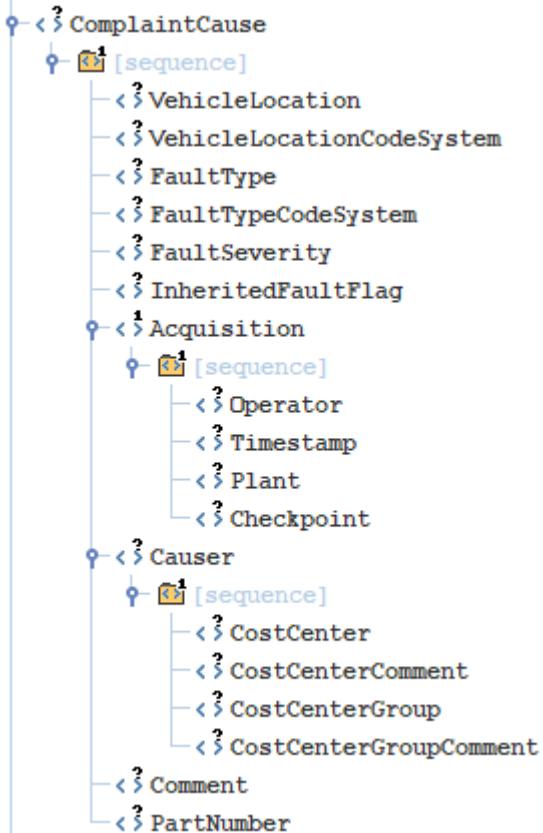
### **ComplaintListResponse v 3.0**



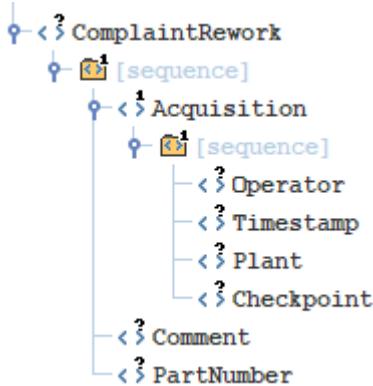
### ***ComplaintSymptom***



#### **ComplaintCause**



#### **ComplaintRework**



## MRS call with XML as data transfer object

### Generation of Java objects from XSD

Java objects conforming to the rules specified in XSD will be generated using XJC jdk tool.

1.) Add the JDK binaries folder to system environment variable (PATH) to use **xjc** command.

C:\Program Files\Java\jdk1.8.0\_144\bin;

2.) Execute the following **xjc** command with different parameters. This command has to be executed for each xsd separately.

```

xjc -d ./JaxbXjcConversion/src -p com.daimler.vtas.externalsystems.generated.mrs.model
./JaxbXjcConversion/xsd/MRS_CAT_ComplaintListForVehicleRequest_v3.xsd

```

Arguments:

-d -> Directory where java classes should be generated

-p -> Package under which the code to be generated

Eg: com.daimler.vtas.externalsystems.generated.mrs.model.requests.complaints (Java code for each request xsd need to be generated under requests folder and importantly in a separate unique folder)

com.daimler.vtas.externalsystems.generated.mrs.model.response.complaints (Java code for each response xsd need to be generated under responsefolder and importantly in a separate unique folder)

**last arg** Path of the xsd for which java code need to be generated.

3.) Copy the generated model objects to workspace /src folder in to appropriate folder. Update @XmlRootElement for the root objects based on the **request** and **response** xsd.

Eg:

In XSD,

```

</xs:annotation> Xml Root Element
<xs:import
 namespace="urn:daimler:production:assembly:mrs.datatypes.v2"
 schemaLocation=".../mrs-common/xsd/MRS_DataTypes_v2.xsd" />
<xs:element name="ComplaintListForVehicleRequest" type="ComplaintListForVehicleRequestType">
 <xs:annotation>
 <xs:documentation xml:lang="en">
 Defines the main element of a request for complaints and vehicle data for a vehicle or
 order identifier.
 </xs:documentation>
 </xs:annotation>
</xs:element>

```

In root java class,

```

@XmlAccessorType(XmlAccessType.FIELD)
@XmlType(name = "ComplaintListForVehicleRequestType", propOrder = { "header", "plant",
"productionNumberWithoutCheckDigit", "bodyNumberWithoutCheckDigit", "vehicleIdentificationNumber", "shiftNumber" })
@XmlRootElement(name = "ComplaintListForVehicleRequest") Add this root element
public class ComplaintListForVehicleRequestType { for root class

```

## Authentication

Authentication for this type of MRS calls can be in any of the two modes:

- Basic Authentication (User Id and Password)
- SMSESSION

## Configuration

Add the request URI in **application.yml** configuration file under prefix **vtas.externalsystems.mrs.api** and add the same in **MRSApiConfig.java**

```
mrs:
 basePath: https://mrssh1-w80int.e.corpintra.net
 authMode: Basic
 userId: PID7326
 password: *****
 ignoreInvalidCertificates: true
 compatibilityMode: true
 alwaysUseNewLogin: true

api:
 vehicleFaultsUri: /services/CAT/ComplaintListForVehicle/v3.0
```

```
@ConfigurationProperties(prefix = "vtas.externalsystems.mrs.api")
public class MrsApiConfig {

 private String vehicleFaultsUri; Instance Variables

 /* @return vehicleFaultsUri
 */
 public String getVehicleFaultsUri() {

 return this.vehicleFaultsUri;
 }

 /**
 * @param vehicleFaultsUri - VehicleFaults GET Uri
 */
 public void setVehicleFaultsUri(String vehicleFaultsUri) {

 this.vehicleFaultsUri = vehicleFaultsUri;
 }
}
```

Setters and Getters

## Invoking MRS Service

In vtas-externalsystems micro service, an invoker class is written which acts as an abstraction layer to connect to third party service which accepts XML as input and provide us back data response as XML.

In service implementation class, use the **ServiceInvoker.java** to invoke MRS service.

```

@Autowired
ServiceInvoker serviceInvoker;

/**
 * @param requestEntity - Criteria Object
 * @param locale - Locale
 *
 * @return ComplaintListResponseType
 */
@Override
public ComplaintListResponseType getVehicleComplaints(final ComplaintListForVehicleRequestType requestEntity,
 final Locale locale) {

 return this.serviceInvoker.fetchResponseFromMRS(
 this.mrsConfig.getBasePath().concat(this.mrsApiConfig.getVehicleFaultsUri()),
 new ServiceCallCredentials(this.mrsConfig.getUserId(), this.mrsConfig.getPassword()),
 requestEntity, Request Object to be sent to MRS as XML
 ComplaintListResponseType.class, Type of response object that we are expecting from MRS
 locale);
}

```

Where:

1. **ServiceCallCredentials** is class with two parameterized constructors.

ServiceCallCredentials(String userId, String password) [This is used in case basic authentication mode]

ServiceCallCredentials(String smSession) [This is used in case of SMSESSION authentication mode]

2. **URL** (BasePath + Specific URI)

BasePath (Retrieve it from MrsConfig.java)

Specific URI (Retrieve it from MrsApiConfig.java)

## MRS.Reports

- Authentication / Authorization
- Technical Information

### Authentication / Authorization

- Authentication with the Siteminder Session Cookie (SMSESSION) – the SMSESSION cookie

### Technical Information

	Test	Prod	Plant
Server name	https://mrs050-w80int.e.corpintra.net/services/	https://mrs050.e.corpintra.net/services/	Sindelfingen
Server name	https://mrssh1-w80int.e.corpintra.net/reports/ https://mrssh1-w80int.e.corpintra.net/services/	?	Shared
IP	53.190.248.120	53.190.248.167	W050 (Sindelfingen)
	?	53.39.9.178	W054
	?	53.26.9.54	W067
	?	53.68.128.124	W138
	?	53.190.248.42	W175
	?	53.190.248.44	W371
Port	443	443	
Credentials	?	?	

### Postman

- What is Postman
- Why Postman
- Where can I get it
- Additional settings
- Import existing Postman collection
- How do I use Postman

## What is Postman

Postman is a UI tool to send API calls and test interfaces.

## Why Postman

It's a really easy tool that makes it possible to test an interface fast and without many properties.

SOAPUI has more options and is more powerful, but is also harder to understand.

Currently we don't have any requirement which can't be solved with Postman.

## Where can I get it

Fastest way is to download the standalone version (prior it was a chrome plugin, **don't** use this anymore) over the homepage <https://www.getpostman.com/>.

## Additional settings

We need to disable SSL certificate verification for testing from Capgemini network because we are always getting a certificate error.

File > Settings > General > SSL certificate verification > OFF

**SETTINGS** X

General Themes Shortcuts Data Add-ons Sync Certificates Proxy Update About

**REQUEST**

- Trim keys and values in request body  OFF
- SSL certificate verification  OFF
- Always open requests in new tab  OFF
- Language detection Auto ▾
- Request timeout in ms (0 for infinity) 0

**HEADERS**

- Send no-cache header  ON
- Send Postman Token header  ON
- Retain headers when clicking on links  OFF
- Automatically follow redirects  ON
- Send anonymous usage data to Postman  ON

**USER INTERFACE**

- Editor Font Size (px) 12
- Two-pane view (*beta*)  OFF
- Variable autocomplete  ON

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**Import existing Postman collection**

We don't want everybody to setup all the interfaces themselves.  
Therefore we added generic project for each system in the SVN.  
You can find them under  
[https://seu.sdm.de/pu/daimlervtas/svn/repository/05\\_Technical%20Interfaces/Postman](https://seu.sdm.de/pu/daimlervtas/svn/repository/05_Technical%20Interfaces/Postman)

Please don't overwrite this files without contacting an architect.

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Importing works over:

File > Import > Import Folder > Choose Folders > Find the postman folder in your SVN folder

## How do I use Postman

Take extra care in interfaces that create / update a entity. You could create / overwrite entities that we are using for testing.

When I want to try get Mandants in FLIMs system for example:

1. Choose the specific system folder on the left side
  2. Choose the specific interface call in the opened menu
  3. In the main window you will see specific system + interface URL we are calling as well as the HTTP method.
    - a. under tab Authorization you can add specific HTTP authorization
    - b. under tab headers are extra parameters you are sending in the header
    - c. if you are having a HTTP method with a body, you can add body specific payload
  4. When pressing Send request is sent to interface
  5. Depending on the interface you now see the result on the bottom of the main page
    - a. Body displays the responds payload
    - b. Status shows us with which HTTP status the interface answered.

The screenshot shows the Postman Builder interface with a request titled "get Mandants". The request is a GET method directed at [https://msdev.destr.corpintra.net/FLIMS\\_WS\\_ENTW/api/\\_ext/ma...](https://msdev.destr.corpintra.net/FLIMS_WS_ENTW/api/_ext/ma...). The "Authorization" tab is selected, showing "Inherit auth from parent". The "Body" tab displays a JSON response with the following structure:

```
1 "mandants": [
2 {
3 "$id": "1",
4 "id": 40,
5 "name": "QM Sindelfingen",
6 "plant": "050",
7 "timeZone": "W. Europe Standard Time",
8 "locations": [
9 {
10 "$id": "2",
11 "id": 4001,
12 "name": "QM",
13 "groups": [
14 {
15 "$id": "3",
16 "id": 135,
17 "name": "KNFE",
18 "resourceType": 24600
19 },
20 {
21 "$id": "4",
22 }
23]
24 }
25]
26]
```

## Valid vehicle data

#	Productionnumber	Global ordering number	FIN	Used in VTAS?
1	7300588	729223151	WDD2573181A000594	<input type="checkbox"/> Yes
2	6830702	529222659	WDD2229851A245040	<input type="checkbox"/> Yes
3	9531391	529224557	WDD2220041A253632	<input type="checkbox"/> Yes
4	9531390	529224558	WDD2221331A253588	<input type="checkbox"/> Yes
5	9550122	529129485	WDD2221331A264974	<input type="checkbox"/> Yes
6	9538141	529224561	WDD2221791A263926	<input type="checkbox"/> Yes

7	9538177	529224563	WDD2220671A265611	<input type="checkbox"/> Yes
8	6832865	529224564	WDD2229761A265694	<input type="checkbox"/> Yes
9	9555012	529131673	WDD2221671A270325	<input type="checkbox"/> Yes
10	9564822	629114385	WDD2221851A281748	<input type="checkbox"/> Yes
11	9564930	629114384	WDD2221821A281888	<input type="checkbox"/> Yes
12	9564909	629114383	WDD2221671A281863	<input type="checkbox"/> Yes
13	9262517	529222950	WDD2174821A013588	<input type="checkbox"/> Yes
14	9262126	529222683	WDD2173641A015482	<input type="checkbox"/> Yes
15	9264316	529223835	WDD2174821A016203	<input type="checkbox"/> Yes
16	9264282	529223834	WDD2174821A016056	<input type="checkbox"/> Yes
17	9264276	529223831	WDD2174821A016050	<input type="checkbox"/> Yes
18	9264258	529223832	WDD2174781A016010	<input type="checkbox"/> Yes
19	9264255	529223837	WDD2174781A016007	<input type="checkbox"/> Yes
20	9266005	529224539	WDD2173851A017122	<input type="checkbox"/> Yes
21	9266235	529223839	WDD2174781A017096	<input type="checkbox"/> Yes
22	9267147	529222688	WDD2173641A017985	<input type="checkbox"/> Yes
23	9266000	529224535	WDD2173641A017121	<input type="checkbox"/> Yes
24	9267229	529224541	WDD2173641A018476	<input type="checkbox"/> Yes
25	9267163	529224542	WDD2174781A018790	<input type="checkbox"/> Yes
26	9264230	529223836	WDD2174821A015768	<input type="checkbox"/> Yes
27	7800673	529223175	WDD2130041A000747	<input type="checkbox"/> Yes
28	7801074	529223969	WDD2130041A001141	<input type="checkbox"/> Yes
29	7801020	529223968	WDD2130421A001118	<input type="checkbox"/> Yes
30	7807716	529127651	WDD2130041A006833	<input type="checkbox"/> Yes
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32	7863018	629111425	WDD2130331A063388	<input type="checkbox"/> Yes
33	7867213	629114503	WDD2130041A067589	<input type="checkbox"/> Yes
34	7862917	629111421	WDD2130421A063289	<input type="checkbox"/> Yes
35	7426237	529128096	WDD2189921A178400	<input type="checkbox"/> Yes
36	7426850	529131681	WDD2189971A182794	<input type="checkbox"/> Yes
37	7426561	529129501	WDD2189971A180840	<input type="checkbox"/> Yes
38	7426215	529126110	WDD2189681A178126	<input type="checkbox"/> Yes
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40	7427345	629111408	WDD2189041A185776	<input type="checkbox"/> Yes
41	7428182	629114377	WDD2189261A189232	<input type="checkbox"/> Yes

42	7252432	529128082	WDD2183011A178500	<input type="checkbox"/> Yes
43	7256099	529131676	WDD2183261A182786	<input type="checkbox"/> Yes
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45	3744874	529132078	WDC1660641A718261	<input type="checkbox"/> Yes
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48	3761394	529132047	WDC1668731A731585	<input type="checkbox"/> Yes
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52	7261297	629114363	WDD2183041A189332	<input type="checkbox"/> Yes
53	7427573	629111411	WDD2189911A186947	<input type="checkbox"/> Yes
54	7261354	629114374	WDD2183911A189404	<input type="checkbox"/> Yes
55	7867292	629114502	WDD2130331A067691	<input type="checkbox"/> Yes
56	7428233	629114375	WDD2189971A189423	<input type="checkbox"/> Yes
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58	7428478	629115774	WDD2189731A190269	<input type="checkbox"/> Yes
59	7262277	629114369	WDD2183611A190712	<input type="checkbox"/> Yes
60	7428487	629115766	WDD2189971A190324	<input type="checkbox"/> Yes
61	7262261	629115763	WDD2183941A190696	<input type="checkbox"/> Yes
62	7262276	629115762	WDD2183971A190711	<input type="checkbox"/> Yes
63	7428534	629115773	WDD2189681A190465	<input type="checkbox"/> Yes
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70	7428830	629117579	WDD2189971A192189	<input type="checkbox"/> Yes
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79	7428809	629118631	WDD2189941A192115	<input type="checkbox"/> Yes
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81	7263767	629117568	WDD2183681A192516	<input type="checkbox"/> Yes
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83	3761178	529132046	WDC1668561A731382	<input type="checkbox"/> Yes
84	9531404	529224560	WDD2221851A253986	<input type="checkbox"/> Yes
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87	7428782	629118630	WDD2189011A191921	<input type="checkbox"/> Yes
88	7254323	629222236	WDD2183611A184639	<input type="checkbox"/> Yes
89	9266237	529223840	WDD2174821A017307	<input type="checkbox"/> Yes
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91	7500225	629570414	WDD2132421A016180	<input type="checkbox"/> Yes
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95	9265977	529224538	WDD2174821A017545	<input type="checkbox"/> Yes
96	7263765	629117560	WDD2183011A192514	<input type="checkbox"/> Yes
97	6832868	529224562	WDD2229851A265738	<input type="checkbox"/> Yes
98	7923534	629117583	WDD2130421A126199	<input type="checkbox"/> Yes
99	7919363	629118623	WDD2130421A122011	<input type="checkbox"/> Yes
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103	7254328	629222240	WDD2183911A184596	<input type="checkbox"/> Yes
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113	9582944	629122892	WDD2221821A303284	

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122	9564932	629114382	WDD2221321A281891	
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125	7503437	629121366	WDD2132041A130017	
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148	7928880	629122888	WDD2130331A132875	
149	7503454	629121371	WDD2132451A130237	
150	7429592	629128688	WDD2189011A196245	
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152	9551249	529224570	WDD2221821A275097	
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## ZEUS

- Technical Information

### Technical Information

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IP	53.190.248.23	53.190.248.57
Port	443	443
Credentials	?	?

## Technical Overview

- System Architecture
- Frontend
- PAI
- 3rd Party Errors

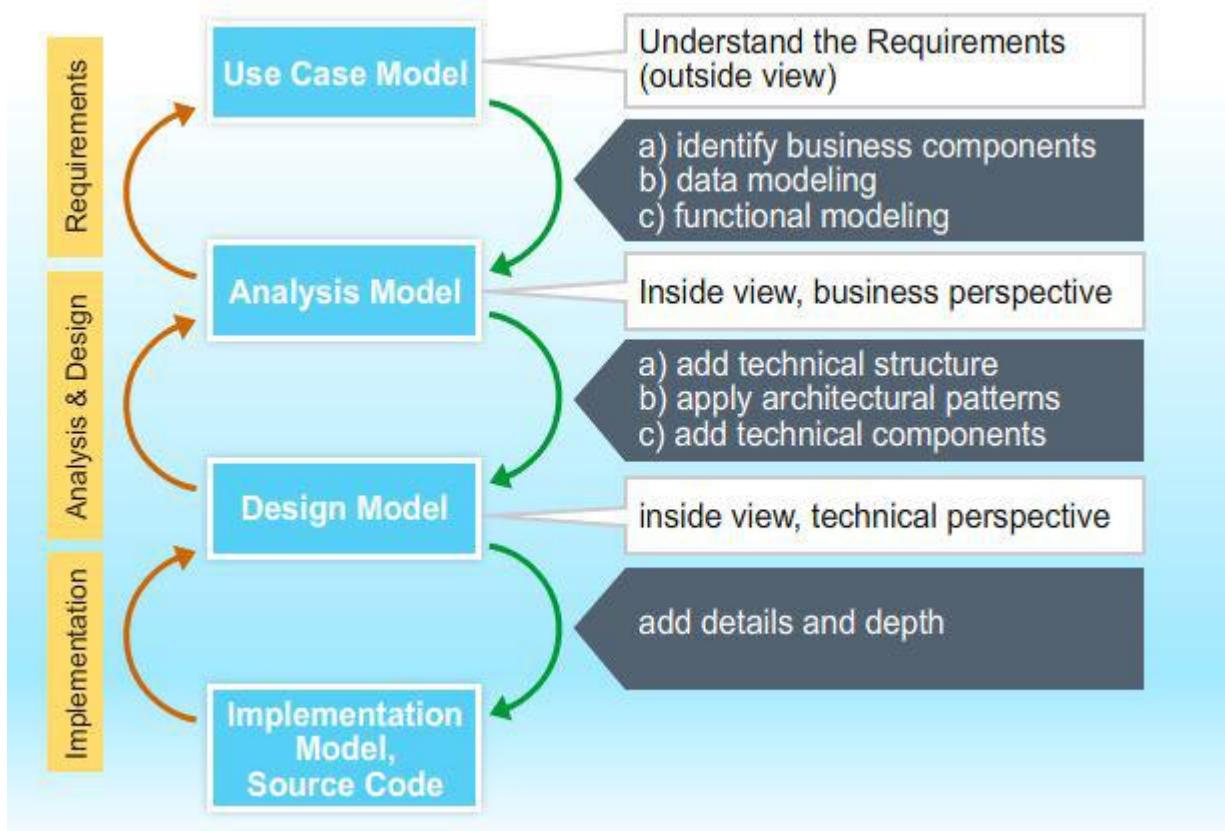
## System Architecture

- Architecture and Design
- Versioning of Rest interfaces
- VTAS Cache

## Architecture and Design

- Architecture and design emerge during the software engineering process
- Analysis Model
  - business component identification
  - Data Modelling
  - Functional Modelling
- Design Model
  - Technical structure
    - Layers
    - Tiers
  - Architectural pattern
  - Technical components

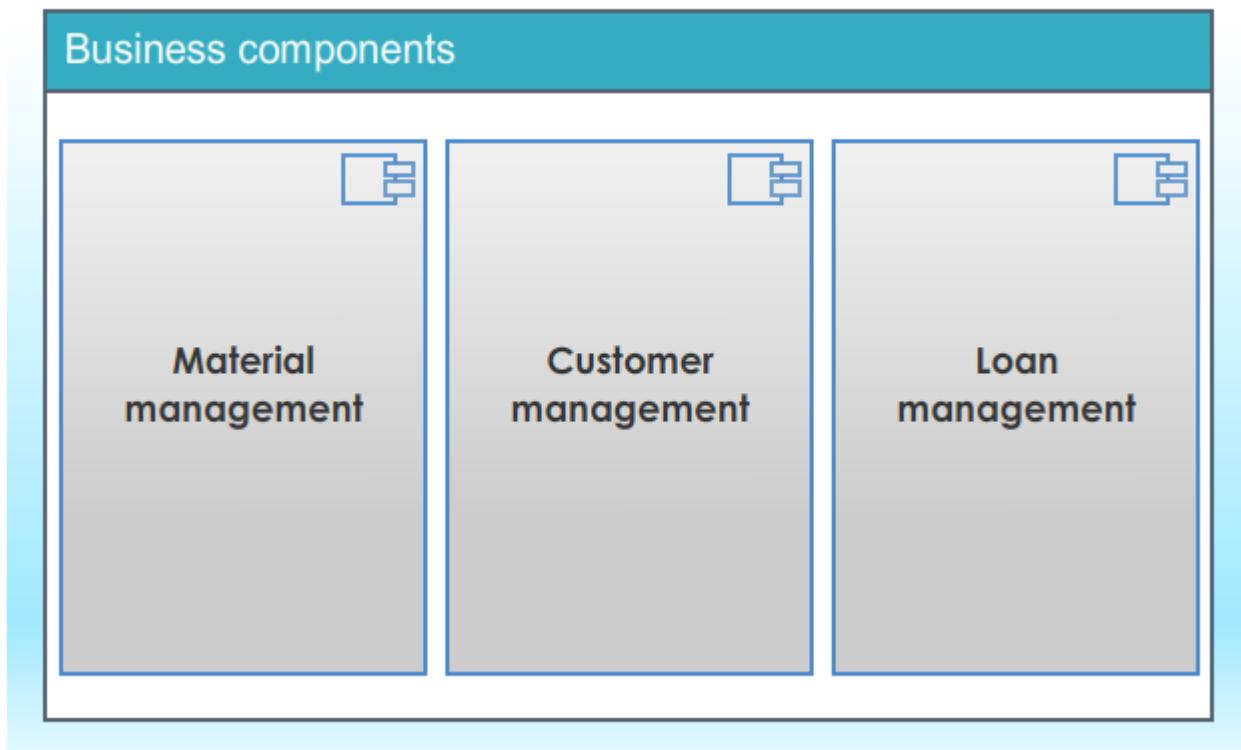
Architecture and design emerge during the software engineering process



### Analysis Model

***business component identification***

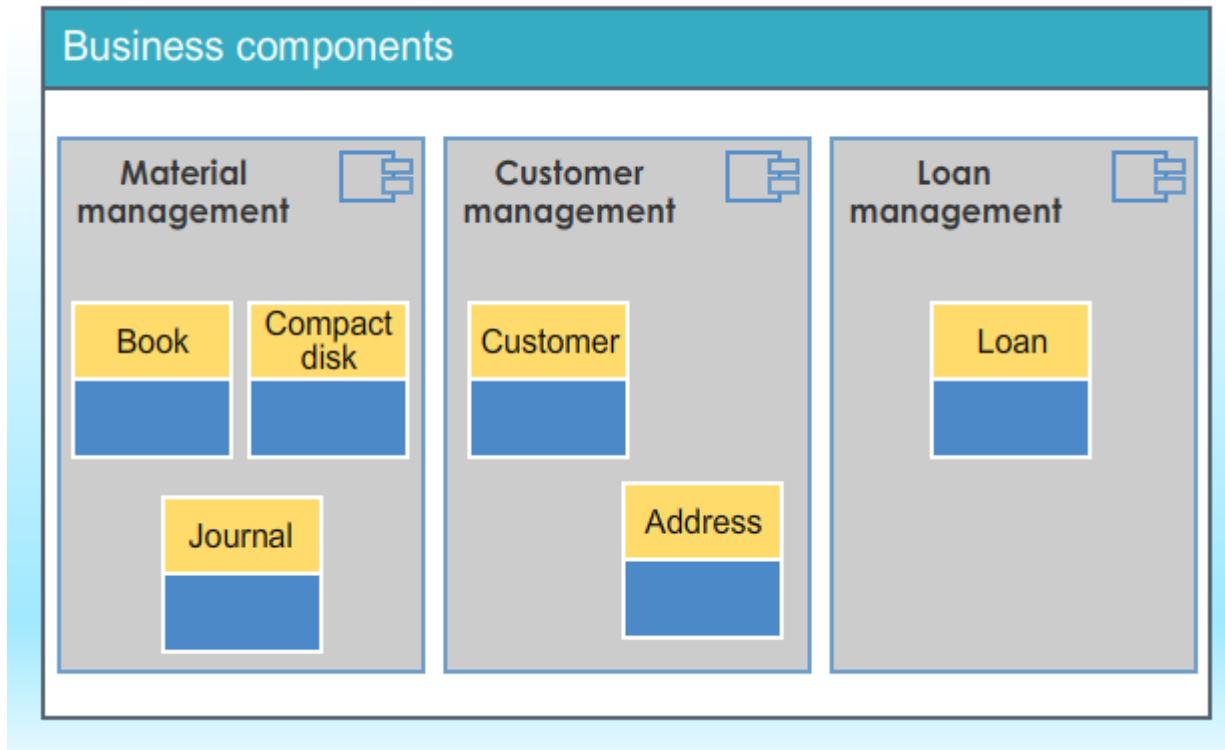
Example:



## Data Modelling

many information systems are data-oriented, data modelling is an important part of systems Analysis.

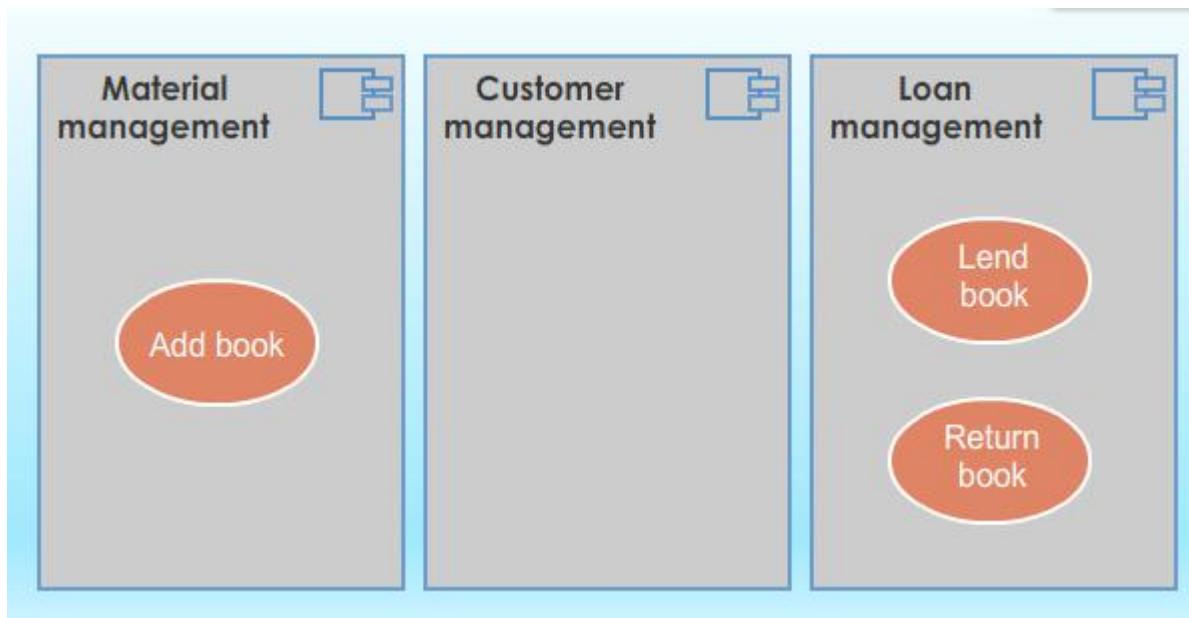
Example:



## Functional Modelling

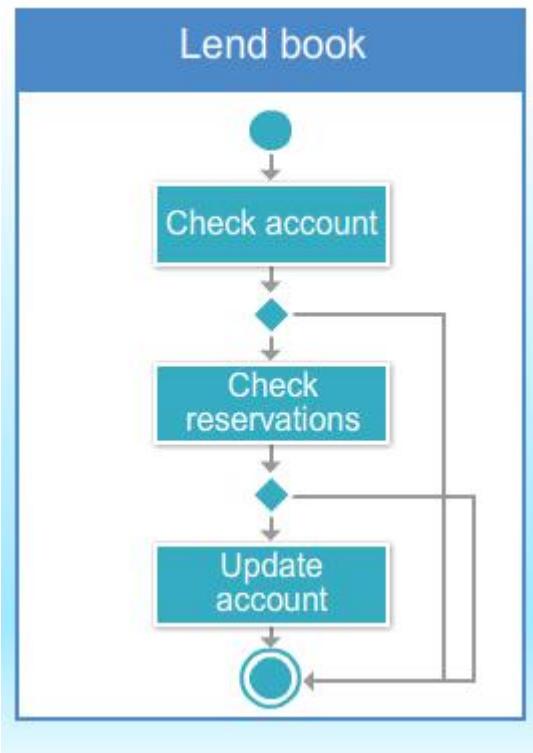
Functionality is structured by Use Cases, which have already been introduced in the Use Case Model. During analysis, we will assign the Use Cases to business components and look inside these.

Example:



we also specify the functionality in a more algorithmic way, for example by using activity diagrams.

Example:

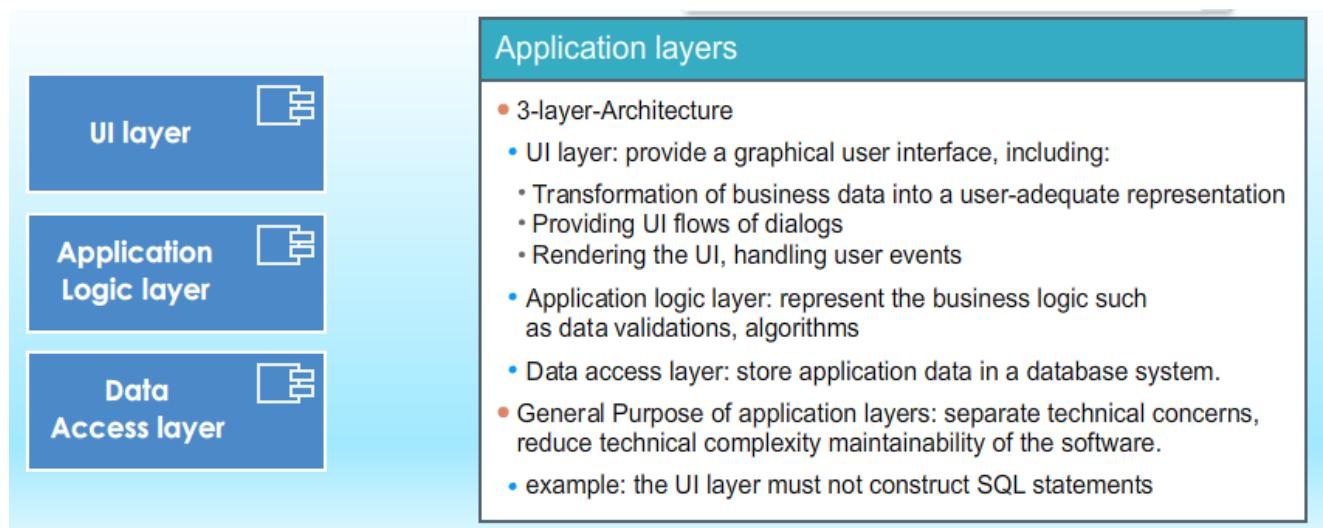


## Design Model

the Design Model adds technological aspects.

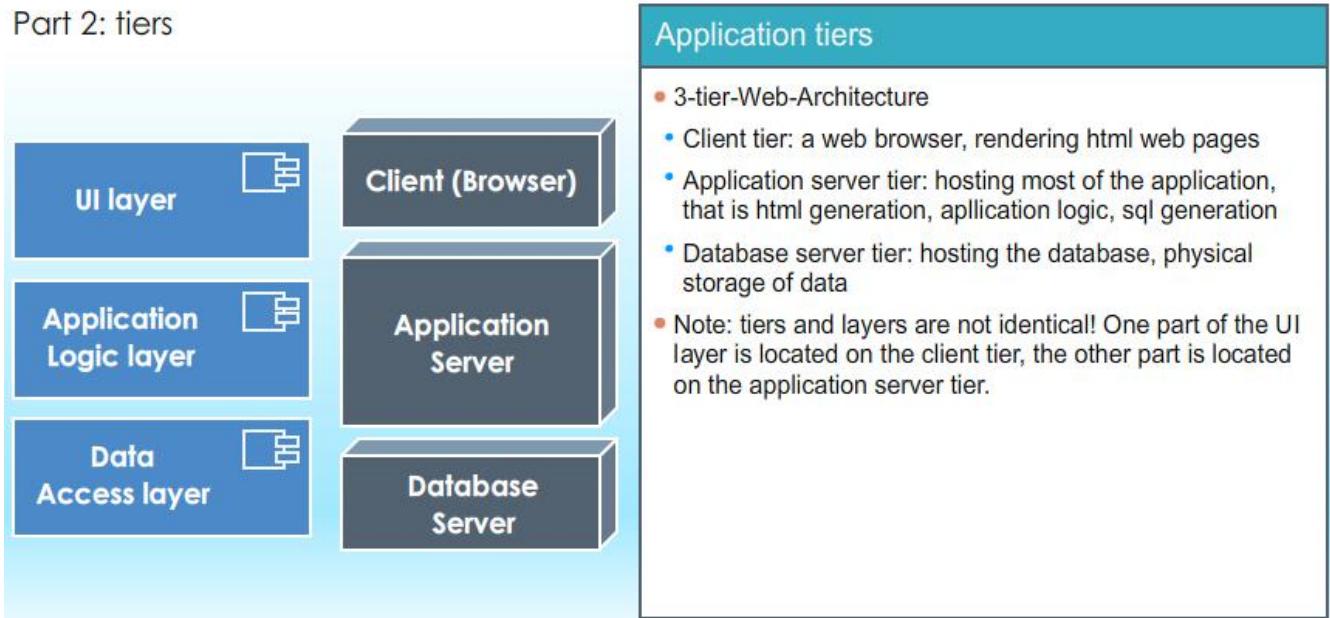
### ***Technical structure***

#### Layers



#### Tiers

## Part 2: tiers



### Architectural pattern

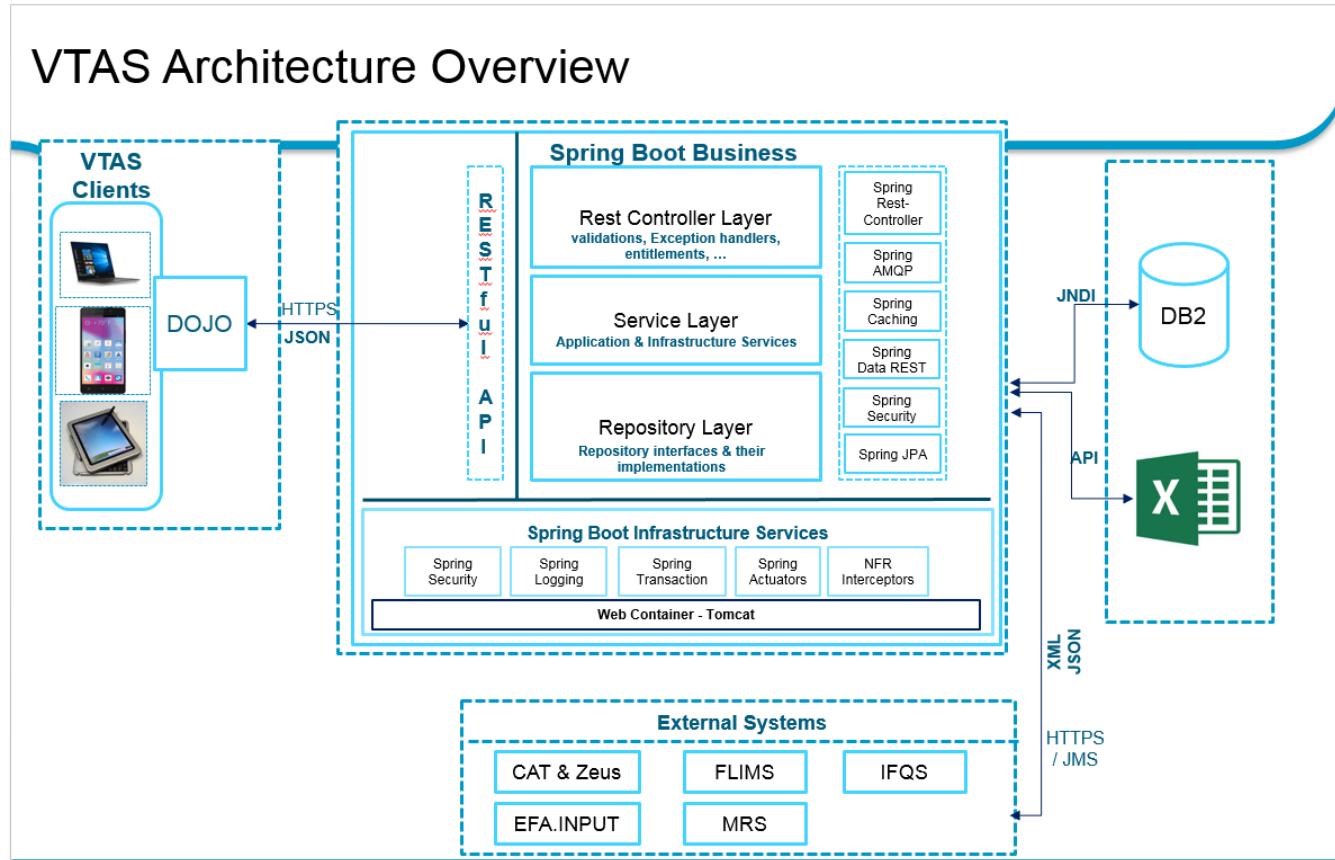
A component is implemented by an interface and an implementation call. The interface contains a set of methods representing the component's services which are actually implemented in the implementation class.

### Technical components

To keep the software running, we need technological components which do not have business equivalent in the analysis model.

Example: data connection pool, Logging, transaction handing

## 00\_Overall Architecture



Source: [https://seu.sdm.de/pu/daimlervtas/svn/repository/06\\_Architecture/00\\_Overall\\_Architecture\\_DevOps.pptx](https://seu.sdm.de/pu/daimlervtas/svn/repository/06_Architecture/00_Overall_Architecture_DevOps.pptx)

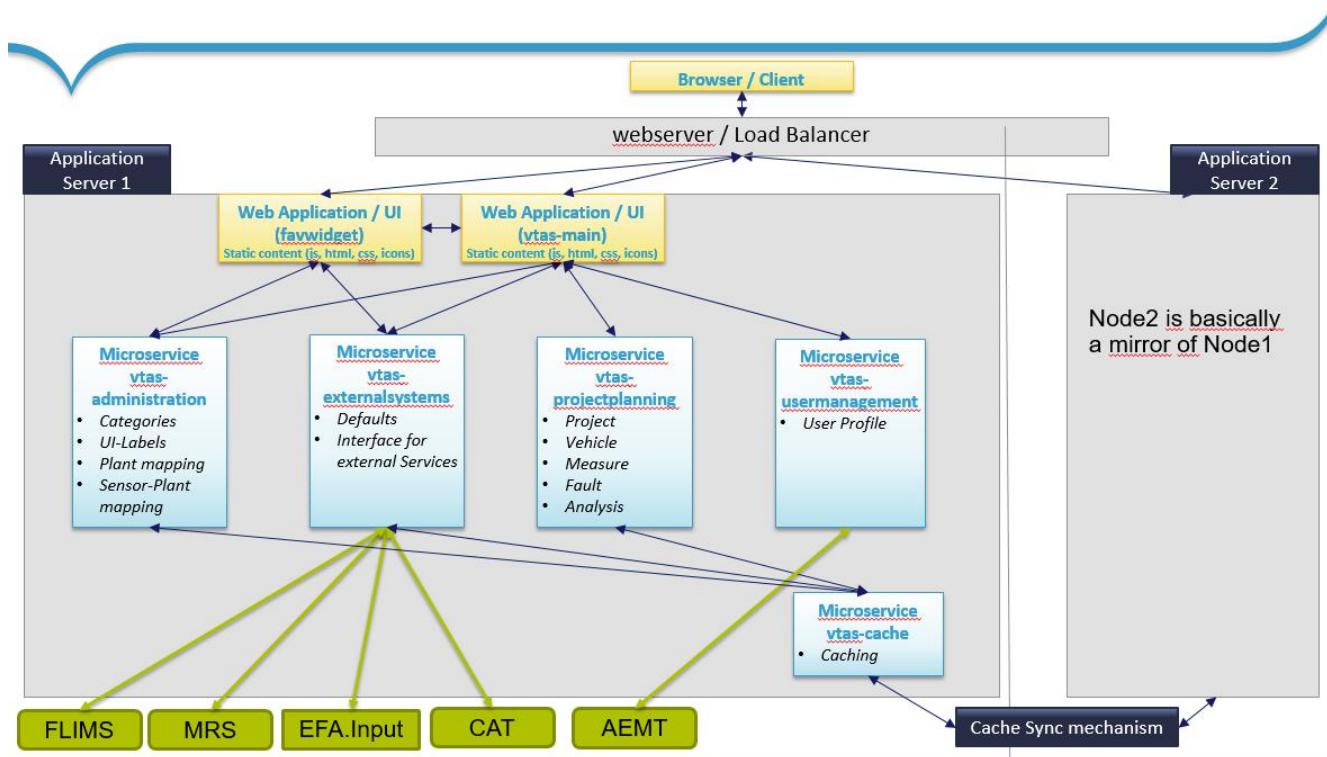
## 01\_Microservice Architecture

- Future directions Release 17.2
  - Overview
  - Cache
  - Integration of third Party Systems
- Current Release 17.1
  - Overview

Future directions Release 17.2

### Overview

## Microservice Architecture – Release 17.2



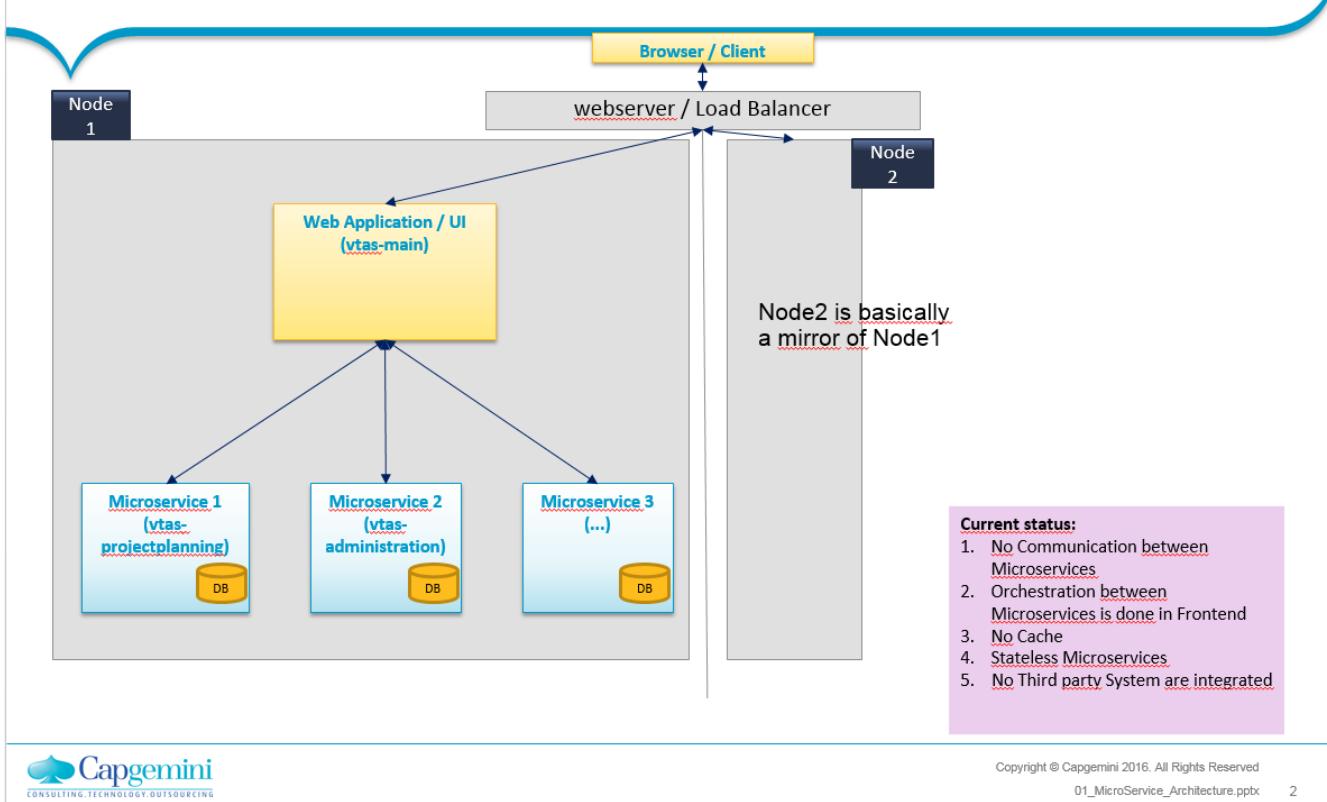
### Cache

#### Integration of third Party Systems

Current Release 17.1

### Overview

# Microservice Architecture – Release 17.1



Source Slides are located in: [https://seu.sdm.de/pu/daimlervtas/svn/repository/06\\_Architecture/01\\_MicroService\\_Architecture.pptx](https://seu.sdm.de/pu/daimlervtas/svn/repository/06_Architecture/01_MicroService_Architecture.pptx)

## 02\_Data\_Model

- Logical Data Model
- Physical Data Model

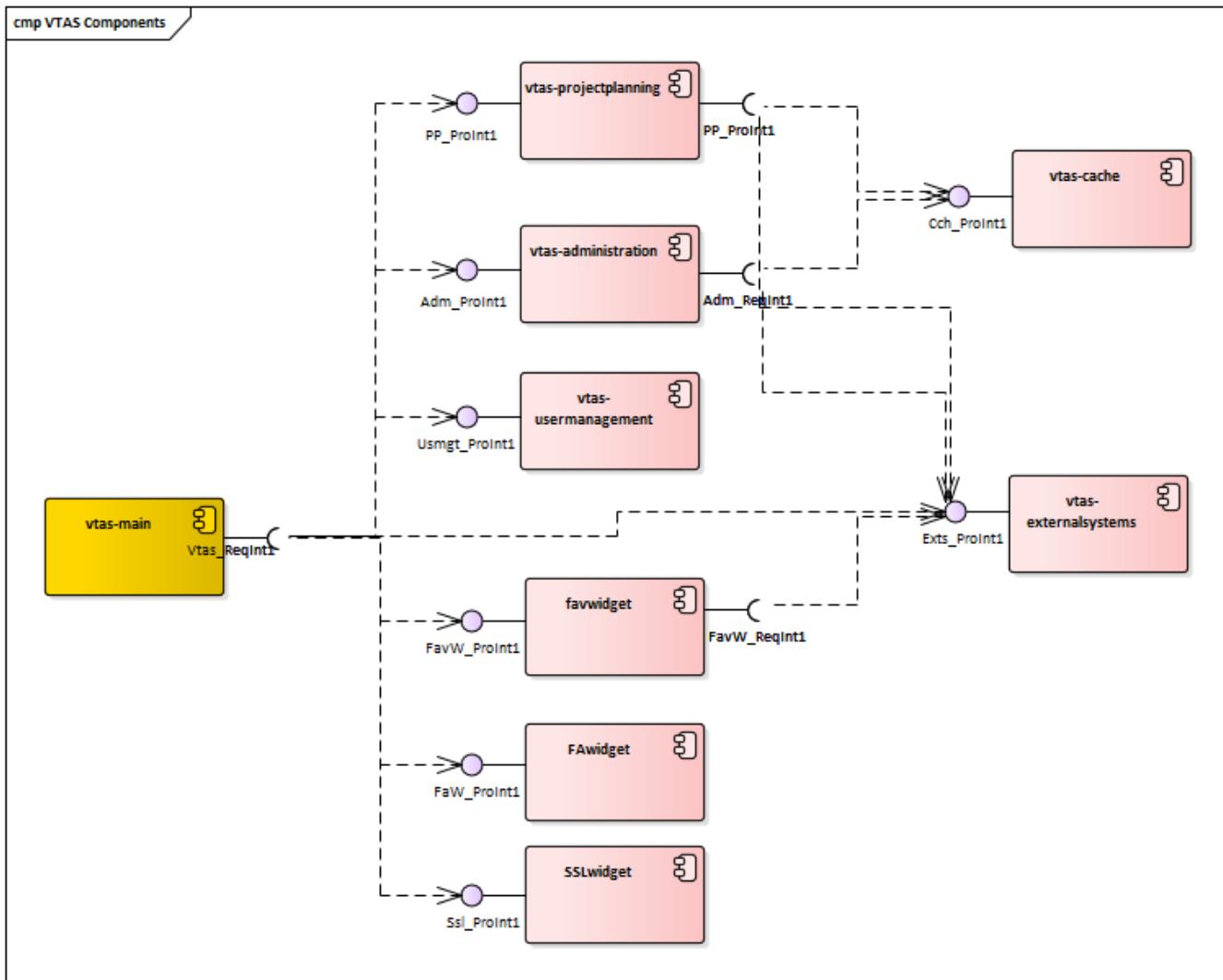
### Logical Data Model

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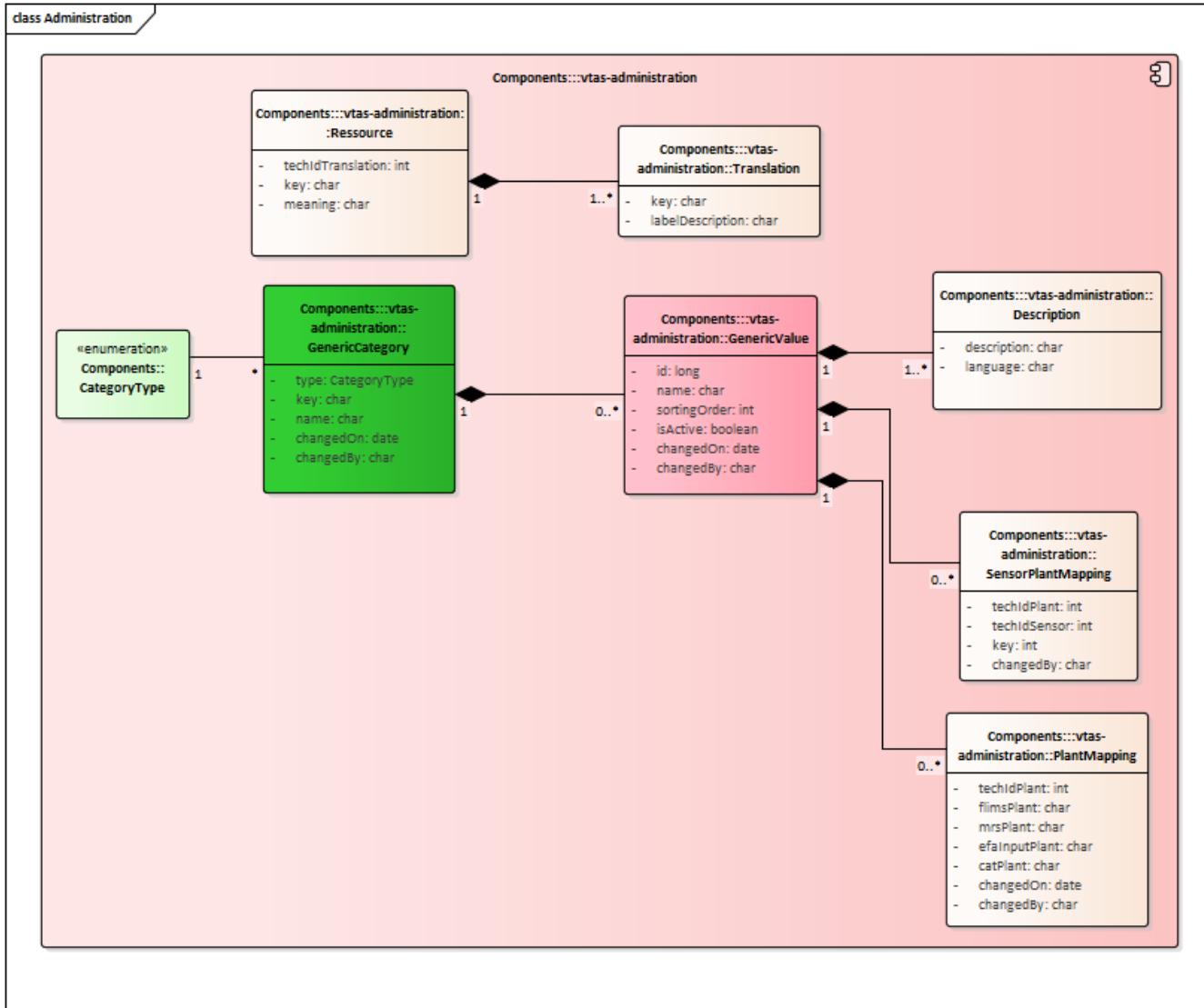
- 1 Current status
  - 1.1 Components
  - 1.2 Microservice data model: vtas-administration
  - 1.3 Microservice data model: vtas-projectplanning
  - 1.4 Microservice data model: vtas-usermanagement
  - 1.5 Microservice data model: vtas-externalsystems

### 1 Current status

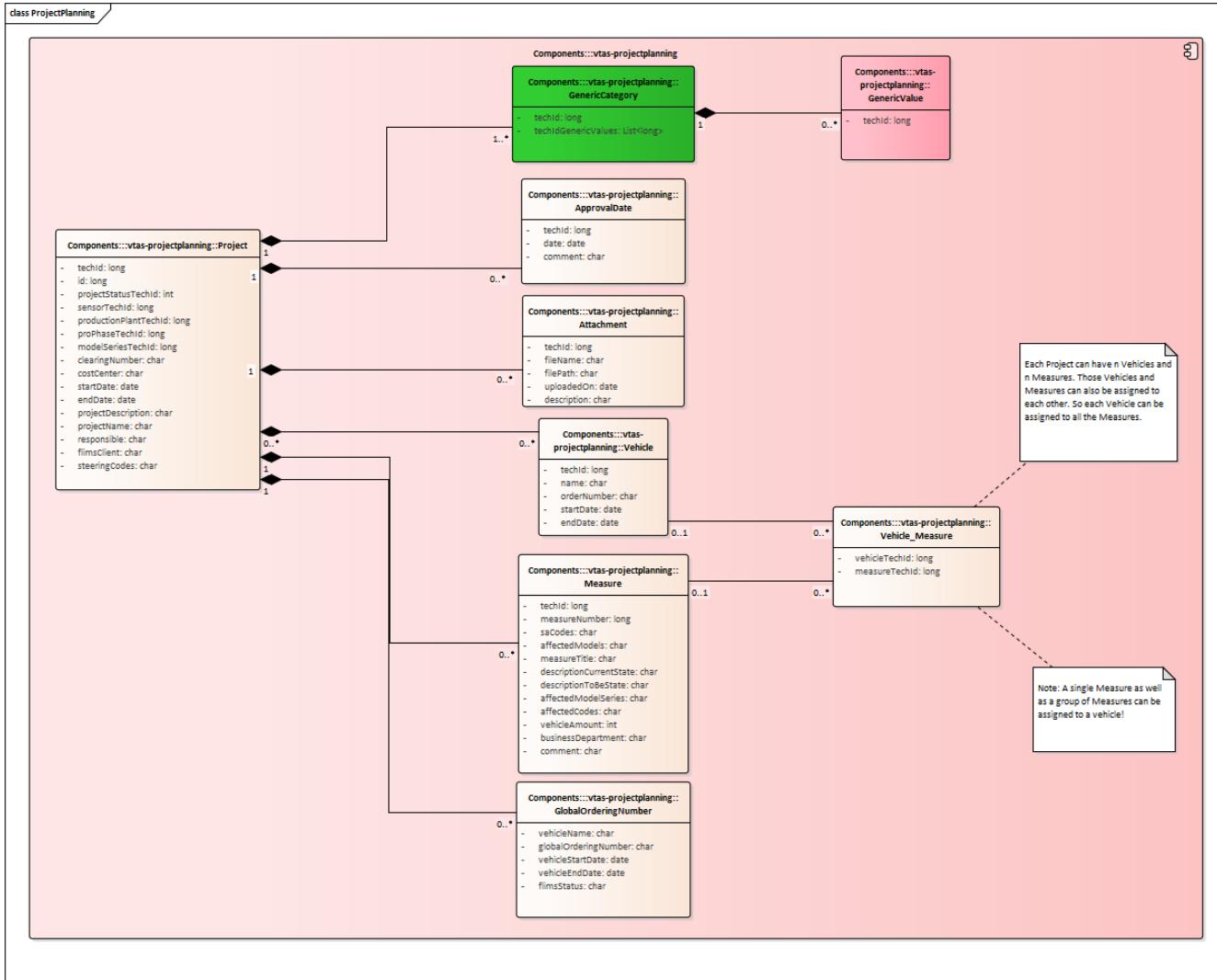
#### 1.1 Components



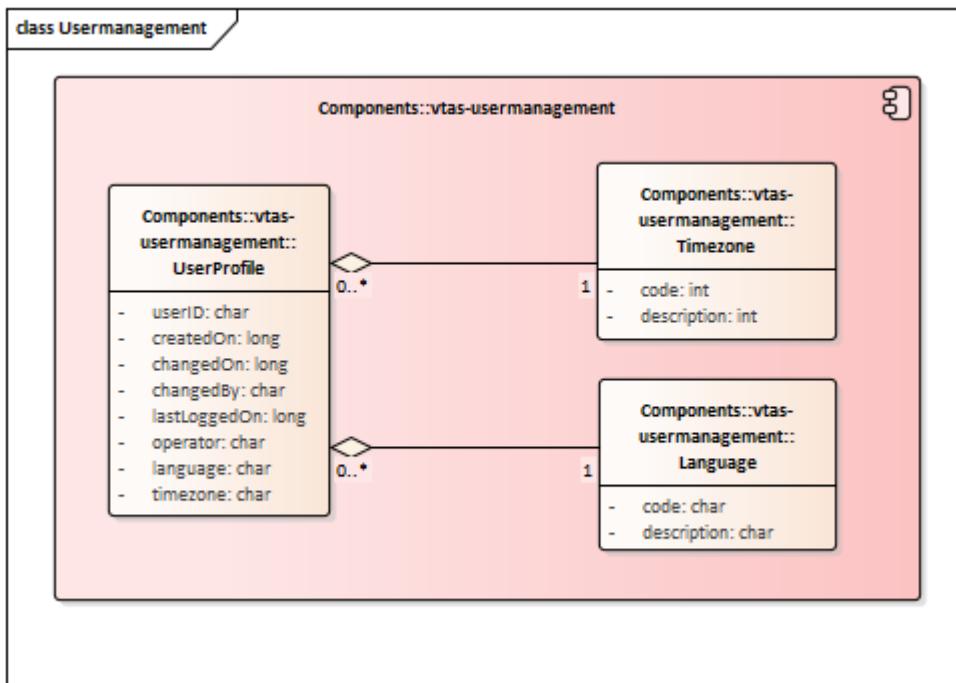
## 1.2 Microservice data model: vtas-administration



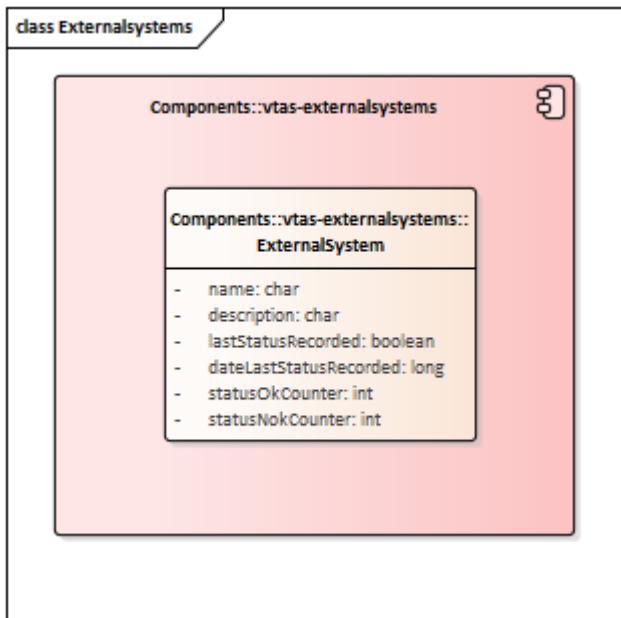
### 1.3 Microservice data model: vtas-projectplanning



#### 1.4 Microservice data model: vtas-usermanagement

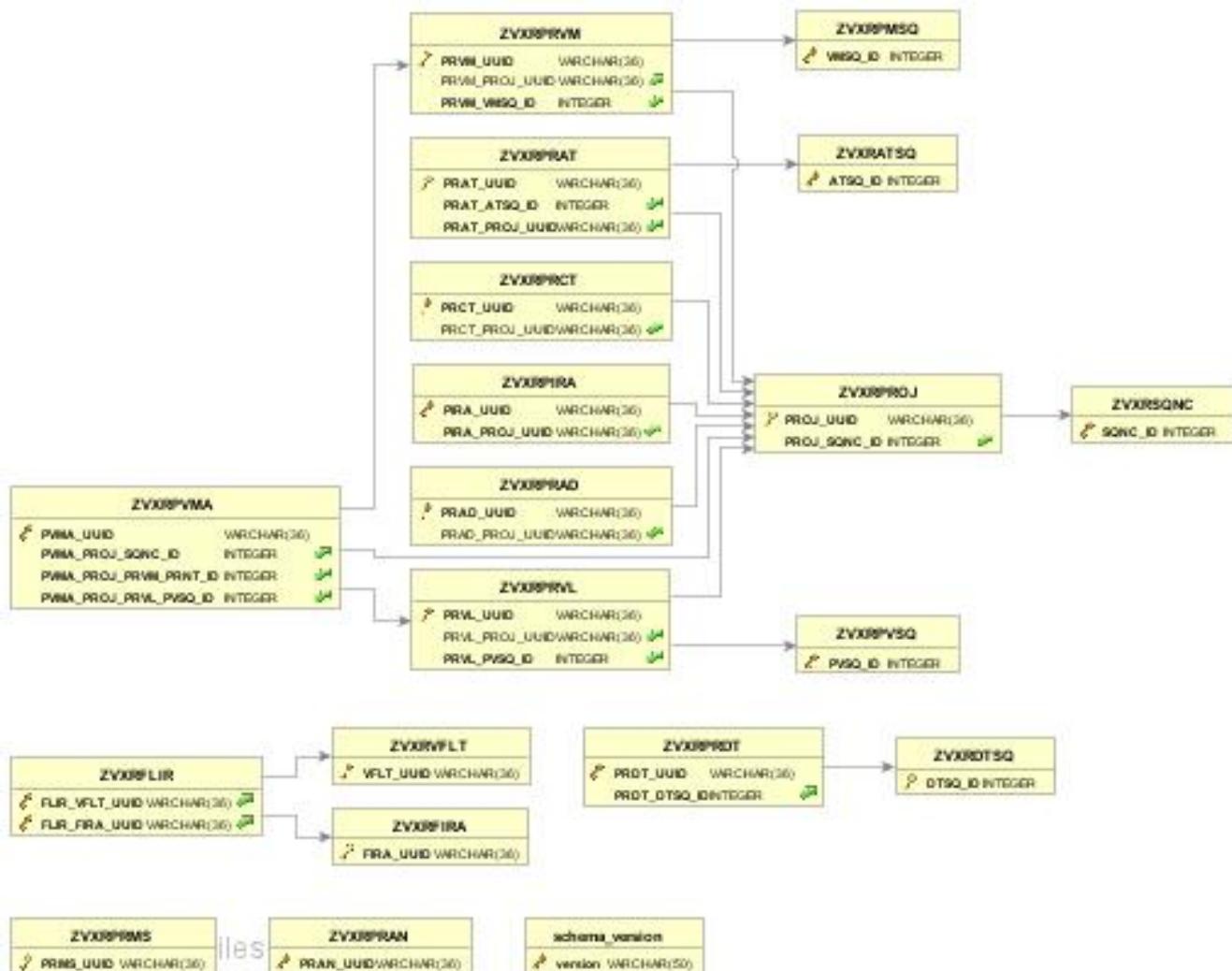


#### 1.5 Microservice data model: vtas-externalsystems

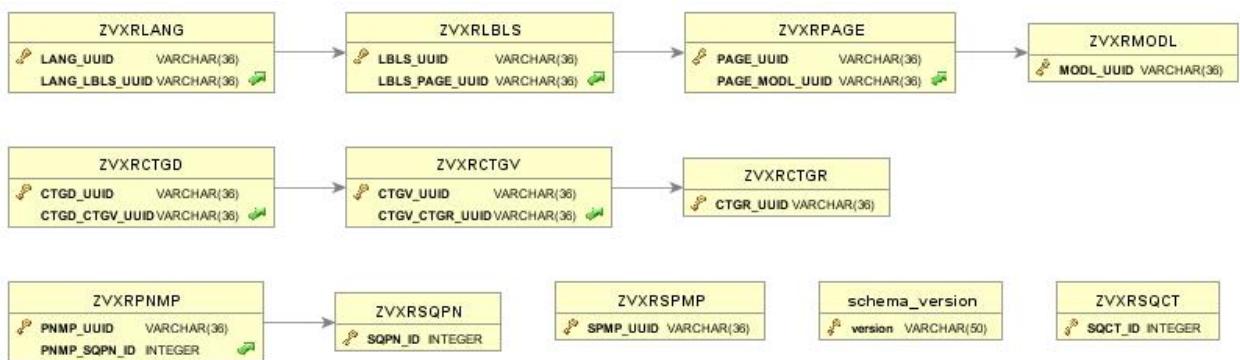


## Physical Data Model

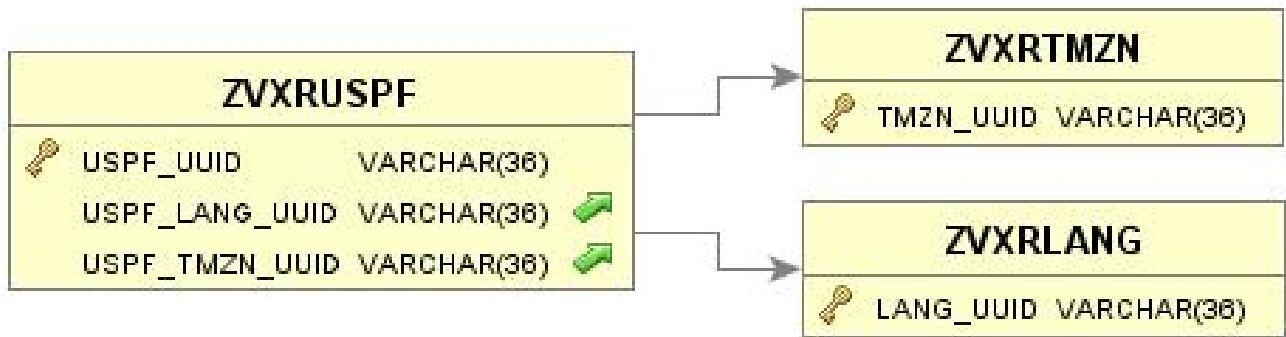
- Project planning Schema



- Administrator Schema



- User management Schema



schema_version
version VARCHAR(50)

- External Systems

ZVXRINMT
🔑 INMT_UUID VARCHAR(36)

schema_version
🔑 version VARCHAR(50)

## 03\_Design Decisions

### Use distributed caching framework for back-end data caching

Use of cache framework will improve the performance of the application. Especially the UI labels are accessed across the application which needs to be cached to avoid hit the database every time user hits.

Also, certain data comes from the external interfaces required be cached to save the bandwidth and get performance.

#### Decision

We will use EHCache as distribution cache, this will be implemented as separate microservices and RMI will be used for replication.

#### Rationale

After evaluating different framework, proposed to use either of the below frameworks. Here is a comparison chart between Redis and EHCache.

Redis	EHCache
BSD -3 clause license	Apache licnse 2
In memory data structure store, used as database, cache and message broker. The persistence can be turned off, and can be used as cache only.	Ehcache is internal to the JVM
Stores the data as key value pair	Java objects
It supports data structures such as strings, hashes, lists, sets, sorted sets with range queries, bitmaps, hyperloglogs and geospatial indexes with radius queries.	
Built in support for clustering and comes with high availability tools redis-sentinel right in the box.	Clustering supported with teracotta server, without terracotta, RMI/JMS replication or Jgroups is available
Runs as Cache server & NOSQL DB	run localy as a library

Installation required	No installation, add jar file as part of the project. Easily configurable
-----------------------	---------------------------------------------------------------------------

Redis required separate software installation and is more generic. For VTAS a simple JVM based cache will do the purpose.

#### Status

Accepted

#### Consequences

- EHCache does not have built in datastore, restart of the application will clear the cache.
- Lazy loading of data will be ideal in most of the cases.
- Additional cache update has to be done on add/update/delete of the real data.

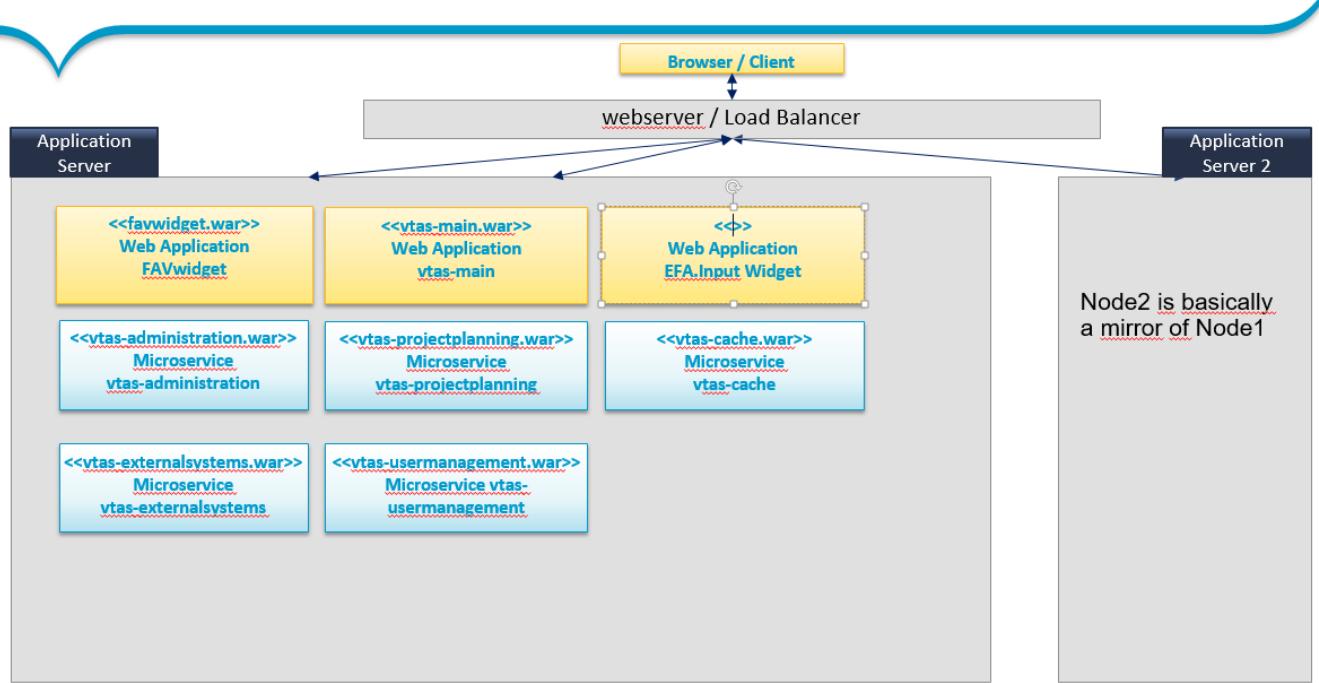
Redis	EHCache
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## 04\_Deployment diagram

- Release 17.2

#### Release 17.2

# Deployment Diagram – Release 17.2



## Versioning of Rest interfaces

- Include version in all the URLs. Versioning can be broadly divided into major & minor version.
  - Major version like V1, V2
  - Minor version like V1.1, V2.4
- Do not practice minor versions until it's required and has rational behind it
- No Verbs only Nouns in URL
  - <http://localhost:8080/projectplanningservice/v1/createProject> - **Incorrect**
  - <http://localhost:8080/projectplanningservice/v1/project> - **Correct**

### Recommendation

Refer below rules while defining the new REST API (e.g. expose GET URL to read a resource).

Resource	GET	POST	PUT	<b>DELETE</b>
	<b>Read</b>	<b>Create/Read</b>	<b>Update</b>	
/projects	Returns a list of projects	Create/register a new project	Bulk update of projects	Delete all projects
/projects/9158012354	Returns a specific project	You can pass search parameters encapsulate in an object	Updates a specific project	Deletes a specific project

User Sub resources for relation. Sub resources are used to link one resource with another, so use sub resources to represent the relation.

GET /groups/{group id}/members	Returns a list of members in group with given id
GET/groups/{groupid}/members/{member id}	Returns user with given user id for given group id

## VTAS Cache

- Introduction
- Cache Microservice Implementation
  - EhCache.xml
  - CacheRestController

- Cache Service Implementation
- Cache Consumer

## Introduction

VTAS application is configured to use Ehcache.

Ehcache is an open source, standards-based cache that boosts performance, offloads your database, and simplifies scalability.

VTAS cache is implemented in separate Micro service.

## Cache Microservice Implementation

Cache Microservice works as a cache server which keep values associated with key.

Cache Microservice contains two major components

- Rest controller which supports retrieve, add and delete the information through http GET, POST and DELETE methods.
- EhCache XML file which contains the cache configuration.

### **EhCache.xml**

Ehcache configuration file is kept under **/src/main/resources** folder which will be loaded in to class path.

EhCache file is contains the cache name and its properties and RMI configuration for the replication.

Example:

```

EhCache.xml

<?xml version="1.0" encoding="UTF-8"?>
<ehcache xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:noNamespaceSchemaLocation="http://ehcache.org/ehcache.xsd">

 <cacheManagerPeerProviderFactory
 class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"
 properties="peerDiscovery=automatic,
 multicastGroupAddress=230.0.0.1,
 multicastGroupPort=4446, timeToLive=32" />

 <cacheManagerPeerListenerFactory
 class="net.sf.ehcache.distribution.RMICacheManagerPeerListenerFactory"
 properties="hostName=localhost, port=40001,
 socketTimeoutMillis=2000" />

 <cache name="labelsCache"
 maxElementsInMemory="100"
 eternal="true"
 timeToIdleSeconds="0"
 timeToLiveSeconds="0"
 overflowToDisk="false">

 <cacheEventListenerFactory
 class="net.sf.ehcache.distribution.RMICacheReplicatorFactory"
 properties="replicateAsynchronously=true,
 replicatePuts=true, replicateUpdates=true,
 replicateUpdatesViaCopy=false, replicateRemovals=true " />

 </cache>
</ehcache>
```

## **CacheRestController**

Example:

### **Cache Rest Controller**

```
import static com.daimler.vtas.cache.common.CacheConstants.CACHE_URI;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpEntity;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestMethod;
import org.springframework.web.bind.annotation.RestController;

import com.daimler.vtas.cache.service.cache.CacheService;

/**
 * Rest controller for accessing Cache API
 *
 */
@RestController
@RequestMapping(value = CACHE_URI + "/caches")
public class CacheRestController {

 @Autowired
 private CacheService cacheService;

 /**
 * @param key - key
 * @param cacheName - Cache Name
 * @return Success
 */
 @RequestMapping(method = RequestMethod.GET, value =
"/{key}/{cacheName}")
 public Object getValue(@PathVariable("key") String key,
@PathVariable("cacheName") String cacheName) {

 return this.cacheService.getValue(key, cacheName);
 }

 /**
 * @param key - cache key
 * @param cacheName - Cache Name
 * @param httpEntity - HttpEntity
 * @return Success
 */
 @RequestMapping(value = "/{key}/{cacheName}", method =
RequestMethod.POST)
 public Object addValue(@PathVariable("key") String key,
@PathVariable("cacheName") String cacheName,
HttpEntity<String> httpEntity) {

 return this.cacheService.addValue(key, httpEntity.getBody(),
cacheName);
 }

}
```

```
* @param cacheName - cache name
* @return Object - object
*/
@RequestMapping(value =("/{cacheName}", method = RequestMethod.DELETE)
public boolean clearCache(@PathVariable("cacheName") String cacheName)
{
 return this.cacheService.clearCache(cacheName);
}
```

## **Cache Service Implementation**

Example:

### **Cache Service Impl**

```
import net.sf.ehcache.Cache;
import net.sf.ehcache.CacheManager;
import net.sf.ehcache.Element;

import org.springframework.stereotype.Service;

/**
 * Implementation Service for Cache Interface
 *
 */
@Service
public class CacheServiceImpl implements CacheService {

 /**
 * Check cache for null and get the object from cache
 *
 */
 @Override
 public Object getValue(String key, String cacheName) {

 Cache cache = getCache(cacheName);

 if (cache.get(key) == null) {
 return null;
 }
 return cache.get(key).getObjectValue();
 }

 /**
 * Add the entity or dto object to cache
 *
 */
 @Override
 public Object addValue(String key, String value, String cacheName) {

 Cache cache = getCache(cacheName);

 cache.put(new Element(key, value));

 return cache.get(key).getObjectValue();
 }

 /**
 * Clear the cache
 *
 */
 @Override
```

```
public boolean clearCache(String cacheName) {

 Cache cache = getCache(cacheName);
 cache.removeAll();

 return true;
}

/**
 * Get cache instance
 *
 */
private Cache getCache(String cacheName) {

 CacheManager cacheManager = CacheManager.getInstance();
 return cacheManager.getCache(cacheName);
}
```

```
 }

}
```

## Cache Consumer

Introduce another proxy service layer which will abstract all cache related implementation .

Example:

### ServiceCache.java

```
import java.text.ParseException;
import java.util.List;
import java.util.Map;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.beans.factory.annotation.Qualifier;
import org.springframework.core.ParameterizedTypeReference;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.stereotype.Service;

import com.daimler.vtas.administration.common.AdministrationConstants;
import com.daimler.vtas.administration.dao.entity.uilabels.Label;
import com.daimler.vtas.commons.util.RestTemplateUtil;

/**
 *
 * Cache implementation to communicate with Cache Microservice
 */
@Qualifier("labelServiceCache")
@Service
@SuppressWarnings("javadoc")
public class LabelServiceCache implements LabelService {

 @Qualifier("labelService")
 @Autowired
 private LabelService labelService;

 @Autowired
 private RestTemplateUtil restTemplateUtil;

 private static final Logger LOGGER =
 LoggerFactory.getLogger(LabelServiceCache.class);

 @Override
 public Map<String, Map<String, String>>
 getLabelsByModuleAndLang(String modulename, String lang) {

 Map<String, Map<String, String>> labels = null;
 String url = getURL() + (modulename + "_" + lang) + "/" +
 AdministrationConstants.VTAS_LABELS_CACHE;
 LOGGER.debug(">>>Cache URL>>>" + url);
 }
```

```

 try {
 ResponseEntity<Map<String, Map<String, String>>> entity =
this.restTemplateUtil.processGetRequestCollection(url,
 new ParameterizedTypeReference<Map<String, Map<String,
String>>>() {
 });
 if (entity.getStatusCode().equals(HttpStatus.OK) &&
entity.getBody() != null) {
 return entity.getBody();
 }
 } catch (RuntimeException e) {
 LOGGER.error("Exception get cache value:::", e);
 }
 labels = this.labelService.getLabelsByModuleAndLang(modulename,
lang);

 try {
 this.restTemplateUtil.processPostRequest(url, labels);
 } catch (RuntimeException e) {
 LOGGER.error("Exception post cache object:::", e);
 }
 return labels;
}

@Override
public List<Map<String, String>> getAllViewLabels(String timezone) {

 return this.labelService.getAllViewLabels(timezone);
}

@Override
public Label editLabel(Label label) throws ParseException {

 Label labels = this.labelService.editLabel(label);
 try {
 String url = getURL() + AdministrationConstants.VTAS_LABELS_CACHE;
 LOGGER.debug(">>>Cache URL>>>" + url);
 this.restTemplateUtil.processDeleteRequest(url);
 } catch (RuntimeException e) {
 LOGGER.error("Exception clear cache in edit labels:::", e);
 }

 return labels;
}

private String getURL() {

 return RestTemplateUtil.getBaseURI() +
AdministrationConstants.CACHE_URI;
}

```

```
}
```

```
}
```

## Frontend

- Creation of new module
- Dojo
- Minify and uglify
- UI Labels

### Creation of new module

#### References for developer

#### Steps to be followed by developer to create a new module under app in VTAS-Landing Page

##### STEP 1:

- In Landing Page HTML (index.html) of VTAS-Main micro service,
- Following html snippet should be present inside body tag for a module

```

 <h4 class='complaints uiLabels'>Complaints</h4>


```

- **rel** is the respective URL for the respective module

##### STEP 2:

- Create a new folder with corresponding module name in VTAS-Main->WebContent
  - Eg: VTAS-Main->WebContent->complaints
- Create a new folder with corresponding module name in VTAS-Main->WebContent->js->app
  - Eg: VTAS-Main->WebContent->js->app->complaints
- Same **rel** name to be given for complaints folder name.

##### STEP 3:

- For every module index.html and index.js should be included.Whenever the module is open, the first page it loads is index.html
- Index.html and index.js are the basic files for all modules.
  - Eg: VTAS-Main->WebContent->complaints->index.html
  - Eg: VTAS-Main->WebContent->js->app->complaints->index.js
- Index.html loads the headerwidget and index.js applies the page routing.

#### Note:

- Attached the sample files(index.html,index.js) for developer reference.



##### STEP 4:

- Following sample html is the welcome code for all HTML pages.

```
<div class="container-fluid">
 Welcome
</div>
```

### **Steps to be followed by developer to create module, pages & labels in DB for new module**

#### **Insert queries to create a page name for moduleswitcher**

Page Table contains page name and it should map to module uuid.

For each module, moduleswitcher page to be created.

- INSERT INTO ZVXCVADM.ZVXRPAGE(PAGE\_UUID,PAGE\_MODL\_UUID,PAGE\_NAME,PAGE\_CHANGED\_BY,PAGE\_CHANGED\_ON ,PAGE\_VERSION\_ID) values('pageuuid25','modluuid7','moduleswitcher','admin',SYSDATE,0);
- INSERT INTO ZVXCVADM.ZVXRPAGE(PAGE\_UUID,PAGE\_MODL\_UUID,PAGE\_NAME,PAGE\_CHANGED\_BY,PAGE\_CHANGED\_ON ,PAGE\_VERSION\_ID) values('pageuuid26','modluuid8','moduleswitcher','admin',SYSDATE,0);

## **Dojo**

VTAS project is using Dojo Version 1.10.4.

Source Code can be found here: <https://github.com/dojo/dojo/tree/1.10.4>

## **Modules**

### **Dojo XHR Call Module**

#### **Steps to be followed by developer to incorporate the module into a page**

##### **STEP:**

- Import the module in our js file - "app/modules/xhrCall"
- Call the function com.daimler.i18n.callingApi(params)
- Find below the sample snippet to load and call the function in your js

```
require(["app/modules/xhrCall"],

 function() {
 var urlParams = {url:dojoConfig.adminCategoriesUrl, method:'GET', sync:true, dataObject:{}}

 //sync:true - changing by default ajax async call (wait for the response to get the data)
 //dataObject - by default empty object and we can pass the json dataObject if its post method.

 var data = com.daimler.xhrCall.callingApi(urlParams);

 if (!data.errorMessage) {
 //iteration based on the business logic
 }
 });
});
```

## **Header Module**

We want to have a generic header which is usable on every page. Dojo provides us this functionality over container widgets.

For this every page just has to include following line of code in the body to use the Header

```
<body>
 <div id="header" data-dojo-type='app/widgets/HeaderWidget'></div>
 ...
</body>
```

This will then include

## HeaderWidget.html

```
<div id="header-widget" class="header">
 <!--<a href="#" class='logo'
data-dojo-attach-point="homeNode">-->
 <nav id="myNavbar" class="navbar navbar-toggleable-md fixed-top
navbar-vtas" role="navigation">
 <!-- Brand and toggle get grouped for better mobile display -->
 <div class="container-fluid">
 <div class="navbar-header">
 <button type="button" class="navbar-toggle"
data-toggle="collapse" data-target="#navbarCollapse">
 VTAS

 </button>
 <div class="left-menu">
 <a class="left-histroy" href="#"
data-dojo-attach-event="onClick:backHistory"><span class="glyphicon
glyphicon-menu-left icon-color">
 &nbsp
 <a class="logo navbar-brand" id="homeUrl"
href="index.html"><span class="glyphicon glyphicon-home
icon-color">
 <h4
class="app-name">VTAS</h4>
 </div>
 <!-- <a id="" class="module-name"
href="javascript:void(0)">Module
Name&nbsp&nbsp<span class="glyphicon
icon-interaction-arrow-down-12 icon-color">-->
 <div id="moduleswitcher" class="module-name"></div>
 <div class="profile-header">
 <span class="glyphicon glyphicon-search
icon-color">
 <span class="glyphicon glyphicon-user
icon-color">
 <span class="glyphicon glyphicon-comment
icon-color">
 </div>
 </div>
 <!-- Collect the nav links, forms, and other content for
toggling -->
 <div class="collapse navbar-collapse"
id="navbarCollapse"></div>
 </div>
</nav>
</div>
```

and the corresponding Javascript

## HeaderWidget.js

```
define('app/widgets/HeaderWidget', [
 'dijit/_WidgetBase',
 'dijit/_TemplatedMixin',
 'dojo/_base/declare',
 'dojo/dom-attr',
 'dojo/dom',
 'dojo/text!./templates/HeaderWidget.html',
 "app/modules/i18n",
 "app/modules/moduleSwitcher",
 "dojo/on",
 'dojo/domReady!',
], function(_WidgetBase, _TemplatedMixin, declare,
domAttr, dom, template, i18n, on) {
 return declare('app.widgets.HeaderWidget', [_WidgetBase,
 _TemplatedMixin], {
 templateString: template,
 constructor: function(args) {
 declare.safeMixin(this, args);
 com.daimler.i18n.getLabels();
 },
 class: 'header',
 postCreate: function() {
 var self = this;
 if(dojoConfig.moduleName !== 'vtaslandingpage'){
 dom.byId('moduleswitcher').innerHTML = 'Loading....';

setTimeout(function(){com.daimler.moduleSwitcher.loadSwitcher(); }, 1000); //delay to get all the data from API
 }
 domAttr.set(dom.byId("homeUrl"), "href", location.origin
+'/' +location.pathname.split('/')[1]);
 },
 backHistory: function(evt) {
 if (document.referrer !== "" || location.hash !== '') {
 history.back();
 if(location.hash){
 location.reload();
 }
 }
 evt.preventDefault();
 }
 });
});
```

## Minify and uglify

### Introduction

This page will tell you something about the benefits for minifying and uglifying source code, the implementation of it in the VTAS project. The second part is how to work with source maps, after the source code is uglified.

### Benefits for minifying source code

There are 3 major benefits for minifying the **javascript**, **css** and **html** files.

1. Users load content faster as less unnecessary data needs to be downloaded. Users experience identical service without the additional overhead.
2. Lower bandwidth costs as less data is transmitted over the network. The extra content that only developers care about is no longer being sent to users.
3. Lower resource usage since less data needs to be processed for each request. The minified content – which only needs to be generated once – can be used for an unlimited number of requests.

By minifying, the white spaces and comments will be deleted in the file.

For example this little html example

```
<html>
<head>
 <title>Test</title>
 <!-- JavaScripts -->
 <script src="myScript.js"></script>
 <!-- CSS -->
 ..
</html>
```

will be replaced with the following even smaller one:

```
<html><head><title>Test</title><script
src="myScript.js"></script>..</html>
```

## Benefits for uglifying source code

By uglifying the source code gets smaller as variables are renamed to shorter versions. As an example, the following two lines

```
var user = "DefaultName";
user = "NextName";
```

could be converted to these:

```
var a = "DefaultName";
a = "NextName";
```

As you can see, through uglifying the source code could be much smaller.

## Implementation in VTAS

### Overview

For the implementation of minify and uglify in VTAS we add some tasks to the **build.gradle** file. There we add a function which downloads all dependencies for gulp which are described in an **package.json** file. We can download them via **npm install**.

After that, we can use gulp in our server. With that, we can run a gulp task, which minifies and uglifies our files from the **WebContent** folder.

We can trigger these steps by making an dependency from the build task **npmGulp** to **assemble**. If we are deleting the line **30** in the **build.gradle** file, the build tool doesn't minify or uglify anything.

### Step by Step

In the **build.gradle** file, we need two more dependencies:

- id "com.moowork.node" version "1.2.0"
- id "com.moowork.gulp" version "1.2.0"

After that, you can add the following 3 tasks, 1 configuration and 1 dependency:

```
// gulp -----
node {
 version = '6.8.0'
 npmVersion = '3.10.8'
 download = true
 workDir = file("${project.buildDir}/node")
 nodeModulesDir = file("${project.projectDir}")
}

task npmCacheConfig(type: NpmTask) {
 description = "Configure the NPM cache"
 def npmCacheDir = "${gradle.getGradleUserHomeDir()}/caches/npm"
 outputs.files file(npmCacheDir)
 args = ['config', 'set', 'cache', npmCacheDir]
}

task npmPackages(type: NpmTask, dependsOn: npmCacheConfig) {
 description = "Install Node.js packages"
 args = ['install']
 inputs.files file('package.json')
 outputs.files file('node_modules')
}

task npmGulp(type: GulpTask, dependsOn: npmPackages) {
 args = ["minify"]
 // Update the directory
 webAppDirName = "WebContentMin"
}

assemble.dependsOn npmGulp
// -----
```

From line 2 to 8 we configuring the used node module and a workdir.

The task in line 10 configures the cache for the npm dependencies. The task **npmPackages** in line 16 is for downloading all dependencies for nodejs. And the last task, called **npmGulp** is for executing the gulp tasks that are written in a file called **gulpfile.js**. In line 27 we define that the next jenkins step should take all files from the WebContentMin folder instead of the WebContent folder.

In line 30 we define, that the gulp tasks should run every time we do an **./gradlew assemble**.

```

// including plugins
var gulp = require('gulp'), minify = require("gulp-minifier");

// minify html, css and js
gulp.task('minify', function() {
 gulp.src(['./WebContent/**/*'], {base: "./WebContent"})
 .pipe(minify({
 minify: true,
 minifyHTML: {
 collapseWhitespace: true,
 conservativeCollapse: true,
 },
 minifyJS: {
 sourceMap: true
 },
 minifyCSS: true,
 getKeptComment: function (content, filePath) {
 var m = content.match(/\/*![\s\S]*?*\//img);
 return m && m.join('\n') + '\n' || '';
 }
 }))
 .pipe(gulp.dest('WebContentMin/'));
});

```

In this file we have one task which is for minifying and uglifying all files in the **WebContent** folder. The script also copies all files, that are mini- and uglified, to a folder called **WebContentMin**. The tasks also creates for every js-files one source map file.

## Source Map for JavaScript

### Overview

A source map provides a way of mapping code within a compressed file back to its original position in a source file. This means that you can easily debug your applications even after your assets have been optimized.

### Working with source maps

You can work with source maps in every modern browser like Chrome, FireFox or even Internet Explorer. The browser automatically detects the source maps and automatically converts the uglified source code into readable code so that you can debug as usual. You can do this by using the Chrome and Firefox developer tools. In the following two pictures you can see, how you can pretty print the source code:

### UI Labels

*Insert Queries need to be prepared for respective pages(by identifying the module name, page name,label keys and Language) depending on user story requirements in administration micro service.*

#### References for Developer:

Below tables are created for UI labels

1. ZVXCVADM.ZVXRMODL (Module table)
2. ZVXCVADM.ZVXRPAGE (Page table)
3. ZVXCVADM.ZVXRLBLS (labels table)
4. ZVXCVADM.ZVXRLANG (Language table)

**Below the reference DDL script files :**

- Script to create tables: V1\_3\_create\_tables\_ZVXRMODL\_ZVXRPAGE\_and\_ZVXRLBLS.sql
- Script to create language table: V1\_20\_delete\_labels\_data\_update\_labels\_tables.sql
- Script to insert label data : V1\_21\_insert\_labels\_allpages.sql

**Steps to be followed by developer to create module, pages ,labels and language information in DB**

**STEP 1: Insert queries for module table**

Module Table contains module name ensure you will be getting modulename from front end

Module Name is : '**controlling**'

```
INSERT INTO ZVXCVADM.ZVXRMODL
(MODL_UUID,MODL_NAME,MODL_CHANGED_BY,MODL_CHANGED_ON,MODL_VERSION_ID)
values('modluuid6','controlling','admin',SYSDATE,0);
```

**STEP 2: Insert queries for page table**

Page Table contains page name and it should map to **moduleuuid**.

A module can contain multiple pages.

page 1 : uilabelscommon

```
INSERT INTO
ZVXCVADM.ZVXRPAGE(PAGE_UUID,PAGE_MODL_UUID,PAGE_NAME,PAGE_CHANGED_BY,PAG
E_CHANGED_ON,PAGE_VERSION_ID)
values('pageuuid1','modluuid1','uilabelscommon','admin',SYSDATE,0);
```

page 2 : controlling

```
IINSERT INTO
ZVXCVADM.ZVXRPAGE(PAGE_UUID,PAGE_MODL_UUID,PAGE_NAME,PAGE_CHANGED_BY,PAG
E_CHANGED_ON,PAGE_VERSION_ID)
values('pageuuid16','modluuid6','controlling','admin',SYSDATE,0);
```

**STEP 3: Insert queries for label table**

Label Table contains label key and meaning it should map to respective **pageuuid**.

A page can contain multiple labels like **userid,firstname** all labels keys mapped to **pageuuid (uilabelscommon)**.

```

INSERT INTO
ZVXCVADM.ZVXRBLBS(LBLS_UUID,LBLS_PAGE_UUID,LBLS_KEY,LBLS_MEANING,LBLS_CH
ANGED_BY,LBLS_CHANGED_ON,LBLS_VERSION_ID,LBLS_LBSQ_ID)
values('lblsuuid173',(SELECT page.PAGE_UUID from ZVXCVADM.ZVXRPAGE page
where
page.PAGE_NAME='uilabelscommon'),'userid','label','admin',SYSDATE,0,173)
;

INSERT INTO
ZVXCVADM.ZVXRBLBS(LBLS_UUID,LBLS_PAGE_UUID,LBLS_KEY,LBLS_MEANING,LBLS_CH
ANGED_BY,LBLS_CHANGED_ON,LBLS_VERSION_ID,LBLS_LBSQ_ID)
values('lblsuuid175',(SELECT page.PAGE_UUID from ZVXCVADM.ZVXRPAGE page
where
page.PAGE_NAME='uilabelscommon'),'firstname','label','admin',SYSDATE,0,1
75);

INSERT INTO
ZVXCVADM.ZVXRBLBS(LBLS_UUID,LBLS_PAGE_UUID,LBLS_KEY,LBLS_MEANING,LBLS_CH
ANGED_BY,LBLS_CHANGED_ON,LBLS_VERSION_ID,LBLS_LBSQ_ID)
values('lblsuuid174',(SELECT page.PAGE_UUID from ZVXCVADM.ZVXRPAGE page
where
page.PAGE_NAME='controlling'),'appname','label','admin',SYSDATE,0,174);

```

#### STEP 4: Insert queries for language table

LanguageTable contains language key, label description and it should map to respective **lblsuuid**.

Each **lblsuuid** should have lables in english and german languages.

Ex: lblsuuid173 is has labels description in english and german languages.

```
INSERT INTO ZVXCVADM.ZVXRLANG
(LANG_UUID, LANG_LBLS_UUID, LANG_KEY, LANG_LABEL_DESC, LANG_CHANGED_BY, LANG_
CHANGED_ON, LANG_VERSION_ID)
values('langsuuid345','lblsuuid173','en','User-ID','admin',SYSDATE,0);

INSERT INTO ZVXCVADM.ZVXRLANG
(LANG_UUID, LANG_LBLS_UUID, LANG_KEY, LANG_LABEL_DESC, LANG_CHANGED_BY, LANG_
CHANGED_ON, LANG_VERSION_ID)
values('langsuuid346','lblsuuid173','de','User-ID','admin',SYSDATE,0);

INSERT INTO ZVXCVADM.ZVXRLANG
(LANG_UUID, LANG_LBLS_UUID, LANG_KEY, LANG_LABEL_DESC, LANG_CHANGED_BY, LANG_
CHANGED_ON, LANG_VERSION_ID)
values('langsuuid349','lblsuuid175','en','First
Name','admin',SYSDATE,0);

INSERT INTO ZVXCVADM.ZVXRLANG(
LANG_UUID, LANG_LBLS_UUID, LANG_KEY, LANG_LABEL_DESC, LANG_CHANGED_BY, LANG_C
HANGED_ON, LANG_VERSION_ID)
values('langsuuid350','lblsuuid175','de','Vorname','admin',SYSDATE,0);
```

#### Steps to be followed by developer to incorporate the UI labels into a page with header widget

##### STEP 1:

In all our HTML pages will be loading header widget and its loading with i18n module.

Following html snippet should be present inside body tag at the top.

```
<html>
<head></head>
<body>
 <div id="header" data-dojo-type='app/widgets/HeaderWidget'></div>
 <h3 class='app uiLabels'>Apps<h3>
</body>
</html>
```

##### STEP 2:

Find below the example snippet for the UI label placeholder

```
<h3 class="app sections-heading uiLabels">Apps</h3>
--> app is the key(placeholder or the respective key) and it should be
place at 1st position.
--> uiLabels is representing the data to update from the json and it
should be present in the same element.
```

#### Steps to be followed by developer to incorporate the UI labels into a page without header widget (if, any. At this moment we do not have any pages without header widget, but we have targeted this utility for future, too)

**STEP 1:**

- Import the module in our js file - "app/modules/i18n"
- Call the function com.daimler.i18n.getLabels()
- Find below the sample snippet to load and call the function in your js

```
require(["app/modules/i18n"],
 function() {
 com.daimler.i18n.getLabels();
 }
);
```

**STEP 2:**

Find below the example snippet for the UI label placeholder

```
<h3 class="app sections-heading uiLabels">Apps</h3>
--> app is the key	placeholder or the respective key) and it should be
place at 1st position.
--> uiLabels is representing the data to update from the json and it
should be present in the same element.
```

**Note:**

- Attached the sample files(HeaderWidget.js,index.html) for developer reference.



## PAI

- PAI Platform to be used in VTAS project
- Platform Overview
- Required Operating System
- PAI Platform Presentation (PAI J2EE Light Edition 6.1.1)
- Java

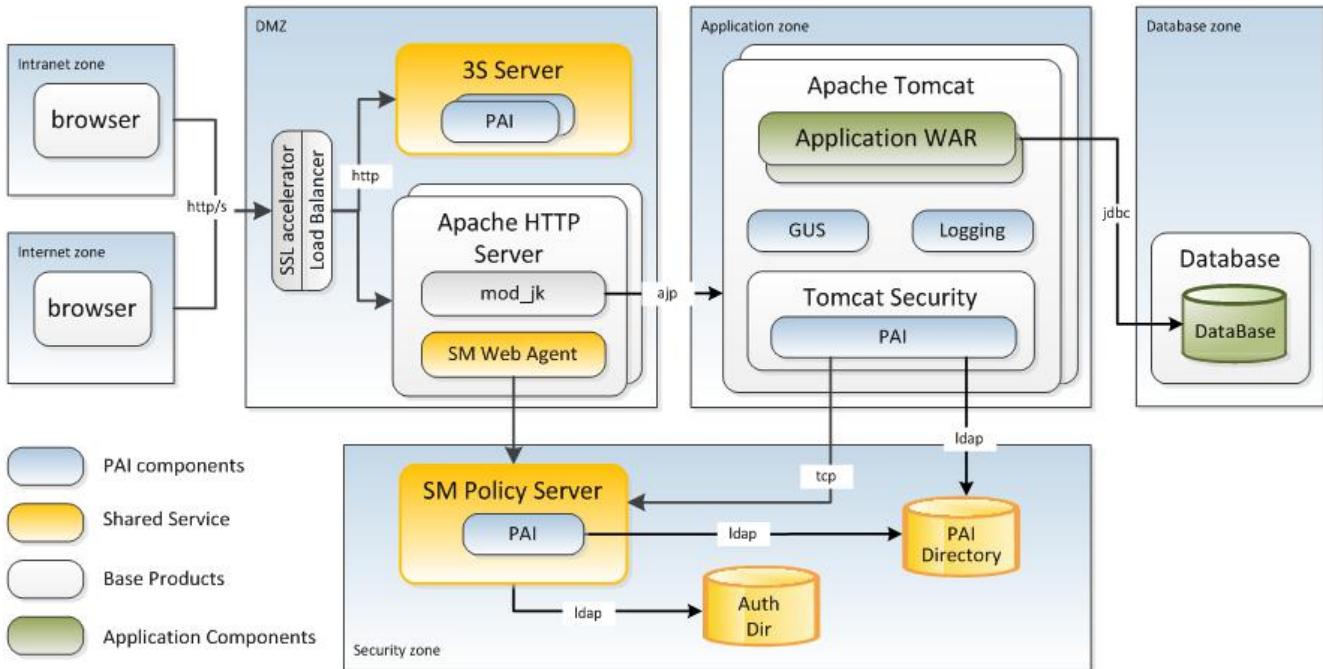
### PAI Platform to be used in VTAS project

the PAI J2EE Light Edition (PAI J2EE LE) will be used as a Software Stack for the VTAS project.

The documentation can be downloaded here: [http://de-dai-xtech-ls:82/JEE\\_LE\\_6.1.1\\_EXT/platforms/J2EE/platform\\_documentation/J2EE\\_LIGHT/release\\_overview/release\\_information/index.html](http://de-dai-xtech-ls:82/JEE_LE_6.1.1_EXT/platforms/J2EE/platform_documentation/J2EE_LIGHT/release_overview/release_information/index.html)

PAI J2EE can be downloaded here: [http://de-dai-xtech-ls:82/JEE\\_LE\\_6.1.1/](http://de-dai-xtech-ls:82/JEE_LE_6.1.1/)

### Platform Overview



## Required Operating System

PAI J2EE LE	Required OS version	Required SUSE repository
J2EE LE 6.0.0	SLES 11 SP3 Release: 2014_06	sles-11-sp3-201406-dai-os-pajle600-x86_64-sles-11-sp3-sles
J2EE LE 6.0.0 P01	SLES 11 SP3 Release: 2014_06	sles-11-sp3-201406-dai-os-pajle600-x86_64-sles-11-sp3-sles
J2EE LE 6.0.1	SLES 11 SP3 Release: 2015_01	sles-11-sp3-201501-dai-os-pajle601-x86_64-sles-11-sp3-sles
J2EE LE 6.0.2	SLES 11 SP3 Release: 2015_02	sles-11-sp3-201502-dai-os-pajle602-x86_64-sles-11-sp3-sles
J2EE LE 6.0.3	SLES 11 SP4 Release: 2015_02	sles-11-sp4-201502-dai-os-pajle603-x86_64-sles-11-sp4-sles
J2EE LE 6.1.0	SLES 12 SP1 Release: 2016_01	sles-12-sp1-201601-dai-os-pajle610-x86_64-sles-12-sp1-sles
J2EE LE 6.1.1	SLES 12 SP1 Release: 2016_02	sles-12-sp1-201602-dai-os-pajle611-x86_64-sles-12-sp1-sles

## PAI Platform Presentation (PAI J2EE Light Edition 6.1.1)



## Java

The Java Version to be used for development is Oracle SDK 1.8.0 64 Bit which you can download from <http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

## PAI Authentication and Authorization

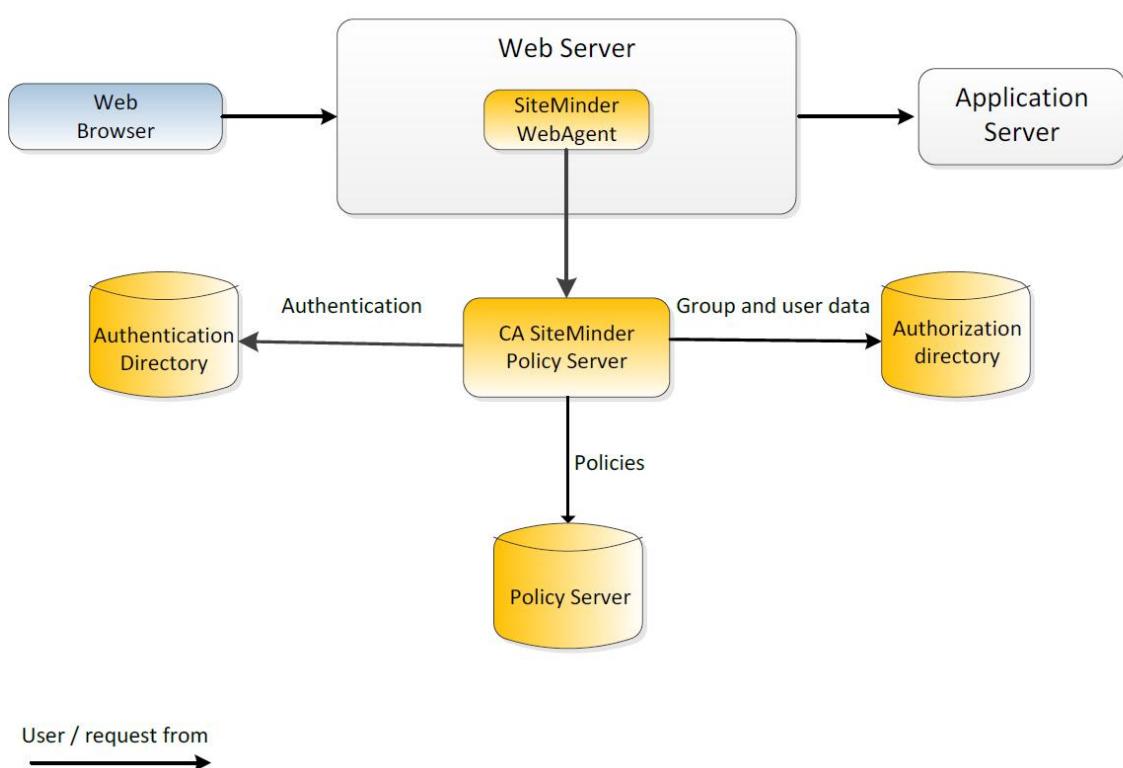
### Links

[PAI Directory & Security Concepts](#)

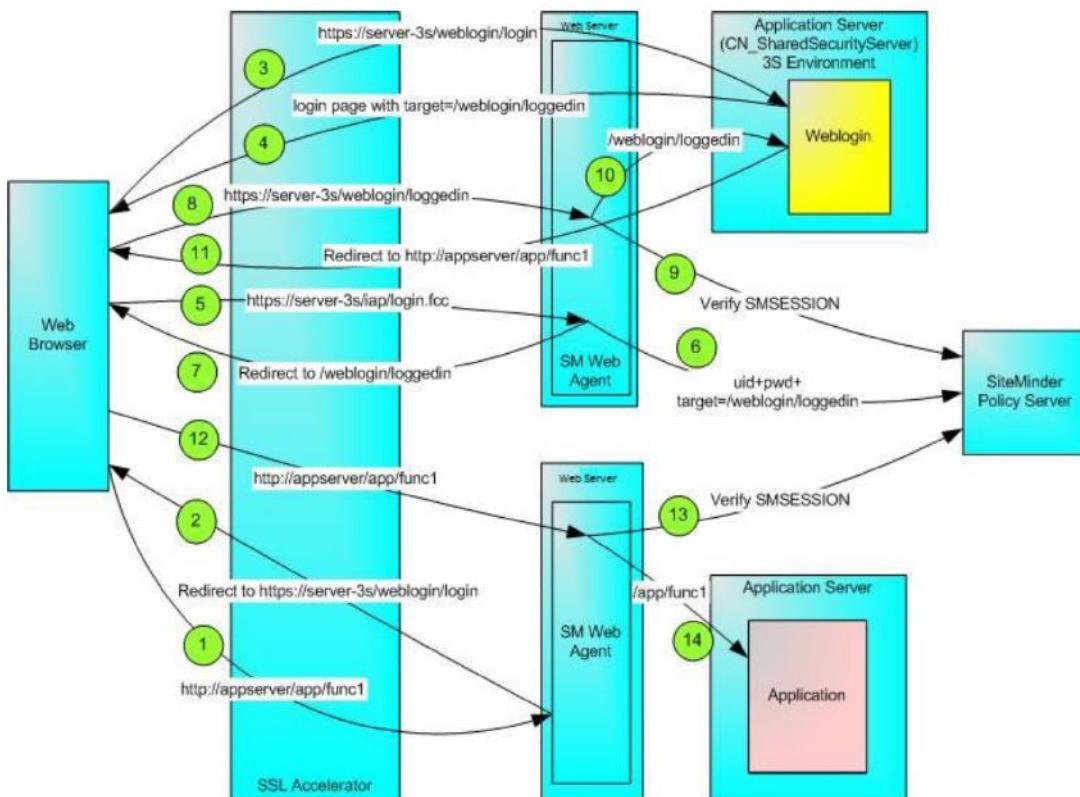
[PAI Directory & Security Integration](#)

Simulating Siteminder on Developer Machine: see chapter 5 in this Document

### Overview Siteminder functionality



## Login process



1. The (not yet authenticated) client sends a request for a protected application URL.
2. The SiteMinder WebAgent on the Web Server in front of the application detects that there is no valid session yet and therefore redirects the client to the /weblogin/login URL on the 3S environment.
3. The client sends a request to the 3S environment for the /weblogin/login. The request URL also contains a parameter named TARGET with the value being the URL of the originally requested application.
4. Weblogin returns the login page with input fields for the credentials and a hidden parameter named target which now contains the URL /weblogin/loggedin. However, the original application URL gets preserved in a cookie named iap-orig-target.
5. The user submits the login form with the entered credentials to the /login.fcc URL which is always handled by the SiteMinder WebAgent. Be aware that the login with these credentials is actually executed against the 3S environment and for the target URL /weblogin/loggedin.
6. The SiteMinder WebAgent executes the authentication against the SiteMinder Policy Server by sending the provided login name, password and target URL to it.
7. After a successful authentication the SiteMinder WebAgent redirects the client to the target URL – that is /weblogin/loggedin. At this point the WebAgent also sets the SMSESSION cookie which contains the SiteMinder session data.
8. The clients sends the request URL /weblogin/loggedin. Along with this request the two cookies iap-orig-target and SMSESSION will be sent as well.
9. Since /weblogin/loggedin is a protected resource the SiteMinder WebAgent here recognizes that a valid session is available (i.e. SMSESSION cookie present) and checks the authorization of the current user for access to the requested URL (i.e. /weblogin/loggedin). The policy for this URL is, that all authenticated users have access.
10. Because access is granted the request is let through to Weblogin.
11. Weblogin recognizes the existence of the iap-orig-target cookie and therefore creates a redirect response to the URL stored in that cookie. With that redirect it also deletes this cookie.
12. The client again sends the application request URL to the application environment like in step 1. But this time the request also contains the SMSESSION cookie.
13. The SiteMinder WebAgent recognizes the valid session and checks authorization of the current user for the requested application against the SiteMinder Policy Server.
14. Eventually (assuming access was granted) the request gets through to the Application Server which is hosting the application.

## PAI Directory

### Overview in German

Directory	Inhalt	Datenmanagem.	Community
Corporate Directory (CD)	zentrales Informationssystem für digitale Identitäten von Personen, die mit dem Daimler Konzern assoziiert sind	von lokalen HR via <a href="#">EWD-Feed</a> , ggf. über weitere Tools (bspw. Early User Creation - <a href="#">EUC</a> )	alle Communities
PAI Runtime Directory	enthält zu jedem Datensatz von Mitarbeitern eine Untergruppe der im CD enthaltenen Daten, zusätzlich applicationsspezifische Autorisierungs- und Entitlementgruppen	<a href="#">AEMT (Authorization and Entitlement Management Tool)</a>	Mitarbeiter
Dealer Runtime Directory (DRD)	über GEMS angelegte Händler-Identitäten und Berechtigungen als <a href="#">System- und Business-Roles</a>	<a href="#">GEMS (Global Entitlement Management Service)</a>	Händler
Supplier Directory	Identitätsdaten sowie Berechtigungen für Beschäftigte bei Zulieferern (Zugriffsberechtigungen werden über Covisint, dem Identity Provider für das Global Daimler Supplier Portal, angelegt)	<a href="#">AIH (Application Integration Hub) Admin-Tool</a>	Zulieferer
End Consumer Directory (ED)	zentrales Informationssystem für Identitätsdaten von Endkunden des Daimler Konzerns	Datenmanagement erfolgt über spezifische CIAM User Management Services (bei Fragen zu Services für Endkunden wenden Sie sich bitte an den zuständigen <a href="#">Ansprechpartner</a> )	Endkunden

Overview in english

Community	Associated persons or groups
Employees	<ul style="list-style-type: none"> <li>- <b>internal employees:</b> employees of a company belonging to the Daimler Group (e.g. retail dealers)</li> <li>- <b>former internal employees (retirees)</b></li> <li>- <b>external employees (contractors):</b> not employed at a Daimler Group company but with regular access to the Daimler intranet;</li> <li>- <b>partners:</b> not employed at a Daimler Group company and without regular access to the Daimler intranet;</li> <li>- <b>pool-IDs:</b> digital identity for a group of persons (usually internal employees)</li> </ul>
Dealers	<ul style="list-style-type: none"> <li>- <b>retail independent dealers,</b> persons employed in the Sales and After Sales sector;</li> <li>- <b>direct customers</b> (e.g. fleet operators of civic institutions)</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>- <b>persons employed at supplier companies:</b> these companies are managed via GPSIS (Global Procurement &amp; Supply Information System) after their registration with <a href="#">Covisint</a></li> </ul>
End Consumers	<ul style="list-style-type: none"> <li>- persons who request information, services or products from companies belonging to the Daimler Group via Daimler IT-systems for personal use</li> </ul>

## Administration tools

Employees (Mitarbeiter): **AEMT** (Authorization and Entitlement Management Tool)

Dealers (Händler): **GEMS** (Global Entitlement Management Tool)

Suppliers (Zulieferer): **AIH** (Application Integration Hub) **Admin-Tool**

End Consumers (Endkunden):??

Tool	Description
<b>AEMT</b> (Authorization and Entitlement Management Tool)	<p>Tool for authorization management of employees on the basis of <a href="#">authorization and entitlement groups</a> in the PAI Runtime</p> <p><b>Directory:</b></p> <p>PAI-applications manage both access rights (i.e. authorization groups) and entitlement groups (assigning entitlements for functions within the applications) via the AEMT; non-PAI applications with PAI app-ID may only manage their users' access rights via the AEMT;</p> <p>if your application is <b>accessed both by employees and dealers</b>, authorizations for all users are managed via GEMS in the <a href="#">Dealer Runtime Directory</a> (DRD);</p> <p>if your application is <b>accessed both by employees and suppliers</b>, authorizations for employees are separately managed via the AEMT, authorizations for suppliers are managed via the AIH Admin-Tool; after synchronization processes, access rights for all users are validated solely against the PAI Runtime Directory</p>

<p><b>GEMS</b> (Global Entitlement Management Tool)</p> <p><i>identity and authorization management</i></p> 	<p>Tool for identity and authorization management of dealers on the basis of <a href="#">System and Business Roles</a> in the <a href="#">Dealer Runtime Directory</a> (DRD):</p> <p>Management of access rights and application-specific authorizations by assigning System Roles (for entitlements to functions within the application) and Business Roles (for application-independent authorizations according to the user's business function);</p> <p>if your application is <b>accessed by both dealers and employees (e.g. retail dealers)</b>, authorizations for all users are managed via GEMS in the DRD</p>
<p><b>AIH (Application Integration Hub) Admin-Tool</b></p> <p><i>authorization management</i></p> 	<p>Management of <a href="#">authorization and entitlement groups</a> for suppliers via the AIH Admin-Tool in the Supplier Directory;</p> <p>access rights are assigned after the supplier company's registration with Covisint, the identity provider for the Global Daimler Supplier Portal; within the company-wide Corporate Directory (CD) and associated security platform, all suppliers have a unique digital identifier additionally to the Covisint-ID;</p> <p>if your application is accessed by <b>both suppliers and employees</b>, authorizations are managed separately for suppliers via the AIH Admin-Tool and for employees via the AEMT; after synchronization processes, authorizations for all users are checked against the <a href="#">PAI Runtime Directory</a></p>
<p><i>identity and authorization management</i></p> 	<p>The services for end consumers are under development. If you have any questions relating to end consumer services please refer to the <a href="#">responsible contact</a>.</p>

for more information see: <http://intra.corpintra.net/intra-dsp/0-310-1502317-1-1502336-1-0-0-0-1-0-1502317-0-0-0-0-0-0.html>

## PAI Setup for developers

### PAI Development page

[http://de-dai-xtech-ls:82/JEE\\_LE\\_6.1.1\\_EXT/platforms/J2EE/platform\\_documentation/J2EE\\_LIGHT/development/overview/index.html](http://de-dai-xtech-ls:82/JEE_LE_6.1.1_EXT/platforms/J2EE/platform_documentation/J2EE_LIGHT/development/overview/index.html)

## Install PAI Development Edition on Windows machine

You can download J2EE\_LE\_6.1.1\_PAI\_DEV\_TOOLING.zip file from PAI Download area

[http://de-dai-xtech-ls:82/JEE\\_LE\\_6.1.1/](http://de-dai-xtech-ls:82/JEE_LE_6.1.1/)

To install it, just unpack it into an arbitrary directory. You should end up with a below folder structure **platforms/J2EE/software/res/j2eeledev/pai-j2eeledev-apache-tomcat.zip**

### Steps to setup the developer edition's test application in the windows machine.

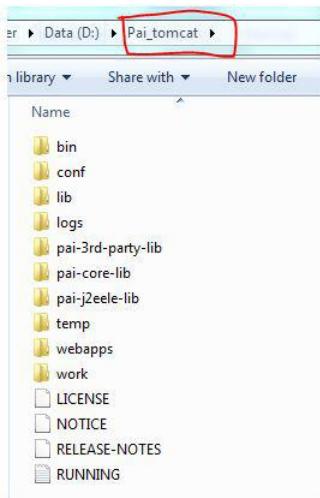
read carefully the following document: [http://de-dai-xtech-ls:82/JEE\\_LE\\_6.1.1\\_EXT/platforms/J2EE/platform\\_documentation/J2EE\\_LIGHT/development/guidelines/J2EELE\\_Application\\_Development\\_Guide.pdf](http://de-dai-xtech-ls:82/JEE_LE_6.1.1_EXT/platforms/J2EE/platform_documentation/J2EE_LIGHT/development/guidelines/J2EELE_Application_Development_Guide.pdf)

In Chapter 5. *Installation of a Local PAI J2EE LE for Development Using ldap\_data.properties*. This chapter describes how to manually install and set up a development environment for PAI J2EE LE on a local machine without Siteminder Integration

1. Make sure Java (Preferably IBM JDK 1.8.0) is available. Set the environment variable JAVA\_HOME and JRE\_HOME accordingly.

2. Unzip the pai-j2eeledev-apache-tomcat.zip to <EXTRACTED\_LOCATION>

Folder name should not contain any spaces.



3. Use the <EXTRACTED\_LOCATION>/bin/startup.bat to start the server

For example:

D:\Pai\_tomcat\bin>start.bat

4. To verify if the test application is running, enter the URL "<http://localhost:8080/j2eeletestapp>" in the browser.

### PAI Authentication using local properties

This loginmodule created to provide the authentication and authorization using local ldap\_data.properties using JAAS mechanism.

Adapt <TOMCAT\_CONF>/server.xml as follows, particularly adding a new Valve configuration using the deployed JAAS authentication valve:

```
<Engine name="Catalina" defaultHost="localhost" ...>
...
<Realm className="org.apache.catalina.realm.JAASRealm" roleClassNames="com.daimler.iap.login.RolePrincipal" userClassNames="com.daimler.iap.login.UserPrincipal" appName="AuthenticationLogin"/>
<Host name="localhost" ... >
...
</Engine>
```

### JAAS configuration setup

Please verify the jass.config file and should contains as follows.

```
AuthenticationLogin {
```

```
com.daimler.iap.login.AuthenticationLoginModule required
appId="IAPJLET" debug=true;
};
```

Note (Mandatory)

This file should be placed under tomcat/conf path

#### **Setenv.bat file setup**

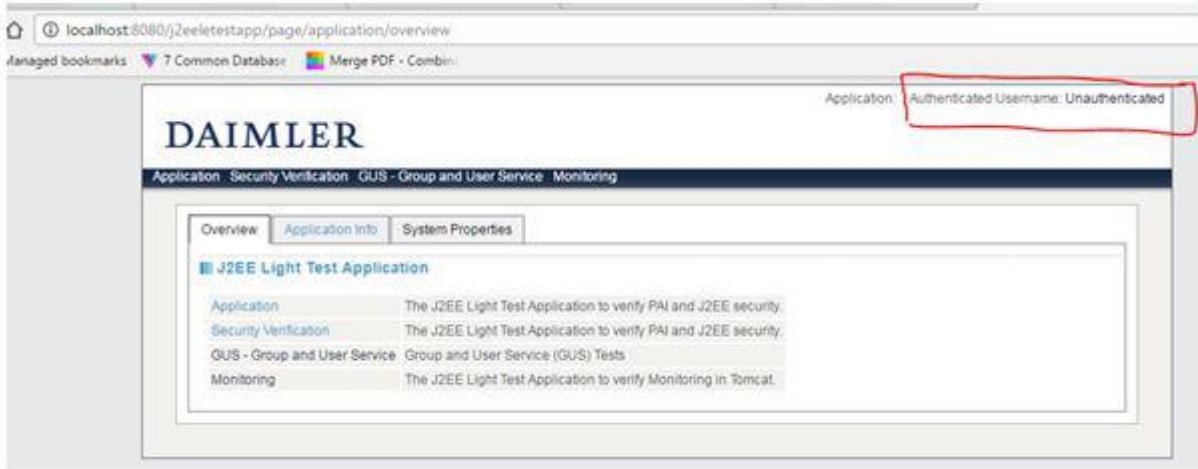
The following configuration should be placed into setenv.bat file.

Jass.config path should be added to JAVA\_OPTS of setenv.bat file like below.

```
set JAVA_OPTS=%JAVA_OPTS% -Djava.security.auth.login.config=%CATALINA_HOME%/conf/jaas.config
set JAVA_OPTS=%JAVA_OPTS% -Diap.config=%CATALINA_HOME%/conf
```

Security verification in local system using pre defined application as follows.

<http://localhost:8080/j2eetestapp/page/application/overview>



Please verify the context.xml of web application.

#### **Context.xml**

This refers the webapps context.xml not the tomcat context.xml

JAAS realm should be mapped in context.xml like below. The appName here refers the jaas.config name.

```
<RealmclassName="org.apache.catalina.realm.JAASRealm" roleClassNames="com.daimler.iap.login.RolePrincipal"
userClassNames="com.daimler.iap.login.UserPrincipal" appName="AuthenticationLogin"/>
```

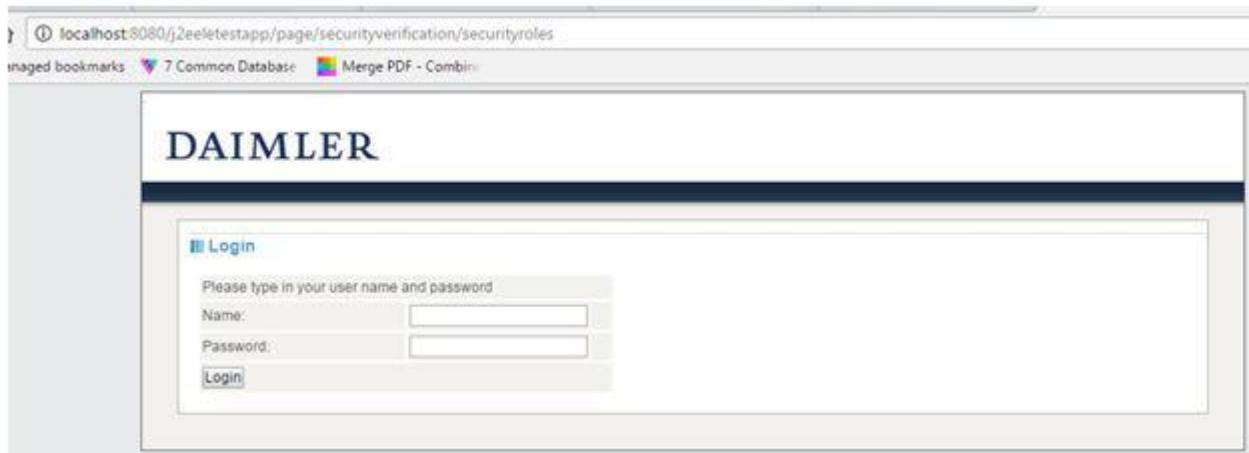
#### **Property Files configuration**

Please ensure ldap\_data.properties and dcx.directory.access.settings.properties in the <TOMCAT-HOME>/conf path.

To verify security in local system application

<http://localhost:8080/j2eetestapp/page/securityverification/securityroles>

Login page



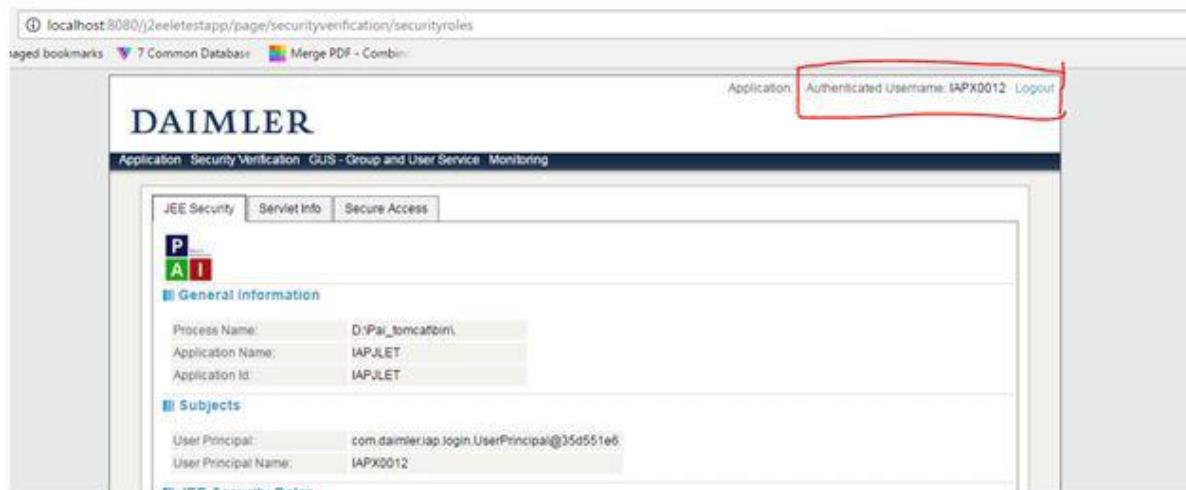
Please provide Name and Password as mentioned in `ldap_data.properties`.

For example:

Name : IAPX0012

Password : IAPx0012

Authenticated page



### 3rd Party Errors

- MRS
- FLIMS
- CAT
- EFA.Input

### MRS

Interface	HTTP Status Code	Body	VTAS-Error
All	403 Forbidden	-	VTAS-TEC-11: You are not authorized to access this MRS service.
All	404 Not Found	-	VTAS-TEC-12: The requested MRS service cannot be found.
All	406 Not Acceptable	-	VTAS-BUS-6: Invalid arguments for MRS service.

### FLIMS

Interface	HTTP Status Code	Body	VTAS-Error

Ping	404 Not Found	-	VTAS-TEC-9: The requested FLIMS service cannot be found.
Create Vehicle	500 Internal Server Error	-	VTAS-BUS-5: Invalid arguments for FLIMS service.
Put Project			
Get Project	500 Internal Server Error	-	VTAS-BUS-4: The requested project could not be found in FLIMS.
All	403 Forbidden	-	VTAS-TEC-10: You are not authorized to access this FLIMS service.

## CAT

Interface	HTTP Status Code	Body	VTAS-Error
All	401 - Unauthorized	-	VTAS-TEC-4: You are not authorized to access CAT services.
All	500 - Internal Server Error	[ "Programmfehler!" ]	VTAS-TEC-2: CAT responded with an error. Please contact the administrator.
Create IRA GetMrsIras	400 - Bad Request	[ "Ungültiges Argument: CreatorOrga" ]	VTAS-BUS-1: The "CreatorOrga" value is not found in CAT.
Get users per IRA UpdateIraResponsibility	404 Not Found	[ "Datensatz nicht gefunden: ???Ira not found??? 0. Möglicherweise wurde der Datensatz zwischenzeitlich gelöscht." ]	VTAS-BUS-2: The dataset could not be found in CAT.
Append To Ira	405 Method Not Allowed	[ "Programmfehler!" ]	VTAS-BUS-7: Executing the CAT service was not allowed by the system.
UpdateIraResponsibility	403 Forbidden	-	VTAS-BUS-3: The FAV handover has already been started. If you want to change the handover you have to delete the currently active handover first.
Create IRA	422 Unprocessable Entity	[ "Feld Sensor darf nicht leer sein." ]	VTAS-TEC-5: Attribute "Sensor" is missing in CAT service.

## EFA.Input

Interface	HTTP Status Code	Body	VTAS-Error
All	403 Forbidden	-	VTAS-TEC-6: You are not authorized to access EFA.Input services.
All	401 Authorization Required	-	VTAS-TEC-7: Authorization ist required to access this EFA.Input service.
SearchVehicle CreateVehicle	500 Internal Server Error	{ "title": "RSQLParseException", "status": 500, "detail": "Cannot parse expression ident=in=(\"WDC1569521J476407\");identType=in=(\"vehicleIdentificationNumber\");plant==\"EF10%2s" }	VTAS-TEC-8: EFA.Input responded with an error. Please contact the administrator.

## Working Documents

### Content currently in work for BA Groomings

- 1
- 2 User Stories currently in work for BA Groomings
  - 2.1 Project Planning
  - 2.2 Vehicle Planning
  - 2.3 Administration
  - 2.4 User Profile
  - 2.5 Vehicle Management
  - 2.6 Reporting
  - 2.7 Complaints
  - 2.8 Overall
- 3 Checklist for User Story refinement
  - 3.1 Important
  - 3.2 Input field validation
  - 3.3 Giving (business) context
  - 3.4 Data sources for UI elements?
  - 3.5 UI and Colors in Mockups
  - 3.6 Navigation flow

## User Stories currently in work for BA Groomings

### Project Planning

- VTAS-283
- VTAS-132
- VTAS-286

### Vehicle Planning

- VTAS-131
- VTAS-284

### Administration

- VTAS-233

### User Profile

- VTAS-261
- VTAS-229

### Vehicle Management

- VTAS-236
- VTAS-237
- VTAS-238
- VTAS-239
- VTAS-240
- VTAS-241
- VTAS-242
- VTAS-243
- VTAS-244
- VTAS-245
- VTAS-246
- VTAS-247
- 

VTAS-248

### Reporting

- VTAS-49

### Complaints

- VTAS-282
- VTAS-95
- VTAS-250

## Overall

- Including the "Back"-Button everywhere
- Checking Mockups against UI Design Hub Guidelines

## Checklist for User Story refinement

To improve our user stories for the development team we decided to create the following checklist of what exactly to do. This list is the result of our scrum retrospectives and should be kept up to date for further retrospectives.

## Important

- **Do not change user stories that are currently in sprint;** Those changes are for future sprints only.

## Input field validation

- Information regarding the validation like "3 digits" in our acceptance criteria should be **more precise**, e.g. "exactly 3 digits"
- If validation will happen in a user story, we need to add **one additional acceptance criteria** that says that validation is required. And a **reference to the confluence page** that explains the visualization of validation: <https://d3.ce.capgemini.com/confluence/display/VTAS/User+Assistance>
- When we describe validation in acceptance criteria in brackets, we should **add the word "Validation:**", e.g: "2. ... (Validation: exactly 3 digits, optional)"
- Write the **exact security question**, not our always used example containing "like". (Discarding should be: "Discard all changes?"; Deleting should be: "Do you really want to delete xxx?")

## Giving (business) context

- When necessary and not covered by the user story title, add a comment "Additional context information:" and **add only the necessary context information** (1-2 sentences are enough)
- Provide information about **size or volume of the data** when in workshop (Do we have 1000 or 50 data rows in a table? - As this could be relevant to architectural decisions)

## Data sources for UI elements?

- Wherever it is useful: Provide information in our acceptance criteria about **where dropdown values come from** (e.g. from Administration table, from FLIMS, from our own DB)

## UI and Colors in Mockups

- Provide a **translation for images** in the confluence page for UI guidelines
- Discuss with Sadikul (and also whoever is required) **which basic colors to use for the UI**
- **Create a picture/list** of those basic colors and upload it to each required user story. And **create a direct reference** within the acceptance criteria to that picture/list.

## Navigation flow

- Ask Gayass for **hint about tool** to create that image of the navigation flow
- Check **how to work with that tool** and if we can use it.
- Create a new **confluence page for the navigation flow** containing a "big picture" of the current navigation flow
- Add this confluence page as a **reference for relevant user stories**

## Deployment Plan

Goal of this plan is to establish predefined times where VTAS is getting deployed to the different environments.

Ocassion / Date	PreDEV	DEV	DEV Deployment Date	INT	INT Deployment Date	PRO D	PROD Deployment Date	Current Status
Sprint 7 Review, Release 17.1 / 13.9.2017	172.8-SNAPSHOT	171.7.x	13.9.2017	171.7	16.11.2017 13.11 EOB Installationguide + Releaseletter Upload	-	-	
Sprint 8 Review / 4.10.2017	172.9-SNAPSHOT	172.8.x	5.10.2017	-	-	-	-	
Sprint 9 Review / 25.10.2017	172.10-SNAPSHOT	172.9.x	26.10.2017	-	-	-	-	
Sprint 10 Review / 15.11.2017	172.11-SNAPSHOT	172.10.x	16.11.2017	17.1.0.0	1	?	?	<--
Sprint 11 Review / 6.12.2017	172.12-SNAPSHOT	172.11.x	7.12.2017	?	?	?	?	
Sprint 12 Review / 27.12.2017	172.13-SNAPSHOT	172.12.x	28.12.2017	?	?	?	?	
Sprint 13 Review / 17.1.2018	172.13.x	172.13.x	18.1.2018	?	?	?	?	
Finale Abnahme	172.13.x	172.13.x	31.1.2018	172.13.x	?	?	?	
Stabilisierungssprint Review / 7.2.2018	172.13.x	172.13.x	7.2.2018	172.13.x	7.2.2018	172.13.x	7.2.2018	

## INFO

EDC needs 3 days waiting period prior a deployment.

## DR Documents

- Content
  - Creation of Delivery Package
  - Release 17.1
    - SVN
    - Status
    - Legend

## Content

DR No	Content	Can be done in Jenkins?	DAI Delivery date	Creation	Responsible?
DR02	Technical Overview		per Release	per User Story	Architects - Wolfgang Fuker , Sujith Nair
DR05	Physical Datamodel	probably	per Release	Stability Sprint	Developer - Sergej Koshevnikow
DR06	Codebase (git repositories)	yes	per Release	per User Story	Developer - Wolfgang Fuker
DR15	User Manual		per Release	per User Story	Developer - Sergej Koshevnikow, RUCHIT GROVER
DR16	Delivery Package (Installation Guide, Release letter, WAR files)		per Release	Stability Sprint	Release Manager ? - Niranjan Pathipati
DR30	Build process / IDE Setup		per Release	N/A	Release Manager ? / Infra Manager ? - Niranjan Pathipati

## Creation of Delivery Package

- Export content to PDF/Word document - Kiran Kumar Panda
- Download git repositories (export only master as zip file) - Gayass Daher
- Create folder structure - Gayass Daher
- How and when to deliver the content to customer - Stefanie Wüstemann, Philipp Moschinger Release 17.1: End of Sprint 8

## Release 17.1

### SVN

[https://seu.sdm.de/pu/daimlervtas/svn/repository/11\\_Release\\_Mgmt/17.1/DR\\_Documents](https://seu.sdm.de/pu/daimlervtas/svn/repository/11_Release_Mgmt/17.1/DR_Documents)

### Status

DR No	Status
DR02	✓
DR05	✓
DR06	✓
DR15	✓
DR16	✓
DR30	✓

**Documents have been delivered to customer via their sharepoint on Oktober 5th.**

### Legend

- ✓ ... Finished and committed in SVN
- ✗ ... not yet finished, link responsible person

### Installation Guide

- ----OUTDATED ---- see word file in SVN
- General Information
- Common
  - Acronyms
- System Requirements
  - Business Architecture Model
- Installation Prerequisites
  - Application Server
  - Webserver configuration:
- Install/Update Database
  - First Deployment on an environment:
  - Update Database for an existing deployed application:
- Delivering static content
- Installation of VTAS Application
  - Start Webserver
  - Start Application

**----OUTDATED ---- see word file in SVN**

### General Information

VTAS application is developed using micro services architecture. All the components are mandatory to be deployed for successful execution of VTAS application.

Micro service components and their details are as follows:

Component	Supplier	Version	Date	Comment	Contact Person
vtas-main	Capgemini	1.0	13.09.2017	User Interface for whole VTAS application	stefanie.wuestemann@capgemini.com
vtas-projectplanning	Capgemini	1.0	13.09.2017	Project Planning module	
vtas-administration	Capgemini	1.0	13.09.2017	Administration module	

vtas-commons	Capgemini	1.0	13.09.2017	Commons module containing reusable components which is used as dependency for other modules.	
FAwidget	Salt Solutions	17.1.2.2-RC-008	13.09.2017	Widgets used for EFA.Input third party service to integrate with VTAS.	Octave.NoubibouDoudieu@salt-solutions.de
SSLwidget					

## Common

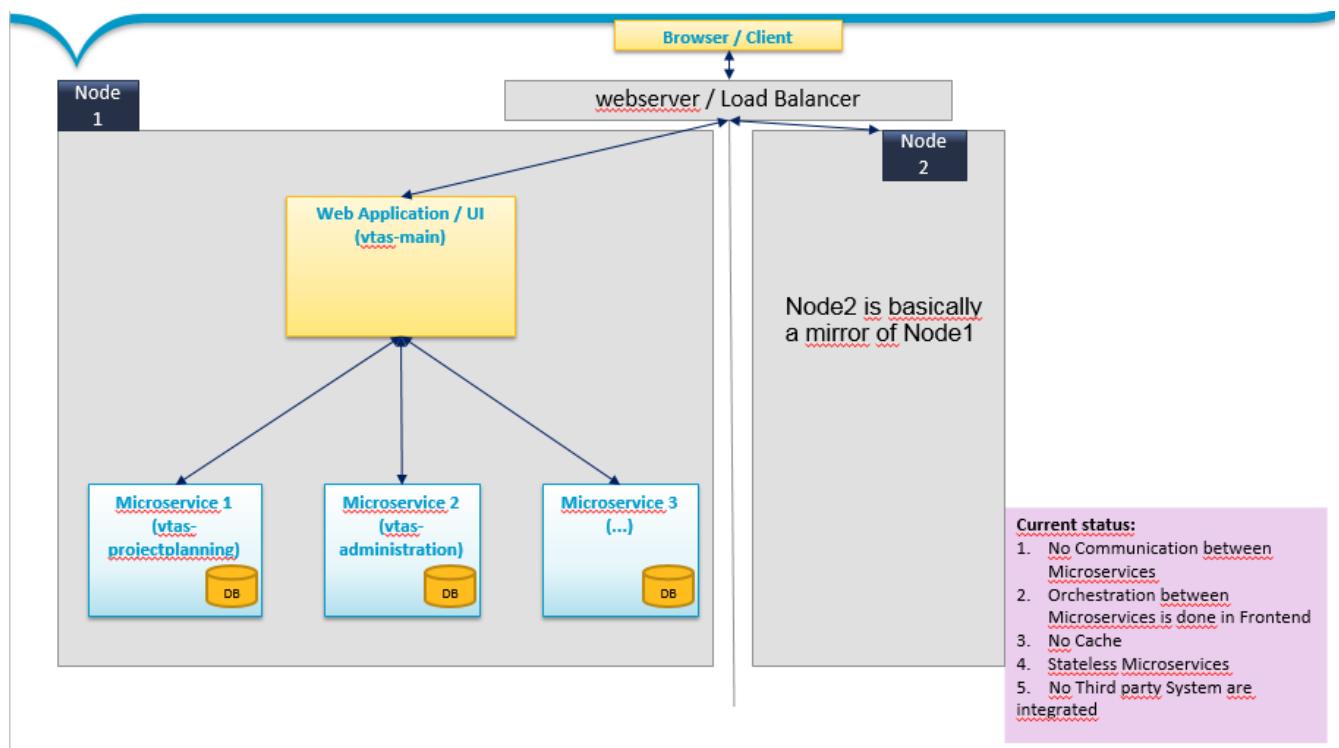
This document defines all the steps necessary to install and configure the VTAS application from scratch. Not all of these steps have to be done for each delivery of the application.

## Acronyms

Acronyms	Explanation
VTAS	Vehicle Testing Analyzing System

## System Requirements

### Business Architecture Model



## Installation Prerequisites

### Application Server

After installation of all required applications (vtas-\* applications, EFA.Input Widgets, ...) the following command should be executed on Application Server

```
pai-manager jkm -webapps_dir
/srv/jas/data/vtas/AppServer/vtas-member0/webapps -mapping_file
uriworkermap.properties
```

## Webserver configuration:

Copy the above generated file to webserver configuration folder (e.g. on DEV: /srv/jas/app/vtas/HTTPServer/dev0/conf)

## Install/Update Database

### **First Deployment on an environment:**

Database scripts for creating database, schemas, roles and grants are provided in delivery package to be executed on the database server.

The delivery package contains a sub directory **vtas/db/execute/manual/<env>**, which contains all files necessary for setting up the database.

These scripts have to be executed manually (for now) based on version order. These scripts need to be executed mandatorily before deploying the application wars.

The above step is not needed for next consecutive deployments on that particular environment.

DB migration will be done by flyway migration tool automatically when micro services are deployed on to servers.

### **Update Database for an existing deployed application:**

All the application servers and web servers must be shut down. **DB Backup should be done before doing the deployment.**

Execute the DDL scripts if any provided in delivery package sub directory **vtas/db/execute/manual/<env>** manually in version order.

DB migration will be done by flyway migration tool automatically when micro services are deployed on to application server.

## Delivering static content

N/A

## Installation of VTAS Application

Connect to Application Server. Following Steps should be done:

1. Stop Server:

```
pai stop
```

2. Navigate to **webapps folder** (e.g. on DEV: /srv/jas/data/vtas/AppServer/vtas-member0/webapps) and **delete** the following applications:
  - a. vtas\*.war
  - b. FAwidget folder
  - c. SSLwidget folder
3. copy the new version of the deleted applications and the new created microservices to the webapps folder (e.g. on DEV: /srv/jas/data/vtas/AppServer/vtas-member0/webapps)

## Start Webserver

Not required if no static content is copied to the server.

## Start Application

1. Start the Server:

```
pai start
```

2. Check status:

```
pai status
```

- Check application server log files for any exceptions (e.g. on DEV: /srv/jas/logs/vtas/AppServer/vtas-member0/vtas)

## Release Letter 17.1

- General Information
- Current Release
  - Documentation
- Versions of Third-party Interfaces
- New Functions / Fixed problems
  - New Functions
  - Fixed Problems
- Known / Open problems
  - Known problems
  - 3rd party Defects
- Installation Prerequisites
- Update Guide
- Update Guide History

## General Information

VTAS application is developed using micro services architecture. Micro service components and their details are as follows:

Component	Supplier	Version	Date	Comment	Contact Person
vtas-main	Capgemini	1.0	13.09.2017	User Interface for whole VTAS application	stefanie.wuestemann@capgemini.com
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vtas-commons	Capgemini	1.0	13.09.2017	Commons module containing reusable components which is used as dependency for other modules.	
FAwidget	Salt Solutions	17.1.2.2-RC-008	13.09.2017	Widgets used for EFA.Input third party service to integrate with VTAS.	Octave.NoubibouDoudieu@salt-solutions.de
SSLwidget					

## Current Release

### Documentation

- Installation Guide :** Installationguide.doc

### Versions of Third-party Interfaces

- EFA.Input :** 17.1.2.2-RC-008

### New Functions / Fixed problems

#### New Functions

VTAS-6	Add project information
VTAS-64	Filter project list
VTAS-66	Create project
VTAS-68	View projects
VTAS-69	Set project to active and hand over
VTAS-71	Open project

VTAS-74	Delete vehicle measure
VTAS-89	View vehicle measures
VTAS-94	Add fault per vehicle
VTAS-109	Edit model series
VTAS-110	Edit PRO phases
VTAS-111	Add attachment to project
VTAS-112	Add approval date to project
VTAS-113	Delete approval date from project
VTAS-115	Delete attachment
VTAS-117	Preview project information
VTAS-120	View projects - Show filtered projects
VTAS-125	Configure categories for values
VTAS-126	Filter configuration list for values
VTAS-127	Filter configuration list for categories
VTAS-128	View projects for vehicle planning
VTAS-132	Show information about dependencies between codes
VTAS-135	Export measures
VTAS-136	Filter measure list
VTAS-137	Open attachment
VTAS-143	Export project list
VTAS-191	Open VTAS landing page
VTAS-192	Open the module "Plan vehicles"
VTAS-196	Open module "Administration"
VTAS-220	View UI labels in different languages
VTAS-232	Export UI labels
VTAS-233	Import UI labels
VTAS-254	View administration
VTAS-264	Filter UI labels
VTAS-282	Open the module "Complaints"
VTAS-286	View and add vehicle order numbers
VTAS-406	Upload measures
VTAS-407	[Crosscutting Concerns] Implementation of Logging in all microservices
VTAS-408	[Crosscutting Concerns] UI Labels
VTAS-409	[Crosscutting Concerns] save Date in UTC in Database
VTAS-410	[Crosscutting Concerns] Exception Handling
VTAS-411	[Crosscutting Concerns] Logging Research
VTAS-483	Change edit dialog for category configuration
VTAS-497	Implement Date utility in existing projects
VTAS-500	Edit and add values for prefilled category fields
VTAS-608	View values for prefilled category fields

VTAS-632	Edit UI labels in different languages
VTAS-637	Add vehicle measures
VTAS-642	[Crosscutting Concerns] Enhance exception handling framework to handle Optimistic locking - backend
VTAS-643	[Cross cutting concern]: Implement Optimistic locking functionality - frontend
VTAS-650	Enhance upload measures
VTAS-655	[DB]: Add Grants into existing VTAS tables
VTAS-656	Rework fields and validations
VTAS-742	Enhance VTAS framework
VTAS-743	Pre-select project for complaints
VTAS-759	Filter for project selection (Pre-select Project for Complaints)
VTAS-763	Integration of EFA.Input Widgets into VTAS Application
VTAS-772	Research for GitLab projects, grouping via drag and drop
VTAS-782	Enhance Header and Button header
VTAS-916	Integration of complaints widget from EFA.Input
VTAS-940	Date utility move to service layer
VTAS-1068	System browser crashes when user tries to open projects with attachments greater than 5 MB
VTAS-1079	Enhance project selection for viewing open complaints
VTAS-1084	Enhance project Preview
VTAS-1101	Enhance UI label caching in front end
VTAS-1137	Enhance set project to active
VTAS-1144	Refactor UI labels - Common Label

## Fixed Problems

NA

## Known / Open problems

### Known problems

VTAS-491	Information Not saved in DB when User closes the window or Browser after entering Project Name (mandatory field)
VTAS-644	The Back Button in landing page has to be disabled and should not let the user navigate outside VTAS but User is being naviagted outside VTAS by clicking the back button on the landing page
VTAS-778	The File tile displayed after the attachment is not as per acceptance criteria.
VTAS-1127	D grid Implementation Issues
VTAS-1142	Filtering of changedon column not as specified
VTAS-1154	Filtered List should be present when the user returns to generic values tab from edit dialog , Add dailog and Genric categories tab.
VTAS-1159	Filtering of start date not as specified
VTAS-1329	No sequence is followed while displaying newly added measures in edit project

VTAS-1330	The existing content in the measure list is getting overrided with new measure values when measure added with filtering on
VTAS-1332	The Edit dialog in VTAS-500 is getting redirected to VTAS-608 when refreshed.
VTAS-1335	Issue with Filters when checking the values from the list--D grid
VTAS-1341	Changedon column is not getting the latest timestamp, the value is always static
VTAS-1348	EFA.Input Widget not loading in Internet Explorer

### 3rd party Defects

- EFA.Input widgets (FAwidget & SSLwidget) provided are not displaying in IE Edge browser (VTAS-1348)

### Installation Prerequisites

Follow the installation guide described in the document "installationguide.doc".

### Update Guide

NA

### Update Guide History

NA

## FAV List mapping for "Wiederholfehlersuche"

- Wiederholfehlersuche
  - Missing
- Status Mapping
- ErrorClass Mapping

### Wiederholfehlersuche

#### Missing

- If it is allowed to attach to that vehicle

FAV Name	Example Value	Name in VTAS	Description
IsAutoTitle	true		(if true Title = Title if false DCodeLocation + DCodeType e.g. 82P01 38) will be changed to only use title
Descr	MRS verursachende Kostenstelle: 2135/01\r\nSchraube oben lose Fzg wurde Abt. 213 vorgef.\r\nAnlagedatum (MRS): 26.01.2017	FAV-Description	
CancelText	null		
LeadingPlant	050	Created by plant	
QualityClass	null		
IssueType	Std		

IdentValue	7983761	Production Nr.	verify(only if IdentType = PRODNO ), otherwise empty
IdentType	PRODNO		PRODONO / KarosserieNr etc
Reporter	Klein R		
ShiftNo	null		
ShiftValue	SHIFTB		
PaintCode	149		
DCodeLocation	82P01		
DCodeType	38		
PartsDescr	null		
Supplier	null		
HandlingUnit	null		
LicencePlate	null	License Plate	
RegistrationDate	null		
MileageValue	null		
MileageType	KM		
ScrewJoint	null		
ScrewConnection	null		
TorqueSetpoint	null		
TorqueFaultClass	null		
TorqueUpperTolerance	null		
TorqueLowerTolerance	null		
TorqueUpperActionlimit	null		
TorqueLowerActionlimit	null		
TorqueActualValue	null		
TorqueActualValue2	null		
TorqueActualValue3	null		
TorqueActualValue4	null		
TorqueActualValue5	null		
TorqueActualValue6	null		
HangOnPart	null		
HangOnPartFunction	null		
Fault	null		
PointNumber	null		
JoiningType	null		
IssueEditor	KLEROLA		
IssueEditorReq	null		
IssueEditorRej	null		
IraResponsible	KQUAST		
IraResponsibleReq	null		
IraResponsibleRej	null		
ContmResponsible	KQUAST		
ContmResponsibleReq	null		
ContmResponsibleRej	null		
CorrectActImpl	null		
CorrectActDeterm	2017-01-26T11:46:55		
EffActProved	null		

ErrorCauseText	Mitarbeiter arbeitet nicht nach Vorgabe		
ErrorCauseFound	Found		
ErrorCauseSection	null		
ShortenedReason	null		
Snr	null		
Es1	null		
Es2	null		
Zgs	null		
QLevel	null		
AffCars	null		
AffPlants	null		
KeyWords	null		
AffSeries	[]		
AnalysisFinisher	null		
LessonsLearned	null		
ModifiedOn	2017-01-26T13:55:27.416763		
CreatorOrga	444		
ContmOrga	440		
CorrectOrga	440		
InterPlant	false		
ContmRequired	true		
ContmNotEff	false		
ProdTrial	false		
Cycle	1		
IsRepIss	null		
Status	CorrectiveActionsAcquired	Status	(see StatusMapping)
Series	W213	Model series	
Id	1700011507	FAV ID	(show as yearnumber - number, replace 000 with -, eg. for 1700011507 -> 17-11507)
Title	Test FAV	Title	
Sensor	160		
ErrorClass	FK-PRI0-2	Priority	see ErrorClass Mapping
ContmImplemented	2017-01-26T11:45:57		
RootCauseAnalysisFinished	2017-01-26T11:46:29		
CreatedOn	2017-01-26T11:32:18.051561		
FinishedOn	null		
EscLevel	EL_I		

## Status Mapping

Status to be shown in german	Status to be shown in english	Status Enum (from the interface)
FAV ist neu angelegt		IraNew
Initiale Übergabe ist am Laufen		IraAssigned
FAV-Bearbeitung wurde gestartet		IraStarted

Absicherung ist erfolgt		ContainmentActionIsOperative
Analyse durchgeführt		AnalysisIsCompleted
Korrekturmaßnahme erarbeitet		CorrectiveActionIsAcquired
Korrekturmaßnahme umgesetzt		CorrectiveActionImplemented
Korrekturmaßn. eingeführt und wirksam		CorrectiveActionIsOperative
Abstellung wirksam, FAV beendet		CorrectiveActionIsOperativeIrlsFinished
FAV abgebrochen		IrlsCanceled
Absicherung erfolgt, FAV beendet		ContainmentIsImplementedIrlsFinished

## ErrorClass Mapping

Following values are possible:

- FK-PRI0-1
- FK-PRI0-2
- FK-PRI0-3
- FK-PRI0-4

## Go Live 17.2 Planning and ToDos

### Planning - General Timeline

What will happen?	Start date	End Date
Sprint 13 Delivery to DEV		24.01.2018
Sprint 14 Delivery to DEV	07.02.2018	14.02.2018
Sprint 15 delivery to DEV	26.02.2018	07.03.2018
Approval Phase Daimler Business	30.01.2018	13.03.2018
Delivery to EDC		13.03.2018
Go Live Preparation	?	?
<b>GoLive</b>		<b>02.04.2018</b>

Upload files to SVN (Folder structure is under [https://seu.sdm.de/pu/daimlervtas/svn/repository/11\\_Release\\_Mgmt/17.2](https://seu.sdm.de/pu/daimlervtas/svn/repository/11_Release_Mgmt/17.2) )

### ToDos

Item	Where to deliver?	Subtask	Internal Deadline
Technical Overview	Daimler Sharepoint		
		Finish writing	05.02.2018
		Review	05.02.2018
		Translation	19.03.2018

		Check	21.03.2018
Codebase (git repositories)	Daimler Sharepoint		
		Create	21.03.2018
User Manual	Daimler Sharepoint		
		Create Sprint 12	03.01.2018
		Translate Sprint 12	08.02.2018
		Review Sprint 12	09.02.2018 ==> 14.0:
		Create Sprint 13	24.01.2018
		Translate Sprint 13	08.02.2018
		Review Sprint 13	09.02.2018 ==> 14.0:
		Create Sprint 14	14.02.2018
		Translate Sprint 14	19.02.2018
		Review Sprint 14	06.03.2018
		Create Sprint 15	07.03.2018
		Translate Sprint 15	19.03.2018
		Review Sprint 15	26.03.2018
Delivery Package (Installation Guide, Release letter, WAR files)	EDC DLV		
		Update Installation Guide	09.03.2018
		Update release letter till Sprint 13	09.02.2018
		Update release letter Sprint 14 contents	14.02.2018
		Update release letter Sprint 15	09.03.2018
		Update release letter update guide	09.03.2018
		Create WAR files	13.03.2018
Build process / IDE Setup	Daimler Sharepoint		
		Review English version	09.03.2018
		Translate	19.03.2018
		Review German version	23.03.2018
FOSS document	Daimler Sharepoint	Finish it	23.02.2018
		Review	27.02.2018

### Legend

- ✓ ... Finished and committed in SVN
- ✗ ... not yet finished, link responsible person

### Review

Date : 15-Nov-2018

#### Participants

Rajashree Das
Sujith Nair
Ravi Pottam
Prashant Samant

Action Items	Status	Comments
Introduce a design decision section in Confluence as part of Design Architecture.	Done	
Iterative architecture view required to be added in Confluence.	In progress	
Plan to use the Daimler API Gateway	In progress	

Date : 11-Dec-2018

Participants
Rajashree Das
Sujith Nair
Kiran Panda
Ravi Pottam

Action Items	Status	Comments
Prepare architecture artifacts based on TOGAF.		
Prepare the architecture diagrams on the interim goals/milestones.		
Update the overall architecture – replace spring cache and use EHCache in the diagram		
Prepare a Gap analysis document on VTAS to use devonfw (If the plan is to introduce the devon in VTAS, identify the gap)		
Use EA tools to prepare the architecture diagrams.	In progress	
Add a section in confluence for NFR requirements (this is to address the NFR solutions).		
Redesign the Microservice architecture (as the current diagram depicts deployment diagram).		
Check the feasibility of containerized deployment or do POC after the February release.		
Identify the changes required to do, if the plan is to go with Daimler API gateway (Apigee).		
SymmetricDS Cache – Check with Ravi about the implementation.	Done	

Date : 14-Dec-2018

Participants
Rajashree Das
Sujith Nair
Kiran Panda
Ravi Pottam
Prashant Samant

Action Items	Status	Comments

Correct the versions of the production line and tools which are currently used in the diagram		
Currently VTAS is using only Junit for unit testing, introduce integration test tools like arquillian..		
Dokerize the complete development environment (developer machine) including the tools. Currently only DB2 is dockerized		
Update the diagram and show Selenium work in progress.		

## Siteminder Integration

### Technical questions towards Daimler

- PAI Questionnaire ( request PAI ID) -> filled in and sent to daimler
- PPP -> filled in and sent to daimler
- CD Approval / siteminder objects -> Daimler will take care
- DB2 Version to be used on EDC environments -> Version 10.5
- Sizing of EDC environment (Medium\*8 (2vCPU, 16GB RAM)???) -> sizing clarified: see OPM in document svn
- Firewall exclusions for DEV environment (Continuous deployment) -> will discuss again once the DEV environment is ready
- Naming convention of Database (VLI...) -> clarified and document is located in document svn
- Creation of roles and users (entitlement groups)
- DB2 Licence -> mail sent to Daimler.. waiting for response
- Discuss with Daimler with regarding to style guide and supporting browsers (versions) & devices (types/screen size)
- Discuss on the deliverable (type of documents / delivery format) required by daimler.
- What are the non-functional requirements, we are targeting?

### Test case specifications

- Sprint 1-3
- Tail

### Sprint 1-3

	Test scenario	Action	Expected
1.	VTAS login	1. Type in incorrect login data 2. Type in correct login data (or login in corporate directory)	1. No access to the system 2. Access to the system is granted; first page is VTAS landing page
2.	Open module Project planning	1. Double click on the module "Project Planning" 2. Click the "home" button 3. Right click the module "project planning"	1. The project overview is displayed as a list 2. VTAS landing page is opened 3. The project overview is displayed as a list in a separate window
3.	Open project	1. Single click on a row in the project overview 2. Double click on a row in the project overview 3. Click the "home" button	1. Project information is displayed in the preview 2. The dialog "Add project information" opens in the same window 3. VTAS landing page is opened
4.	Create project	1. Click the "Create new project" in the projet overview 2. Edit project information and press "Save & Continue"	1. A new dialog "project basis information" is displayed 2. The entered information is saved and the newly created project is visible in the project overview
5.	Open module administration	1. Double click on the module "Administration" 2. Click the "home" button 3. Right click the module "Administration"	1. The administration overview is displayed in two sections 2. VTAS landing page is opened 3. The administration overview is displayed in two sections in a separate window
6.	Open generic values	1. Click on the "generic values" link 2. Filter & Search the configuration list for values	1. A list of generic values is visible on the right part of the window 2. It is possible to adapt the content of the list according to your wishes
7.	Open generic categories	1. Click on the "generic categories" link 2. Filter & Search the configuration list for categories	1. A list of generic categories is visible on the right part of the window 2. It is possible to adapt the content of the list according to your wishes

## Tail

	Action	Expected
1.		

# VTAS - System Documentation

- 1 Introduction
- 2 Functional System Documentation
- Core Concepts
- Glossary

## 1 Introduction

### 1.1 Overview



VTAS stands for **V**ehicle **T**esting and **A**nalysing **S**ystem and harmonizes the quality management processes.

The current version of the documentation describes the implemented system. The documentation gives an overview over the dialogs and use cases handled in VTAS.

Additionally the process flow of tasks that can be done in VTAS is described.

## 2 Functional System Documentation

- 2.1 Business Overview
- 2.2 Overview over the system
- 2.3 Process
- 2.4 Dialog flow
- 2.5 Use Cases
- 2.6 Roles and rights

### 2.1 Business Overview

#### 2.1 Business Overview

VTAS is used to test the production of new model series and used customer cars as well as to develop a status monitoring tool for the process. VTAS is a cross-plant standard system that also coordinates the RGA, KNFE and LQS processes as one standardized process. VTAS is integrating the interfaces FLIMS, CAT, MRS and EFA.INPUT.

#### Solution Context

The mentioned processes are used to test the production of new model series of cars, by performing audits with vehicles from the production and customer vehicles. To improve the traceability of the corresponding quality aspects, the audits are grouped in projects. These projects are used to control and coordinate all associated activities of the above mentioned processes. A consistent reporting on these projects and across project boundaries provides additional opportunities for analysis.

The scope of VTAS is shown in Figure 1.

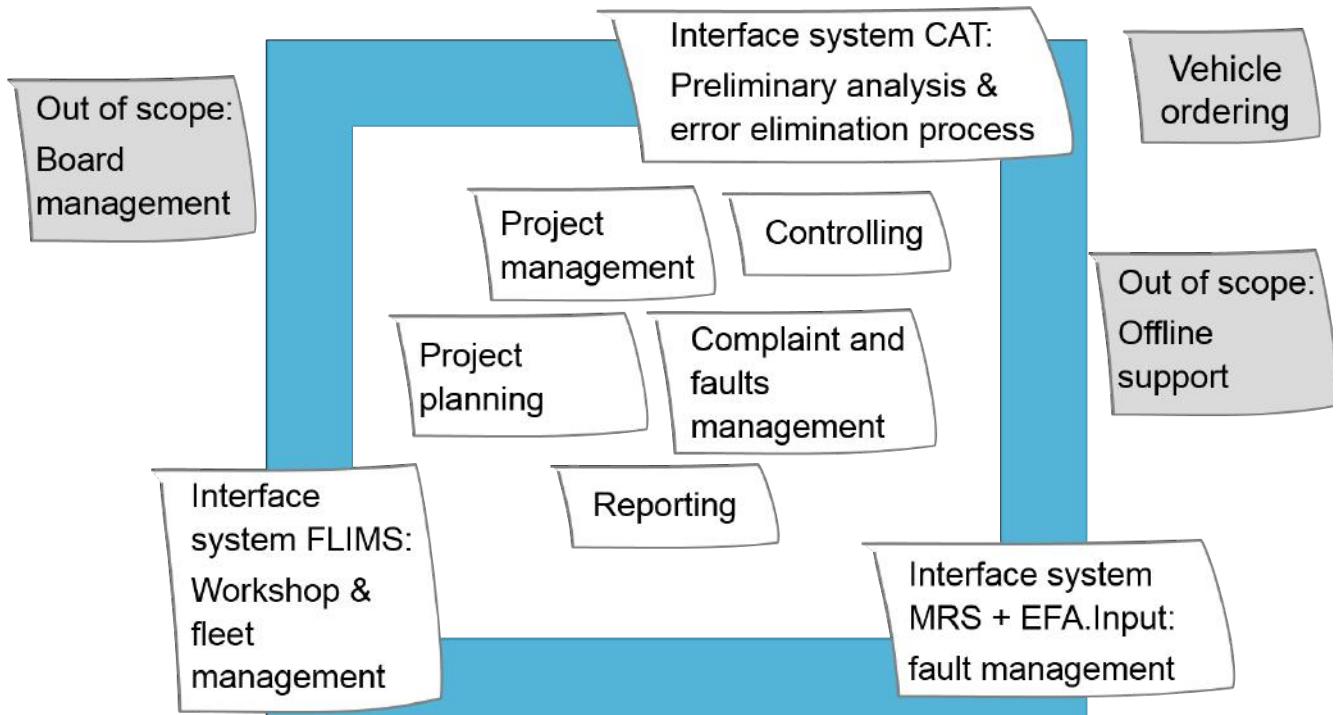


Figure 1: Scope of VTAS

#### The elevator pitch for VTAS

*For* the quality management departments in production plants  
*who* execute the validation of production VTAS (Vehicle Testing Analyzing System)  
*is a* quality management system,  
*that* supports process management and project planning.  
*Unlike* ZEUS (for development etc.)  
*our project* is relevant for the approval phase of vehicle production and delivery.

#### 2.1.1 Basic considerations

##### Business components

The depiction below shows the logical cut of business components within the system. Additionally those are used to identify micro services.

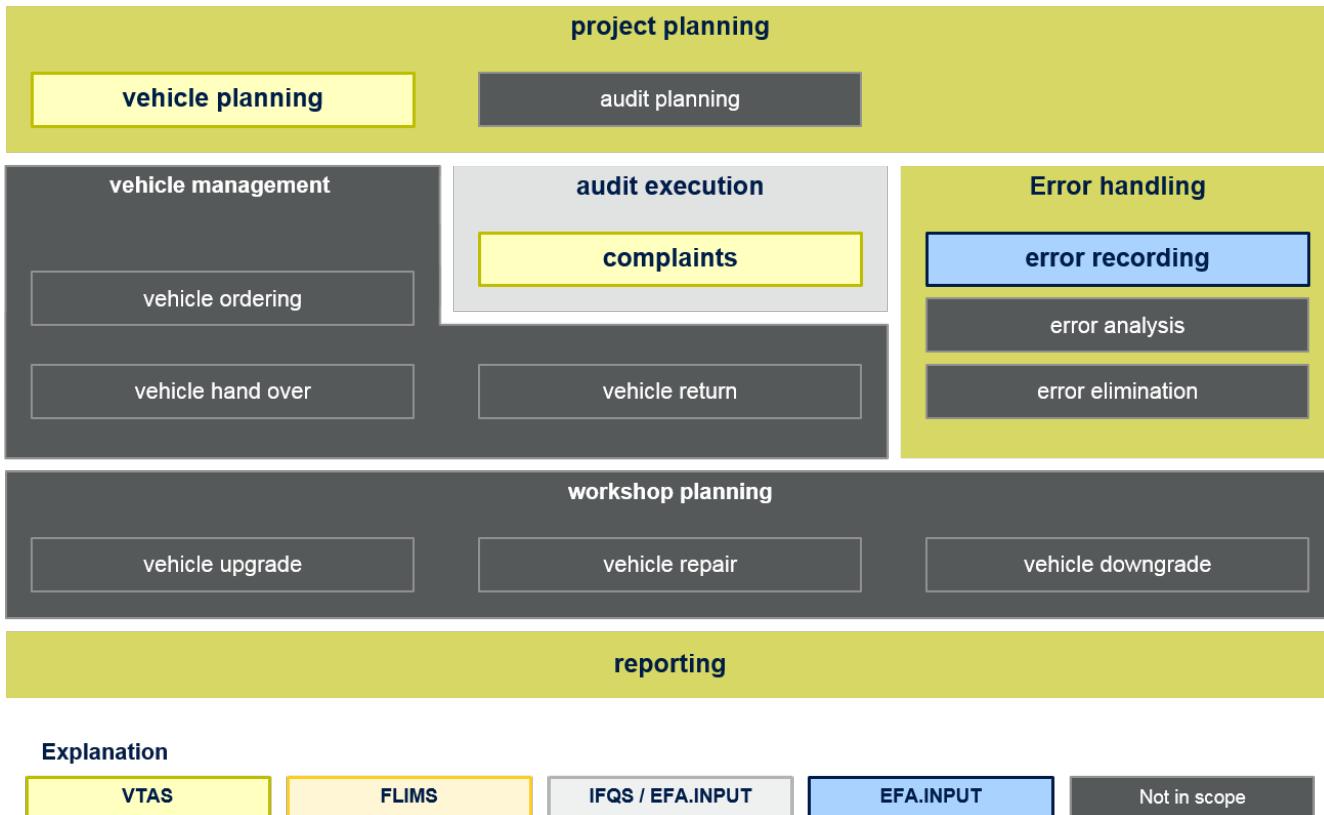


Figure 2: Business Components of VTAS

#### 1. Project planning

VTAS contains a component for project planning which is the framework for the projects planned. In addition, this component contains the planning of the required vehicles and the necessary audits for the desired audit objectives as a part of project planning. The component project planning as well as its subcomponents are used throughout the entire process cycle.

#### 2. Vehicle management

The component vehicle management in VTAS contains the ordering of vehicles as well as the modules vehicle handover and vehicle return process from FLIMS. The ordering of vehicles is used at the beginning of the process to procure the vehicles for the audits. The vehicle handover and vehicle return process are used in combination with the audit execution. In addition, a vehicle overview is included in this component which allows the user at any time to access all the information about a vehicle.

#### 3. Audit execution

The component audit execution includes the recording of complaints via EFA.INPUT, which means that the auditor can record and document the abnormalities on the vehicle, which are determined during an audit.

#### 4. Fault handling

In the component error handling the functionalities for reporting and documenting the error in EFA.INPUT, the error analysis in CAT and the initiation of an error elimination process in CAT is contained. These functions are located in the process after the end of an audit execution and verify / process the detected complaints.

#### 5. Workshop planning

The workshop planning in FLIMS is used throughout the entire process cycle in order to first upgrade vehicles and prepare vehicles for the audits, to repair or upgrade vehicles between the audits, and to downgrade the vehicles to the original condition at the end of the process. In addition, installation tests can be controlled and planned in the workshop planning to be able to test additional components in vehicles.

#### 6. Reporting

The component reporting is used not only within a project or process but can also be used over several projects in total. In this component, the functions for the preparation of the final report, as well as various status reports are located throughout the process.

### **2.1.1 User stories**

**2.4.3.5**This chapter contains a mapping of User Stories to Chapters in the system documentation.

User Story	Chapters
VTAS-191	2.4.1, 2.5.1.1
VTAS-125	2.4.2.1, 2.5.2.1
VTAS-66	2.4.2.1
VTAS-254	2.4.2.2, 2.5.2.2
VTAS-6	2.4.3.2, 2.5.1.2
VTAS-196	2.4.1, 2.5.2.3
VTAS-109	2.4.3.2, 2.5.1.2
VTAS-110	2.4.3.2, 2.5.1.2
VTAS-608	2.4.2.3, 2.5.2.4
VTAS-500	2.4.2.3, 2.5.2.4
VTAS-483	2.4.2.1, 2.5.2.1
VTAS-68	2.4.3.3, 2.5.1.3
VTAS-111	2.4.3.2, 2.5.1.2
VTAS-69	2.4.3.2
VTAS-743	2.4.4.1, 2.5.3.2
VTAS-117	2.4.3.3, 2.5.1.3
VTAS-406	2.4.3.5, 2.5.1.11
VTAS-120	2.4.3.3, 2.5.1.3
VTAS-128	2.4.5, 2.5.4
VTAS-190	2.4.5, 2.5.4
VTAS-136	2.4.3.5, 2.5.1.7

## **2.2 Overview over the system**

In the following depiction there are three layers that communicate with the outer world. Two of them are technically, the Data access layer and API gateway. The only purpose of the data access layer is the connection between VTAS and its database. Whereby the purpose of the API gateway is to get or deliver data to third party systems (Mail, FLIMS, CAT, MRS.). The presentation layer includes the programs (MS Excel, FLIMS, CAT, MRS, EFA.Input) with which hardware can display information of VTAS.

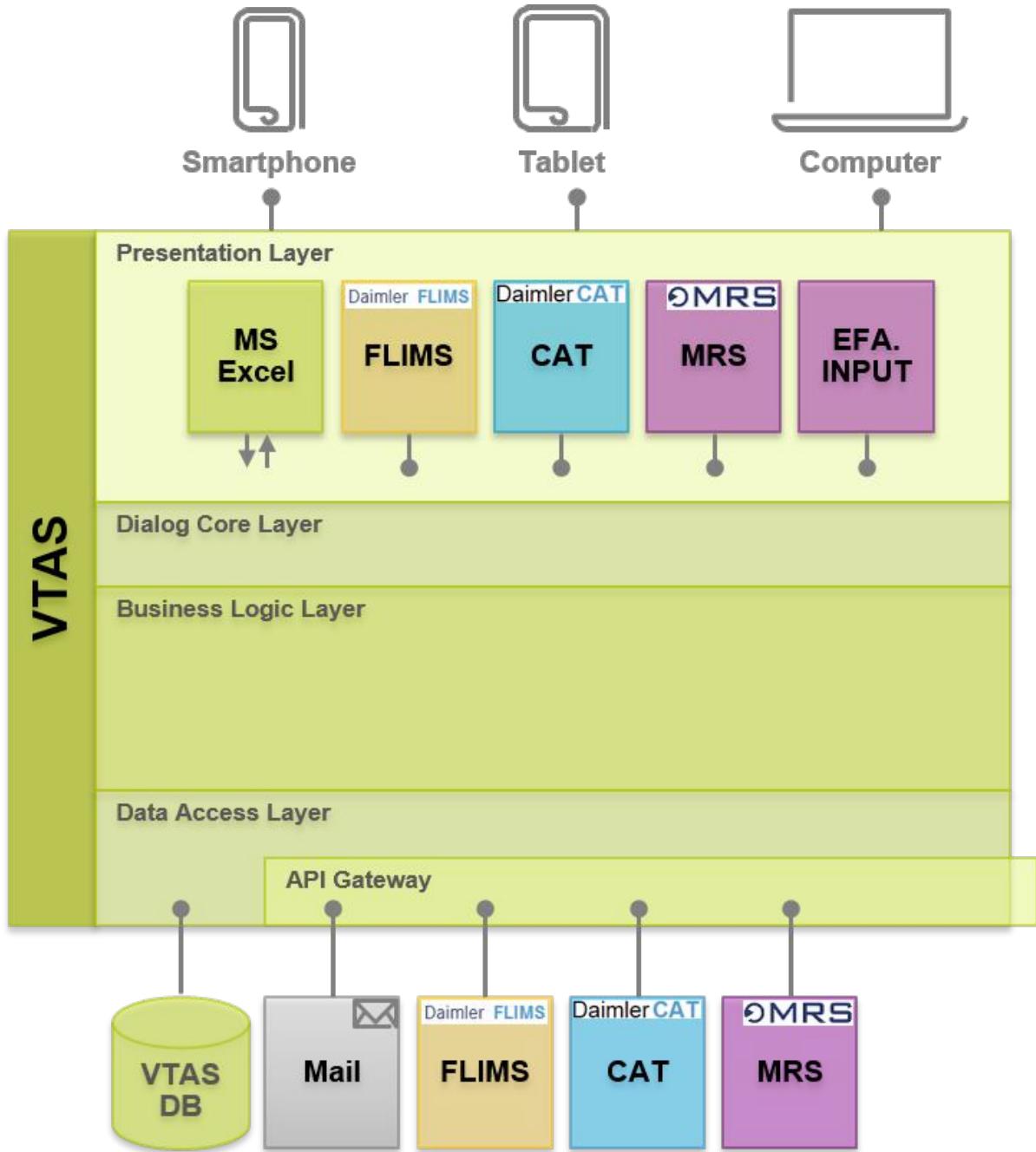
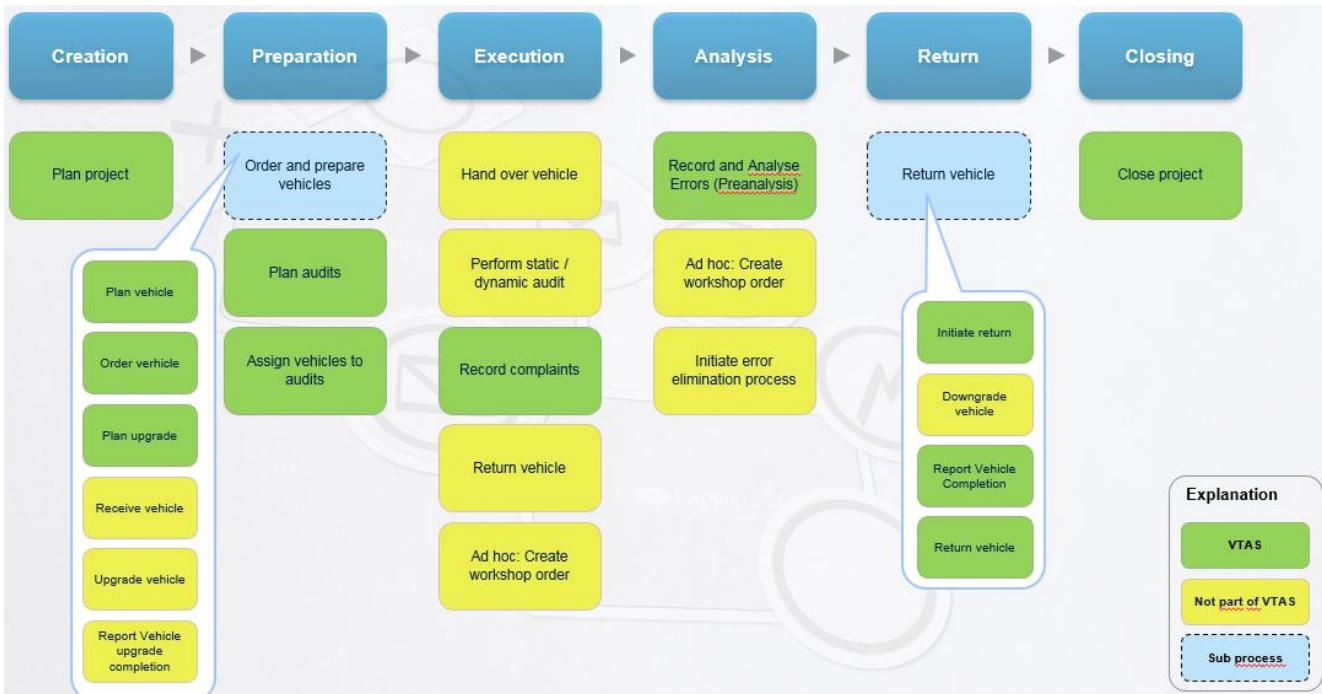


Figure 3: VTAS architecure overview

## 2.3 Process



In the following a blue headline stands for process step with sub processes. A yellow headline stands for any action outside of VTAS. A green headline signalizes an action in VTAS.

### 1. 1. Milestone "Creation"

The milestone Creation includes the creation of the project and providing the essential project data in the activity Plan project.

#### 1.1 Activity "Plan Project"

The activity Plan project is used to create the project with its basic data. A project serves the purpose to combine audits and vehicles.

The activity includes the following steps:

- Create a project in VTAS: Insert project data which includes.
  - Categories (RGA, KNFE and LQS)
  - Schedule (Start date and End date)
  - Basic information (Project ID, cost centre)
  - Project name
  - Document which measures need to be tested within the project.
  - Create audit objectives for the project which describes which tests need to be done in order to test and validate the measures.

### 1. 2. Milestone "Preparation"

The milestone Preparation includes all preliminary work that must be done before any audit or analysis can take place. These are the activities for planning audits, vehicle allocation for audits and vehicle ordering and processing.

#### 2.1 Sub process "Order and Prepare Vehicles"

The activity order and prepare vehicle includes all activities for vehicle selection, ordering and if necessary upgrading of vehicles.

##### 2.1.1 Activity "Plan Vehicles"

The activity plan vehicles is used to define and select all required vehicles on the basis of measures as well as to fill the relevant order forms.

The activity includes the following steps:

- Plan vehicles and assign them to the project.

Vehicles can be assigned either from the existing vehicle pool of other projects or by ordering new vehicles.

- Fill the vehicle order form

#### **2.1.2 Activity "Order Vehicle"**

The activity order vehicle includes the ordering of the vehicles outside of VTAS. This activity is performed separately for each vehicle order. Multiple vehicle orders can be processed simultaneously by several purchasers.

The activity includes the following steps:

- Check vehicle order (outside VTAS).
- Check the possibility of construction for the ordered vehicles.
- Optional in the case of a problem with the order, then contact the project planner and correct the order (entry in VTAS)
- Order vehicle (Handover to the plant-outside of VTAS)
- Enter feedback in VTAS, which includes order number.

#### **2.1.3 Activity "Plan Upgrade"**

In the activity plan upgrade, the ordered vehicles are defined as to whether they have to be upgraded before the audits, i.e. whether certain components have to be included.

The activity includes the following steps outside of VTAS:

- Information about the corrected vehicle order: The planner receives the final vehicle order made by the purchaser and the data of the ordered vehicles are transferred to FLIMS.
- Determine upgrade information: These includes aim of the upgrade, vehicles to be upgraded and upgrade scopes per vehicle
- Co-ordinate upgrade dates: It includes communicating the upgrade dates to FLIMS in order to book the vehicles for the upgrade dates so that they are not blocked otherwise.

#### **2.1.4 Activity "Receive Vehicle"**

In the activity Receive vehicle, the fleet manager receives and registers the produced vehicles. This activity is performed once per vehicle. A project contains 1-n vehicles. After production, the vehicle will be delivered to a predefined parking space.

The activity includes the following steps:

- Receive, identify and record the vehicle: Vehicles are identified in FLIMS based on the order number and the production number of the purchase order. The chassis number can be queried via FLIMS and then serves as a further identification number of the vehicles.

#### **2.1.5 Activity "Upgrade Vehicle"**

In the activity upgrade vehicle, the vehicle is upgraded or changes are made in the workshop.

This activity includes the following steps:

- Create workshop order and record information such as license plate number, vehicle order number, vehicle production number, engine number, chassis number.

#### **2.1.6 Activity "Report Vehicle Upgrade completion"**

In the activity, report vehicle upgrade completion, the vehicle planner receives the upgraded vehicle.

This activity includes the following steps:

- Accept the vehicle after upgrade.
- Identify the vehicle and enter the vehicle into FLIMS

#### **2.2 Activity "Assign Vehicles to measures"**

In the activity, Assign vehicles to measures, the vehicle planner starts assigning the vehicles to their respective measures (see Figure 1). They are nothing, but a list of measures saying which components of a car have been changed in production. The change reason might be because of an update in quality, market update or legal update.

This activity includes the following steps:

- Identify information about measures like, measure number and measure title.
- Determining the affected models, affected model series and affected codes
- Determining the amount of vehicles.
- Segregation between description current state and description future state.

### **2.3 Activity "Plan Audit"**

In the activity, Plan audit, the audit planner determines how many audits need to be made and the test periods for them

This activity includes the following:

- Create audit period for project: 1-n audit periods can be created per project and it requires following data like model type, project ID, number of days planned, time period (from, to)
- Schedule audits: This includes planning 1-n audits per audit period, definition of number of vehicles/model series per audit period, transfer the number of audits to FLIMS and initiate the automatic driver mapping in FLIMS.

### **2.4 Activity "Assign Vehicles to Audits"**

In the activity, assign vehicles to audits, the Audit planner assigns the vehicles to the audits based on the required characteristics in FLIMS. In addition, the driver or auditor assignment takes place in the background.

This activity includes the following:

- Assign vehicles to audit: Which includes displaying the ordered vehicles, allocating the vehicles to the individual audits; vehicles are booked in FLIMS only for the actual audit periods.
- Assign auditor
- Create checklist for each vehicle and audit: These includes performing approximately 1-20 checks per vehicle during the audit period (depending on the equipment to be tested in the vehicle.)

#### **1. 3. Milestone "Execution"**

The milestone "Execution" includes all activities of the audit execution as well as documentation of the results from the audits. These activities comprise vehicle handover, audit execution, complaint registration and returning the vehicle.

### **3.1 Activity "Handover Vehicle"**

In the activity handover vehicle, the fleet manager transfers the vehicle, the related information and the test order to the auditor.

The activity includes the following:

- Print test order
- Create vehicle information folder with additional information
- Arrange accessories like fuel cards, gate pass etc.
- Handover the vehicle to the auditor (physically handover the keys)
- Additionally for LQS: receive the vehicle from the customer, document vehicle mileage and vehicle condition in FLIMS, handover the replacement vehicle to the customer.

### **3.2 Activity "Perform Static/Dynamic audit"**

In the activity perform static/dynamic audit, the auditor carries out all the audits which are recorded in the test order.

The activity includes the following steps:

- Perform audits on the basis of the test order.
- For LQS: Create vehicle in EFP-vehicle database, execute a static audit in the hall (workshop) according to the checklist, execute the dynamic audit, wash car and refuel the vehicle.

### **3.3 Activity "Record Complaints"**

In the activity record complaints, the auditor documents all the abnormalities/deviations (all the things he recognized during the audit that do not seem to be normal) that occurred during the audit.

The activity includes the following steps:

- Classify complaints on the basis of the given damage keys.
- Document and specify complaints.
- Generate and export complaint report.

### **3.4 Activity "Return Vehicle"**

In the activity return vehicle, the fleet manager documents the return of the vehicle to the workshop after an audit.

The activity includes the following steps:

- Return vehicle including accessories.
- Document return including mileage etc.
- Check the condition of the vehicle and decide on necessary repairs.

- Additionally for LQS: Return vehicle to the customer, documentation of the vehicle return in a handover document, take back the replacement vehicle from the customer.

### **3.5 Activity "Create Workshop Order"**

In the activity create workshop order, the workshop creates an order to repair the vehicle and executes it. This activity is triggered from the activity return vehicle if needed.

The activity includes the following steps:

- Create workshop order and collect information: number of license plate, vehicle order number, vehicle production number, engine number, workshop order receipt date, title of workshop order.
- Process the workshop order and block the vehicle in the schedule for repair.

#### **1. 4. Milestone "Analysis"**

The milestone "Analysis" includes all activities that deal with the analysis of complaints and errors and their elimination.

### **4.1 Activity "Record and Analyze Errors"**

In the activity "Record and Analyze errors" the analyst verifies the errors detected in MRS and records additional errors via EFA.INPUT.

The activity includes the following:

- Analysis of the existing errors in MRS for an audit and vehicle (direct integration of MRS. Reports). For a query, one of the following information is needed: production number of the vehicle, vehicle identification number (VIN).
- Analysis of the open actions for the vehicle from MRS in order to verify complaints and decide whether they are actual error or not.
- Selection of one specific error for which an error elimination process or a root cause analysis should be triggered. Loading of relevant vehicle and error data from MRS (production number, model series, error description, etc.)
- There is a shared MRS, in which the errors from all plants are documented and there is a unique error ID, which can be used to access error data in MRS.
- Record additional errors via EFA.INPUT.

### **4.2 Activity "Ad hoc: Create Workshop Order"**

In the activity "create workshop order" the workshop creates an order for the repair, up- or downgrade of the vehicle and executes it.

The activity includes the following steps:

- Create workshop order and collect information like number of license plate, vehicle order number, vehicle production number, engine number, mileage, vehicle chassis number, vehicle name.
- Process the workshop order and block the vehicle in the schedule of repair.

### **4.3 Activity "Initiate Error Elimination Process"**

In the activity "initiate error elimination process" the analyst starts error elimination process for each of the selected errors.

The activity includes the following:

- Initiate root cause analysis or error elimination process: Root cause analysis is initiated in CAT for production errors where the vehicle is blocked in FLIMS for that duration.

#### **1. 5. Milestone "Return"**

The milestone "Return" includes all activities to downgrade a vehicle and return a vehicle from the project.

### **5.1 Activity "Initiate Return"**

In the activity "initiate return", the planner initiates the vehicle's return from the project and decides on the necessary downgrading actions.

The activity includes the following:

- Determine whether the vehicle needs to be downgraded (vehicles are only be downgraded and returned if they are currently used or planned in another VTAS project in the future)
- Set of scopes of the downgrading
- Coordinate downgrading dates

### **5.2 Activity "Downgrade Vehicle"**

The workshop creates a workshop order for the downgrade of the vehicle and executes it in the activity "downgrade vehicle"

This activity includes the following steps:

- Conduct the downgrade and repair of damage to the vehicle in the workshop. The following information is required like number of license plate, order number of vehicle, production number of vehicle, mileage, vehicle chassis number.
- The workshop processes the workshop order in the workshop tool and returns the completion of the upgrade work.
- The workshop representative blocks the vehicle during the period of the workshop stay in FLIMS.

### 5.3 Activity "Report Vehicle completion"

In the activity "Report vehicle completion", The planner receives the downgraded vehicle.

The activity includes the following steps:

- Receive the vehicle after downgrade
- Identify the vehicle and document it in FLIMS.

### 5.4 Activity "Return Vehicle"

In the activity "return vehicle", the fleet manager accepts the return of the vehicle from the project.

The activity includes the following steps:

- Return the vehicle from the project to FLIMS. The project does not require the vehicle anymore. The checklist for deregistration in order to finally deregister a vehicle, as well as the final return of a vehicle to the fleet is processed by FLIMS

#### 1. 6. Milestone "Closing"

The closing milestone includes the activity close project and serves the final closing of a project after all audits have been completed and all the vehicles of a project have been returned.

### 6.1 Activity "Close Project"

In the activity close project, the project planner produces the final project report and closes the project in the system.

The activity includes the following steps:

- Creating the final report like status of measure, all errors of a project for a specific model series, complaints per project, number of vehicles per project, used engine variants(diesel or petrol) per project, numbers of audits per month, installation attempts per month.
- Close project (only possible if all vehicles have been returned).

## 2.4 Dialog flow

- 2.4.1 Dialog "Landing Page"
- 2.4.2 Module "Administration"
- 2.4.3 Module "Project planning"
- 2.4.4 Module "Complaints"
- 2.4.5 Module "Vehicle Planning"
- 2.4.6. Module "Controlling"
- 2.4.7. "User Profile"
- 2.4.8 "User Login"
- 2.4.9. Module "Reporting"
- 2.4.10 Module "Faults"

### 2.4.1 Dialog "Landing Page"

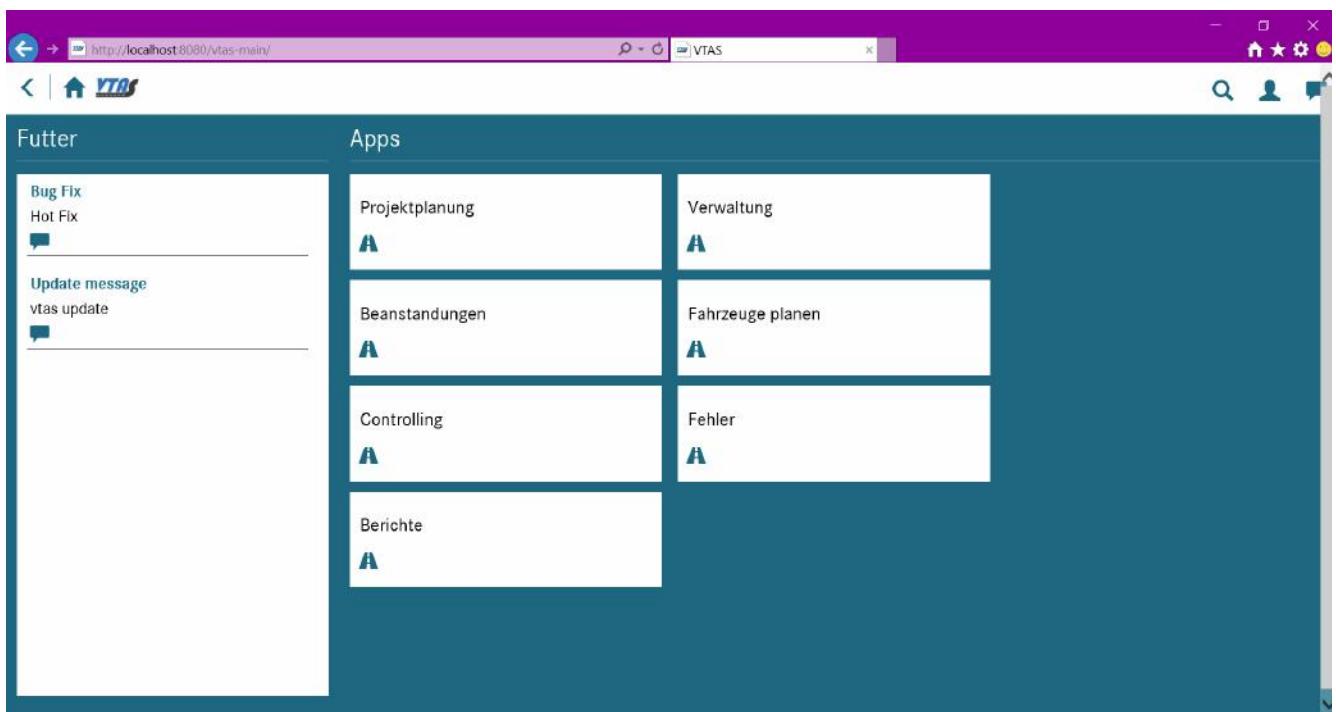
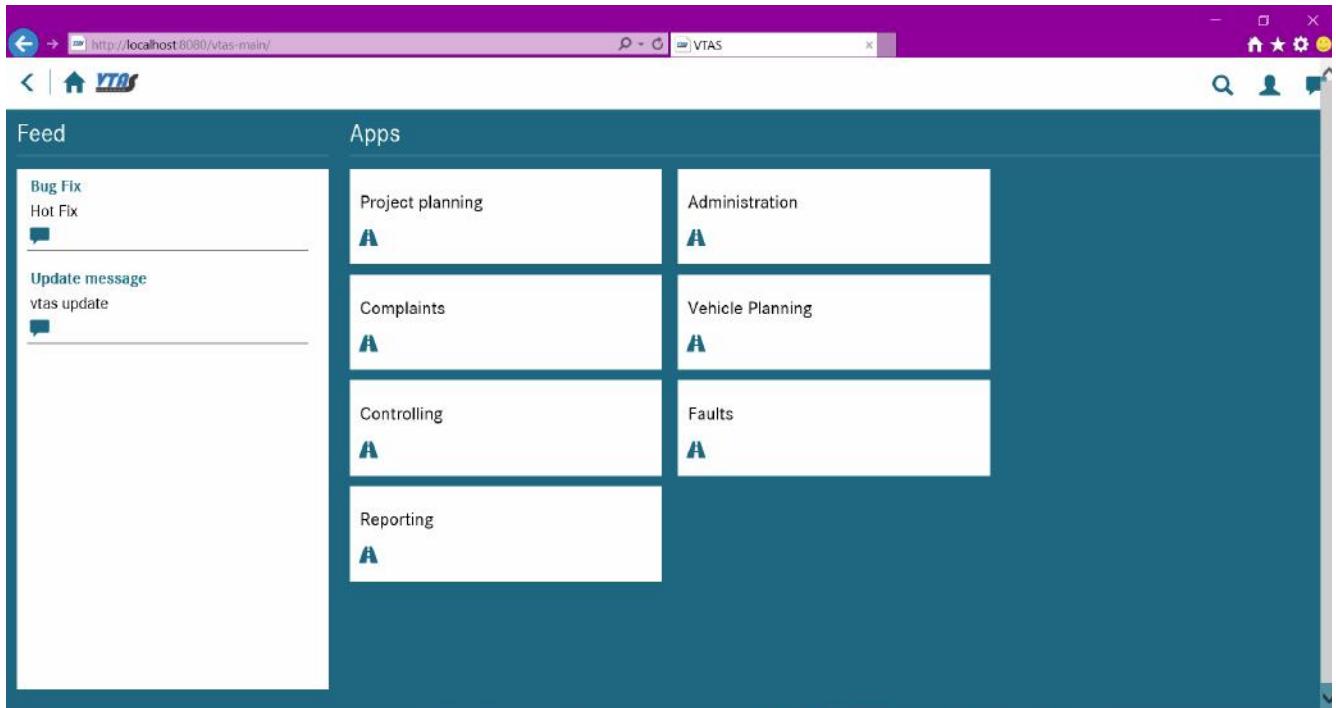
This Dialog displays the landing page with the different modules that can be opened within VTAS. The Module "Project Planning" , "Administration" , "Complaints" , "Vehicle Planning" "Controlling" , "Faults" and "Reporting" is visible on the landing page. Left click on the modules "Project Planning" , "Administration" , "Complaints" , "Vehicle Planning" , "Controlling" , "Faults" and "Reporting" opens the Overview in a new tab in the browser. Right click on the module opens the overview page in a new window. Clicking on the Home button navigates back to the landing page. Clicking on the Back button navigates to chronological back page.

#### Calling the dialog

This dialog is directly called and opened after logging in to the VTAS application.

#### Structure

The Landing page consists of the Header widget and a fixed news area on the left side. On the right side are fixed modules.



### Initialization

The Landing page consists of a fixed news area on the left side and the modules "Project planning" , "Administration" , "Complaints" , "Controlling" , "Vehicle Planning" , "Faults" and "Reporting" at the right side.

### FeedBlog

Maintenance messages that are displayed in the feed blog of the Landing Page are configurable.

### Possible actions

The User can navigate to "Project planning" , "Administration" , "Complaints" , "Vehicle Planning" , "Controlling" , "Faults" and "Reporting". The Home button helps the user to navigate back to the landing page.

Action	Description
Right click on the module	Opens the project overview page in a new window
Left click on the module	Opens Project overview page in a new tab in the browser

Click on the Home button	Navigates back to landing page within the current tab
Click on the Back Button	Navigates back to chronological back page

## 2.4.2 Module "Administration"

- 2.4.2.1 Dialog "Configure categories for values"
- 2.4.2.2 Dialog "View Administration"
- 2.4.2.3 Dialog "View values for prefilled category fields"
- 2.4.2.4 Dialog "View UI labels in different languages"
- 2.4.2.5 Dialog "Change Log Levels"
- 2.4.2.6 Dialog "Administrate sensor/plant mapping"
- 2.4.2.7 Dialog "Change mapping for plants to be sent to third parties"
- 2.4.2.8 Dialog "View interface information"

### 2.4.2.1 Dialog "Configure categories for values"

This Dialog displays the categories which are used in VTAS to be able to configure the dropdown values dynamically.

Calling the dialog

The dialog is called from the Administration overview.

Structure

The dialog shows a table with all already configured categories and provides an option to edit those categories.

Category	Key	Changed On	Changed By
Model Series	MODEL_SERIES	Aug 07 2017 08:14:48	Bertele, Nadine (NABERTE)
PRO Phasessss	PRO_PHASES	Aug 11 2017 09:13:11	Admin
Plant	PLANT	Aug 07 2017 08:14:48	Brockers, Ralf(RABROCK)
Sensor	SENSOR	Aug 07 2017 08:14:48	Brockers, Ralf(RABROCK)

Kategorie	Schlüssel	Geändert am	Geändert von
Model Series	MODEL_SERIES	Aug 07 2017 08:14:48	Bertele, Nadine (NABERTE)
PRO Phasessss	PRO_PHASES	Aug 11 2017 09:13:11	Admin
Plant	PLANT	Aug 07 2017 08:14:48	Brockers, Ralf(RABROCK)
Sensor	SENSOR	Aug 07 2017 08:14:48	Brockers, Ralf(RABROCK)

Dialog which reflects filter on specific column

The screenshot shows the VTAS Administration interface. On the left, there's a sidebar with 'Generic Categories' and 'Generic values'. The main area has a title 'Edit' and a table with columns: Category, Key, Changed On, and Changed By. A modal dialog titled 'Filter: Category' is open, containing a search bar with placeholder 'Search text' and a list of checked filters: '(Select all)', 'Model Series', and 'PRO Phasessss'. The table data is as follows:

Category	Key	Changed On	Changed By
		Aug 07 2017 08:14:48	Bertele, Nadine (NABERTE)
		Aug 11 2017 09:13:11	Admin
		Aug 07 2017 08:14:48	Brockers, Ralf(RABROCK)
		Aug 07 2017 08:14:48	Brockers, Ralf(RABROCK)

The dialog which represents filtered result

This screenshot is similar to the previous one, showing the 'Edit' dialog with a filter modal. The search bar now contains the text 'Ser'. The table data remains the same as in the previous screenshot.

The Dialog which depicts all columns of table

The columns available beneath the box can get deselect by checking out the correspondent checkbox. Once we deselect or select the column/columns same will reflect to the table.

The screenshot shows the 'Edit' dialog with a table of categories. To the right of the table is a vertical box containing checkboxes for selecting columns: 'Category', 'Key', 'Changed On', and 'Changed By'. The 'Category' and 'Key' checkboxes are checked. The table data is as follows:

Category	Key	Changed On	Changed By
Model Series	MODEL_SERIES	Aug 07 2017 08:14:48	Ber
PRO Phasessss	PRO_PHASES	Aug 11 2017 09:13:11	Br
Plant	PLANT	Aug 07 2017 08:14:48	Br
Sensor	SENSOR	Aug 07 2017 08:14:48	Br

Edit Dialog

The Edit dialog provides the possibility to change the name of the category, but not the key.

Generic Categories
Generic Values

Key: MODEL\_SERIES  
Category\*: Model Series

allgemeine Kategorien
allgemeine Werte

Schlüssel: MODEL\_SERIES  
Kategorie\*: Model Series

An error is shown to the admin, if the user enters an already existing category name.

VTAS - Administration

Administration

Generic Categories

Generic Values

Key: MODEL\_SERIES

Category\*: Plant

Category: Plant already exists.

Discard Save

This screenshot shows a dialog box from the VTAS Administration interface. It has a header bar with 'Administration' and a search icon. On the left is a sidebar with 'Generic Categories' and 'Generic Values'. The main area shows a form with 'Key: MODEL\_SERIES' and 'Category\*: Plant'. A yellow warning box says 'Category: Plant already exists.' Below it are 'Discard' and 'Save' buttons.

VTAS - Verwaltung

Verwaltung

allgemeine Kategorien

allgemeine Werte

Schlüssel: MODEL\_SERIES

Kategorie\*: plant

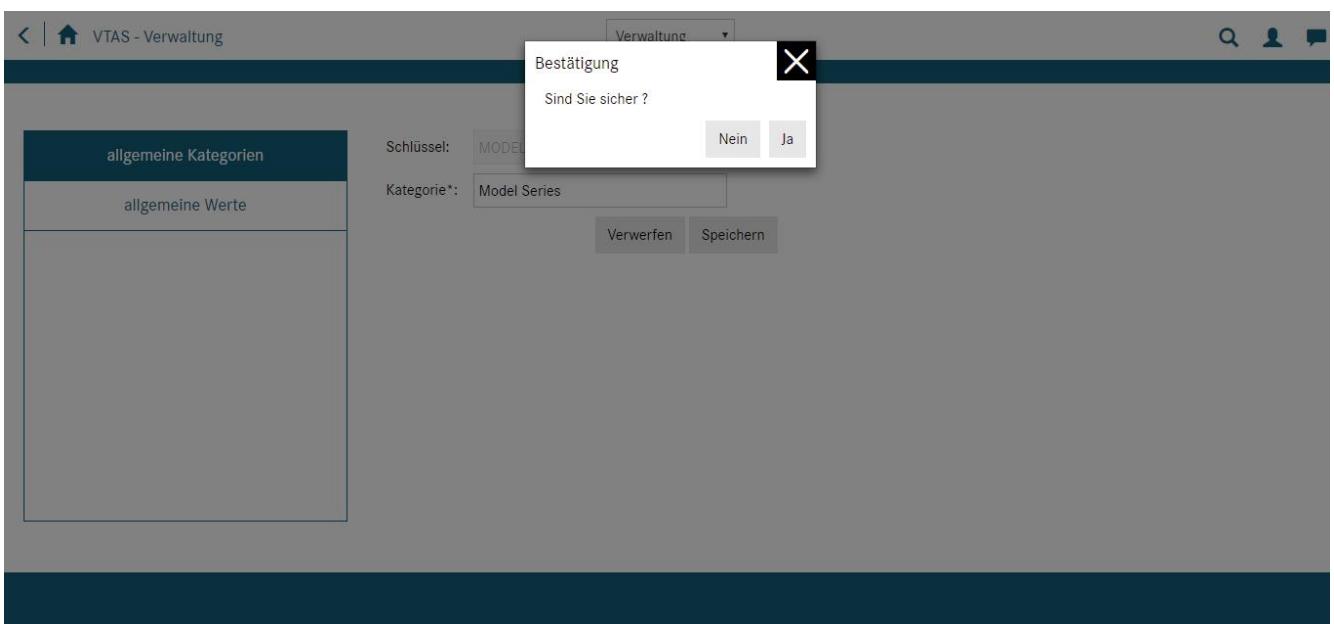
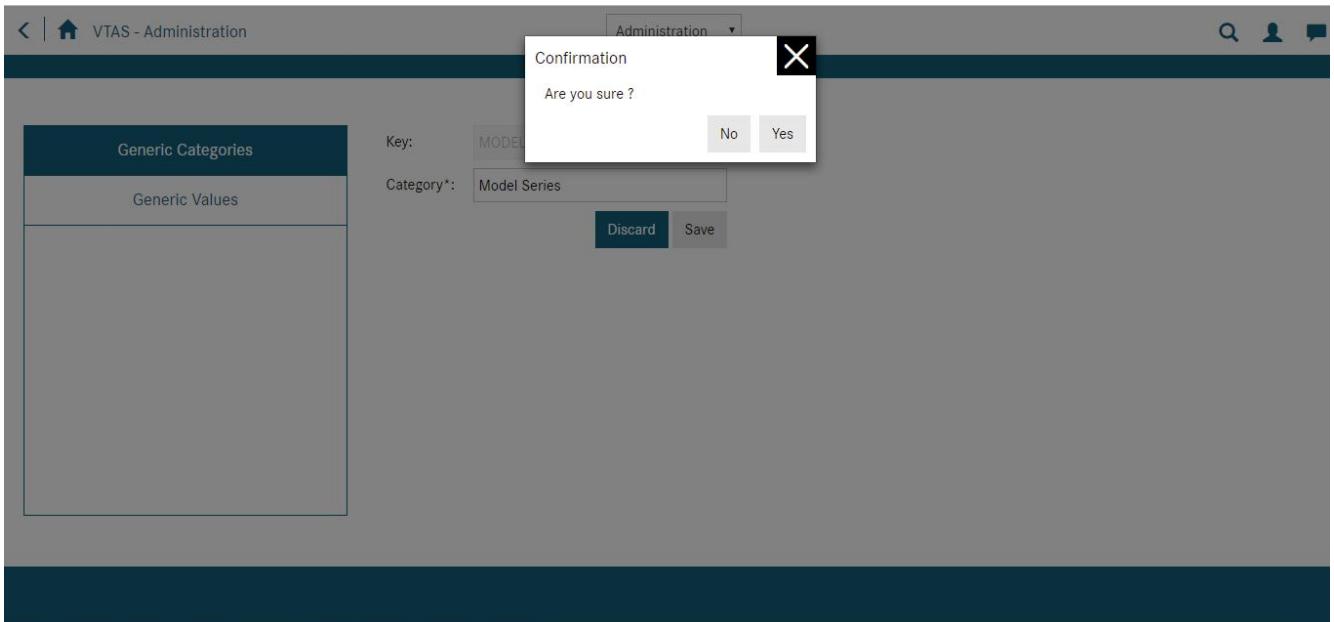
Kategorie: plant existiert bereits.

Verwerfen Speichern

This screenshot shows a dialog box from the VTAS Verwaltung interface. It has a header bar with 'Verwaltung' and a search icon. On the left is a sidebar with 'allgemeine Kategorien' and 'allgemeine Werte'. The main area shows a form with 'Schlüssel: MODEL\_SERIES' and 'Kategorie\*: plant'. A yellow warning box says 'Kategorie: plant existiert bereits.'. Below it are 'Verwerfen' and 'Speichern' buttons.

#### Confirmation Popup

This Popup asks for confirmation whether to discard the dialog or not.



Initializing

- First time dialog is opened with all category list, each and every column can be sorted ascending or descending (respective to the alphabet or date)
- You can only sort one column at the same time
- Initial sorting: Category ascending
- All already entered values are displayed in the list
- Each row is selectable with a checkbox.
- Only one single row is selectable at one time
- A scroll functionality is available in case the list gets bigger

Description of fields

- Two tabs "Generic Categories" and 'Generic Values' are on right side.
- Button "Edit" to open the edit categories dialog.
- "Key" field is no editable.
- "Category" is an editable field and mandatory.
- "Changed on" field describes the last modified date and time of the category value.
- "Changed By" field describes the responsible person who modified the category value.

#### Editing dialog:

- A new dialog showing the following fields:
  - Category (Category for the attribute value;mandatory) & category name is mandatory field.
  - Key(not editable field).
  - Buttons "Save" and "Discard" are available.
- After saving, modified data row is overwritten, "Name", "Changed on" , "Changed by" is updated.

#### Confirmation Popup:

- The separate confirmation popup is showing the following buttons:
  - Yes button(It will discard edit action)
  - No button(It will go back to the edit dialog)

Validations

Field	Validation	Error Message
Edit Categories	Category(Category for the input name value; unique)	It will throw the error if Name is already exist

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to history back page
Click on the Edit button	Open a new dialog to modify the data
Click on the Save button	Saving the data after modification
Click on the Discard button	Discard the current action
Click on the No button	Stays on the edit dialog
Click on the Yes button	Navigates back to the Categories dialog

#### 2.4.2.2 Dialog "View Administration"

This dialog displays the overview of the administration module where the user can find the administration settings.

##### Calling the dialog

The dialog is called from Administration module.

##### Structure

The dialog shows two sections. The left section shows two tabs and the right section shows content.

The screenshot shows the 'View Administration' dialog. At the top, there is a header bar with a back arrow, a home icon, and a search icon. To the right of the search icon are three small icons representing user profile, message, and settings. The main interface has a dark blue header bar. Below it, the left side features a sidebar with two tabs: 'Generic categories' and 'Generic values'. The right side is a large, empty content area with a placeholder message: 'Select one of the configuration settings'.

allgemeine Kategorien
allgemeine Werte

Wählen Sie eine der Konfigurationseinstellungen aus

Generic Categories:

This dialog shows the content of Generic Categories on the right section in the same window.

Generic categories
Generic values

Edit

Category	Key	Changed On	Changed By
Model Series	MODEL_SERIES	Jun 06 2017 11:05:49	Bertele, Nadine (NABERTE)
Plant	PLANT	Jun 06 2017 11:05:49	Brockers, Ralf(RABROCK)
PRO Phases	PRO_PHASES	Jun 06 2017 11:05:49	Bertele, Nadine (NABERTE)
Sensor	SENSOR	Jun 06 2017 11:05:49	Brockers, Ralf(RABROCK)

#### Generic values:

This dialog show the content of Generic Values on the right section in the same window.

#### Initializing

- First time dialog is opened with two sections, left occupies 25% of window & right section occupies remaining 75% of window.
- Currently left section has two tabs
  - Generic Values

- Generic Categories
- A scroll functionality is available in case the list gets bigger.
- Right section initially shows "Select one of the configuration settings".
- When the user clicks on one of the links in the left section, the content of the corresponding dialog appears in the right section without opening a new tab nor a new window.
- Clicking on "Generic Values" shows respective content on the right side.
- Clicking on "Generic Categories" shows respective content on the right side.

#### Validations :

We have no validations implemented here.

#### Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to history back page
Click on the Generic Values tab	Shows the corresponding content on right section.
Click on the Generic Categories tab	Shows the corresponding content on right section.

#### 2.4.2.3 Dialog "View values for prefilled category fields"

This dialog displays the possible values for all fields in VTAS that have a prefilled content, so that the admin can get an overview over the current status.

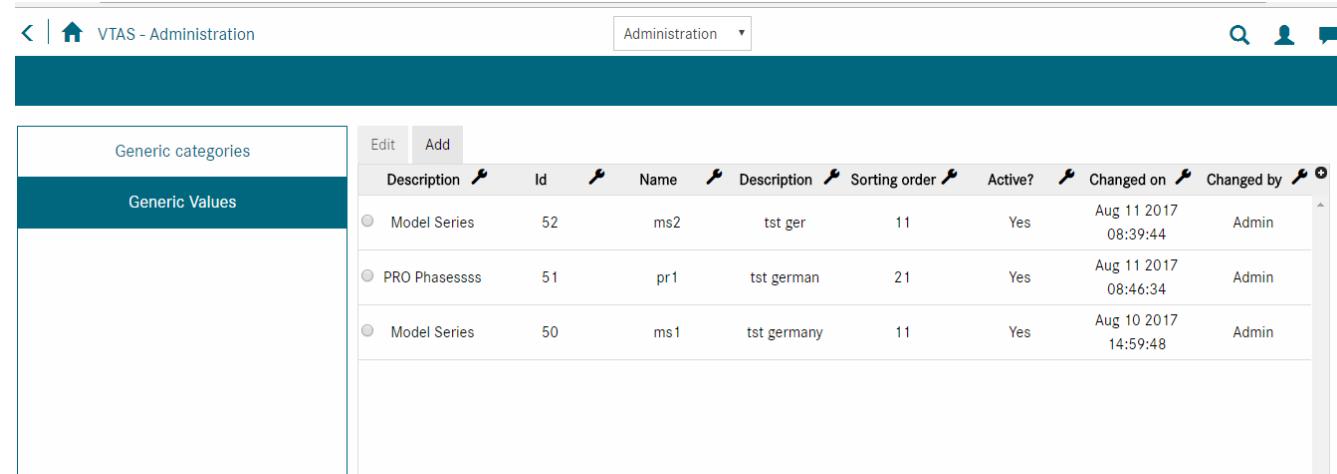
Moreover the admin maintains the possible values for all fields in VTAS that have a prefilled content, so that admin can adapt them to the current status.

#### Calling the dialog

The dialog is called from the Administration overview.

#### Structure

1. The dialog shows a table along with the filter icon as well as some category values .It also provides a possibility to edit or to add the values.



The screenshot shows the 'Administration' interface with the 'Generic Values' table. The table has columns for Description, Id, Name, Description, Sorting order, Active?, Changed on, and Changed by. There are three rows in the table:

	Description	Id	Name	Description	Sorting order	Active?	Changed on	Changed by
Model Series	52	ms2	tst ger	11	Yes	Aug 11 2017 08:39:44	Admin	
PRO Phasessss	51	pr1	tst german	21	Yes	Aug 11 2017 08:46:34	Admin	
Model Series	50	ms1	tst germany	11	Yes	Aug 10 2017 14:59:48	Admin	

Dialog which reflects filter on specific column

The screenshot shows a table with columns: Beschreibung, Id, Name, Beschreibung, Sortierreihenfolge, Aktiv?, GeÄndert am, and GeÄndert von. A filter dialog for the 'Description' column is open, showing a search input field containing 'tst' and a checkbox list with 'tst ger' and 'tst german' selected.

Beschreibung	Id	Name	Beschreibung	Sortierreihenfolge	Aktiv?	GeÄndert am	GeÄndert von
Model Series	52	ms2	tst ger	11	Yes	Aug 11 2017 08:39:44	Admin
PRO Phasessss	51	pr1	tst german	21	Yes	Aug 11 2017 08:46:34	Admin
Model Series	50	ms1	tst germany	11	Yes	Aug 10 2017 14:59:48	Admin

Dialog which reflects filter on specific column

The screenshot shows a table with columns: Description, Id, Name, Description, Sorting order, Active?, Changed on, and Changed by. A filter dialog for the 'Description' column is open, showing a search input field containing 'sen' and a checkbox list with 'tst ger' and 'tst german' selected.

Description	Id	Name	Description	Sorting order	Active?	Changed on	Changed by
Model Series	12	ms2	tst ger	11	Yes	Aug 11 2017 11:16:55	Admin
PRO Phasessss	11	pr1	tst german	21	Yes	Aug 10 2017 14:59:48	Admin
Model Series	21	ms1	tst germany	11	Yes	Aug 11 2017 08:46:34	Admin
Model Series	11	ms2	tst ger	11	Yes	Aug 11 2017 08:39:44	Admin

The dialog which represents filtered result

The screenshot shows a table with columns: Description, Id, Name, Description, Sorting order, Active?, Changed on, and Changed by. A filter dialog for the 'Description' column is open, showing a search input field containing 'sen' and a checkbox list with 'tst ger' and 'tst german' selected. A 'Delete filter' button is visible at the bottom right of the dialog.

Description	Id	Name	Description	Sorting order	Active?	Changed on	Changed by
Model Series	12	ms2	tst ger	11	Yes	Aug 11 2017 11:16:55	Admin

The Dialog which depicts all columns of table

The columns available beneath the box can get deselect by checking out the correspondent checkbox. Once we deselect or select the column/columns same will reflect to the table.

Generic categories		Administration					
Generic Values		Edit					
Description	Id	Name	Description	Sorting order	Active?	Changed on	Changed by
Sensor	53	sensor	tst sensor	12	Yes	Aug 11:	A Description Id Name Description Sorting order Active? Changed on Changed by

### Add Dialog

The add button opens an empty add dialog so that the admin can add values for category fields.

Generic Categories		Administration						
Generic Values		Add						
ID:	0		Category*:	Model Series				
Name*:			Description*:					
German:			English:				Hungarian:	
Sorting order*:								
Active?:	<input type="checkbox"/>					<input type="button" value="Discard"/> <input type="button" value="Save &amp; Continue"/>		

allgemeine Kategorien		Verwaltung					
allgemeine Werte		Edit					
ID:	0		Kategorie*:	Model Series			
Name*:			Beschreibung*:				
Deutsche:			Englisch:				ungarisch:
Sortierreihenfolge*:							
Aktiv?:	<input type="checkbox"/>					<input type="button" value="Verwerfen"/> <input type="button" value="Speichern &amp; Weiter"/>	

### Edit Dialog

The edit button opens an edit dialog with the information prefilled.

< | VTAS - Administration

Administration ▾

Search | User | Chat

Generic Categories

Generic Values

ID: 50

Category\*: Model Series

Name\*: 050

Description\*:

German: Bremen

English:

Hungarian:

Sorting order\*: 6

Active?:

Discard Save & Continue

< | VTAS - Verwaltung

Verwaltung ▾

Search | User | Chat

allgemeine Kategorien

allgemeine Werte

ID: 50

Kategorie\*: Model Series

Name\*: 050

Beschreibung\*:

Deutsche: Bremen

Englisch:

ungarisch:

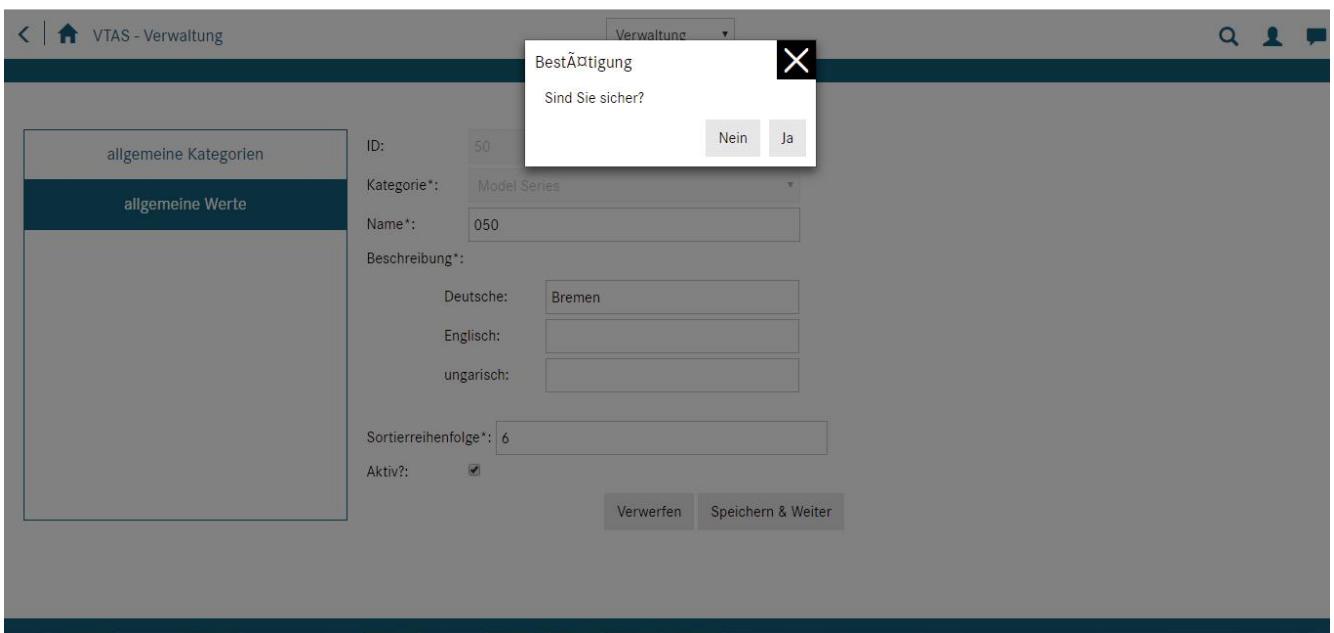
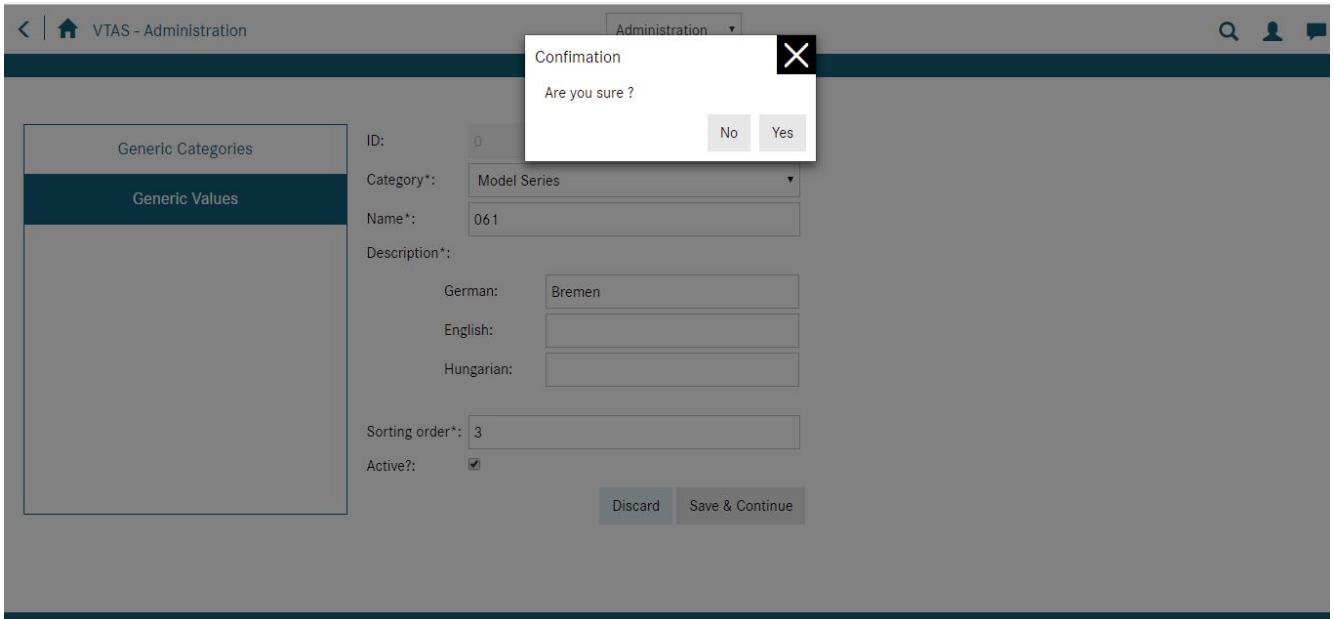
Sortierreihenfolge\*: 6

Aktiv?:

Verwerfen Speichern & Weiter

#### Confirmation Popup

This popup asks for confirmation whether to discard the dialog or not.



## Initialization

- If the generic values page is loading, the table should display "No data found" if there is no data in the database.
- If data is present in the database that data will be displayed in the view table.
- In the view page the "Add" button will be disabled.
- The edit button will be disabled by default.

## Description of fields

- Two tabs "Generic Categories" and 'Generic Values' are present.
- Button "Edit" to open the edit categories dialog.
- Button "Add" to open the add categories dialog
- "Changed on" field describes the last modified date and time of the category value.
- "Changed by" field describes the responsible person who modified the category value.

## Add dialog:

- The separate dialog (to add a row) is showing the following:
- "ID" text field is auto generated or read only when user adds or edit category respectively.
- A drop down "Category" with categories "Model series, PRO phases, Plant, Sensor" is available and only one category is selectable at a time.
- "Name" field is mandatory and should not be duplicated.
- Description is mandatory (at least one)
  - "German" text field is editable
  - "English" text field is editable
  - "Hungarian" text field is editable

- "Sorting Order" field is mandatory and accepts numeric value.
- "Active?" checkbox is optional and states whether the particular category values is active or not.
- Two buttons "save" and "discard" are available.
- When the button "Save" is clicked, a new row at the top of the table with the entered information is shown in the list. A new ID is generated, a new time stamp and the user that created the entry will be saved.
- When the button "Discard" is clicked, we will be navigated back to the main dialog without saving by displaying a popup whether to "Are you sure ?".

#### Edit dialog:

- A separate dialog (to edit a row) showing the following fields with prefilled data:
- "ID" text field is auto generated or read only when user adds or edit category respectively.
- Category non editable.
- "Name" field is mandatory and should not be duplicated.
- Description is mandatory (at least one)
  - "German" text field is editable
  - "English" text field is editable
  - "Hungarian" text field is editable
- "Sorting Order" field is mandatory and accepts numeric value.
- "Active?" checkbox is optional and states whether the particular category values is active or not.
- Two buttons "save" and "discard" are available.

When the button "Save" is clicked, the modified data of the selected row the data is overwritten with the new information, that is a new time stamp and the user, who has modified the information.

When the button "Discard" is clicked, we will be navigated back to the main dialog without saving by displaying a popup whether to "Are you sure ?".

#### Confirmation Popup:

- A separate confirmation popup showing the following buttons:
- Yes button(It will discard add/edit action)
- No button(It will go back to the add/edit dialog)

#### **Validations**

Name	Name is mandatory	Category name is mandatory
Name	Name should not be duplicate	Category value already exists
Description	Description is mandatory	German Description is mandatory
Sorting order	Sorting order is mandatory	Sorting order is mandatory

#### **Possible actions**

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to history back page
Click on the Add button	Open a new dialog to add the data
Click on the Edit button	Open a new dialog to edit the data
Click on the Save button	Saves the data after modification
Click on the Discard button	Discard the current action
Click on the No button	Stays on the Add/edit dialog
Click on the Yes button	Discard the Add/edit dialog

#### **2.4.2.4 Dialog "View UI labels in different languages"**

This dialog is to view the available UI-Labels, to edit the UI-Labels in different languages, export the translated UI-Labels to excel and import the UI-Labels in different languages, so that the Admin can adapt the naming of a function easily if needed and bring lots of translations to the system at once.

Calling the dialog

The dialog is called from the Administration overview.

Structure

The dialog shows a table with all the available UI-Labels.

[View UI-Labels](#)

VTAS

Administration

Export UI Labels Import UI Labels

Generic Categories

Generic Values

**Resources**

Edit

ID	Key	Module	Page	Meaning	Translation English	Translation German	Translation Hungarian	Change On
1	projectplanning	vtaslandingpage	headermodulename	label	Project planning	Projektplanung		2017-03-29:01:13
2	administration	vtaslandingpage	headermodulename	label	Administration	Verwaltung		2017-03-29:01:13
3	complaints	vtaslandingpage	headermodulename	label	Complaints	Beanstandungen		2017-03-29:01:13
4	vehicleplanning	vtaslandingpage	headermodulename	label	Vehicle Planning	Fahrzeuge planen		2017-03-29:01:13
5	projectid	vtaslandingpage	uilebelscommon	label	Project ID	Projekt ID		2017-03-29:01:13

### Edit UI-Labels

VTAS

Administration

Generic Categories

Generic Values

**Resources**

ID: 1

Key: status

Module: vtaslandingpage

Page: uilebelscommon

Meaning: label

Translation:

German:	Status
English*:	Status
Hungarian:	

Error message

English Translation is mandatory

Generic Categories	ID: 1
Generic Values	Key: status
<b>Resources</b>	Module: vtaslandingpage
	Page: uilabelscommon
	Meaning: label
	Translation:
	German: Status
	English*:
	Hungarian:

Discard Save & Continue

## Import Labels

Success! Data saved successfully

Edit									
ID	Key	Module	Page	Meaning	Translation English	Translation German	Translation Hungarian	Change On	
1	projectplanning	vtaslandingpage	headermodulename	label	Project planning	Projektplanung		2017-03-13 03:37:2	
2	administration	vtaslandingpage	headermodulename	label	Administration	Verwaltung		2017-03-13 03:37:2	
3	complaints	vtaslandingpage	headermodulename	label	Complaints	Beanstandungen		2017-03-13 03:37:2	
4	vehicleplanning	vtaslandingpage	headermodulename	label	Vehicle Planning	Fahrzeuge planen		2017-03-13 03:37:2	

Initializing

- First time the dialog is opened with all existing UI-Labels by clicking on the "Resources" tab in the Administration page.
- Each and every column can be sorted ascending or descending (respective to the alphabet or date)
- You can only sort one column at the same time
- Initial sorting: lowest ID at the top
- Each row is selectable with a checkbox
- Only one single row is selectable at one time
- A scroll functionality is available in case the list gets bigger

Buttons "Export UI-Labels" and "Import UI-Labels" is present in the buttonheader.

Edit dialog:

- The separate dialog (to edit a row) is showing the following fields with pre-filled data:
- "ID" text field is auto generated or read-only field "ID" i.e., Showing the ID as in the grid
- Key is the Prefilled non-editable field.
- Module is the particular key module name to which the key belongs. It is pre-filled and non-editable field
- Page is the particular key page name to which the key belongs. It is pre-filled and non-editable field
- Meaning is the particular key meaning to which the key belongs. It is pre-filled and editable field
- German translation is pre-filled and maximum characters is 1000.
- English translation is pre-filled and maximum characters is 1000 and is mandatory.
- Hungarian translation is pre-filled and maximum characters is 1000.
- If no row is selected then the "Edit" Button it will be disabled
- Two buttons "save" and "discard" are available.

When the button "Save" is clicked, the modified data of the selected row the data is will update the existing UI-Labels.

When the button "Discard" is clicked, we will be navigated back to the main dialog without saving by displaying a popup whether to "Are you sure ?".

#### Confirmation Popup:

- A separate confirmation popup showing the following buttons:
  - Yes button(It will discard add/edit action)
  - No button(It will go back to the add/edit dialog)

#### Export UI label

1. Clicking on the "Export" button, an excel file will be generated and opened containing the information of the following columns

- ID
- Key
- Module name
- Page name
- Meaning
- German translation
- English translation

2. The excel file opens and the user can carry on with the normal excel functions (default browser functionality).

#### Import UI label

1. Clicking on the "Import UI-Labels" button, the user provided with the "Browse" option from where he can select the desired file to import.
2. The file is imported and uploaded in the table.
3. All columns (also empty ones) of the import file, overwrite corresponding rows and columns in the DB table.
4. The imported file overwrite the corresponding content (defined by: key, module, page name) in the database.
5. After successfully importing the file, a success message is shown.

#### **Validations**

- English translation is mandatory. If English translation is missing, then an error message "English Translation" mandatory displays.
- If a wrong file (only xsl, xlsx allowed) is given, an error message appears: "File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed."
- If the content of the file is not correct (columns) an error message "File could not be uploaded due wrong form." is shown.
- If the default language (English) is not filled then an error message "File could not be uploaded. Default language English is missing." is given.
- If any of the translations exceeds 1000 characters, an error message "File could not be uploaded. Translation is too long." is shown.
- If important columns like key, module, page name are not filled error message "File could not be uploaded. Please recheck mandatory columns key, module and page name." is shown.

#### Description of fields

- Three tabs "Generic Categories", 'Generic Values" and "Resources" are present.
- Button "Edit" to open the edit UI label dialog.
- "ID" is the generated ID of the value.
- "Key" is the technical identifier of each UI label.
- "Module" is the module name.
- "Page" is the page name.
- "Meaning" is what the translation is for.
- "Translation English" column translation shows the English language.
- "Translation German" column translation shows the German language.
- "Translation Hungarian" column translation shows the Hungarian language.
- "changed on" describes the date and time the data was changed the last time.
- "changed by" describes the user, who made the last change.

#### Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to history back page
Click on the Edit button	Open a new dialog to modify the data
Click on the "Clear cache" button	Deletes all UI label information from the VTAS cache, so the new information from the data base will be loaded.
Click on the "Discard" button	Discard the current action
Click on the "Save & continue" button	Saves the data after modification
Click on the "Export UI labels" button	An excel file will be generated with all the UI-Labels as shown in the table.
Click on the "Import UI Labels" button	User is provided a browse option to upload file.

#### **2.4.2.5 Dialog "Change Log Levels"**

This Dialog is to change and view the Log-Levels over the REST call.  
Calling the dialog

The dialog is called from the Administration overview.  
Structure

The dialog shows a new tab "Log Levels" in administration page.

A screenshot of a web-based administration interface. At the top, there's a header bar with icons for back, forward, home, and search, followed by the text 'VTAS'. To the right of the header is a dropdown menu labeled 'Administration'. Below the header is a dark blue navigation bar with four items: 'Generische Kategorien', 'Generische Werte', 'Ressourcen', and 'Protokollstufen'. The 'Protokollstufen' item is highlighted with a teal background. The main content area has a light gray background. On the left, there's a sidebar with the same four items. On the right, a message says 'Wählen Sie eine der Konfigurationseinstellungen aus' (Select one of the configuration settings). There's also a small teal bar at the bottom of the page.

When the admin clicks on the "Log Levels" tab, the Log Level screen with all modules will be displayed.

A screenshot of the 'Log Level' screen. The left sidebar still shows 'Generische Kategorien', 'Generische Werte', 'Ressourcen', and 'Protokollstufen', with 'Protokollstufen' now being the active tab. The main content area contains a table with four columns: 'Anwendungsname' (Application Name), 'Aktuelle Log-Ebene' (Current Log Level), 'Protokollstufen' (Log Levels), and 'Aktion' (Action). The table lists six applications: 'Administration', 'Project Planning', 'User Management', 'External Systems', and 'Cache', each with 'DEBUG' as the current log level and a dropdown menu set to 'DEBUG'. Each row has an 'Apply' button in the 'Aktion' column. A vertical scrollbar is visible on the right side of the table.

Anwendungsname	Aktuelle Log-Ebene	Protokollstufen	Aktion
Administration	DEBUG	DEBUG ▾	Apply
Project Planning	DEBUG	DEBUG ▾	Apply
User Management	DEBUG	DEBUG ▾	Apply
External Systems	DEBUG	DEBUG ▾	Apply
Cache	DEBUG	DEBUG ▾	Apply

When the admin changes the Log Level and clicks on apply button, it will change the Log Levels and a success message along with existing Log Levels will be displayed.

Application Name	Current Log Level	Action
Administration	DEBUG	DEBUG ▾
Project Planning	TRACE	TRACE ▾
User Management	DEBUG	DEBUG ▾
External Systems	ERROR	ERROR ▾
Cache	DEBUG	DEBUG ▾

#### Description of fields

- First time dialog is opened with all existing log levels from server by clicking on "Log Levels" tab in the Administration page.
- Each and every column can be sorted ascending or descending (respective to the alphabet or date). You can only sort one column at the same time.
- Each row is selectable and only one single row is selectable at one time.
- A scroll functionality is available in case the list gets bigger.
- "Application Name" is the name of the micro services.
- "Current Log Level" is the Log Level that is currently there in server.
- "Log Levels" is the logs that can be changed by admin.
- "Action" is the action that can be applied for each application.
- Button "Apply" is present for each row.
- Admin can access this Log Levels dialog in Administration page.
- User who have admin credentials can change and view the log levels "INFO" , "DEBUG" , "TRACE", "ERROR", "WARN".
- After selecting a Log Level from dropdown, when the admin clicks on apply, it will change the log levels.

#### Validations

No Validations for this dialog.

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to history back page
Click on "Apply" button	It changes the Log level of that particular microservice.

#### 2.4.2.6 Dialog "Administrat sensor/plant mapping"

This Dialog can be used to Add/ Edit Sensor/Plant mapping data.  
Calling the dialog

The dialog is called from the Administration overview.

Structure

The dialog shows a new tab "Sensor-Plant" in administration page. Clicking Add button, user will get following window and asked to select plant, sensor and to provide Key.

Administration

Generic Categories

Generic Values

Resources

Sensor-Plant

Log Levels

Plant\*: plant1

Sensor\*: sensor1

Key\*: 123

Discard Save & Continue

After clicking on the "Save & Continue" button, informations will be saved and it will appear in the VTAS.

Administration

Generic Categories

Generic Values

Resources

Sensor-Plant

Log Levels

Edit Add

	Plant	Sensor	Key	Changed On	Changed By
●	plant1	sensor1	123	2017-12-18 16:40:40	Admin

Clicking on the Edit button

Administration

Generic Categories

Generic Values

Resources

**Sensor-Plant**

Log Levels

Plant\*: plant2

Sensor\*: sensor2

Key\*: 124

Discard Save

After Save & Continue

Administration

Generic Categories

Generic Values

Resources

**Sensor-Plant**

Log Levels

Edit Add

	Plant	Sensor	Key	Changed On	Changed By
●	plant2	sensor2	124	2017-12-18 16:40:40	Admin

Description of fields

- First time dialog is opened with Add and Edit button.
- If the user clicks on the add a dialog three fields that can be filled will open. Sensor and Plant values are drop down values. Key is an input field.
- Sensor and Plant values can only be selected one at a time and the key should be provided manually.
- On clicking Save & Continue button, data will be saved to db and can be seen on screen.
- On clicking discard button, a confirmation message will be popped up. If the user clicks yes, the dialog will be discarded.
- Each row is editable by selecting radio button the edit button will be enabled
- Sensor, plant and key can be edited and after clicking Save & Continue data will be updated into DB

## Validations

No Validations for this dialog.

Possible actions

Action	Description
Click on the Add tab	Navigates to Page where Sensor and Plant can be mapped
Click on the Save & Continue	Mapped data is saved to DB
Click on the Discard	the chosen value will be discarded
Click on the "Edit" tab	Navigates to Page where Sensor and Plant mapping can be edited

#### 2.4.2.7 Dialog "Change mapping for plants to be sent to third parties"

This dialog displays the plant keys which are needed for different third party systems, so that admin can make sure that different formats are taken care of.

Calling the dialog

The dialog is called from the Administration overview.

Structure

The dialog on the right side shows the configured Plant-Mapping for the different third party systems.

The screenshot shows a web-based administration interface. On the left is a sidebar with links: Generic Categories, Generic Values, Resources, Sensor-Plant, Log Levels, and Plant Mapping (which is highlighted). The main area has a header with 'Administration' and a search bar. Below the header is a table titled 'Edit' with columns: Name Of Plant, VTAS plant number, FLIMS plant, MRS plant, EFA.Input plant, CAT plant, Changed On, and Changed By. There are two entries for plant 'DE': one with values 0500, 050, 0500, 0500, 0500, 0500, 2018-01-22 10:10:34, and Admin; and another with values 0500, empty, empty, empty, empty, empty, 2018-01-22 11:07:27, and Admin.

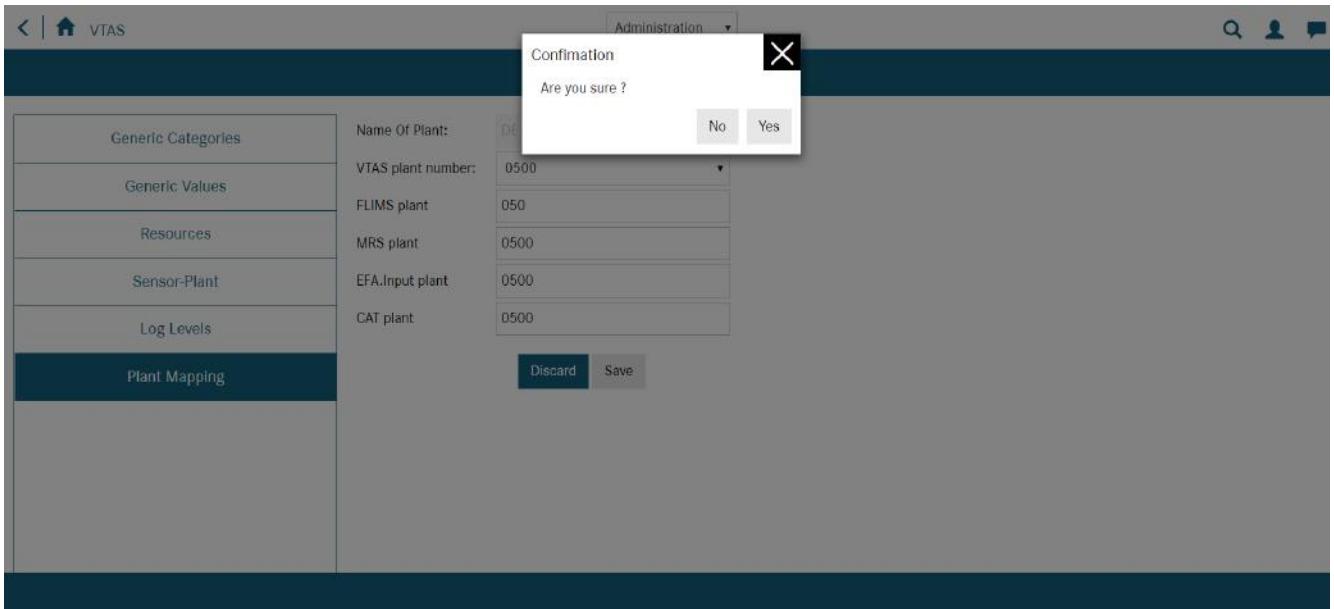
#### Edit Dialog

The Edit dialog provides the possibility to change the name of the plant key for the third party systems, but not the plant name.

The screenshot shows the 'Edit' dialog for plant mapping. It has a sidebar with the same links as the main screen. The main area contains input fields for 'Name Of Plant' (DE), 'VTAS plant number' (0500), 'FLIMS plant' (050), 'MRS plant' (0500), 'EFA.Input plant' (0500), and 'CAT plant' (0500). At the bottom are 'Discard' and 'Save' buttons.

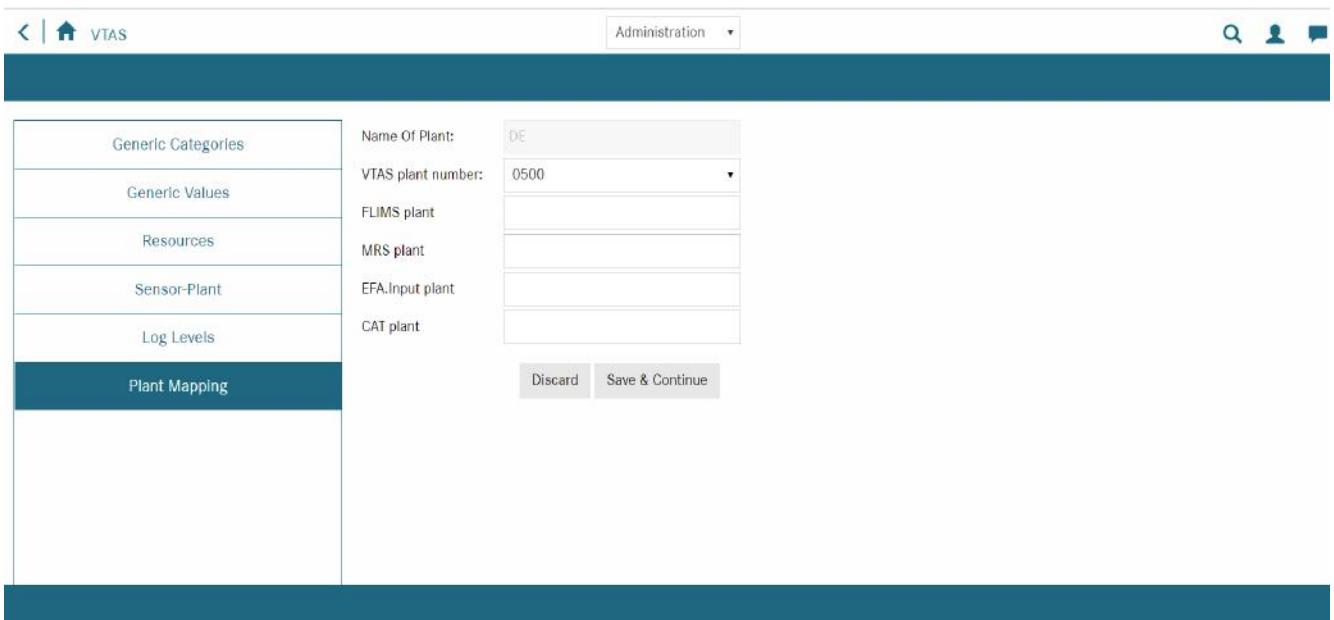
#### Confirmation Popup

This popup asks for confirmation whether to discard the dialog or not.



### Add Dialog

The add dialog provides the admin to add the plant keys which are needed for the different third party systems.



Initializing

- When the plant mapping page loads, the table should display "No data found" if there is no data in the database.
- If data is present in the database that data will be displayed in the view table.
- In the view page "Add" button will be enabled.
- Edit button will be disabled by default.

Description of fields

- Six tabs "Generic Categories" and 'Generic Values", "Resources", "Sensor-plant", "Log-levels", "Plant Mapping" are on right side.
- Button "Edit" to open the edit plant mapping dialog.
- Button "Add" to open the add plant mapping dialog.
- "Name of Plant" field is non editable.
- "VTAS plant number" is a dropdown field and mandatory.
- "FLIMS plant" field is editable text field.
- "MRS plant" field is editable text field.
- "EFA.Input plant" field is editable text field.
- "CAT plant" field is editable text field.

### Editing dialog:

- This dialog is opened when a row in the table is selected and then edit button is clicked.
- A new dialog (to edit a row) showing the following fields:
  - "Name of Plant" is non editable and is mandatory field.
  - Other editable fields VTAS plant number, FLIMS plant, MRS plant, EFA.Input plant, CAT plant.

- Buttons "Save" and "Discard" are available.
- After saving, modified data row is overwritten with the new values.

#### Confirmation Popup:

- A separate confirmation popup is showing the following buttons:
- Yes button(It will discard edit action)
- No button(It will go back to the edit dialog)

#### Add dialog:

- A separate dialog (to add a row) showing the following:
  - "Name of Plant" is non editable and is mandatory field.
  - Other editable fields VTAS plant number, FLIMS plant, MRS plant, EFA.Input plant, CAT plant.
  - Buttons "Save" and "Discard" are available.
- When the button "Save" is clicked, a new row at the top of the table with the entered information is shown in the list. A new time stamp and the user who created the entry will be saved.
- When the button "Discard" is clicked, we will be navigated back to the main dialog without saving by displaying a popup whether to "Are you sure ?".

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to history back page
Click on the Edit button	Open a new dialog to modify the data
Click on the Add button	Open a new dialog to add the data
Click on the Save button	Saving the data after modification
Click on the discard button	Discard the current action
Click on the No button	Stays on the edit dialog
Click on the Yes button	Navigates back to the Categories dialog

#### **2.4.2.8 Dialog "View interface information"**

This Dialog is to have a third party system interface overview, where Admin can check the availability of interface that whether it's working fine or not.

Calling the dialog

The dialog is called from the Administration overview.

Structure

The dialog shows a table with from where the user can know about the availability of all interface by clicking on check button.

The lower part of the dialog shows a table with static list of all interface functions used in VTAS.

System	Status	Trigger
FLIMS	OK	Trigger
EFA.input/MRS	OK	Trigger
CAT	OK	Trigger

System	Schnittstelle	Status OK	Status NOK	Last Status Recorded	Date of Last Status Recorded
CAT	FavList_Get	0	2	NOK	2018-03-05 11:48:52
FLIMS	SearchVehicles_Post	5	0	OK	2018-03-05 11:43:47
MRS	VehicleFaults_Post	59	5	OK	2018-03-05 14:34:28
FLIMS	Mandants_Get	1	0	OK	2018-03-05 09:53:26

Initializing

Third party system communication data collected during the last 24 hours will be shown in the table.

Description of fields

Upper table:

System field describes the name of third party system, e.g. "FLIMS"

Status field describes status of interface that whether it is ok or not

Trigger field hold functionality to check the availability of interface

Lower table:

System field describes the name of third party system, e.g. "FLIMS"

Interface field describes interface function that was executed, e.g. "getVehicle"

Status OK field describes number of calls with "Success" status in last 24h.

Status NOK field describes number of calls with any status **except "Success"** in last 24h

Last status recorded field describes status of most current record, e.g. "NOK"

Date of last status recorded field describes timestamp of most current record, e.g. "16.01.2018 16:44:33 CET"

Possible Actions

Clicking on the "Check" button checks the availability of the system.

### 2.4.3 Module "Project planning"

- 2.4.3.1 Dialog "Add Project Information"
- 2.4.3.2 Dialog "View Projects" and "Export Projects"
- 2.4.3.3 Dialog "Measures"
- 2.4.3.4 Dialog "Upload Vehicle Order Number"

#### 2.4.3.1 Dialog "Add Project Information"

This dialog is to add new project to assign vehicles to the project with basic project information.

##### Calling the dialog

This dialog is opened when user clicks on the button "Create project" from the project list.

##### Structure

The screenshot shows the 'Add Project Information' dialog. At the top, there is a fixed header bar with icons for back, home, and search, followed by the title 'Project planning'. Below the header is a toolbar with buttons for 'New approval date', 'New order number', 'Delete All', and 'Upload order numbers'. The main content area has a dark blue header row with columns for 'Project Name', 'Sensor', 'Project Start Date', 'Project End Date', and 'Model Series'. The main form area contains two tabs: 'Project' (selected) and 'Measures'. The 'Project' tab includes fields for 'Responsible', 'Sensor', 'Project Name\*', 'FLIMS-Client', 'Steering Codes', 'Model Series', 'Project Status' (with options 'Draft', 'Active', and 'Closed'), 'Plant', and 'Project ID'. At the bottom of the form are 'Discard' and 'Save & Continue' buttons.

##### Fixed Header:

The Header and the Button header section on the top of the page are fixed and are visible to the user even if user scroll down the page.  
Position of the button header is below the actual header which shows the most important project information.

Project planning

New approval date New order number Delete All Upload order numbers

Project Name Sensor Project Start Date Project End Date Model Series

**Project** **Measures**

Responsible:  Project Status:

Sensor:  Plant:

Project Name\*:  Project ID:

FLIMS-Client:

Steering Codes:

Model Series:

This dialog shows a project tab with all the fields that have project information. By default an empty row exists for approval dates in project planning information. If user wish to add multiple approval dates, has to click on "New Add approval date" button, which is on left top of project planning information dialog.

10.44.247.84:8080/vtas-main/projectplanning/#addproject9253

New approval date New order number Delete All Upload order numbers

Steering Codes: 5556

Model Series: MD2  Edit Model Series

PRO Phases: Pro2  Edit PRO Phases

Cost Center:  Clearing Number:

Start Date: 08/02/2018 End Date: 24/02/2018

Approval dates: 

Date	Comment
<input type="button"/>	<input type="text"/>

Project Descriptions:

Global Ordering Numbers: 

Vehicle Name	Global Ordering Number	Vehicle start date	Vehicle end date	Status
<input type="text"/>	<input type="text"/>	08/02/2018 <input type="button"/>	<input type="button"/>	<input type="button"/>

Attachments:  Add Attachment

#### Fixed Footer:

Besides with Header, Button header, The footer section on the bottom of the page are fixed and are visible to the user even if user scroll down the page.

VTAS Project planning

New approval date New order number Delete All Upload order numbers

Project Measures

Responsible:

Sensor:

Project Name\*:

FLIMS-Client:

Steering Codes:

Model Series:   
Edit Model Series

PRO Phases:   
Edit PRO Phases

Project Status:  Active

Plant:

Project ID:

Discard Save & Continue

#### Dialog with error message

This dialog is to add project where Project name is a mandatory field.

VTAS Project planning

Error! Project Name is mandatory

New approval date New order number Delete All Upload order numbers

Project Measures

Responsible:

Sensor:

Project Name\*:

FLIMS-Client:

Steering Codes:

Model Series:   
Edit Model Series

Project Status:  Active

Plant:

Project ID:

Discard Save & Continue

Model Series is a mandatory field only if project status is Active

VTAS Project planning

Error! Model Series is mandatory

New approval date New order number Delete All Upload order numbers

**Project** Measures

Responsible:	Admin	Project Status:	Draft Active Closed
Sensor:	RGA	Plant:	PR1
Project Name*:	Test	Project ID:	51
FLIMS-Client:			
Steering Codes:	5458	0983	9808
Model Series:	Edit Model Series		

Discard Save & Continue

#### Confirmation dialog for Discard

This dialog ask for the confirmation whether to discard changes or not.

VTAS Project planning

New approval date New order number Delete All Upload order numbers

**Project** Measures

Responsible:	Admin	Project Status:	Draft Active Closed
Sensor:	RGA	Plant:	PR1
Project Name*:	Test	Project ID:	51
FLIMS-Client:			
Steering Codes:	5458	0983	9808
Model Series:	Edit Model Series		
PRO Phases:	Edit PRO Phases		

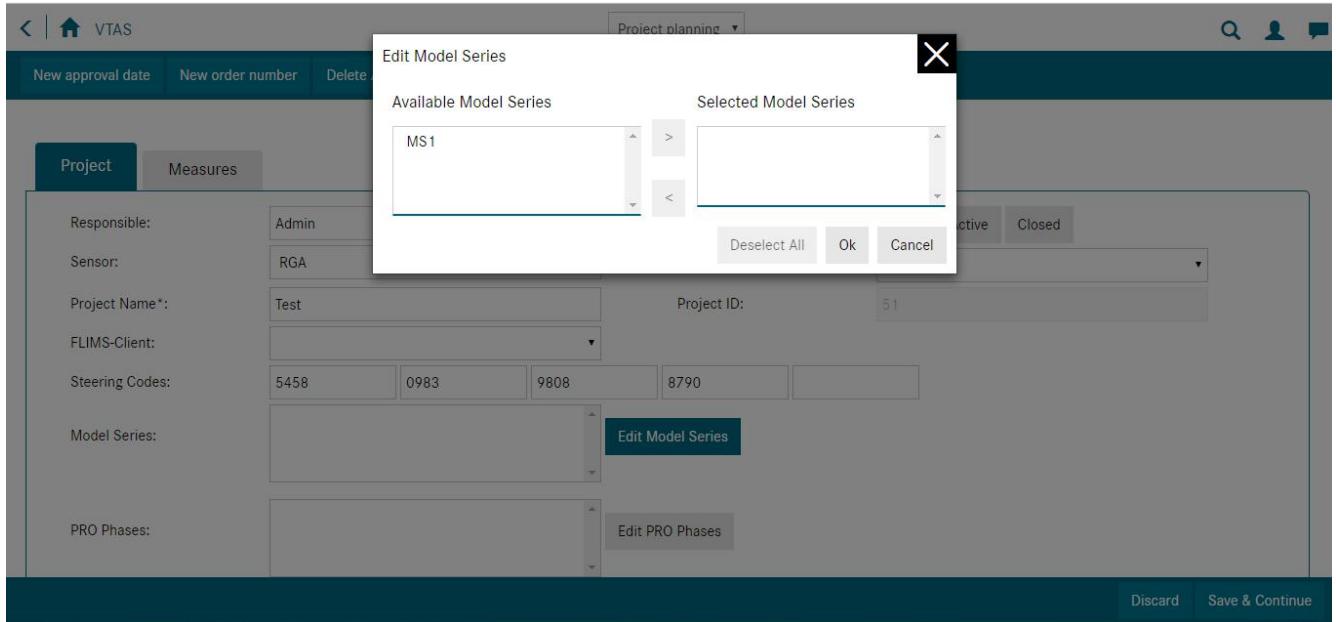
Are you sure ?

No Yes

Discard Save & Continue

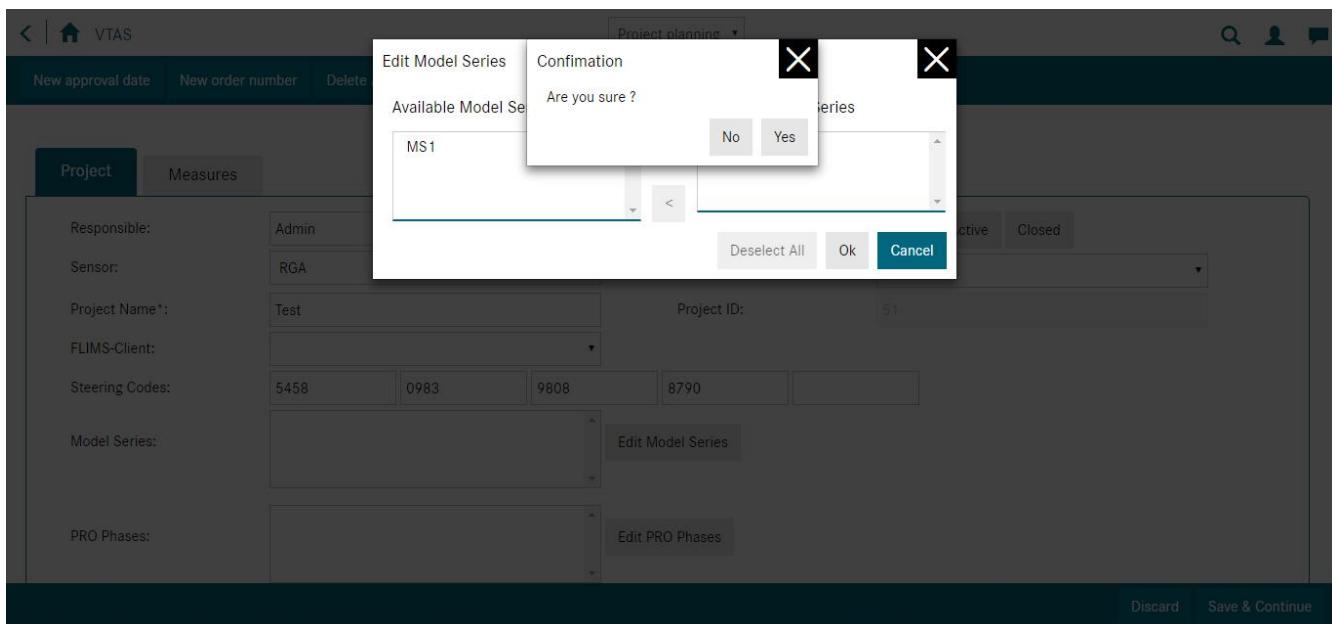
#### Edit Model Series dialog

When user clicks on "Edit Model Series" button in project tab, the popup opens.



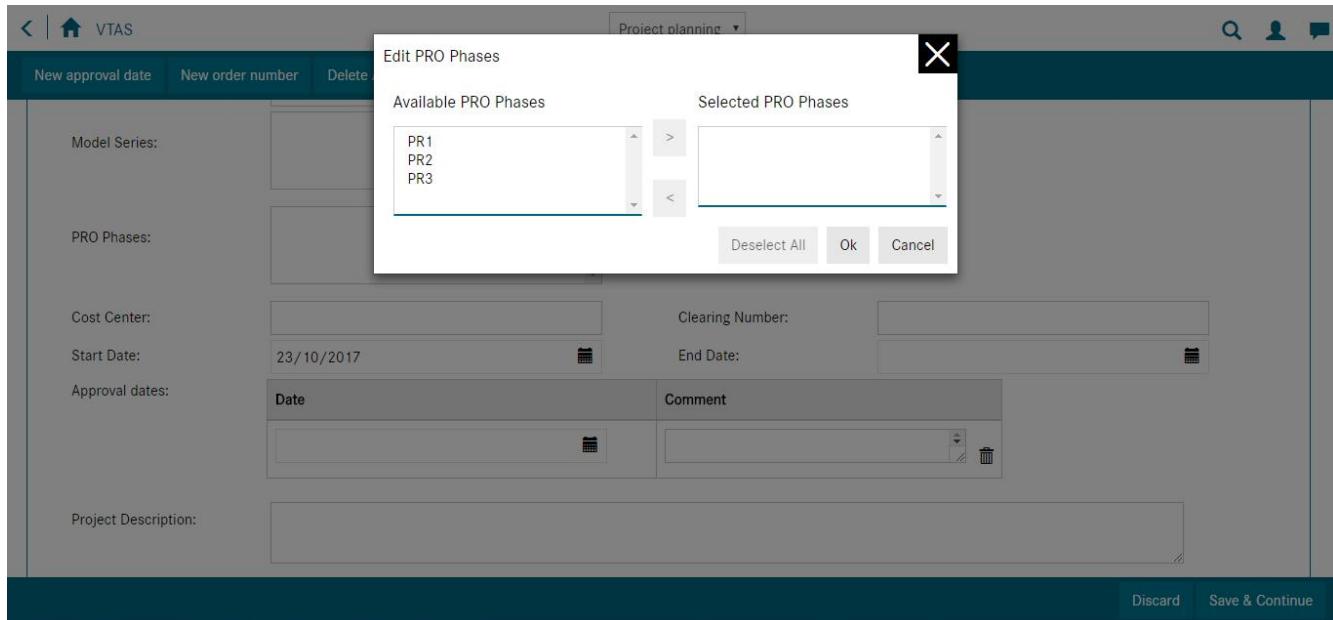
#### Edit Model Series Confirmation Dialog

When user click "cancel" button in Edit Model Series popup, it asks for confirmation whether to discard changes or not.



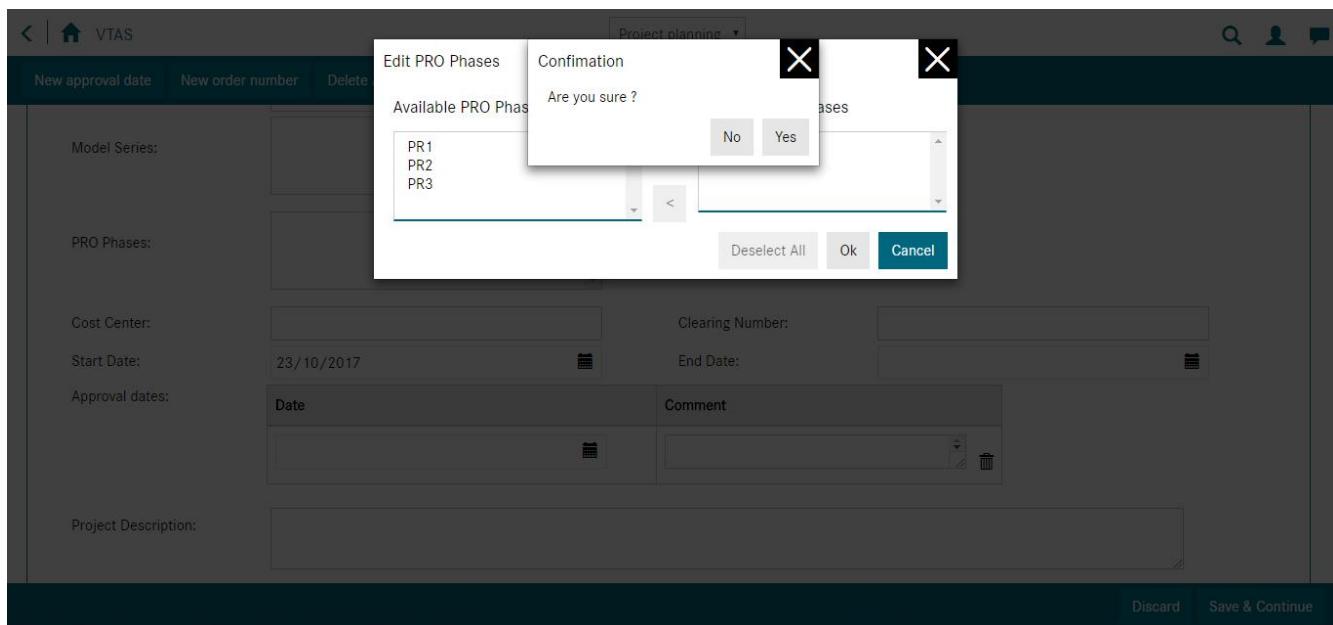
#### Edit Pro Phases Dialog

When user click on "Edit Pro Phases" button, the Edit Pro Phases popup opens.



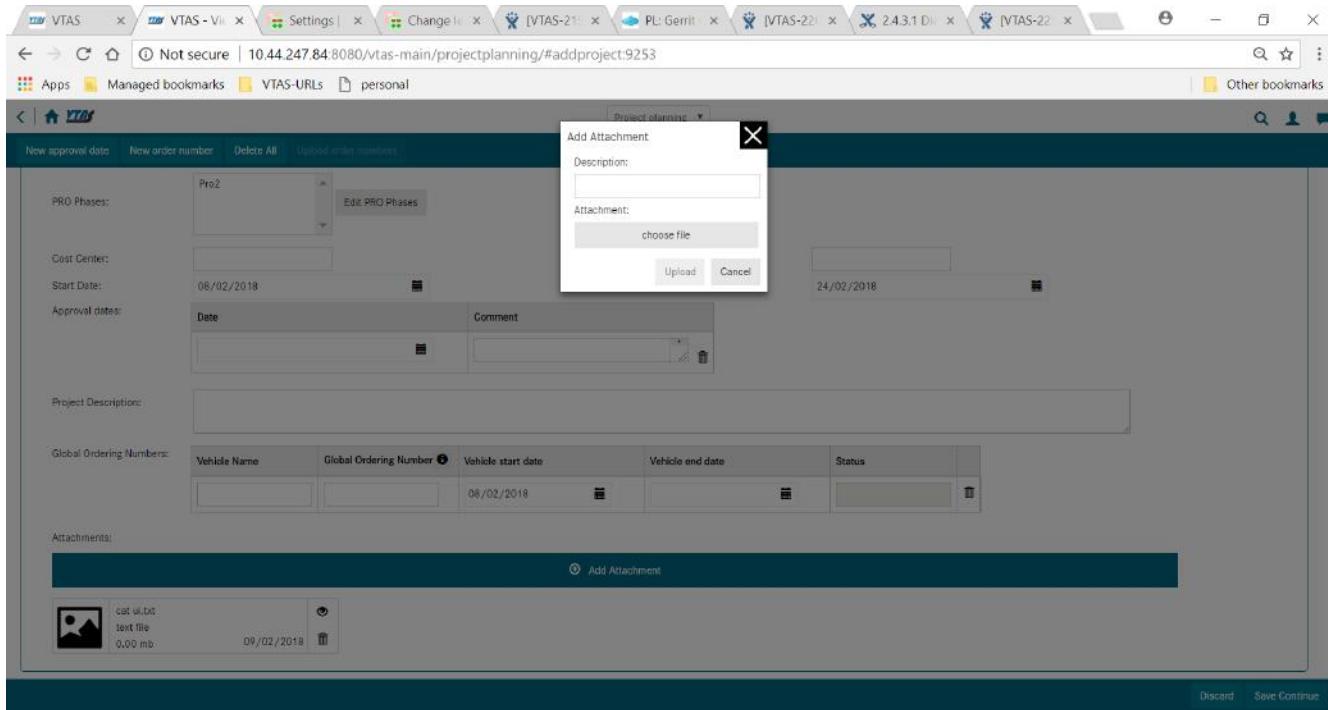
#### Edit Pro Phases Confirmation Dialog

When user click "cancel" button in Edit Pro Phases popup, it asks for confirmation whether to discard changes or not.



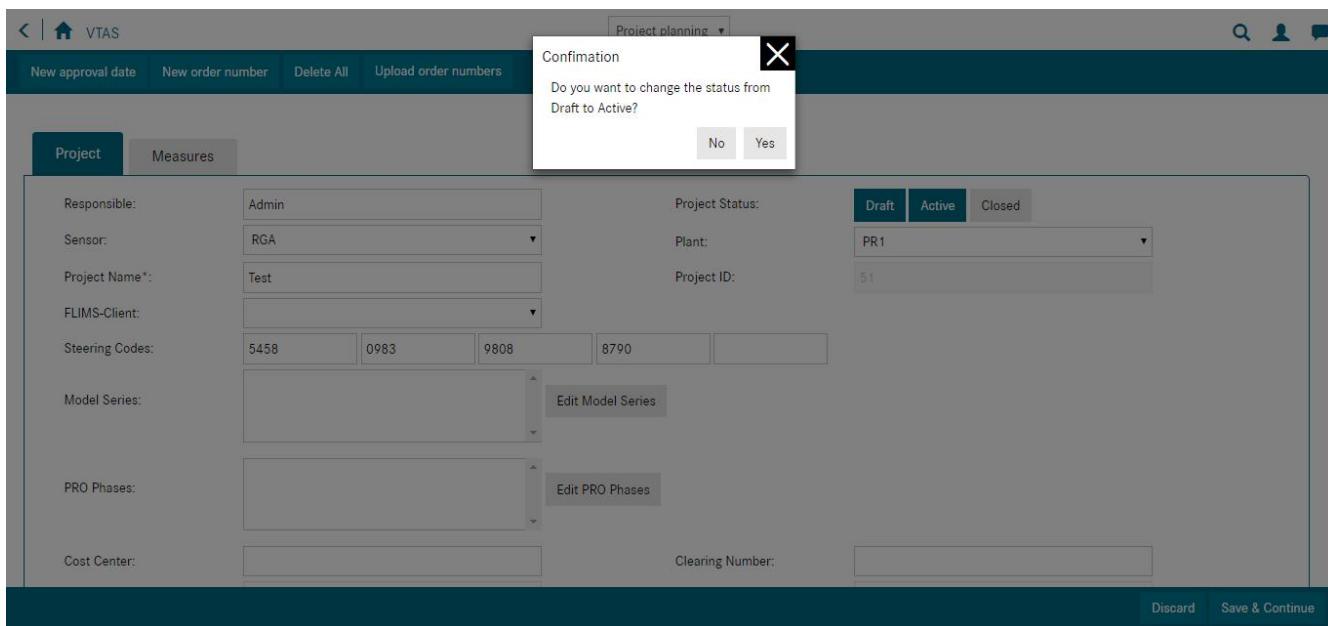
#### Attachments :

If user clicks on "Add attachments " button, a popup opens where user can add attachment and can enter description about the attachment.



#### Set project to active :

If project creates first time and saved, user can able to change the project status from Draft to Active, if user clicks on "Active" button, a confirmation popup opens to get confirmation like "Do you want to change the status from Draft to Active?".



Once user clicks on "Yes" button, Draft button,FLIMS-Client and Upload order numbers will disable and "Active" button will highlighted.

Project planning

Projektstatus: Aktiv

Baureihen bearbeiten

PRO-Phasen bearbeiten

Verwerfen Speichern & Weiter

#### Dialog with error message for Active button selects

Responsibility is a mandatory field in project dialog, if “Active” button selects

Error! Responsible is mandatory

New approval date New order number Delete All Upload order numbers

Project Status: Draft Active Closed

Edit Model Series

Edit PRO Phases

Discard Save & Continue

Sensor name is a mandatory field in project dialog, if “Active” button selects

VTAS Project planning

Error! Sensor is mandatory

New approval date New order number Delete All Upload order numbers

**Project** **Measures**

Responsible:	ADMIN	Project Status:	Draft Active Closed
Sensor:			
Project Name*:	Test	Project ID:	51
FLIMS-Client:	29-Fuhrpark Rastatt		
Steering Codes:	5458	0983	9808 8790
Model Series:	MS1 <a href="#">Edit Model Series</a>		
PRO Phases:	<a href="#">Edit PRO Phases</a>		

**Discard** **Save & Continue**

Plant is a mandatory field in project dialog, if "Active" button selects

VTAS Project planning

Error! Plant is mandatory

New approval date New order number Delete All Upload order numbers

**Project** **Measures**

Responsible:	ADMIN	Project Status:	Draft Active Closed
Sensor:	RGA	Plant:	
Project Name*:	Test	Project ID:	51
FLIMS-Client:	29-Fuhrpark Rastatt		
Steering Codes:	5458	0983	9808 8790
Model Series:	MS1 <a href="#">Edit Model Series</a>		
PRO Phases:	<a href="#">Edit PRO Phases</a>		

**Discard** **Save & Continue**

End date mandatory field in project dialog, if "Active" button selects.

Project planning

End date is mandatory

New approval date New order number Delete All Upload order numbers

Sensor:	RGA	Plant:	050
Project Name*:	Project VTAS	Project ID:	52
FLIMS-Client:	40-QM Sindelfingen		
Steering Codes:	9898		
Model Series:	MD1	Edit Model Series	
PRO Phases:		Edit PRO Phases	
Cost Center:		Clearing Number:	
Start Date:	05/02/2018	End Date:	

**Discard** **Save & Continue**

Global ordering number is mandatory in project dialog, if a vehicle is there and if "Active" button selects.

Displays an error box with red color.

Project planning

Global ordering number is mandatory

New approval date New order number Delete All Upload order numbers

Vehicle Order Numbers:

Vehicle Name	Global ordering number	Vehicle start date	Vehicle end date	Status
sdsd		07/02/2018	21/02/2018	FAILURE
sadsa	3342432	07/02/2018	02/03/2018	FAILURE
sads		07/02/2018	02/03/2018	FAILURE
wedew	234234	07/02/2018	02/03/2018	FAILURE

**Discard** **Save & Continue**

#### Set project to "Closed":

Close button is enabled once the project is in "Draft" or "Active" state (requires saving the project information at least once after initially creating a project).

VTAS

Projektplanung

Neu Freigabedatum Neu Auftragsnummer Alle Löschen Auftragsnummern hochladen

**Projekt** Maßnahme

Verantwortlich:	admin	Projektstatus:	Entwurf Aktiv Geschlossen
Sensor:	RGA	Werk:	hungary
Projektname*:	test213	Projekt ID:	51
Mandant:	29-Fuhrpark Rastatt		
Lenkung codes:	2132		
Baureihen:	MS1	Baureihen bearbeiten	
PRO-Phasen:	PRO-Phasen bearbeiten		
Kostenstelle:		Verrechnungsnummer:	
Anfangsdatum:	22/11/2017	Enddatum:	

Verwerfen Speichern & Weiter

Pop-up with the question "Has Q-Approval been given?" when clicked on "Closed" button

When the user clicks on "closed" button, a pop-up with the question "Has Q-Approval been given?" and buttons "Yes" and "No".

Project planning

New approval date New order number Delete All Upload order numbers

**Project** Measures

Confirmation

Has Q-Approval been given?

No Yes

Responsible:	ADMIN	Project Status:	Draft Active Closed
Sensor:	RGA	Plant:	PR1
Project Name*:	Test	Project ID:	51
FLIMMS-Client:	29-Fuhrpark Rastatt		
Steering Codes:	2342 5235 5325		
Model Series:	MS1	Edit Model Series	
PRO Phases:	Edit PRO Phases		
Cost Center:	Clearing Number:		

Discard Save & Continue

If the user clicks on "Yes", project will be set to closed (everything will be set to read only).

Confirmation popup when clicked on "No" in the above popup.

If user clicks on "No" , another notification is shown "Do you really still want to close the project?" With buttons "Yes" and "No".

Project planning ▾

**Confirmation**

Do you really still want to close the project?

No Yes

**Project** **Measures**

Responsible: ADMIN

Sensor: RGA

Project Name\*: Test

FLIMS-Client: 29-Fuhrpark Rastatt

Steering Codes: 2342 5235 5325

Model Series: MS1

PRO Phases:

Cost Center:

Project Status: Draft Active Closed

Plant: PR1

Project ID: 51

Clearing Number:

**Discard** **Save & Continue**

Project set to "Closed" when clicked on "Yes" in the above popup

If the user clicks "Yes", the project is set to "Closed" and it is read-only, no more changes are allowed.

Project planning ▾

New approval date New order number Delete All Upload order numbers

**Project** **Measures**

Responsible: ADMIN

Sensor: RGA

Project Name\*: Test

FLIMS-Client: 29-Fuhrpark Rastatt

Steering Codes: 2342 5235 5325

Model Series: MS1

PRO Phases:

Cost Center:

Project Status: Draft Active Closed

Plant: PR1

Project ID: 51

Clearing Number:

**Discard** **Save & Continue**

Delete Attachment :

If user clicks on "recycle bin" image, a notification opens with security question: "Do you really want to delete the attachment?"

Once user clicks on "Yes" button attachment is not visible any more.

Attachment will be deleted from database when clicking on "Save and Continue" or with any other saving mechanism (Home-Button, Changing tabs...).

VTAS > VTAS - VII > Settings | Change list > [VTAS-21] > PL: Gerrit > [VTAS-22] > 2.4.3.1 DI > [VTAS-22]

Not secure | 10.44.247.84:8080/vtas-main/projectplanning/#addproject:9253

Apps Managed bookmarks VTAS-URLS personal Other bookmarks

**Project planning**

New approval date: New order number: Delete All Upload order numbers:

PRO Phases: Pro2 Edit PRO Phases

Cost Center:

Start Date: 08/02/2018

Approval dates:

Date	Comment

Project Description:

Global Ordering Numbers:

Vehicle Name	Global Ordering Number	Vehicle start date	Vehicle end date	Status
		08/02/2018		

Attachments:

Add Attachment

 cat.ul.txt  
text file  
0,00 mb 09/02/2018 

 Sprint-14 Sprint Planning 2.xlsx  
doc 2 09/02/2018 

**Discard Save Continue**

### Open Attachment:

If user clicks on "eye" icon, attachment will open or download as per the default behavior of the browser.

VTAS > VTAS - VII > Settings | Change list > [VTAS-21] > PL: Gerrit > [VTAS-22] > 2.4.3.1 DI > [VTAS-22]

Not secure | 10.44.247.84:8080/vtas-main/projectplanning/#addproject:9253

Apps Managed bookmarks VTAS-URLS personal Other bookmarks

**Project planning**

New approval date: New order number: Delete All Upload order numbers:

Cost Center:

Start Date: 08/02/2018

End Date: 24/02/2018

Approval dates:

Date	Comment

Project Description:

Global Ordering Numbers:

Vehicle Name	Global Ordering Number	Vehicle start date	Vehicle end date	Status
		08/02/2018		

Attachments:

Add Attachment

 cat.ul.txt  
text file  
0,00 mb 09/02/2018 

 Sprint-14 Sprint Planning 2.xlsx  
doc 2 09/02/2018 

Sprint-14 Sprint Planning 2.xlsx

Show all 

FLIMS-Client dropdown values are loaded from FLIMS application

VTAS Project planning

New approval date New order number Delete All Upload order numbers

**Project** Measures

Responsible:	Admin	Project Status:	Draft	Active	Closed	
Sensor:	RGA	Plant:	PR1			
Project Name*:	Test	Project ID:				
FLIMS-Client:	29-Fuhrpark Rastatt					
Steering Codes:	29-Fuhrpark Rastatt	9079	0785			
Model Series:	MS1	Edit Model Series				
PRO Phases:		Edit PRO Phases				

**Discard** **Save & Continue**

Error Message displayed when user tries to set project status to active without selecting FLIMS-Client field.

VTAS Project planning

Error! FLIMS-Client is Mandatory

New approval date New order number Delete All Upload order numbers

**Project** Measures

Responsible:	Admin	Project Status:	Draft	Active	Closed	
Sensor:	RGA	Plant:	PR1			
Project Name*:	Test	Project ID:	50			
FLIMS-Client:						
Steering Codes:	1242	4124	6024	9079	0785	
Model Series:	MS1	Edit Model Series				

**Discard** **Save & Continue**

Initially, the FLIMS status and EFA.Input status of Global ordering numbers will be empty.

Projektplanung

Neues Genehmigungsdatum    Neue Auftragsnummer    Alles Löschen    Auftragsnummern hochladen

Genehmigungsdatum: Datum Kommentar

Projekt Beschreibung:

Kundenauftragsnummern:

Fahrzeugname	Kundenauftragsnummer	Fahrzeug Startdatum	Fahrzeug Enddatum	FLIMS Status	EFA.Input Status
		01/03/2018	31/03/2018		

Anhänge: Anhang hinzufügen

Verwerfen Speichern & Weiter

After setting "Project Status" to active and clicking on "Save & Continue" each Vehicle Information will be sent to FLIMS. If a vehicle has been created successfully in FLIMS, the status success and response from FLIMS will be displayed in the Global ordering number table. Then vehicle information will be sent to EFA.Input and if it is success or failure, status will be updated when project is reopened.

Projektplanung

Neues Genehmigungsdatum    Neue Auftragsnummer    Alles Löschen    Auftragsnummern hochladen

Kostenstelle: Verrechnungsnummer:

Anfangsdatum: 02/03/2018 Enddatum: 05/03/2018

Genehmigungsdatum: Datum Kommentar

Projekt Beschreibung:

Kundenauftragsnummern:

Fahrzeugname	Kundenauftragsnummer	Fahrzeug Startdatum	Fahrzeug Enddatum	FLIMS Status	EFA.Input Status
Vtas-Benz-4	0729121770	02/03/2018		SUCCESS	

Anhänge: Anhang hinzufügen

Verwerfen Speichern & Weiter

If the vehicle information is not created in FLIMS, status of vehicle will be displayed FAILURE in Global ordering number table. Then vehicle information will be not sent to EFA.Input, status will be empty.

Projektplanung

Neues Genehmigungsdatum    Neue Auftragsnummer    Alles Löschen    Auftragsnummern hochladen

Projekt Beschreibung:

Kundenauftragsnummern:

Fahrzeugname	Kundenauftragsnummer <small>i</small>	Fahrzeug Startdatum	Fahrzeug Enddatum	FLIMS Status	EFA.Input Status <small>i</small>
Vtas-Benz-4	0729121770	02/03/2018		SUCCESS	
	6986987987	02/03/2018	05/03/2018	FAILURE	

Anhänge:

Anhang hinzufügen

Verwerfen    Speichern & Weiter

After sending Vehicle Information, Project Information also will be sent to FLIMS. After successfull response from FLIMS, vehicle information sent to EFA.Input and project details will be saved to VTAS and status will be active. User can see the EFA.Input status after reopening the project.

Projektplanung

Neues Genehmigungsdatum    Neue Auftragsnummer    Alles Löschen    Auftragsnummern hochladen

Kostenstelle:

Anfangsdatum: 01/03/2018

Genehmigungsdatum:

Datum	Kommentar

Projekt Beschreibung:

Kundenauftragsnummern:

Fahrzeugname	Kundenauftragsnummer <small>i</small>	Fahrzeug Startdatum	Fahrzeug Enddatum	FLIMS Status	EFA.Input Status <small>i</small>
	0729117789	01/03/2018	31/03/2018	SUCCESS	SUCCESS

Anhänge:

Anhang hinzufügen

Verwerfen    Speichern & Weiter

If the project information is not saved successfully to FLIMS, error message will be displayed and project status will be saved in draft state.

If FLIMS client is not available, an error message will be displayed along with error code.

Project planning ▾

VTAS-TEC-3: FLIMS responded with an error. Please contact the administrator.

New approval date New order number Delete All Upload order numbers

Responsible:	<input type="text"/>	Project Status:	Draft Active Closed
Sensor:	<input type="text"/>	Plant:	<input type="text"/>
Project Name*:	<input type="text"/>	Project ID:	<input type="text"/>
FLIMS-Client:	<input type="text"/>		
Steering Codes:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		
Model Series:	<input type="text"/>	Edit Model Series	
PRO Phases:	<input type="text"/>	Edit PRO Phases	
Cost Center:	<input type="text"/>	Clearing Number:	<input type="text"/>
Start Date:	08/02/2018 <input type="button"/>	End Date:	<input type="text"/>
Approval dates:	<input type="text"/> <input type="text"/>		

**Discard Save & Continue**

VTAS Project planning ▾

{"message": "An error has occurred."}

New approval date New order number Delete All Upload order numbers

Responsible:	KIPANDA	Project Status:	Draft Active Closed				
Sensor:	160	Plant:	050				
Project Name*:	Cat	Project ID:	8000				
FLIMS-Client:	40-QM Sindelfingen						
Steering Codes:	1234 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>						
Model Series:	<input type="text"/>	Edit Model Series					
PRO Phases:	<input type="text"/>	Edit PRO Phases					
Cost Center:	<input type="text"/>	Clearing Number:	<input type="text"/>				
Start Date:	19/01/2018 <input type="button"/>	End Date:	31/01/2018 <input type="button"/>				
Approval dates:	<table border="1"> <thead> <tr> <th>Date</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </tbody> </table>			Date	Comment	<input type="text"/>	<input type="text"/>
Date	Comment						
<input type="text"/>	<input type="text"/>						

**Discard Save & Continue**

when the FLIMS project save is not successfull then error message will be displayed "Flims responded with an error"

Project planning ▾

VTAS-TEC-3: FLIMS responded with an error. Please contact the administrator.

New Measure Delete All Upload measures Export Measures

Project Measures

SA- Measure Number	Affected Codes	Affected Models	Measure Title	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comment
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Discard Save & Continue**

Once the project information is saved, a widget with project information is displayed at the top so that user is aware of which project he is

working on.

New approval date New order number Delete All Upload order numbers

Project Name Sensor Project Start Date Project End Date Model Series

Test3 RGA Feb 22 2018 Feb 28 2018 md2

Responsible: kpanda Project Status: Draft Active Closed

Sensor: RGA Plant: 6330

Project Name\*: Test3 Project ID: 50

FLIMS-Client: 40-QM Sindelfingen

Steering Codes: 9909

Model Series: md2 Edit Model Series

Discard Save & Continue

## Initializing

The first time the dialog is opened with "project" tab, the following data needs to be loaded:

- "Project status" text field is prefilled with 'draft', it is not editable.
- Dropdown "Sensor" dropdown loaded from database
- "Plant" dropdown loaded from database
- "FLIMS-Client" dropdown values loaded from FLIMS application.
- A widget showing project information ( initially empty) at the top.

The Header and Button Header, Button footer section are fixed on top of page.

### Edit Model Series Dialog:

- A field on the left shows all available model series list, which are loaded from the database.

### Edit Pro Phases dialog:

- A field on the left shows all available Pro Phases list, which are loaded from the database.

### Approval date:

- The first time an empty row will be available for approval date and comment in the project planning information dialog.

### Global ordering Number:

The first time an empty row will be available for Global ordering number with vehicle start date pre-filled with project start date(if available).

### Attachments:

- A button "Add Attachment" will be available in the project planning information dialog.

### Project status:

- By default "Draft" is the project status, and the "Draft", "Active", "Closed" buttons are disabled.

### Delete Attachment:

- A "recycle bin" icon will be available in each attachment to delete attachment.

### Open Attachment:

- A "eye" icon will be available in each attachment to open attachment

### Description of fields

- "Responsible" text field is editable , responsible person for project.
- "Project status" field is "Draft" as pre selected button and it is disabled mode.
- A dropdown "Sensor" with category values 'RGA, KNFE, LQS' is available, only one process is selectable at a time.
- "Plant" is a dropdown list that is editable, only one plant is selectable at a time.
- Buttons "save & continue", "Discard" are available.
- "Project name" is mandatory text field.
- "Project Id" is auto generated when user clicks "save & continue" button at first instance.
- "Steering codes" is of five fields, each field will take 4 digits and accepts alphanumeric only.
- "Model Series" is mandatory selectable field.

- Button "Edit Model series" to open the edit Model series dialog
- "Pro Phases" is selectable field.
- Button "Pro Phases" to open the edit pro phases dialog
- "Cost center" is an optional and editable field which accepts only 6 digits only.
- "Cost center" field restricts characters, specials characters to be entered.
- "Clearing number" is optional and editable field, which accepts maximum 10 digits, it restrict entering more than 10 digits.
- "Start date" and "End date" are editable fields, it will take date from calendar.
- "Start date" will take today's date by default.
- "End date" is optional field and is not pre-filled.
- "Project Description" field is an optional, can accommodate maximum 1000 characters.
- "Date" and "Comment" fields are editable to provide respective information.
- "New Add approval date" is a button to add multiple approval dates.
- "Delete (recycle bin)" is a button to delete a particular approval date information
- "Date" field is an optional.
- "Comment" field is an optional, can accommodate maximum 120 characters.
- "Vehicle Name" , "Global ordering number" , "Vehicle start date" & "Vehicle end date" fields are editable to provide respective information.
- "Status" field is status of vehicle from FLIMS and is non-editable.
- "New Order Number" is a button to add multiple Global ordering numbers information.
- "Delete (recycle bin)" is a button to delete a particular Global ordering numbers.
- "Vehicle name" is optional and can accommodate maximum 10 characters.
- "Global ordering number" is optional & accommodate maximum 10 characters and allow the following pattern:
  - Character 1: only numbers from 0 to 9 allowed
  - Character 2: only numbers from 0 to 9 allowed as well as "-" (hyphen)
  - Characters 3-10: only numbers from 0 to 9 allowed
- "Vehicle start date" will take Project date by default.
- "Vehicle end date" is pre-filled only when project "end date" is available.
- "Add Attachment" button is available to add attachment and to enter description.This field is optional.
- "Recycle bin" icon is available on each attachment to delete the attachment.
- "Eye" icon is available on each attachment to open the attachment.
- "FLIMS-Client" dropdown with values from FLIMS is available and is mandatory,only one client can be selectable at a time.

#### Confirmation Dialog:

- A separate confirmation popup showing the following buttons:
  - Yes button (It will discard without saving changes)
  - No button (It will resume back)
- A separate confirmation popup showing "Do you really want to delete the selected approval date? with following buttons to delete approval date information:
  - Yes button (It will delete approval date & comment)
  - No button (It will discard the delete action)
- A separate confirmation popup for Active button selection "Do you want to change the status from Draft to Active?
  - Yes button (It will disable Draft button and *Model series, Responsible, Sensor, Plant and Start date* fields are mandatory inputs to save project)
  - No button (It will discard the Active button selection)

#### Edit Model Series Dialog:

- A field on the left shows all available model series list, which is not editable & a field on the right shows all selected model series, which is not editable (selectable from left side list)
- The button " > " is in disable mode, when none of the model series are selected in the left field.
- The button " > " will be enabled, when one of the model series is selected in the left field.
- The button " < " is in disable mode, when none of the model series are selected in the right field.
- The button " < " will be enabled, when one of the model series is selected in the right field.
- A Button "Deselect all" will removes all items from the right field and makes them visible in the left field again.
- A Button "Ok" will transfer the model series from the field "selected model series" in the right to the dialog "Add project information" and closes the popup "Edit model series".
- A scroll functionality is available if the model series list gets bigger.

#### Edit Pro Phases dialog:

- A field on the left shows all available Pro Phases list, which is not editable & a field on the right shows all selected Pro Phases, which is not editable (selectable from left side list)
- The button " > " is in disable mode, when none of the Pro Phases are selected in the left field.
- The button " > " will be enabled, when one of the Pro Phases is selected in the left field.
- The button " < " is in disable mode, when none of the Pro Phases are selected in the right field.
- The button " < " will be enabled, when one of the Pro Phases is selected in the right field.
- A Button "Deselect all" will removes all items from the right field and makes them visible in the left field again.
- A Button "Ok" will transfer the Pro Phases from the field "selected Pro Phases" in the right to the dialog "Add project information" and closes the popup "Edit Pro Phases".
- A scroll functionality is available if the Pro Phases list gets bigger.

#### Add Attachment dialog:

Add attachments dialog will contain following fields.

- "Description" field to enter description about the attachment.

- "Choose file" button to select the file.
- A button "upload" to upload selected file and description to the add attachment screen with respective Icon,description,size and date.
- A button "Cancel" to cancel the upload and close the attachment popup.

#### FLIMS-Client:

User can set Project status to Active only after selecting a client from FLIMS-Client dropdown field.

After setting project status to Active, user cannot select different FLIMS-Client value i.e., FLIMS-Client field is disabled.

#### Sending Vehicle Information to FLIMS:

After setting the "Project Status" to Active and clicking on "Save & Continue", each vehicle information is sent to FLIMS.

If a vehicle has been created successfully in FLIMS, the status "success" and response from FLIMS will be displayed in the Global ordering number table.

If the vehicle information is not created in FLIMS successfully then, status of vehicle will be displayed FAILURE in Global ordering number table.

#### Sending Project Information to FLIMS:

After sending vehicle information, Project information will be sent to FLIMS. If project information is saved successfully in FLIMS, project details will be saved to VTAS and project status will be active.

If the project information is not saved successfully to FLIMS, error message will be displayed and project status will be saved in draft state.

#### Send Changes to FLIMS:

Whenever a project in status active is saved, we need to check all the vehicles assigned to a project, if they already exist in FLIMS. If not, each vehicle that has not been sent to FLIMS yet, needs to be sent to FLIMS and save extra vehicle information to VTAS.

Save the status, if a vehicle has been created successfully in FLIMS and display it in the Global ordering number table in Project Planning.

Update project information for any changes that happened in the project information as well as any changes that happened in the vehicle start dates or vehicle end dates.

After successful response from FLIMS it saves all changes in VTAS-DB.

Once if the project information is saved, a widget with project information is displayed at the top so that user is aware of which project he is working on.

#### Header Section:

Buttons "New Add approval date" and "New Order Number" are in the fixed Button header on top of the page below Header.

When user scroll down the page, the header is visible as it is fixed Header section.

#### Footer Section:

Buttons "Discard" and "Save & continue" are in the fixed Button footer on bottom page.

When user scroll down the page, the footer is visible as it is fixed like button header.

The error messages are displayed on the top of the page under Button Header section.

#### **Validations**

Field	Validation	Error Message
Project name	Attribute value is mandatory	Project name is mandatory
Model Series	Value is mandatory in status active	Model Series is mandatory
Cost center	It will restrict entering characters & special characters. It allows 6 digits only	Cost center should be minimum 6 digits
Attachments	It will accept attachments up to 10 MB size.	The maximum size of attachments of 10 MB was exceeded. File upload failed
Attachments	It will not accept executable files and database files.	Error message- Unsupported file -format
Responsible (if Active button selects)	Attribute value is mandatory in status active	Responsible is mandatory
Sensor (if Active button selects)	Attribute value is mandatory in status active	Sensor is mandatory
Plant (if Active button selects)	Attribute value is mandatory in status active	Plant is mandatory

Start date (if Active button selects)	Attribute value is mandatory in status active (Always by default current date will be present)	Start date is mandatory
End date (if Active button selects)	Attribute value is mandatory in status active.	End date is mandatory
Global ordering Number(if Active button selects)	Attribute value is mandatory (if vehicle is added) in status active	Global ordering number is mandatory
Global ordering Number	It will user to enter only numbers & "-"	Global ordering Number is optional
FLIMS-Client	Value is mandatory to set status to Active	FLIMS-Client is Mandatory
FLIMS-Client	If FLIMS-Client is not available (or) FLIMS project save is not successfull	FLIMS responded with an error.Pleas contact administrator.

#### Possible Actions

Action	Description
Click on the Discard button	Discard without saving any changes by confirmation
Click on the Save & Continue button	Save the data after modification & Project name is filled
Click on the Yes button	It will discard without saving changes
Click on the No button	It will resume back
Click on window close button	It closes the dialog window
Click on Edit Model Series button	It opens Edit Model Series popup
Click on Pro Phases button	It opens Edit Pro Phases popup
Click on " > " button	It adds selected items to right list
Click on " < " button	It removes selected items from right to left list
Click on the Deselect All button	It deselects all selected items in right list.
Click on the OK button	It displays the right field list to respective fields
Click on the cancel button	It discards without saving any changes by confirmation
Click on popup close button	It closes the respective popup.
Switching fields with tab key	Switches fields linewise.
Click on "New approval date"	Adds new row to approval date table
Click on "Add Attachment" button	It opens add attachment popup
Click on "Choose File" button	It opens popup to select a file to upload
Click on "Upload" button	It will upload selected file and description to the add project information page.
Click on "Cancel" button	It will close the add attachment popup.
Click on "New Order Number" button	It will add new row to Global ordering numbers.
Click on "recycle bin" button	It will delete the particular row.
Click on "Draft" button	It will set project status as Draft
Click on "Active" button	It will set project status as Active
Click on "Yes" button (When click on Active button)	It will set project status as Active and Draft button will be disabled
Click on "No" button (When click on Active button)	It will set project status as Draft
Click on "Closed" button	It will open a confirmation dialog with message "Has Q-Approval been given?"
Click on "Yes" button (When click on Closed button)	It will set project status as Closed and everything is disabled.
Click on "No" button (When click on Closed button)	It will open a confirmation dialog.

Click on "recycle bin" icon of each attachment	It will open a confirmation dialog.
Click on "Yes" Confirmation button of Delete attachment	Attachment will be no more visible in the screen
Click on "No" Confirmation button of Delete attachment	Navigate back to "Add project information" dialog.
Click on "eye" icon of each attachment	Open or download the attachment as per the default behavior of the browser
Click on "i" icon of Global ordering Number	Opens modal to display help text information.
Click on "Close" button	Closes the help text modal

#### 2.4.3.2 Dialog "View Projects" and "Export Projects"

##### IE\_Browser\_Settings.docx

This dialog is used to display a list of all projects in a table and display selected project details preview.

Calling the dialog

This dialog is called from the project planning module.

Structure

The dialog shows a two sections, left section shows list of projects & right section shows preview of selected project.

By default all projects are displayed in the left section. And **Export Projects** button is available to export All projects or Draft projects or Active Projects into Excel workbook, and also user can able to export the projects with the use of table filters.

Sensor	Model Series	Project Name	PRO Phases
SCR1	MD2,MD3	Project 4	PR2,PR1
SCR2	MD3,MD2	Project 3	PR2,PR1
SCR2	MD2,MD3	Project 2	PR2
SCR1	MD1	Project 1	PR1

Selected Project Details:

Responsible:	Admin	Project Status:	Active
Sensor:	SCR1	Plant:	PLT2
Project Name:	Project 4	Project ID:	53
Steering Codes:	1234,2345,3456		
Model Series:	MD2,MD3		
PRO Phases:	PR2,PR1		
Cost Center:	143678	Clearing Number:	2345678
Start Date:	Aug 31 2017	End Date:	Sep 09 2017
Approval dates:	Date	Comment	

Click on **Draft Projects** button shows all Draft projects.

Sensor	Model Series	Project Name	PRO Phases
SCR2	MD3,MD2	Project 3	PR2,PR1
SCR2	MD2,MD3	Project 2	PR2
SCR1	MD1	Project 1	PR1

Selected Project Details:

Responsible:	Project Status:	Draft	
Sensor:	Plant:	PLT2	
Project Name:	Project 3	Project ID:	52
Steering Codes:			
Model Series:	MD3,MD2		
PRO Phases:	PR2,PR1		
Cost Center:	143678	Clearing Number:	
Start Date:	Aug 31 2017	End Date:	Sep 09 2017
Approval dates:	Date	Comment	

Click on **Active Projects** button shows all Active projects

VTAS - View Project

Project Planning

All Projects Draft Projects Active Projects Closed Projects

Export Projects Create new project

Sensor	Model Series	Project Name	PRO Phases
SCR1	MD2,MD3	Project 4	PR2,PR1

Responsible: Admin Project Status: Active  
Sensor: SCR1 Plant: PLT2  
Project Name: Project 4 Project ID: 53  
Steering Codes: 1234,2345,3456  
Model Series: MD2,MD3  
PRO Phases: PR2,PR1  
Cost Center: 143678 Clearing Number: 2345678  
Start Date: Aug 31 2017 End Date: Sep 09 2017  
Approval dates: Date Comment

When no projects are available, the left section displays "No project found" message.

VTAS - View Project

Project Planning

All Projects Draft Projects Active Projects Closed Projects

Export Projects Create new project

Sensor	Model Series	Project Name	PRO Phases
No projects found.			

Before export any projects or measures, user should perform one time security configuration on IE browser. The configuration has been documented and attached for the reference. Please click on the URL: [IE Browser Settings](#)

Click on **Export Projects** button, it will export list of projects what user can view on the screen into an Excel workbook.

VTAS - View Project

Project Planning

All Projects Draft Projects Active Projects Closed Projects

Export Projects Create new project

Sensor	Model Series	Project Name	PRO Phases
SCR1	MD2,MD3	Project 4	PR2,PR1
SCR2	MD3,MD2	Project 3	PR2,PR1
SCR2	MD2,MD3	Project 2	PR2
SCR1	MD1	Project 1	PR1

Responsible: Admin Project Status: Active  
Sensor: SCR1 Plant: PLT2  
Project Name: Project 4 Project ID: 53  
Steering Codes: 1234,2345,3456  
Model Series: MD2,MD3  
PRO Phases: PR2,PR1  
Cost Center: 143678 Clearing Number: 2345678  
Start Date: Aug 31 2017 End Date: Sep 09 2017  
Approval dates: Date Comment



To export measures first click on Measures tab from add projects page

VTAS - Add Project Information

Project Planning

New Measure Delete All Upload measures Export Measures

Project Measures

Measure Number	SA-Codes	Affected Models	Measure Title	Description Current State	Description To-Be State	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comments
2185060004		C/X	Betriebsanleitung	Die derzeit aktuell Herausgabe neuer						
2185060161		C/X	Kabelvorrichtung	Ab 2015 wird eine Einführung einer K						
2185060174		C/X	Zu ÄRV-PÄV15974	EC: In den aktuell EC: Das PÄV dient						
2185060157		C/X	213-218 M276DE	Vergabe PÄV für N Freigabe Halter (A)						
2185060166		C/X	2U8: Dokumentat	Einsatz alternativ Freigabe der zusätzl						
2185060175		C/X	Angebotsanpassu	Es wurde der PÄV Entfall Kompensat						
2185060009		C/X	Antennenumschalt	Eindrückkräfte des Gehäuseoptimierung						
2185060155		C/X	ÄJ16:Mofu-Antenn	In der heutigen M Durch die Einführ						
2185060174		C/X	ÄRV - 2. HJ 2015	EC: Im Rahmen de EC: Freigabe für Ä						
2185060166		C/X	ÄRV -Change requ	Es sind Änderungen Das Änderungsrah						
2185060166		C/X	ÄRV -Change requ	Es sind Änderungen Das Änderungsrah						

Click on **Export Measures** button, it will export list of all measures what user can view on the screen into an Excel workbook.

VTAS - Add Project Information

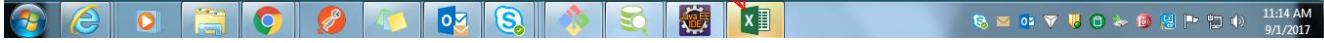
Project Planning

New Measure Delete All Upload measures Export Measures

Project Measures

Measure Number	SA-Codes	Affected Models	Measure Title	Description Current State	Description To-Be State	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comments
2185060004		C/X	Betriebsanleitung	Die derzeit aktuell Herausgabe neuer						
2185060161		C/X	Kabelvorrichtung	Ab 2015 wird eine Einführung einer K						
2185060174		C/X	Zu ÄRV-PÄV15974	EC: In den aktuell EC: Das PÄV dient						
2185060157		C/X	213-218 M276DE	Vergabe PÄV für N Freigabe Halter (A)						
2185060166		C/X	2U8: Dokumentat	Einsatz alternativ Freigabe der zusätzl						
2185060175		C/X	Angebotsanpassu	Es wurde der PÄV Entfall Kompensat						
2185060009		C/X	Antennenumschalt	Eindrückkräfte des Gehäuseoptimierung						
2185060155		C/X	ÄJ16:Mofu-Antenn	In der heutigen M Durch die Einführ						
2185060174		C/X	ÄRV - 2. HJ 2015	EC: Im Rahmen de EC: Freigabe für Ä						
2185060166		C/X	ÄRV -Change requ	Es sind Änderungen Das Änderungsrah						
2185060166		C/X	ÄRV -Change requ	Es sind Änderungen Das Änderungsrah						
2185060179		C/X	Bedatungsfehler N	EC: Die Begrenzung EC: Korrektur der I						

Discard Save & Continue



### Initializing

- Dialog is opened with two sections, left occupies 25% of window & right section occupies remaining 75% of window.
- On left side all project list is displayed, newest projects on the top.
- Four Toggle Buttons "All projects", "Active projects", "Draft projects" and "Closed projects" are shown above the list in the button header section
- By default the button "Closed projects" will be disabled.
- When user opens the page, all projects are displayed and the first project in the list will be shown in the preview and will be selected.
- If no projects are available when loading the page, "no project found" will be displayed in left table section.

### Toggle Buttons

- When the button "All projects" is clicked all projects of every production plant are shown in the list
- When the button "Active projects" is clicked all projects of every production plant with the status "Active" are shown in the list
- When the button "Draft projects" is clicked all projects of every production plant with the status "Draft" are shown in the list
- When the button "Export Projects" is clicked, all visible projects from the left side grid data will export into Excel workbook.
- When the button "Export Measures" is clicked, all visible measures on the grid will export into Excel workbook.

### Preview Project

- In Project Table, sort functionality is available to sort one column at a time in ascending and descending order.

- A scroll functionality is available for Project list table in case the list gets bigger.
- When user performs single left click on project list, it opens a non-editable view of the dialog "Add project information" on the right section within the same window.
- It is possible to select only one project at a time.
- Model Series, Pro Phases and Steering Codes are displayed using comma separator.
- "Vehicle order numbers" will display the number of vehicles.
- Approval dates are shown in a read-only table with date and comment fields.
- Attachments are shown in a read-only table with title and description fields.
- The Fields which doesn't contain any value will be displayed empty.
- A scroll functionality is available for project preview in case it gets bigger.

#### Validations

We have no validations implemented here.

#### Possible actions

User can navigate to landing page by clicking on the Home button.

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the history back page
Click on the Add Project Button	Navigates to the Add Project Information dialog
Click on the Table row	Displays the Information of selected project
Click on the Module switcher	Navigates to selected module
Click on All projects button	All projects are shown in the table
Click on Active projects button	Active projects are shown in the table
Click on Draft projects button	Draft projects are shown in the table.
Click on Export Projects button	List of Projects will export into Excel workbook
Click on Export Measures button	List of all measures will export into Excel workbook

#### 2.4.3.3 Dialog "Measures"

This functionality allows the Project Planner to view all vehicle measures, so that he can have an overview of the measures.

It also allow the user to add, delete and upload vehicle measures

Calling the dialog

Starting point for this dialog is "Project Planning Module" page, on this page user has to click on "create new project".Further user has to click on "Measures" tab

Structure

This dialog shows a measure tab with existing information including measure number,sa-codes,affected codes and many more.User can edit or update the measure information.The Column "Affected codes" provides a Help-button which is represented by an "i" icon.

### Help Information

When user click on help button , opens a pop-over dialog which contains information on how to use the syntax for affected codes.

SA-Codes dependencies syntax help

How defining dependencies between SA-Codes works:

It is possible to define dependencies between different SA-Codes by using the +,-,/ and () operator.

"+" between two SA-Codes says that only the combination of two SA-Codes is required.  
For example "234+198" means that SA-Code 234 and 198 is required.

"-" before a SA-Code says that the SA-Code is not allowed for a particular measure.  
For example "-234" means that SA-Code 234 is not allowed to be installed in the vehicle for that measure.

"/" between two SA-Codes says that only one of those SA-Codes is allowed to be installed in the vehicle for that measure.  
For example "234/198" means that either SA-Code 234 or SA-Code 198 is allowed to be installed in the vehicle for that measure.

"(" and ")" around one or more SA-Codes is comparable to the mathematical braces and is used for isolation or prioritization.  
For example "(234+(235/236))" means that only the combination of SA-Code 234 and either SA-Code 235 or 236 is allowed.

Dialog with unsupported file format message for uploading vehicle measures

File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed.

New Measure Delete All Upload measures Export Measures

Measure Number	SA-Codes	Affected Models	Measure Title	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comment

Discard Save & Continue

After uploading vehicle measures

New Measure Delete All Upload measures Export Measures

Measure Number	SA-Codes	Affected Models	Measure Title	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comment
444	C>x	1234	Testing	99900	34	100	IT.com	zez afas fads fadfs fadaf
2	C>x	1234	Testing	34	78	89	E-Commerce	Chiffdadadif
3	C>x	1234	Testing					
4	C>x	1234	Testing					
5	C>x	1234	Testing					
6	C>x	1234	Testing					

After uploading and clicking save and continue

Succes! Data updated successfully

New Measure Delete All Upload measures Export Measures

Measure Number	SA-Codes	Affected Models	Measure Title	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comment
2135080033	S/V/W	(ÄRV 31761) BR213/238_Åj18/1						
2135080031	W	2. Soundgenerator zur Erfüllung Zertif						
2135080030	W	48V POWERPACK - SW BUG FIX						
2135080018	/S	48V-ISG-LE entfall KL87						
2135080032	V/W	A238 500 00 00 für Werk Sifi mit Gel						
2135080030	W	AGA Klappe Materialumteilung Achse						
2135080032	S/W	AMG BR213 Purge line change						
2135080024	S/W	Anp. BR213 an Umst. von M274 135k						
2135080024	S/W	Anp. BR213 an Umst. von M274 270k						
2135080024	S/W	Anp. WS213 an OM654 D16 SCR 110						
2135080020	S	Anp. WS213 an OM656 D29 SCR WEI						
2135080020	W	Anpassung Fahrzeug an M264 Motor						
2135080026	S/V/W	Anpassung Leitungssatzbaukasten an						
2135080022	S/V/W	Änderung Bremsunterdruckleitung zu						
2135080018	S	Änderungen an der Federung/Dämpft						
2135080023	S/V/W	ÄRV Getriebesoftware NAG3 1. HJ 20						

Discard Save & Continue

Confirmation Dialog For Delete Measure

Project planning ▾

Confirmation

Do you really want to delete the selected measure?

No Yes

Measure Number	SA-Codes	Affected Models	Measure Title	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comment
21350800033	S/V/W		(ÄRV 31761) BR213/238_Ä18/1					
21350800031	W		2. Soundgenerator zur Erfüllung Zertif.					
21350800030	W		48V POWERPACK - SW BUG FIX					
2135080018	/S		48V-ISG-LE entfall KL87					
21350800032	V/W		A 238 500 00 00 für Werk Sift mit Gel					
21350800030	W		AGA Klappe Materialumstellung Achse					
21350800032	S/W		AMG BR213 Purge line change					
21350800024	S/W		Anp. BR213 an Umst. von M274 135k					
21350800024	S/W		Anp. BR213 an Umst. von M276 270k					
21350800024	S/W		Anp. WS213 an OM654 D16 SCR 110					
21350800020	S		Anp. WS213 an OM656 D29 SCR WEI					
21350800020	W		Anpassung Fahrzeug an M264 Motor					
21350800026	S/V/W		Anpassung Leitungssatzbaukasten an					
21350800022	S/V/W		Änderung Bremsunterdruckleitung zu					
2135080018	S		Änderungen an der Federung/Dämpf.					
2135080023	S/V/W		ÄRV Getriebesoftware NAG3 1, HJ 20					
2135080026	S/W		Betankungshinweis ECE					

Discard Save & Continue

### Confirmation Dialog For Delete All Measures

Project planning ▾

Confirmation

Do you really want to delete all measures?

No Yes

Measure Number	SA-Codes	Affected Models	Measure Title	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comment
21350800033	S/V/W		(ÄRV 31761) BR213/238_Ä18/1					
21350800031	W		2. Soundgenerator zur Erfüllung Zertif.					
21350800030	W		48V POWERPACK - SW BUG FIX					
2135080018	/S		48V-ISG-LE entfall KL87					
21350800032	V/W		A 238 500 00 00 für Werk Sift mit Gel					
21350800030	W		AGA Klappe Materialumstellung Achse					
21350800032	S/W		AMG BR213 Purge line change					
21350800024	S/W		Anp. BR213 an Umst. von M274 135k					
21350800024	S/W		Anp. BR213 an Umst. von M276 270k					
21350800024	S/W		Anp. WS213 an OM654 D16 SCR 110					
21350800020	S		Anp. WS213 an OM656 D29 SCR WEI					
21350800020	W		Anpassung Fahrzeug an M264 Motor					
21350800026	S/V/W		Anpassung Leitungssatzbaukasten an					
21350800022	S/V/W		Änderung Bremsunterdruckleitung zu					
2135080018	S		Änderungen an der Federung/Dämpf.					
2135080023	S/V/W		ÄRV Getriebesoftware NAG3 1, HJ 20					
2135080026	S/W		Betankungshinweis ECE					

Discard Save & Continue

### Confirmation Dialog For Discard

Maßnahmennummer	SA-	betroffene Maßnahmentitel	betroffene	betroffene Codes	anzahl der Fahrzeug	Fachabteilung	Kommentar
Codes	Modelle		Baumuster				
- 2135080031	W	2. Soundgenerator zur Erfüllung Zertif.					
2135080031	W	2. Soundgenerator zur Erfüllung Z.					
2135080033	S/V/W	(ÄRV 31761) BR213/238_ÄJ18/1					
2135080030	W	48V POWERPACK - SW BUG FIX					
2135080018	/S	48V-ISG-LE entfällt KLB7					
2135080032	V/W	A 238 500 00 00 für Werk Sifi mit GeK					
2135080030	W	AGA Klappe Materialumstellung Achse					
2135080032	S/W	AMG BR213 Purge line change					
2135080024	S/W	Anp. BR213 an Umst. von M274 135k					

### Filter Measures List :

Project		Measures									
Measure Number	SA-Codes	Affected Models	Measure Title	Affected Model Series	Affected Codes	Vehicle Amount	Business Department	Comment			
<b>Filter: SA-Codes</b>											
2135			[761] BR213/238_Ä118/1								
2135	Search text		dgenerator zur Erfüllung Zertif								
2135			WERPACK - SW BUG FIX								
2135	<input checked="" type="checkbox"/> (Select all)		→LE entfall KB7								
2135	<input checked="" type="checkbox"/> (Empty)		00 00 00 für Werk SfI mit Gel								
2135			ippe Materialumstellung Achse								
2135			2123 Purge line change								
2135			213 an Umst. von M274 135k								
2135			213 an Umst. von M276 270k								
2135080024	S/W		Anp. WS213 an OM654-D16 SCR 110								
2135080020	S		Anp. WS213 an OM656 D29 SCR WEI								
2135080020	W		Anpassung Fahrzeug an M264 Motor								
2135080026	S/V/W		Anpassung Leitungssatzbauteilen an								
2135080022	S/V/W		Änderung Bremsunterdruckleitung zu								
2135080018	S		Änderungen an der Federung/Dämpf								
2135080023	S/V/W		ÄRV Getriebesoftware NAG3 1. HJ 20								
2135080026	S/W		Betankungshinweis ECE								

### Group & Ungroup Measures:

	VTAS	Projektplanung						
		Maßnahmen hochladen						
Neu maßnahme	Alle Löschen	Export Maßnahmen						
Projekt	Maßnahme							
Maßnahmennummer	SA-Codes	betroffene Maßnahmentitel	betroffene Baumuster	betroffene Codes	anzahl der Fahrzeug	Fachabteilung	Kommentar	
2135080031	W	2. Soundgenerator zur Erfüllung Zertifi						
2135080031	W	2. Soundgenerator zur Erfüllung Zi						
2135080033	S/V/W	S/V/W (ÄRV 31761) BR213/238_ÄJ18/1						
2135080030	W	48V POWERPACK - SW BUG FIX						
2135080018	/S	48V-ISC-LE entfall KL87						
2135080032	V/W	A 238 500 00 00 für Werk Sifi mit Ge						
2135080030	W	AGA Klappe Materialumstellung Achse						
2135080033	S/W	AMG BR213 Power Line chage						

User can double click on a row,a popup to edit each field is available.

The screenshot shows the 'Measures' dialog box within the VTAS application. The dialog includes fields for 'Measures Number' (2), 'SA-Codes' (C>Y), 'Affected models' (1234), 'Measure title' (Audit), 'Affected series' (betreffende Baureihen), 'Description current state' (IST-Maßnahmenbeschreibung: Test), and 'Description to-be state' (SOLL-Maßnahmenbeschreibung: Test). On the left, a table lists affected models with their corresponding SA codes. At the bottom, there are 'Discard' and 'Continue' buttons.

## Initializing

Starting point for this dialog is "Project Planning Module" page, on this page user has to click on "create new project". We need to enter mandatory fields like project name and model series in "Project"-Tab, before we can switch to "Measures"-Tab.

### Description Of Fields

- "Measure number" describes 'Project Vehicle Measure Number' of maximum length 15.
- "SA-Codes" describes 'SA (Special Equipment) codes of the vehicle'
- "Affected models" describes 'Affected models of vehicles'
- "Measure title" describes 'Title of project vehicle measure '
- "Description of the current state" describes 'Current status of vehicle'
- "Description of the to-be state" describes 'The future description '
- "Affected model series" describes 'Affected model series of vehicle'
- "Affected codes" describes 'Affected SA codes of vehicles'
- "Vehicle amount" describes 'Number of vehicles'
- "Business department" describes 'Business department of Measures'
- "comments" describes 'Comments on Measures'
- "New measure" button generates a new row for the measures table
- "Delete all" button is to delete all the rows of the measures table
- "Upload measures" button is to upload a excel file for measures

### Help Icon

**Affected codes** column provides a Help-button which is represented by an "i" icon. When user click on "i" icon, a modal with information of how to use the syntax of **Affected Codes** is displayed.

### Error message

An error message "Error message- unsupported file-format" is shown, if uploaded file has the incorrect format (i.e. if file is not an Excel file). Upload measures

Clicking on button "Upload measures" in the button header next to "New measure" opens a dialog for the user to select a file to upload.

It is possible to upload Excel files only.

As soon as any cell has been edited and saved in the table, uploading is not possible any more. In order to upload file, the user has to delete the table first and then upload the file.

If uploading is not possible, the button "Upload measures" will be in disable state. An error message "Error message- unsupported file-format" is shown, if uploaded file has the incorrect format (i.e. if file is not an Excel file).

Uploading a new list to VTAS automatically overwrites the old list in VTAS.

When the Excel sheet is uploaded, information from the Excel sheet is placed over the table columns as following:

- from column "Projektnummer" number in excel => column "measure number" in the table.
- from "SA CODES" in excel (new column, will be introduced by Daimler) => column "SA-Codes" in the table
- from column "AA" in excel => column "affected models" in the table.
- from column "Stichwort" in excel => column "measure title" in the table.
- from column "MN\_BESCHREIBUNGISTZUSTAND" in excel => column "Description current state" in the table
- from column "MN\_KURZBESCH\_GESAMTLOESUNG" in excel => column "Description to-be state" in the table

### Group & Ungroup Measures

Group & Ungroup measures are done based on similar Codes, so that user have a better overview over the measures to assign them easier to the correct vehicles.

#### Group Measures:

1. Grouping is possible via drag and drop ie., by dragging the measure that has the similar affected code and drop it on to another measure.
2. The measure onto which the first measure has been dropped will be the master measure
3. Once the similar affected codes are grouped, the master measure row will be highlighted with "+".
4. When the user wants to see the child measure from the master measure, the user should click on the "+" and it will be replaced with "-".
5. When the user wants to close the child measures , then user have to click on "-" next to master measure and it will be replaced by "+".
6. When the columns are sorted, the master measure only will be sorted ie., the child measures will stay within the master measures only.
7. Editing row is also possible.

#### Ungroup Measures:

1. Ungrouping is possible through clicking on an icon in each child-row left of the recycle bin.
2. Once ungrouping of all child measures is done, the "+" icon will be shown next to the master measure ,then duplicated parent measure will be deleted.

Closing the window/dialog or switching to tab "Project" save the information.

#### Validations

Field	Validation	Error Message
Project name	Attribute value is mandatory	Project name is mandatory
Upload Measures	Only <b>Excel files</b> can be uploaded for vehicle measures.	Error Message : Unsupported file- format
Group Measures	If user tries to assign different SA-Code measure to a group	You grouped different affected codes

#### Possible Actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the history back page
Click on create new project	Navigates to the Add Project Information dialog
Click on the measure tab	Navigates to the Add Measure Information dialog
Click on the Module switcher	Navigates to selected module
Click on "New measures"	A new row for the measures table is added
Click on "Delete All" button	A confirmation popup for deleting all measures
Click on "Upload measures" button	opens a dialog to select which Excel or CSV file to upload
Click on "Filter Icon"	A popup will open with all values
Click on "Help Icon"	A popup will open with how to use the syntax for affected codes.
Click on "Close" button	Navigates back to measures dialog.
Click on "+" button	To view the child measures assigned to one group
Click on "-" button	To ungroup the measures

#### 2.4.3.4 Dialog "Upload Vehicle Order Number"

This functionality allows the Project Planner upload vehicle order number. It allow user to add a list of vehicles to a project, so that i can add later vehicles to measures.

Calling the dialog

Starting point for this dialog is "Project Planning Module" page, on this page user has to click on "create new project".Further user has to

click on Upload Vehicle Order,  
to select proper excel file to upload.

This screenshot shows the 'Upload Vehicle order' dialog. At the top, there are buttons for 'New approval date', 'New order number', 'Delete All', and 'Upload Vehicle order'. The main area contains fields for 'Cost Center' (dropdown), 'Clearing Number' (text input), 'Start Date' (date picker set to 03/10/2017), 'End Date' (date picker), 'Approval dates' (table with columns 'Date' and 'Comment'), 'Project Description' (text area), 'Vehicle Order Numbers' (table with columns 'Vehicle Name', 'Vehicle order number', 'Vehicle start date', and 'Vehicle end date'), and an 'Attachments' section with a 'Add Attachment' button. At the bottom right are 'Discard' and 'Save & Continue' buttons.

#### Dialog with error message

This screenshot shows the 'Upload Vehicle order' dialog with an error message: 'Error! Project Name is mandatory'. The main area contains fields for 'Start Date' (03/10/2017), 'End Date' (date picker), 'Approval dates' (table with columns 'Date' and 'Comment'), 'Project Description' (text area), 'Vehicle Order Numbers' (table with columns 'Vehicle Name', 'Vehicle order number', 'Vehicle start date', and 'Vehicle end date') containing two rows of data ('test' and 'test2'), and an 'Attachments' section with a 'Add Attachment' button. At the bottom right are 'Discard' and 'Save & Continue' buttons.

#### Dialog with successful message

Data saved successfully

New Measure Delete All Upload measures Export Measures

This screenshot shows a web-based application interface. At the top, there's a header with a back arrow, a home icon, and the text 'VTAS'. To the right of the header are project planning dropdowns, a search icon, and a user profile icon. Below the header, a green banner displays the message 'Data saved successfully'. Underneath the banner is a dark blue navigation bar with four buttons: 'New Measure', 'Delete All', 'Upload measures', and 'Export Measures'. The main content area contains a grid of twelve empty input fields arranged in two rows of six. A small trash can icon is located in the bottom right corner of the grid.

Dialog with unsupported file format message for uploading vehicle order number

File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed.

New approval date New order number Delete All Upload Vehicle order

Cost Center:

Start Date:  03/10/2017

Approval dates:

Date	Comment
<input type="text"/>	<input type="text"/> <input type="button"/>

Clearing Number:

End Date:

Project Description:

Vehicle Order Numbers:

Vehicle Name	Vehicle order number <small>i</small>	Vehicle start date	Vehicle end date
<input type="text"/>	<input type="text"/>	<input type="text"/> 03/10/2017	<input type="text"/> <input type="button"/>

Attachments:

Add Attachment

Discard Save & Continue

This screenshot shows a dialog box with an orange header stating 'File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed.' Below the header is a dark blue navigation bar with four buttons: 'New approval date', 'New order number', 'Delete All', and 'Upload Vehicle order'. The main content area includes several input fields and a table for vehicle order numbers. The vehicle order numbers table has four columns: 'Vehicle Name', 'Vehicle order number i', 'Vehicle start date', and 'Vehicle end date'. The 'Vehicle start date' column contains the value '03/10/2017'. There are also sections for 'Cost Center', 'Start Date' (set to '03/10/2017'), 'Approval dates' (a table with one row), 'Clearing Number', 'End Date', 'Project Description', and 'Attachments'. At the bottom are 'Discard' and 'Save & Continue' buttons.

After uploading vehicle order number

VTAS Project planning

New approval date New order number Delete All Upload Vehicle order

Cost Center:	<input type="text"/>	Clearing Number:	<input type="text"/>												
Start Date:	03/10/2017 <input type="button" value="..."/>	End Date:	<input type="text"/> <input type="button" value="..."/>												
Approval dates:	<table border="1"> <thead> <tr> <th>Date</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td><input type="text"/> <input type="button" value="..."/></td> <td><input type="text"/> <input type="button" value="..."/> <input type="button" value="Delete"/></td> </tr> </tbody> </table>			Date	Comment	<input type="text"/> <input type="button" value="..."/>	<input type="text"/> <input type="button" value="..."/> <input type="button" value="Delete"/>								
Date	Comment														
<input type="text"/> <input type="button" value="..."/>	<input type="text"/> <input type="button" value="..."/> <input type="button" value="Delete"/>														
Project Description:	<input type="text"/>														
Vehicle Order Numbers:	<table border="1"> <thead> <tr> <th>Vehicle Name</th> <th>Vehicle order number <small>i</small></th> <th>Vehicle start date</th> <th>Vehicle end date</th> </tr> </thead> <tbody> <tr> <td>test</td> <td>423423</td> <td>24/09/2017 <input type="button" value="..."/></td> <td>29/10/2017 <input type="button" value="..."/> <input type="button" value="Delete"/></td> </tr> <tr> <td>test2</td> <td>7634</td> <td>24/09/2017 <input type="button" value="..."/></td> <td>21/10/2017 <input type="button" value="..."/> <input type="button" value="Delete"/></td> </tr> </tbody> </table>			Vehicle Name	Vehicle order number <small>i</small>	Vehicle start date	Vehicle end date	test	423423	24/09/2017 <input type="button" value="..."/>	29/10/2017 <input type="button" value="..."/> <input type="button" value="Delete"/>	test2	7634	24/09/2017 <input type="button" value="..."/>	21/10/2017 <input type="button" value="..."/> <input type="button" value="Delete"/>
Vehicle Name	Vehicle order number <small>i</small>	Vehicle start date	Vehicle end date												
test	423423	24/09/2017 <input type="button" value="..."/>	29/10/2017 <input type="button" value="..."/> <input type="button" value="Delete"/>												
test2	7634	24/09/2017 <input type="button" value="..."/>	21/10/2017 <input type="button" value="..."/> <input type="button" value="Delete"/>												
Attachments:	<input type="text"/> <input type="button" value="Add Attachment"/>														

Discard Save & Continue

After uploading and clicking save and continue

VTAS Project planning

Data saved successfully

New Measure Delete All Upload measures Export Measures

<input type="text"/>	<input type="button" value="Delete"/>										
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Initializing

Starting point for this dialog is "Project Planning Module" page, on this page user has to click on "create new project". We need to enter mandatory fields like project name and has to click on "Upload Vehicle Order"

to upload the required file.

- "Vehicle Name" describes 'Vehicle Name'
- "Vehicle Order Number" describes 'Vehicle Order Number'
- "Vehicle Start Date" describes 'start date of vehicle'
- "Vehicle End date describes 'end date of vehicle'

Error message

An error message "File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed" is shown, if uploaded file has the incorrect format (i.e. if file is not an Excel file).

Upload vehicle order

Clicking on button "Upload Vehicle Order" in the button header it opens a dialog for the user to select a file to upload.

It is possible to upload Excel files only.

While providing data for start and end date in excel sheet, we need to choose date format using cell format of excel. Different type of date

format is supported provided we choose cell format method. Manually we should enter different date format in excel.

Upload of both languages should work no matter in which language VTAS is working

The Excel file can be uploaded either with English header or German Header irrespective of locale ie in English locale excel file can be uploaded with English Header or with German Header similarly in German locale, A file can be uploaded with german header or English header.

Different date formats (Germany, USA) should be considered

Upload automatically deletes all data in the table (overwrite).

As soon as any cell has been edited and saved in the table, uploading is not possible any more. In order to upload file, the user has to delete the table first and then upload the file.

If uploading is not possible, the button "Upload Vehicle Order" will be in disable state. An error message "File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed" is shown, if uploaded file has the incorrect format (i.e. if file is not an Excel file).

Uploading a new list to VTAS automatically overwrites the old list in VTAS.

When the Excel sheet is uploaded, information from the Excel sheet is placed over the table columns as following:  
Validations

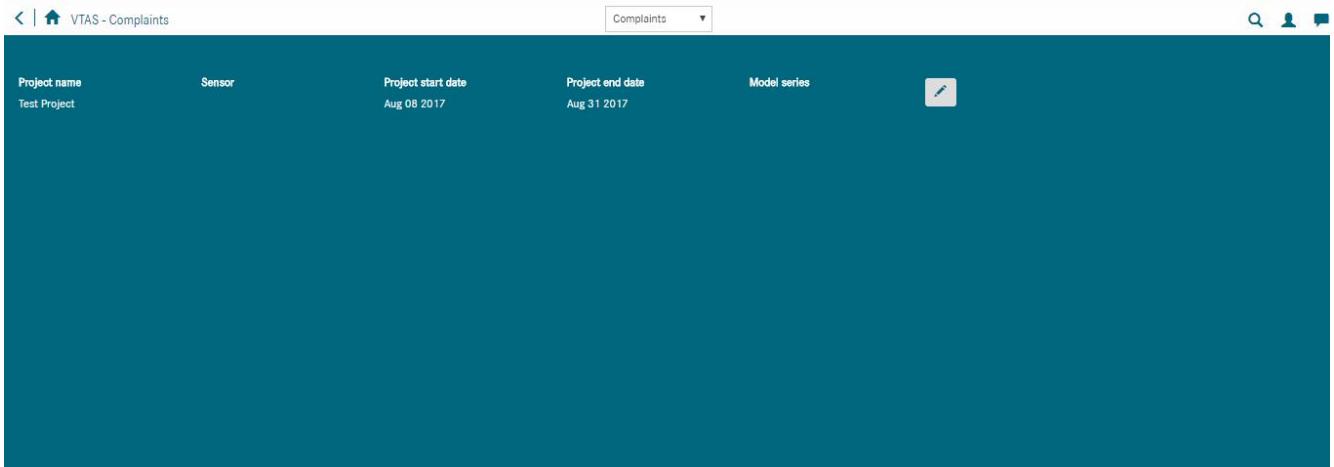
Field	Validation	Error Message
Project name	Attribute value is mandatory	Project name is mandatory
Upload Vehicle Order	Only <b>Excel files</b> can be uploaded for vehicle measures.	File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed
Upload Vehicle Order	Excel sheet is within project start and end date	File could not be uploaded. Wrong start or end date.
Upload Vehicle Order	content (columns) are ok	File could not be uploaded due wrong form
Upload Vehicle Order	Validations of vehicle order number table should be checked <ul style="list-style-type: none"><li>• "vehicle name" (max. 10 characters)</li><li>• "Vehicle order number" (max. 10 characters; Validation: Only numbers and "-" symbols allowed at second place , example: 7_22952154 )</li></ul>	File could not be uploaded. Maximum field length exceeded.
Upload Vehicle Order	if start date or end date is not mentioned in excel sheet	File could not be uploaded due wrong form

#### Possible Actions

Action	Description
Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the history back page
Click on create new project	Navigates to the Add Project Information dialog
Click on the "Upload New Measure"	opens a dialog to select which Excel file to upload

#### 2.4.4 Module "Complaints"

This dialog is used to display complaints module with latest project



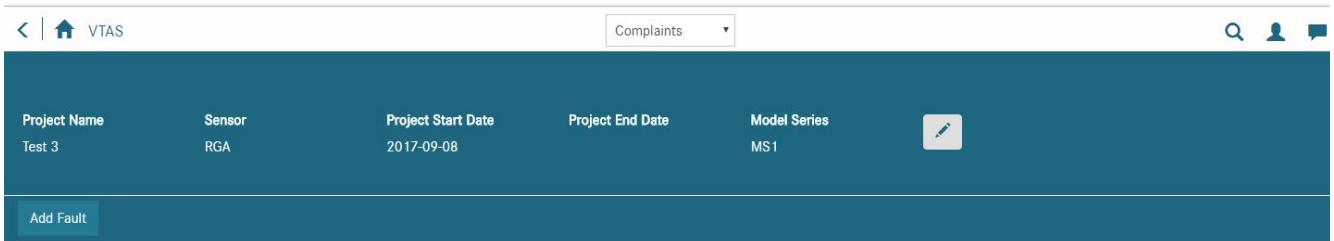
#### 2.4.4.1 Add faults in complaints module

Show complaints for a **Active** project and record the errors for a particular Vehicle so that user can get an Overview of all Vehicles with fault. Calling the dialog

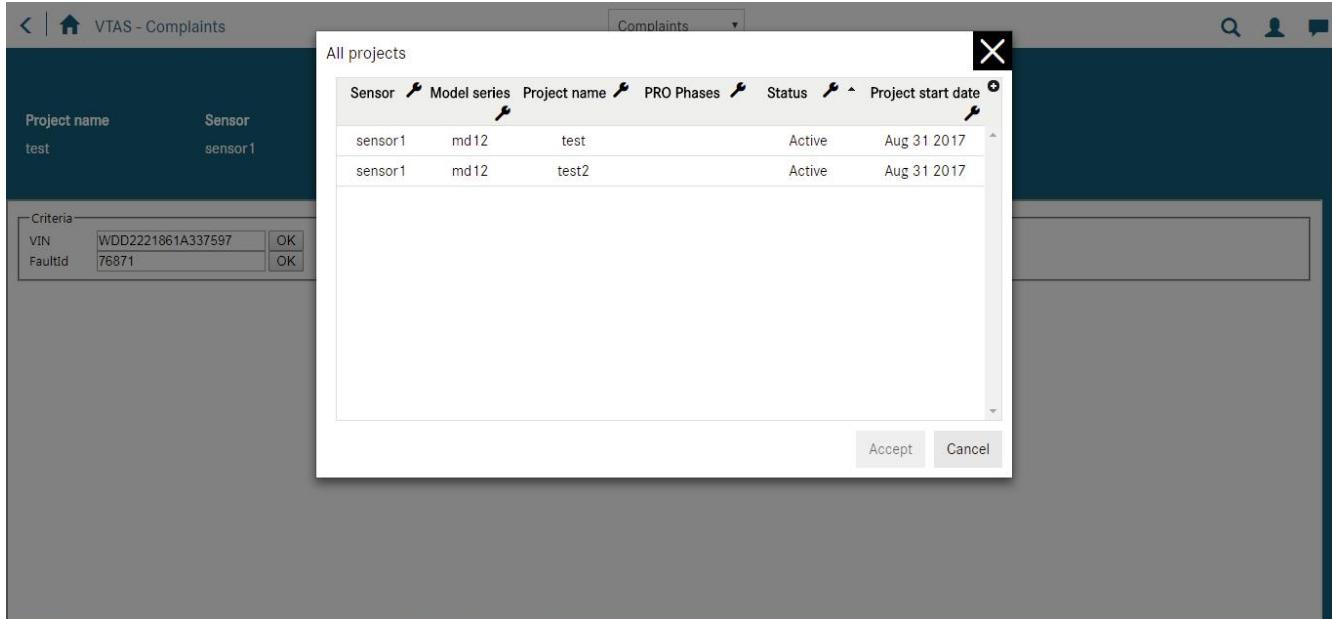
This dialog is called from the Complaints module.

Structure

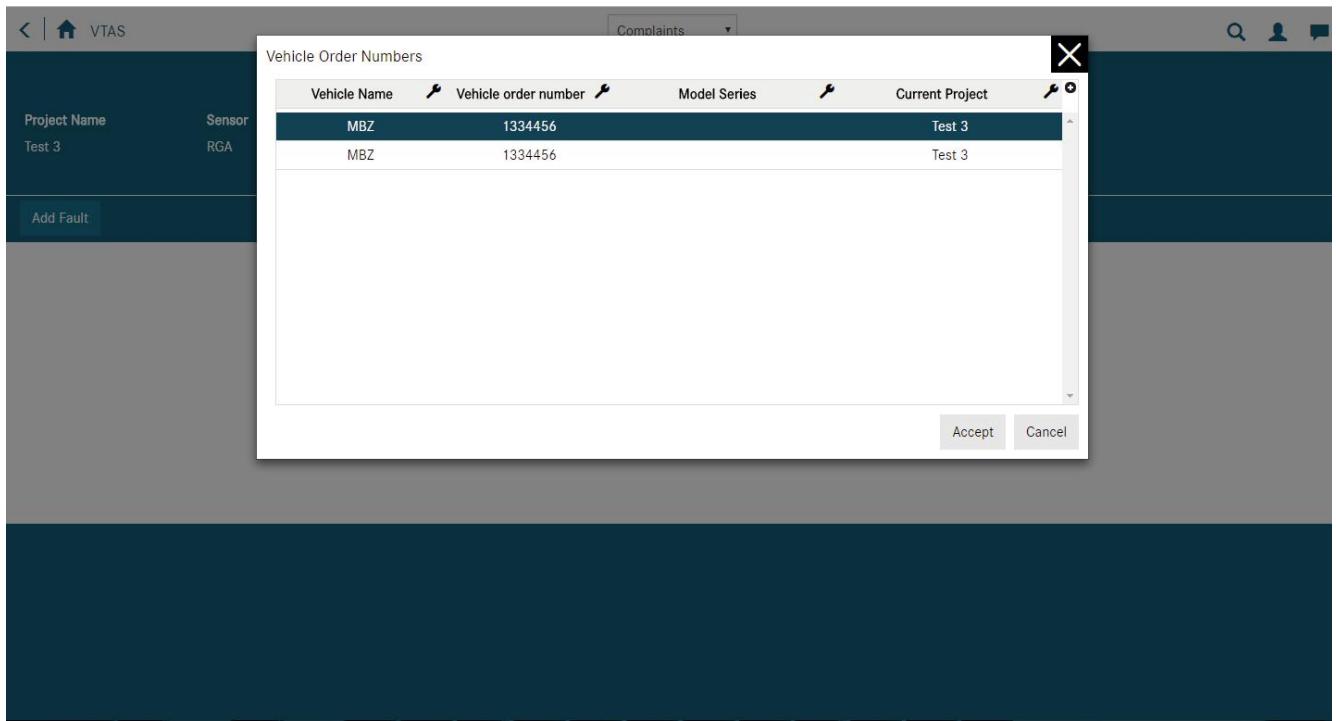
This dialog shows **Pencil icon** to select different projects and **Add Fault** button to select vehicle to record fault.



Pop-over allows to select a different **Active Projects**



This dialog opens when user click on **Add Fault**, from which user can select the vehicle to record fault.



The dialog shows a section containing the details of the project with complaints and EFA input widgets(FAWidget and SSLWidget). after selecting paticular vehicle.

Project Name: test132213 Sensor: LOS Project Start Date: Feb 23 2018 Project End Date: Feb 28 2018 Model Series: MD2

Add Fault

Symptom Cause Rework

Basic data

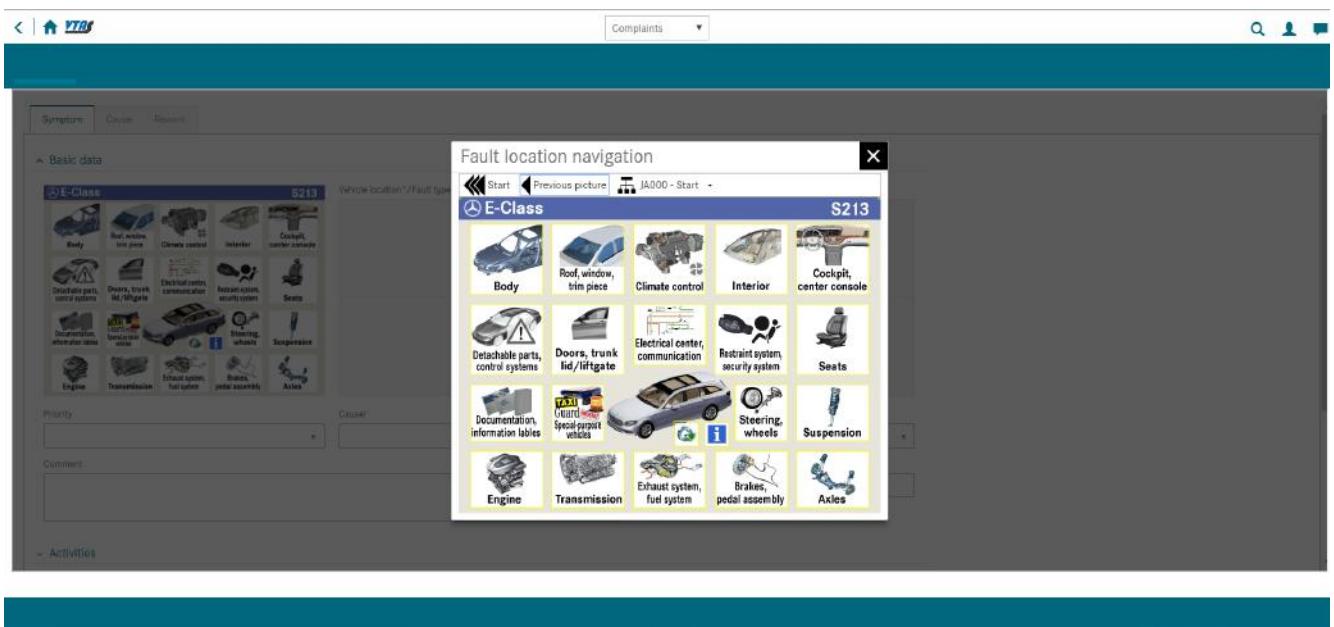
**E-Class S213**

Vehicle location \*/Fault type\*

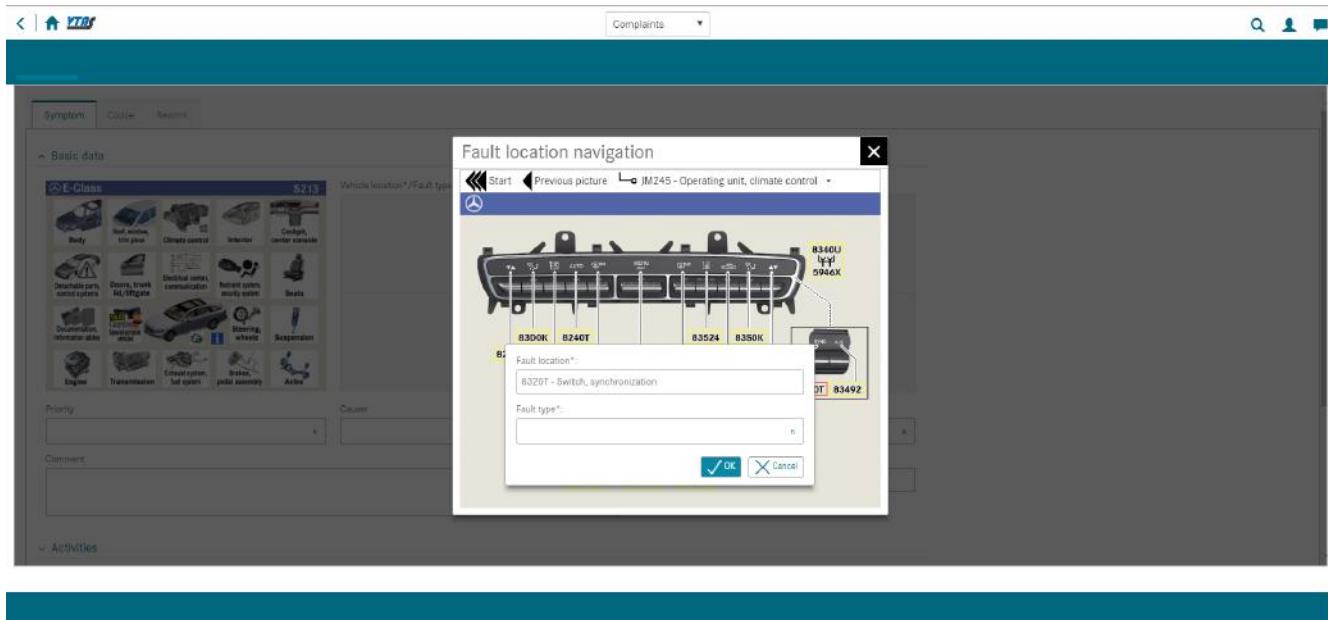
Priority Cause Fault category

Comment Part number

On click of EFA Widget,a dialog pops up to create fault for vehicle



This dialog shows selecting and filling for required faultID of EFA input widgets(FAWidget and SSLWidget).



Currently in complaints page saving fault cannot be done. User can save faults in Faults module.

## Initializing

- On opening the complaints dialog, the first **Active** project of the project list is pre-selected.
- When user click **Add Fault** button, Pre-selected project's assigned vehicle list will be displayed.
- If no projects are found when loading the page, a message "No projects found" will be displayed and **Add Fault** button is disabled.

### Description of fields

"Project name" describes the name of the project for complaints

"Sensor" describes the sensor value of the project.

"Project start date" describes the start date of the project.

"Project end date" describes the end date of the project.

"Model series" describes the model series values for the project.

"PRO phases" describes the pro-phase values for the project

"Status" describes the status(i.e. "Active", "Draft", "Closed") of the project

"Vehicle Name" describes the name of paticular Vehicle.

"Vehicle Order Number" describes the Order Number of respective vehicle.

"Current Project" describes the name of the project to which vehicles are assigned.

### Validations

We have no validations implemented here.

### Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the history back page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>Active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Add Fault button	Pop-over appears and allows to select a vehicle from list of vehicles. The vehicle list contains only vehicles which are assigned to the project preselected.

Click on Accept button in vehicle pop-over

Confirm Selection and corresponding error Input Screen from EFA opens.

## 2.4.5 Module "Vehicle Planning"

### 2.4.5.1 Dialog "View projects for vehicle planning"

This dialog is used to view all active projects in a table.

Calling the dialog

This dialog is called from vehicle planning module.

Structure

The dialog displays all active projects in the table.

The screenshot shows a software interface titled 'Vehicle Planning'. The top navigation bar includes icons for back, home, and search, along with user profile and message center. A dropdown menu is open, showing 'Vehicle Planning' as the selected option. The main content area is a table with the following columns: Sensor, Model Series, Name, Pro Phases, Status, and Start Date. The table lists several projects, each with a unique identifier and specific details:

Sensor	Model Series	Name	Pro Phases	Status	Start Date
Sensor1	X170	VTAS-120	PRO1	Active	Aug 16 2017
LNF	W179	Test		Active	Aug 14 2017
LNF		Test draft		Active	Aug 11 2017
Sensor1		projecct67		Active	Aug 11 2017
Sensor1	X170,W230	Test demo active		Active	Aug 02 2017
LNF	W179	Test 69 regression		Active	Aug 01 2017
KNEF	W230	Open attachment test		Active	Jul 31 2017
LNF	X170,W179	Testing VTAS-71	PRO2,PR6	Active	Jul 24 2017
Sensor1	W179	45	abc,PRO1	Active	Jul 26 2017
KNEF	S320,W230	2nd project in the list	abc,PRO1	Active	Jul 18 2017

The screenshot shows a software interface titled 'Fahrzeuge planen'. The top navigation bar includes icons for back, home, and search, along with user profile and message center. A dropdown menu is open, showing 'Fahrzeuge planen' as the selected option. The main content area is a table with the following columns: Sensor, Baureihen, Name, PRO-Phasen, Status, and Anfangsdatum. The table lists several projects, each with a unique identifier and specific details:

Sensor	Baureihen	Name	PRO-Phasen	Status	Anfangsdatum
Sensor1	X170	VTAS-120	PRO1	Active	Aug 16 2017
LNF	W179	Test		Active	Aug 14 2017
LNF		Test draft		Active	Aug 11 2017
Sensor1		projecct67		Active	Aug 11 2017
Sensor1	X170,W230	Test demo active		Active	Aug 02 2017
LNF	W179	Test 69 regression		Active	Aug 01 2017
KNEF	W230	Open attachment test		Active	Jul 31 2017
LNF	X170,W179	Testing VTAS-71	PRO2,PR6	Active	Jul 24 2017
Sensor1	W179	45	abc,PRO1	Active	Jul 26 2017
KNEF	S320,W230	2nd project in the list	abc,PRO1	Active	Jul 18 2017

When no projects are created, system should display "No Projects found" message.

No projects found.

### Filter project list for vehicle planning

Filter Icon will be displayed for all columns. when user clicks on filter icon a popup will open with options.

Sensor	Baureihen	Name	PRO-Phasen	Status	Anfangsdatum
		VTAS-120	PRO1	Active	Aug 16 2017
		Test		Active	Aug 14 2017
		Test draft		Active	Aug 11 2017
		projecct67		Active	Aug 11 2017
		Test demo active		Active	Aug 02 2017
		Test 69 regression		Active	Aug 01 2017
		Open attachment test		Active	Jul 31 2017
		Testing VTAS-71	PRO2,PR6	Active	Jul 24 2017
		45	abc,PRO1	Active	Jul 26 2017
		2nd project in the list	abc,PRO1	Active	Jul 18 2017

### Initializing

- When user opens the page, all active projects are displayed.
- If no projects are available when loading the page, "no project found" will be displayed.

#### Description Of Fields

- "Sensor" will be displayed selected value from add project screen.
- "Model Series" will be displayed selected value from add project screen.
- "Project Name" will be displayed selected value from add project screen.
- "Pro Phases" will be displayed selected value from add project screen.
- "Status" will be displayed selected value from add project screen.
- "Start Date" will be displayed selected value from add project screen.

#### Validations

We have no validations implemented here.

#### Possible actions

User can navigate to landing page by clicking on the Home button.

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the history back page

Click on sort icon	Table data will be sorted based on selected row
Click on the filter icon	Opens a popup to give filter options.
Click on the Module switcher	Navigates to selected module

#### 2.4.5.2 Dialog "Assign Measures to Vehicles"

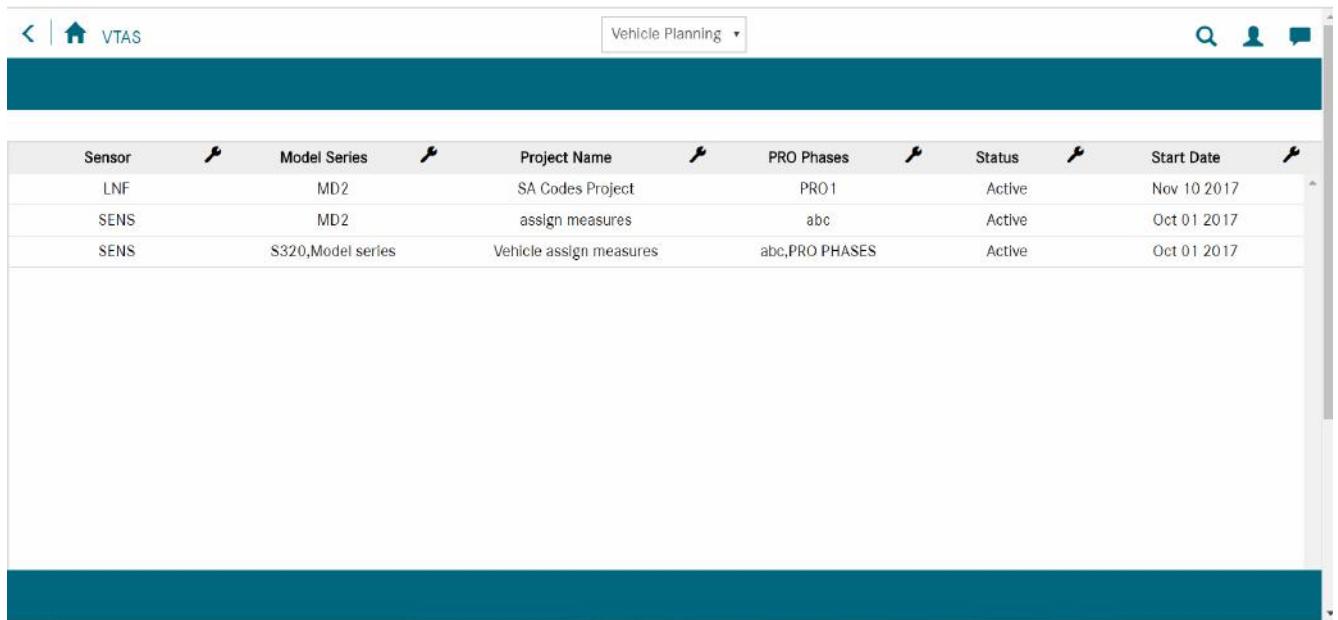
This Dialog is to assign measures to vehicles for the **Active Projects** available in Vehicle Planning.

##### Calling the dialog

This dialog will open when user double clicks on a single project(a row) from project overview of Vehicle Planning module .

##### Structure

The dialog displays **Active** projects only.



The screenshot shows a software interface for 'Vehicle Planning'. At the top, there's a header bar with icons for back, home, and search, followed by the title 'Vehicle Planning'. Below the header is a dark blue horizontal bar. The main area contains a table with the following data:

Sensor	Model Series	Project Name	PRO Phases	Status	Start Date
LNF	MD2	SA Codes Project	PRO1	Active	Nov 10 2017
SENS	MD2	assign measures	abc	Active	Oct 01 2017
SENS	S320,Model series	Vehicle assign measures	abc,PRO PHASES	Active	Oct 01 2017

If user double click on a project it opens vehicle-measure assignment dialog.

Vehicle Planning

Measure Number	3	4	2	1	5
Measure Title	Vehicle service	Testing	Audit	Testing	Testing
Number planned					
Number selected					

Vehicle Name Vehicle Order Production Bousmuster Type Paint Mileage Comment Department Engine Trar

Vtas-Benz-2	0729121017	3850600	530441	SMART FORFOUR 66kW	30	<input type="checkbox"/>	<input type="checkbox"/>	281910 GO 216719	700411	<input type="checkbox"/>				
Vtas-Benz-3	0729121771	7569909	132711	E400 4MATIC T	30	<input type="checkbox"/>	<input type="checkbox"/>	276853 30 790214	725048	<input type="checkbox"/>				

< >

[Discard](#) [Save & Continue](#)

If no measure data and no vehicle data is available, Empty tables will display like below.

Vehicle Planning

Measure Number	3	4	2	1	5
Measure Title	Vehicle service	Testing	Audit	Testing	Testing
Number planned					
Number selected					

Vehicle Name Vehicle Order Production Bousmuster Type Paint Mileage Comment Department Engine Trar

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

< >

[Discard](#) [Save & Continue](#)

Assign measures to vehicles and Number selected field will display count of selected checkboxes for the respective measures.

Vehicle Planning

Masterlist

Measure Number	3	4	2	1	5
Measure Title	Vehicle service	Testing	Audit	Testing	Testing
Number planned					
Number selected	2	1	2	1	

Vehicle Name	Vehicle Order Numbers	Production Number	Boumuster	Type	Paint	Mileage	Comment	Department	Engine	Tras
Vtas-Benz-2	0729121017	3850600	530441	SMART FORFOUR 66kW		30			281910 GD 216719	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Vtas-Benz-3	07291212771	7569909	132711	E400 4MATIC T		30			276853 30 780214	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

[Discard](#) [Save & Continue](#)

When user click on vehicle order number,in a new tab it will open MRS page and show SA-Codes report.

MyMRS Production... [Bericht bearbeiten](#) [PDF](#) [Excel](#) [Bericht erneut starten](#) [PID7326 abmelden](#)

Productioncodes, Ausführungszeitpunkt: 2017-11-13 10:47:24

Karosserienummer	2415436	/ 1	Produktionsnummer	7414678	/ 4	Baumuster	21899112	MDS-Nummer
<b>Produktionscode</b>	<b>Bezeichnung</b>							
003	Manuell termingesteuertes Fahrzeug							
054	Änderungsjahr 23/2							
103	Steuercode fuer PRO 3							
110	Kraftstoffmenge Selbstabholer							
113	Fzg. zur Reifegradsabsicherung 3 'RG3'							
197U	OBSIDIAN-SCHWARZMETALLIC-LACK							
1U2	Schneegitter							
202B	BEDIENUNGSANLEITUNG.U.WARTUNGSHEFTDEUTSCH							
218	Rückfahrkamera							
228	Zusatzausstattung (Standheizung)							
229L	DEUTSCHLAND							
233	Abstandregeltempomat Plus (Distronic Plus)							
235	Aktiver Parkassistent							
237	Aktiver Totwinkel-Assistent							
238	Aktiver Spurhalte-Assistent (FAP)							
23P	Fahrpaket							
240	LED-Tagfahrlicht							
249	Innen- und Außenspiegel autom. abblendbar							
255B	MBMOBILONITDSBUNDGGD							
260B	AIRBAGSCHILDDEUTSCH/ENGLISCH							
275	Memorypaket (Fahrersitz, Lenksäule, Spiegel)							
277	Sportlenkrad							
287	Durchleuchtmöglichkeit							
291	Becken-Airbag (Pelvisbag)							
294	Kniebag							
2XXI	BLUNDESERBUHLIKINDDEUTSCHLAND							

After assigning vehicles to measure it will save to Database

Success! Data saved successfully

Measure Number	3	4	2	1	5
Measure Title	Vehicle service	Testing	Audit	Testing	Testing
Number planned					
Number selected	2	1	2	1	

Vehicle Name	Vehicle Order Numbers	Production Number	Boumuster	Type	Paint	Mileage	Comment	Department	Engine	Tran				
Vtas-Benz-2	0729121017	3860600	530441	SMART FORFOUR 66KW		30		281910 00 216719	700411	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Vtas-Benz-3	0729121771	7569909	132711	E400 4MATIC T		30		276853 30 780214	725048	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discard Save & Continue

when user click on Discrad button it navigates back to project overview page

Confirmation

Are you sure ?

No Yes

Measure Number	3	4	2	1	5
Measure Title	Vehicle service	Testing	Audit	Testing	Testing
Number planned					
Number selected	2	1	2	1	

Vehicle Name	Vehicle Order Numbers	Production Number	Boumuster	Type	Paint	Mileage	Comment	Department	Engine	Tran				
Vtas-Benz-2	0729121017	3860600	530441	SMART FORFOUR 66KW		30		281910 00 216719	700411	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Vtas-Benz-3	0729121771	7569909	132711	E400 4MATIC T		30		276853 30 780214	725048	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discard Save & Continue

## Initializing

This dialog will open when user double clicks on a single project(a row) from project overview of Vehicle Planning module.

- "Master List" Tab is Opened.
- A matrix represented by a table is visible and is separated in two sections: Vehicle data and Vehicle measures data.

The Header and Button Header, Button footer section are fixed on the page.

### Lower right part of matrix - Checkbox table:

- In the right corner of the vehicle table,checkbox table is displayed.
- A verticle scroll function is available to see all the vehicle and checkbox information.

### Lower part of matrix - Vehicle data:

- In the vehicle table all vehicle information specific to that project will be fetching from FLIMS and some fields like Vehicle name, vehicle order number , department, comments will be fetching from the VTAS database.
- Initial sorting done based on vehicle name.

- Vertical scroll function is available to see all the vehicle information.

#### Upper part of matrix - Vehicle measures data:

- In the right corner above the table, the parent measures of selected project are displayed column-wise.
- Horizontal scroll function is available to see all the measures after the column "Comments".

#### SA-Codes for Vehicle Order Number:

- Each vehicle order number value(per row) is clickable in vehicle data table.
- When user click on any vehicle order number, opens a new tab and show SA-Codes report which are assigned with Vehicle Order number from MRS.

#### **Description Of Fields:**

- "Measure number" describes the Project vehicle measure number and is pre-filled.
- "Measure title" describes 'Title of project vehicle measure '
- Empty row for the "Number selected" vehicles.
- "Number Planned" describes Number of vehicles are planned for an audit of a measure.
- "Vehicle name" describes the Title of Project Vehicle.
- "Vehicle order number" describes the Order Number of Vehicle.
- "Production number" describes the fin number of Vehicle.
- "Baumuster" describes the modal series of the Vehicle.
- "Type" describes the type of the vehicle.
- "Paint" describes the color of the vehicle.
- "Mileage" describes the mileage of the vehicle.
- "Business department" describes 'Business department'
- "Comments" describes 'Comments '.
- "Engine" describes the type of engine the vehicle has.
- "Transmission" describes the transmission of the vehicle.

#### **Validations:**

There are no validations implemented here.

#### Possible Actions:

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the history back page
Click on the Project Information tab	Navigates to the Project Information dialog
Click on the Module switcher	Navigates to selected module
Click on the Master List tab	Navigates to the Vehicle-Measure assignment tab
Click on Save & Continue button	Saves assign measures information into the database.
Click on Discard button	Navigate back to vehicle planning page.
Click on Vehicle Order Number	Opens a new tab and download report from MRS.

## 2.4.6. Module "Controlling"

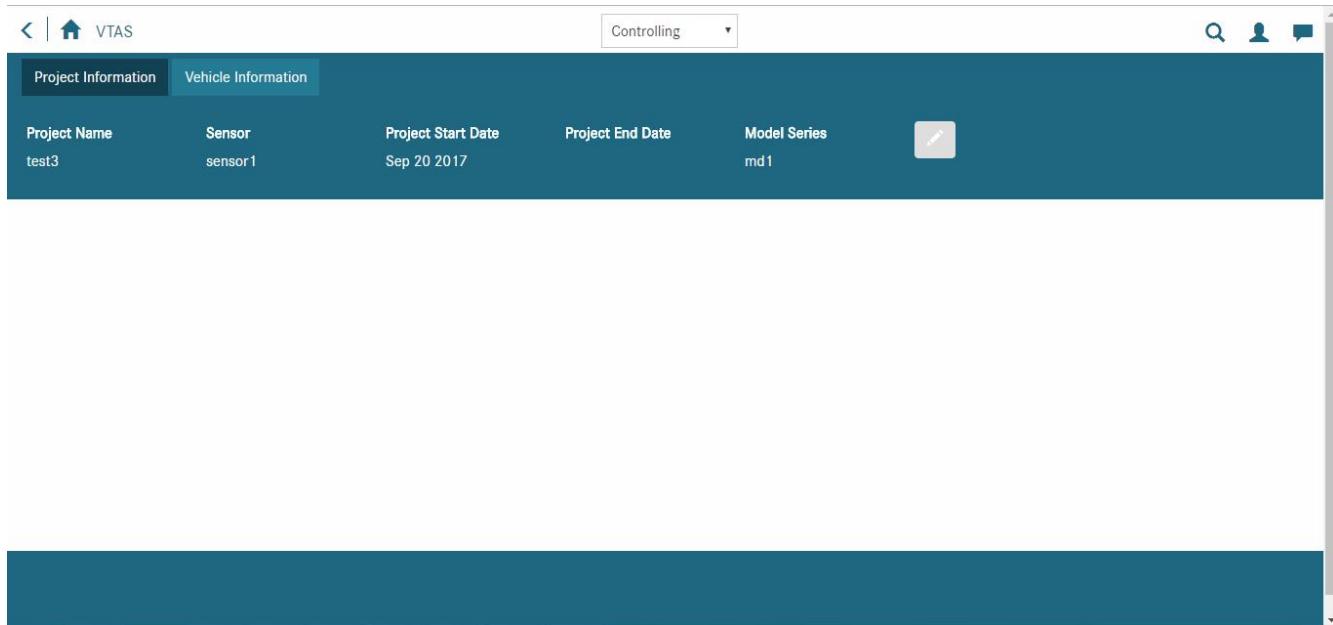
### 2.4.6.1 Dialog "Pre-Select Project For Controlling"

An **active** project is pre-selected so that the vehicle manager can work with the correct project.  
Calling the dialog

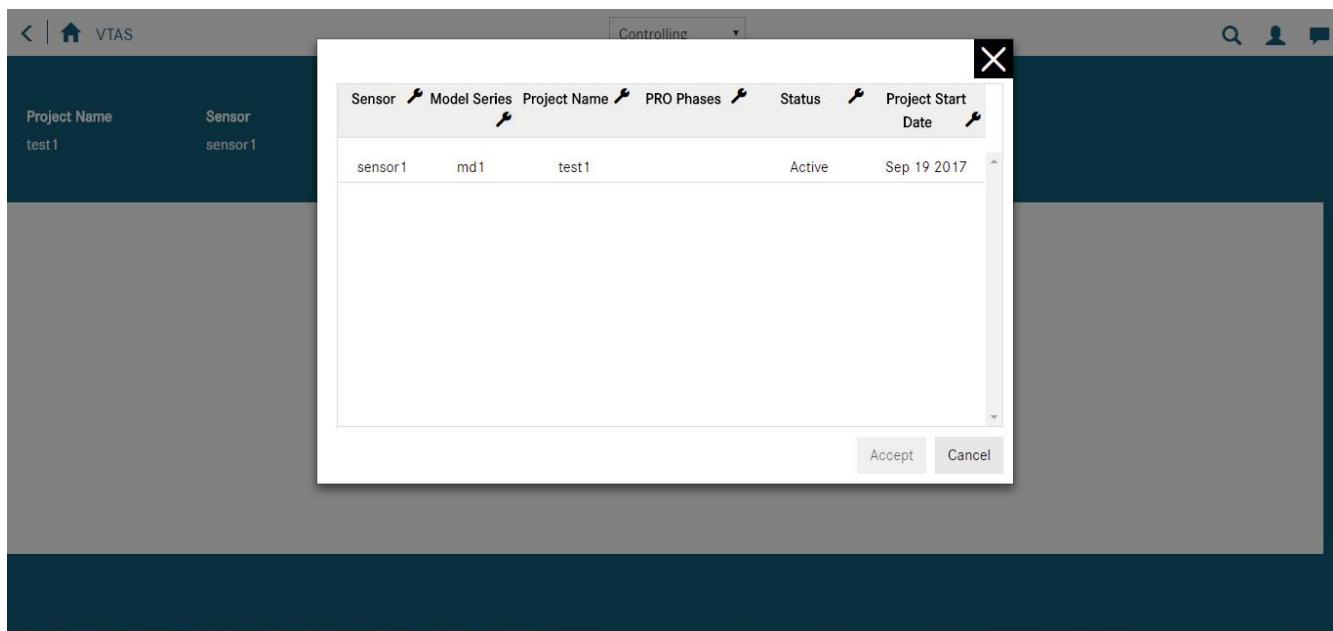
This dialog is called from the Controlling module.

Structure

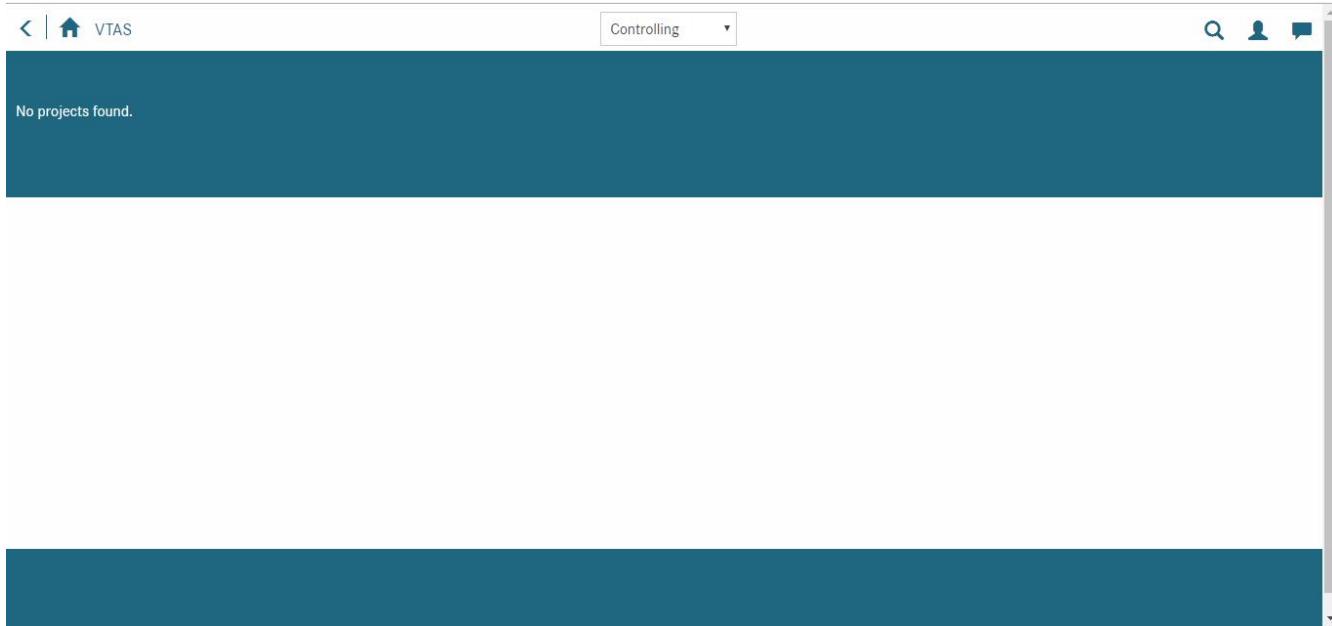
This dialog shows **Pencil icon** to select different projects.



Pop-over allows to select a different **active project**.



If no projects are set to active state then "No Projects Found" will be shown.



## Initializing

- On opening the controlling dialog, the first **active** project of the project list is pre-selected.
- If no projects are found when loading the page, a message "No projects found" will be displayed.
- Two Toggle Buttons "Project Information" and "Vehicle Information" are shown above the list in the button header section.

## Toggle Buttons

- When the button "Project Information" is clicked project related content is shown.
- When the button "Vehicle Information" is clicked vehicle related content is shown.

## Description of fields

"Project name" describes the name of the project for controlling

"Sensor" describes the sensor value of the project.

"Project start date" describes the start date of the project.

"Project end date" describes the end date of the project.

"Model series" describes the model series values for the project.

"PRO phases" describes the pro-phase values for the project

"Status" describes the status(i.e. "Active", "Draft", "Closed") of the project

## Validations

We have no validations implemented here.

## Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Pre-Select Project Information list is shown.
Click on Vehicle Information button	Vehicle Information list is shown.

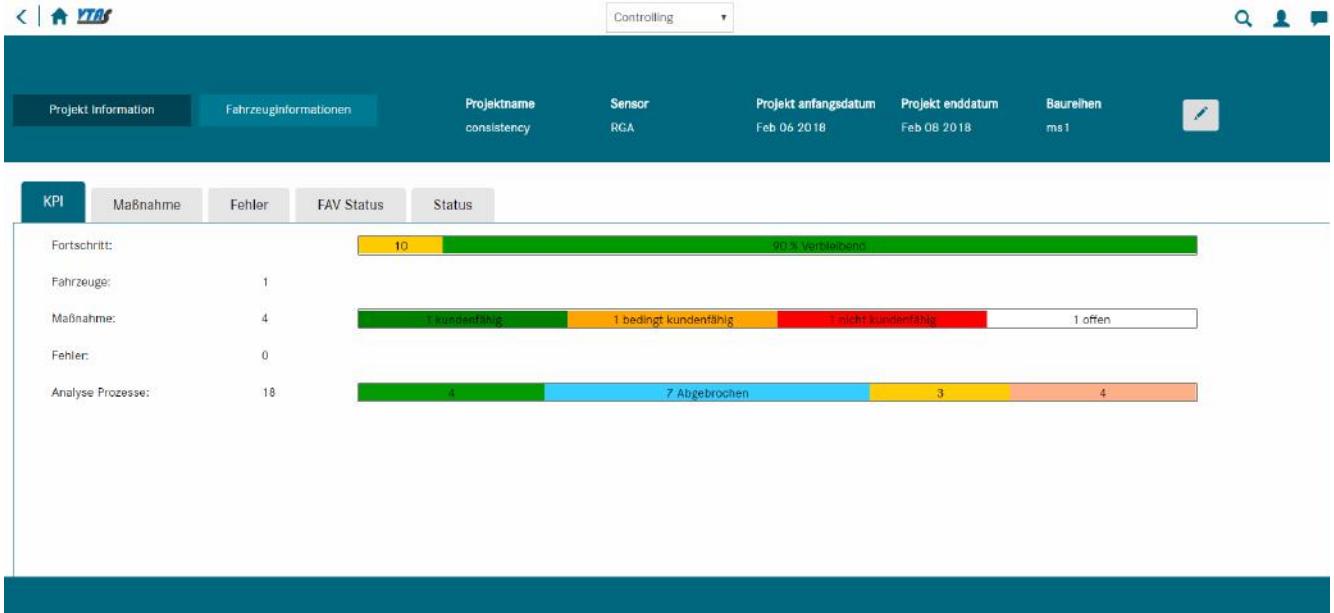
## 2.4.6.2 Dialog "Show KPI overview for projects"

The dialog is to have the most important KPI graphically prepared, so that the user can get a quick overview of the status of a project.  
Calling the dialog

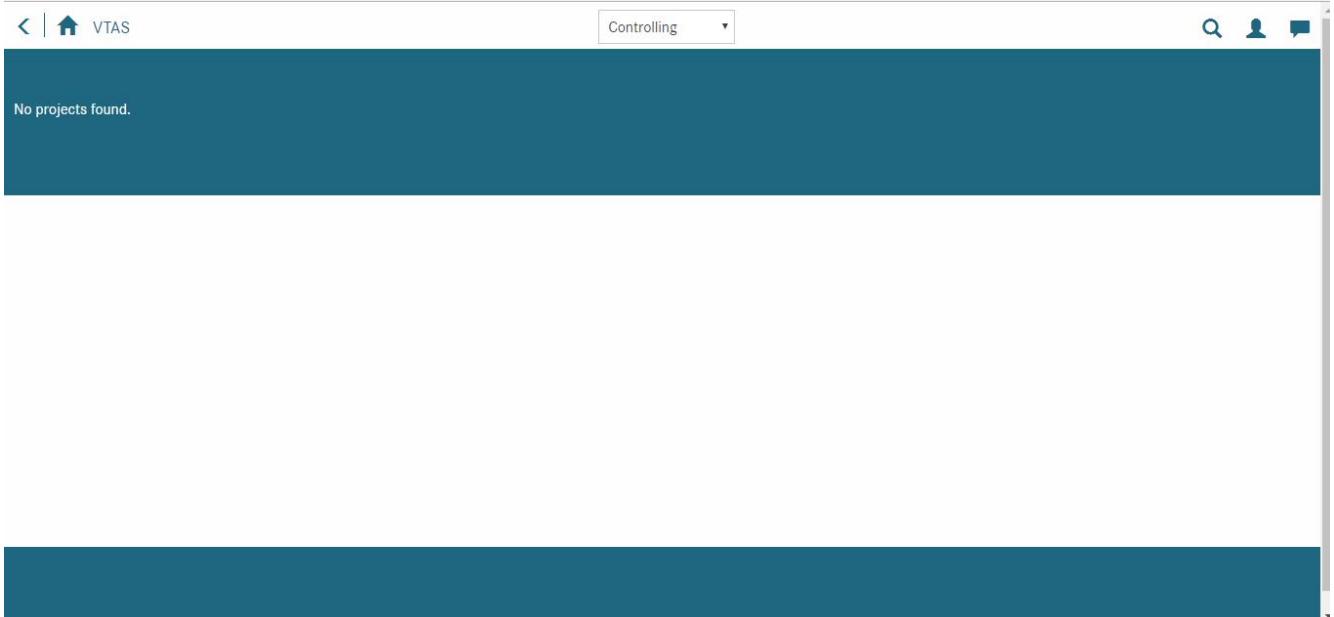
This dialog is called from the Controlling module.

Structure

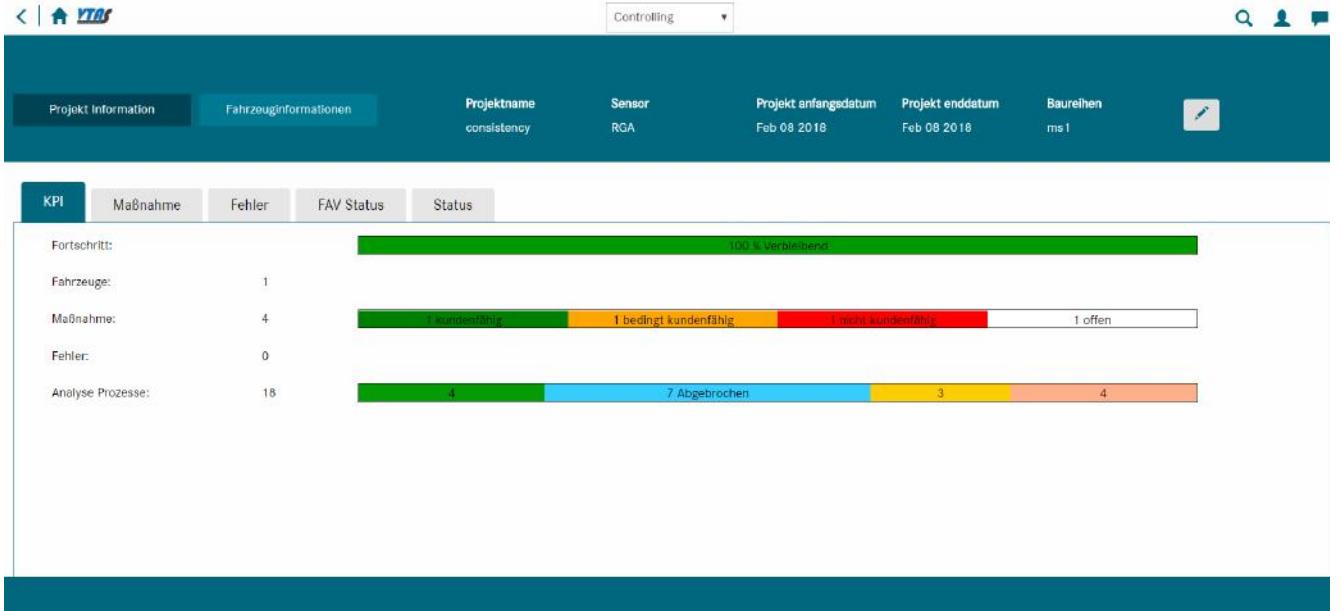
In "Project information" dialog there is a "KPI Overview" tab.



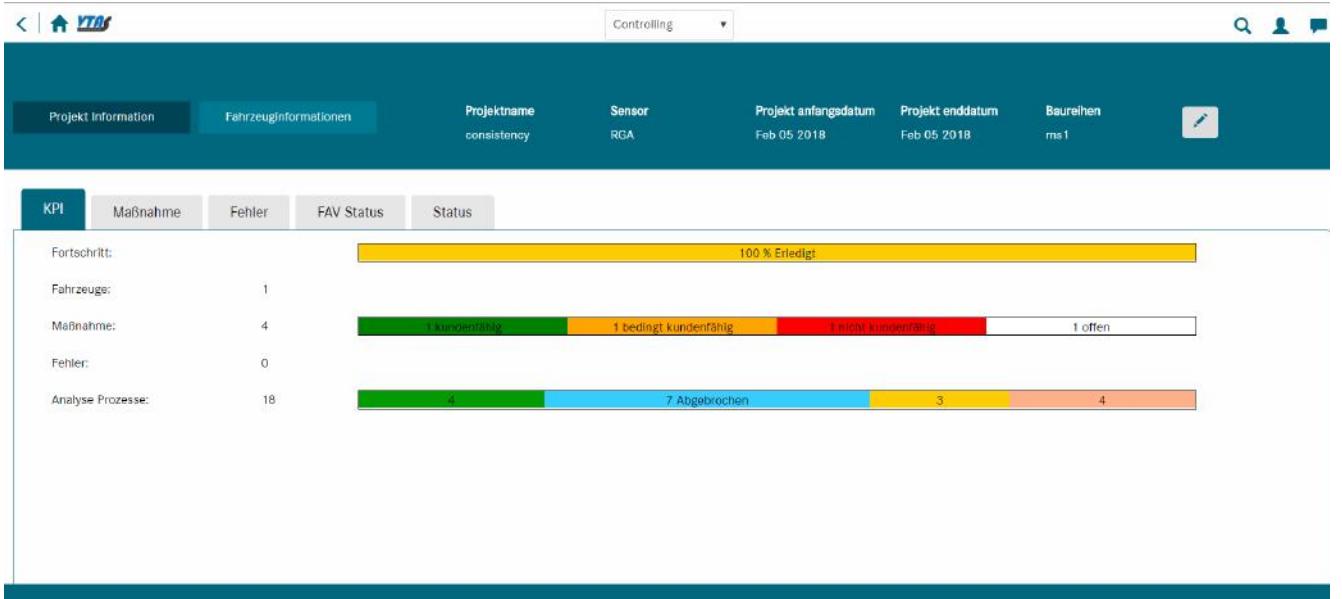
If no projects are set to active state then "No Projects Found" will be shown.



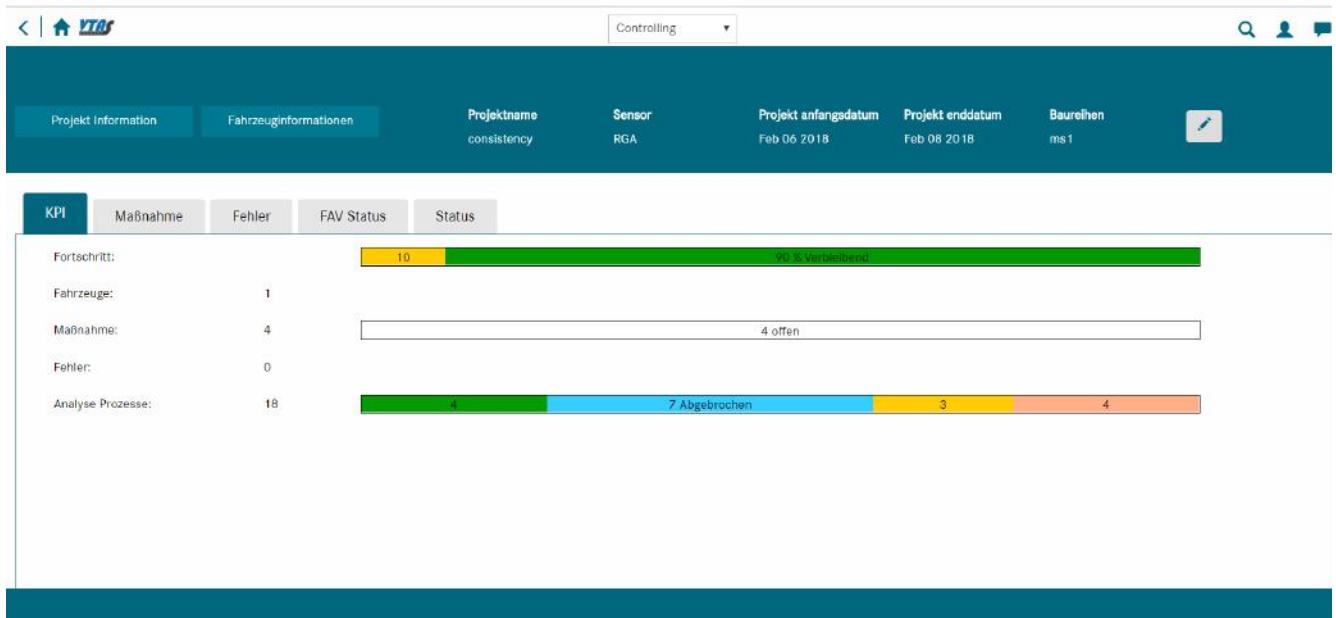
If the project start date is after or on today date Time Elapsed is 100% Remaining.Measure KPI shows the count of status for measures in KPI bar.



If the project end date is before or on today date Time Elapsed is 100% Done.

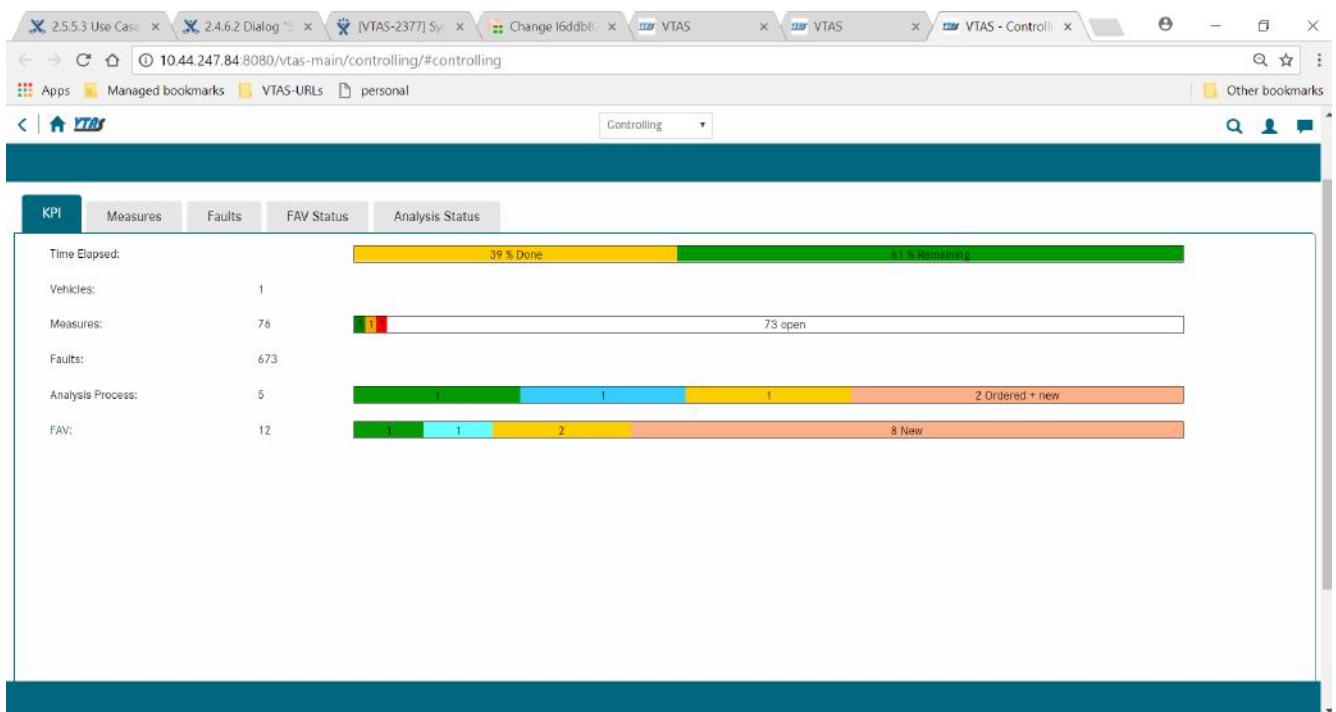


Default status of measures will be open, then the KPI bar will display as open.



Analysis process displays the count and status of saved analysis Id status in progress bar

Fav will display the count and status of IRAs for a project in progress bar.



## Initializing

- On opening the controlling dialog, the first **active** project of the project list is pre-selected.
- If no projects are found when loading the page, a message "No projects found" will be displayed.

## KPI tab

- When the button "Project Information" is clicked project related content is shown.
- There is a KPI tab which contains the following:
  - Time elapsed : Progress bar chart (Time) in %
  - Vehicles : Number of vehicles (Order numbers)
  - Measure KPI show the saved status count for measures.
  - Faults : Number of faults
  - Analysis Process KPI show the saved analysis-Id count for project.
  - Fav KPI shows the Ira Ids count and status for project.
- When project end date is not given, the Time elapsed KPI is hidden.
- If no measures are available, the Measure Status bar is hidden.
- If no analysis status are available, the Analysis Process KPI bar is hidden.

Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Show information for pre-selected project.
Click on Vehicle Information button	Show information for pre-selected vehicle.

#### 2.4.6.3 Dialog "Show measure overview for a project"

The dialog is to display measure overview ,assigned vehicles and to set status of particular measures of a project and to display the faults based on the vehicle order numbers so that user can get the vehicle status.

Calling the dialog

This dialog is called from the Controlling module.

Structure

In "Project Information" dialog, a new tab "Measures" that display measure overview and status of measures.Measures will have default status as open.

The screenshot shows the 'Project Information' dialog with the 'Measures' tab selected. The top navigation bar includes 'Projekt Informationen', 'Fahrzeuginformationen', 'Controlling\_DE', and other standard icons. Below the header, project details are listed: Projektname 'test measure over', Sensor 'Sensor KNEF', Projekt Startdatum 'Dec 02 2017', Projekt Enddatum, and Baureihen 'MD2'. A save icon is also present. The 'Measures' tab is active, displaying a table with columns: Maßnahmen Nummer, Maßnahmen Titel, Kundenauftragsnummer, and Status. The table contains five rows of measure data. At the bottom right, there are 'Verwerfen' and 'Speichern & Weiter' buttons.

Maßnahmen Nummer	Maßnahmen Titel	Kundenauftragsnummer	Status
measure5	Measure 5	435435435, 5435345435, 543543543, 4354354353	offen
measure3	Measure 3	4354354353, 543543543, 5435345435	offen
measure4	Measure 4	5435345435, 4354354353	offen
measure1	Measure 1	4354354353, 435435435, 3254353454	offen
measure2	Measure 2	435435435, 4354354353, 543543543, 3254353454, 5435345435	offen

If no measures are available then "No Measures Found" message will be shown.

User can set the status of measure from the dropdown and save the status for measures. "Data saved successfully" message will be displayed.

When user click on "Discard" button, a confirmation dialog will be displayed. If "Yes" button is clicked, it navigates to KPI tab. If user click on "No", user will remain in Measure tab.

The screenshot shows the 'Project Information' dialog in VTAS. At the top, there are tabs for 'Projekt Informationen' and 'Fahrzeuginformationen'. Below them are fields for 'Projektname' (test measure over), 'Sensor' (Sen), 'Projekt Enddatum' (Jul 11 2017), and 'Baureihen' (MD2). A blue bar at the bottom has tabs for 'KPI', 'Measures' (which is selected), and 'Faults'. A confirmation dialog box is overlaid on the screen, asking 'Sind Sie sicher?' (Are you sure?).

Maßnahmen Nummer	Maßnahmen Titel	Kundenaufragsnummer	Status
measure4			offen ▾
measure5			offen ▾
measure3			offen ▾
measure2			offen ▾
measure1			offen ▾

In "Project Information" dialog, a new tab "Measures" that display measure overview and status of measures. It has Global Ordering number with various color as per the priority.

If one of the faults has a **priority** of value "1" or "2" , the Global Ordering Number comes in RED color.

The screenshot shows the 'Project Information' dialog in VTAS. The 'Measures' tab is selected. The table has columns for 'Measure Number', 'Measure Title', 'Global Ordering Number', and 'Status'. The 'Global Ordering Number' column contains values like '60492276, 604922711' (black) and '60492277, 60492279' (red).

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open ▾
m3		60492277, 60492279	open ▾
m1		604922710, 604922712, 604922711	open ▾

If no faults are found , the Global Ordering Number comes in BLACK color.

The screenshot shows the 'Project Information' dialog in VTAS. The 'Measures' tab is selected. The table has columns for 'Measure Number', 'Measure Title', 'Global Ordering Number', and 'Status'. The 'Global Ordering Number' column contains values like '60492276, 604922711' (black) and '60492277, 60492279' (black).

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open ▾
m3		60492277, 60492279	open ▾

If one of the faults has a **priority** of value "0" , the Global Ordering Number comes in GREEN color.

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open
m3		60492277, 60492279	open
m1		604922710, 604922712, 604922711	open

If one of the faults has a **priority** of value "3" or "4" , the Global Ordering Number comes in YELLOW color.

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open
m3		60492277, 60492279	open
m1		604922710, 604922712, 604922711	open

## Initializing

- On opening the controlling dialog, the first **active** project of the project list is pre-selected.

## Description of fields

- There is a "Measures" tab which contains a table with the following columns:
  - "Measure number" field describes the Parent measure which are assigned to the project.
  - "Measure title" field describes the title of the measure title.
  - "Global ordering number" field lists all vehicles assigned to a particular measure
  - "Measure status" field describes the status of the measure("Open","Customer Capable","Partially Customer Capable","Not Customer Capable").User can set/change the measure status for particular measure.

## Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Measures tab	Displays the measures tab content
Click on Status dropdown in Measures tab	Displays different status (Open, Not customer capable,Partly customer capable, Customer capable) where the user can set status.
Click on the KPI tab	Displays the KPI tab content
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page

Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Show information for pre-selected project.
Click on Vehicle Information button	Show information for pre-selected vehicle.
Click on Discard button	Shows a confirmation modal
Click on Yes button	Navigates to the KPI overview tab
Click on No button	Remains in the Measure tab
Click on Save & Continue button	Saves the data
Click on Global Ordering Number	Opens MRS Report

#### 2.4.6.9 Dialog "Show measure overview for a vehicle"

#### 2.4.6.4 Dialog "Show List of Faults"

The dialog is to display the list of faults, so that user can get an overview over the faults of a project.  
Calling the dialog

This dialog is called from the Controlling module.

Structure

A New tab "Faults" in the "Project Information" tab of "Controlling" module.

The screenshot shows the VTAS software interface with the following details:

- Header:** Includes back, home, and search icons, and a dropdown menu set to "Controlling".
- Project Information Tab:** Contains tabs for "Projekt Information" (selected) and "Fahrzeuginformationen".
- Project Data:** Displays fields for "Projektname" (test-empty), "Sensor" (rga), "Projekt anfangsdatum" (Nov 29 2017), "Projekt endatum" (empty), "Baureihen" (MS), and a "Edit" button.
- Fehler Tab:** Selected tab showing fault statistics:
 

Fortschritt:	
Fahrzeuge:	0
Maßnahme:	0
Fehler:	0
- EFA Input Widget:** A large, empty input field on the right side of the screen.

Left side table shows list of faults information that is loaded from MRS and right side displays the EFA Input Widget.

when MRS responded with error, an error message "MRS responded with error.please contact administrator" will be displayed.

## Initializing

- On opening the controlling dialog, the first **active** project of the project list is pre-selected.

## Description of fields

"Fault" tab which contains a table with the following columns:

- "Fault Place" field describes the vehicle location of the fault.
- "Fault Type" field describes the type of fault.
- "Model Series" field describes model series value of fault vehicle.
- "Production Number" field describes the status of the measure (empty column for now).
- "Plant" field describes the plant ID.

## Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Show information for pre-selected project.
Click on Vehicle Information button	Show information for pre-selected vehicle.
Click on the KPI tab	Displays the KPI tab content
Click on the Fault tab	Displays the Fault tab content
Click on save fault	Saves the fault ID of selected vehicle part.

#### 2.4.6.5 Dialog "Pre-Select Vehicle For Controlling"

An **active** vehicle is pre-selected so that the vehicle manager can work with the correct vehicle.  
Calling the dialog

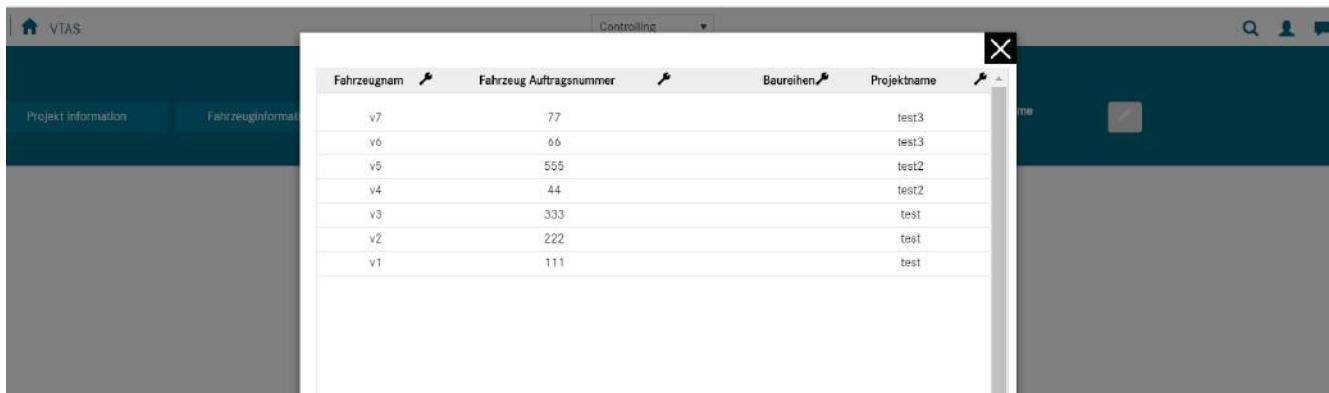
This dialog is called from the Controlling module.

Structure

This dialog shows **Pencil icon** to select different projects.



Pop-over allows to select a different vehicles which are aligned only to **active project**.



If no vehicles are found for the active projects then "No Vehicle Orders Found" will be shown.

## Initializing

- On opening the controlling dialog, the last vehicle which is associated with **active** project is pre-selected.
- If no vehicles are found when loading the page, a message "No Vehicles Orders found" will be displayed.

Description of fields

"Vehicle name" describes the name of the vehicle for controlling

"Vehicle Order Number" describes the vehicle order number of the vehicle.

"Model series" describes the model series values for the vehicle. Which is blank for now, value for the same is out of the scope of this user story

"Project name" describes the name of the active project from which displayed vehicle is associated.

When the button "Project Information" is clicked project related content is shown.

When the button "Vehicle Information" is clicked vehicle related content is shown.

Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different vehicle from the list of the vehicles aligned with <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of controlling page and closes the pop-over
Click on Cancel button	Cancels any changes to vehicle selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Pre-Select Project Information list is shown.
Click on Vehicle Information button	Vehicle Information list is shown.

## 2.4.6.6 Dialog "Show fault details"

This use case is meant to see details of a fault so that the specific fault details can be analyzed.  
Calling the dialog

This dialog is called from the Controlling module.

Structure

When we click on Faults tab.

VTAS

Controlling

Project Information      Vehicle Information

Project Name: SENS      Sensor: SENS      Project Start Date: Nov 06 2017      Project End Date: Jan 06 2018      Model Series: MD91

KPI      Measures      Faults

Fault Place	Fault Type	Model Series	Priority	Production Number	Plant
92032	I7	X 253	3	6049227	6330
69P0X	42	X 253	3	6049227	6330
00131	00N	X 253	1	6049227	6330
68R37	10	X 253	3	6049227	6330

when user select specific row, fault details can be seen right side.

VTAS

Controlling

Faults

Fault Place	Fault Type	Model Series	Priority	Production Number	Plant
92032	I7	X 253	3	6049227	6330
69P0X	42	X 253	3	6049227	6330
00131	00N	X 253	1	6049227	6330
68R37	10	X 253	3	6049227	6330

Please click or drop pictures

**Symptom**      **Cause**      **Rework**

Vehicle location: 92032 - Armrest cover/cover, stowage compartment, rear

Fault type: I7 - Wrinkled

Priority: 3 - Minor

Cause: CKD - CKD Material / Part

Comment: rear arm rest wrinkle

Part number:

Details

If MRS call fails then faults will not load and system will display error message.

VTAS-TEC-1: MRS responded with an error. Please contact the administrator.

Fault Place	Fault Type	Model Series	Priority	Production Number	Plant

#### 2.4.6.7. Dialog "Show FAV-Status"

This dialog is to display the status of all fault eliminations for a project, so that admin get an overview of what is still to be done for a project. Calling the dialog

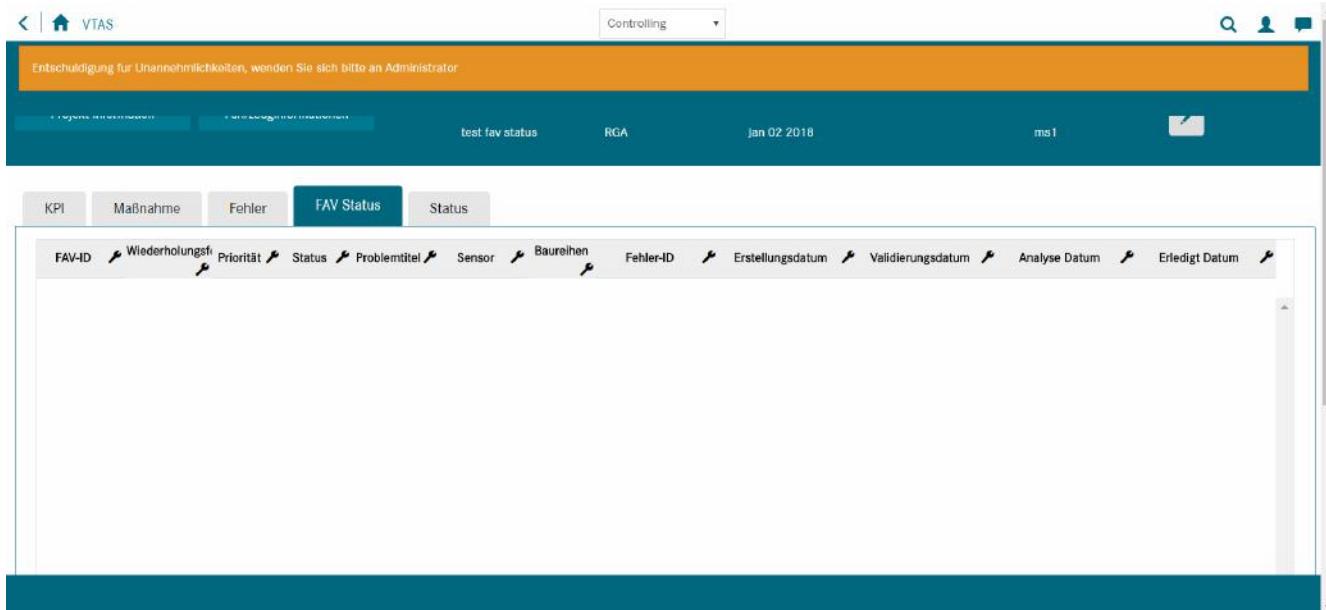
This dialog is called from the Controlling module.

Structure

A new tab "FAV Status" to show the fault elimination process and status for a project. If no "Ira Id" are associated with project, "No Result Found" will be shown.

No Result Found

If for particular Ira Id, no response is coming "Sorry for inconvenice" message will be shown



For the selected project, all the Ira IDs with respective Fault Elimination Processes and status will be displayed.

Project Information		Vehicle Information		Project Name coloring of GO	Sensor SENS	Project Start Date Dec 20 2012	Project End Date Dec 21 2012	Model Series MD2, MD12	
KPI	Measures	Faults	FAV Status	Status					
FAV-ID	Flag if similar errors exist	Priority	Status	Problem Title	Sensor	Model Series	Fault-ID	Creation Date	Containment Implemented
17-11575		2		Lufteinheit oben Kühler - gebrochen	281			2017-11-24T10:46:54.141025	
17-11507		2		Leuchteinheit rechts - lose	160	W:213		2017-01-26T11:45:57	2017-01-26T11:46:29

## Initializing

- On opening the controlling dialog, the first **active** project of the project list is pre-selected.

## Description of fields

- There is "FAV Status" tab which contains a table with the following columns:
  - "FAV ID" describes the ID from CAT.
  - "Flag if similar errors exist (WF)" describes the error flag.
  - "Priority" describes the priority level of fault.
  - "Status" describes the Fault status.
  - "Problem Title" describes the title given for Fault.
  - "Sensor" describes the sensor key mapping value for the sensor value from CAT.
  - "Model Series" describes the series from CAT for a project.
  - "Fault ID" describes the Fault ID.
  - "Creation Date" describes the date Fault got created.
  - "Containment Implemented" describes the containment status.
  - "Analysis Date" describes the date Fault elimination analysis started.
  - "Done Date" describes the Fault Elimination done date.

## Validations

We have no validations implemented here.

Possible actions

Action	Description

Click on the FAV Status tab	Displays the Fault Elimination Process tab content
Click on the Measures tab	Displays the measures tab content
Click on the KPI tab	Displays the KPI tab content
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Show information for pre-selected project.
Click on Vehicle Information button	Show information for pre-selected vehicle.

#### 2.4.6.8. Dialog "Show status of Analysis"

This use case is meant to see analysis status of a project.

Calling the dialog

This dialog is called from the Controlling module.

Structure

When we click on Status tab under project information. User will get iFrame loaded and additional two fields.

The screenshot shows the VTAS application interface. At the top, there's a header with a back arrow, a home icon, and the text 'VTAS'. A dropdown menu shows 'Controlling' is selected. Below the header, there are tabs for 'Project Information', 'Vehicle Information', and several others. In the 'Project Information' section, there are fields for 'Project Name' (coloring of GO), 'Sensor' (SENS), 'Project Start Date' (Dec 21 2017), 'Project End Date' (Dec 20 2017), and 'Model Series' (MD2, MD12). Below these fields, there are tabs for 'KPI', 'Measures', 'Faults', and 'Status'. The 'Status' tab is currently active. On the left, there's a sidebar with a 'DaimlerCAT' logo and a 'Menu' section containing links like 'ToDo', 'Fehlermanagement', 'Cockpit', 'Auswertungen', 'Stammdaten', and 'Extras'. The main content area contains an iFrame displaying the DaimlerCAT 'Analysen' (Analyses) screen. This screen has a search bar with 'Suche' and 'Zurücksetzen' buttons, and a toolbar with 'Profil', 'Suchkriterien', 'StandardA', and other buttons. The main table in the iFrame shows one row of data:

Problemtitle	Anlegendes Werk	Analyseinr.	FAV Nr.	Auftrag	Analysebereich	Typ
test 124	302 IT	17-11586	17-11585	Eine interne Expertenanalyse ist beauftragt.... dfgdfgdfg		So So

Analysis-ID: 1234 Status:

Discard Save & Continue

user has to fill Analysis-ID and choose Status from associated drop down.

On click on Save & Continue, the corresponding data is saved to the DB.

### Initializing

- On opening the controlling dialog, the first **active** project of the project list is pre-selected.
- On clicking Controlling module under project information Status tab, iFrame will be loaded
- User has to navigate in Iframe(on CAT-Page) to find correct Analysis-ID.

Description of fields

- When clicked, Status tab under project information of Controlling module.Iframe will be loaded
- User has to navigate in Iframe(on CAT-Page) to find correct Analysis-ID.
- Manually copy it to Analysis-ID Inputfield and set corresponding status.
- On clicking Save & Continue button, Data will be saved to db.
- On clicking discard button, a confirmation message will be poped up. If click yes then it will be discarded.
- If already existing analysis id is given,the status will be updated in db.
- user can add multiple analysis-Ids to one project.

### Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Status tab	Navigates to Page where Sensor and Plant can be mapped
Click on the Save & Continue	will save the analysis id and corresponding status
Click on the Discard	The chosen value will be discarded

#### 2.4.6.9 Dialog "Show measure overview for a vehicles"

The dialog is to display measure overview which are assigned to vehicles along with status of particular measures of a project and to display the faults based on the vehicle order numbers so that user can get the vehicle status.  
Calling the dialog

This dialog is called from the Controlling module.  
Structure

In "Vehicle Information" dialog, a new tab "Measures" that display measure overview and status of measures. Measures with no status set will have default status as open.

The screenshot shows the 'Measures' tab in the Vehicle Information dialog. The table contains the following data:

Maßnahmen Nummer	Maßnahmen Titel	KundenAuftragsnummer	Status
measure5	Measure 5	435435435	offen
measure3	Measure 3	4354354353	offen
measure4	Measure 4	5435345435	offen
measure1	Measure 1	4354354353..	offen
measure2	Measure 2	435435435	offen

If no measures are available then "No Measures Found" message will be shown.

The screenshot shows the 'Measures' tab in the Vehicle Information dialog. The message 'Keine zugeordneten Maßnahmen gefunden.' is displayed in the center of the table area.

In "Vehicle Information" dialog, a new tab "Measures" that display measure overview and status of measures. It has Global Ordering number with various color as per the priority.

If one of the faults has a **priority** of value "1" or "2" , the Global Ordering Number comes in RED color.

Project Information   Vehicle Information   Project Name: test   Sensor: sen   Project Start Date: Jul 11 2017   Project End Date:   Model Series: Model Series

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open
m3		60492277, 60492279	open
m1		604922710, 604922712, 604922711	open

If no faults are found , the Global Ordering Number comes in BLACK color.

Project Information   Vehicle Information   Project Name: test   Sensor: sen   Project Start Date: Jul 11 2017   Project End Date:   Model Series: Model Series

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open
m3		60492277, 60492279	open

If one of the faults has a **priority** of value "0" , the Global Ordering Number comes in GREEN color.

Project Information   Vehicle Information   Project Name: test   Sensor: sen   Project Start Date: Jul 11 2017   Project End Date:   Model Series: Model Series

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open
m3		60492277, 60492279	open
m1		604922710, 604922712, 604922711	open

If one of the faults has a **priority** of value "3" or "4" , the Global Ordering Number comes in YELLOW color.

Measure Number	Measure Title	Global Ordering Number	Status
m5		60492276, 604922711	open
m3		60492277, 60492279	open
m1		604922710, 604922712, 604922711	open

### Initializing

- On opening the controlling dialog, the first **active** vehicle of the vehicle list is pre-selected.

### Description of fields

- There is a "Measures" tab which contains a table with the following columns:
  - "Measure number" field describes the Parent measure which are assigned to the project.
  - "Measure title" field describes the title of the measure title.
  - "Global ordering number" field lists all vehicles assigned to a particular measure
  - "Measure status" field describes the status of the measure ("Open", "Customer Capable", "Partially Customer Capable", "Not Customer Capable"). User can set/change the measure status for particular measure.

### Validations

We have no validations implemented here.

### Possible actions

Action	Description
Action	Description
Click on the Measures tab	Displays the measures tab content
Click on Status dropdown in Measures tab	Displays different status (Open, Not customer capable, Partly customer capable, Customer capable) where the user can set status.
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Show information for pre-selected project.
Click on Vehicle Information button	Show information for pre-selected vehicle.
Click on Discard button	Shows a confirmation modal
Click on Yes button	Navigates to the KPI overview tab
Click on No button	Remains in the Measure tab
Click on Save & Continue button	Saves the data
Click on Global Ordering Number	Opens MRS Report

## 2.4.6.10 Dialog "Show faults assigned to a vehicle"

The dialog is to display faults associated with a vehicle for a project.

This dialog is called from the Controlling module.

Structure

In "Vehicle Information" dialog, a new tab "Faults" that display faults for a selected vehicle.

Left side table shows list of faults information that is loaded from MRS and right side displays the EFA Input Widget.

Fault Place	Fault Type	Model Series	Priority
68078	10	S 213	
40N06	A5	S 213	
3500G	C7	S 213	3
3500G	C7	S 213	3
82413	179	S 213	1
92A21	36	S 213	1
35C02	04	S 213	1
8620A	06	S 213	2
87056	06	S 213	2
96-A0W	06	S 213	0

Please click or drop picture!

Symptom Cause Rework

Vehicle location: 68078 - Cover, mount, speaker, footwell, front

Fault type: 10 - Scratches

Priority:

Cause:

Comment:

Part number:

Details

If no faults are available then "No Result Found" message will be shown.

Priority	Production Number	Plant
No Result Found		

### Initializing

- On opening the controlling dialog, the first **active** vehicle of the vehicle list is pre-selected.

### Description of fields

"Fault" tab which contains a table with the following columns:

- "Fault Place" field describes the vehicle location of the fault.
- "Fault Type" field describes the type of fault.

- "Model Series" field describes model series value of fault vehicle.
- "Production Number" field describes the status of the measure (empty column for now).
- "Plant" field describes the plant ID.
- "Status" field describes the status of the faults (i.e. Open/ No action needed/ IRA created)

#### Validations

We have no validations implemented here.

#### Possible actions

Action	Description
Click on the Measures tab	Displays the measures tab content
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different vehicle from the list of the <b>vehicles</b>
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Show information for pre-selected project.
Click on Vehicle Information button	Show information for pre-selected vehicle.
Click on Discard button	Shows a confirmation modal
Click on Yes button	Navigates to the KPI overview tab
Click on No button	Remains in the Measure tab
Click on Global Ordering Number	Opens MRS Report

#### 2.4.6.11. Dialog "Show Fault Elimination Process for Vehicle"

This dialog displays the status of all fault eliminations for a vehicle, so that admin get an overview of what is still to be done.  
Calling the dialog

This dialog is called from the Vehicle Information tab in Controlling module.

Structure

A new tab "FAV Status" to show the fault elimination process and status for a vehicle.If no "Ira Id" are associated with Vehicle,"No Result Found" will be shown.

FAVID	Flag if similar errors exist	Priority	Status	Problem Title	Sensor	Model Series	Fault-ID	Creation Date	Containment Implemented	Analysis Date	Done Date
No Result Found											

If for particular Ira Id,no response is returned then, "Sorry for inconvinience" message will be shown.

For the selected vehicle, all the FAV IDs with respective Fault Elimination Processes, Faults IDs associated with vehicle and status will be displayed.

FAV-ID	Flag if similar errors exist	Priority	Status	Problem Title	Sensor	Model Series	Fault-ID	Creation Date	Containment Implemented	Analysis Date	Done Date
17-11575	<input type="radio"/>	Luftleitteil oben Kühler - gebrochen	281					2017-11-24T10:46:54.141025			
17-11507	<input checked="" type="radio"/>	Leuchteinheit rechts - lose	160	W:213				2017-01-26T11:32:18.051561	2017-01-26T11:45:57	2017-01-26T11:46:29	

## Initializing

- On opening the controlling dialog in "Vehicle Information" tab, the latest vehicle of the vehicle list is pre-selected.

## Description of fields

- There is "FAV Status" tab which contains a table with the following columns:
  - "FAV ID" describes the ID from CAT.
  - "Flag if similar errors exist (WF)" describes the error flag.
  - "Priority" describes the priority level of fault.
  - "Status" describes the Fault status.
  - "Problem Title" describes the title given for Fault.
  - "Sensor" describes the sensor key mapping value for the sensor value from CAT.
  - "Model Series" describes the series from CAT for a project.
  - "Fault ID" describes the Fault ID.
  - "Creation Date" describes the date Fault got created.
  - "Containment Implemented" describes the containment status.
  - "Analysis Date" describes the date Fault elimination analysis started.
  - "Done Date" describes the Fault Elimination done date.

## Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the FAV Status tab	Displays the Fault Elimination Process tab content
Click on the Measures tab	Displays the measures tab content
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Project Information button	Show information for pre-selected project.
Click on Vehicle Information button	Show information for pre-selected vehicle.

## 2.4.7. "User Profile"

This Dialog is to view the user profile, so that the user can view his information.

### Calling the dialog

The dialog is called from header section which is present throughout the application.

### Structure

The user profile icon can be seen in the right side of the header section.



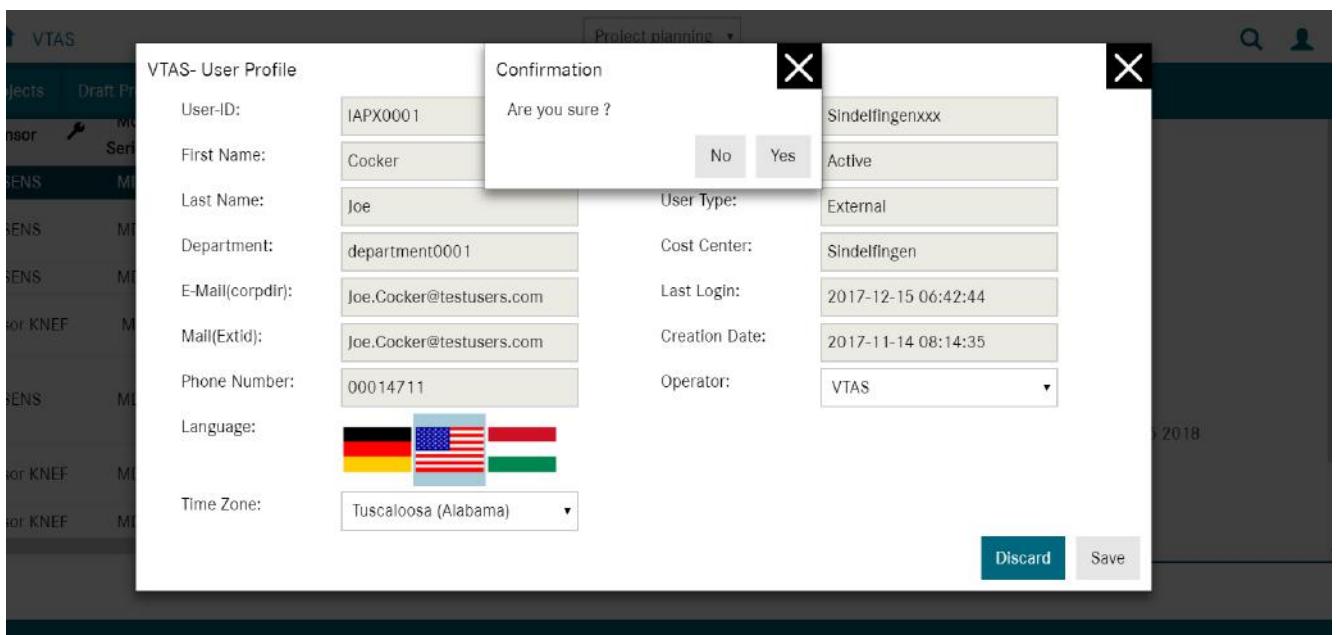
### User-profile popup

The 'VTAS-User Profile' dialog box contains the following fields:

User ID:	IAPX0001	Plant ID:	Sindelfingenxxx
First name:	Cocker	User Status:	Active
Last Name:	Joe	User type:	External
Department:	department0001	Cost Center:	Sindelfingen
Email(corpdir):	Joe.Cocker@testusers.com	Last Login:	2017-12-15 05:05:12
Email(ExtId):	Joe.Cocker@testusers.com	Creation Date:	2017-11-14 08:14:35
Phone Number:	00014711	Operator:	VTAS
Language:			
Time zone:	Tuscaloosa (Alabama)		

Buttons at the bottom: Discard, Save.

### Discard popup:



### Initialization:

When the header is loaded, a user profile icon is displayed at the right side of the header.

When opening the user profile dialog, the user information (User-Id, first name, last name etc.) is prefilled.

#### User-profile dialog

1. First time user profile icon is clicked, a popup with user details is opened.
2. At this movement we don't have login functionality, assuming that we have login functionality. If user logs into VTAS application first time, user details (required details like User Id and last loggedOn) will be stored into VTAS database, when user clicks on user profile icon it will fetch user details from AEMT and VTAS DB and will pop up view user profile dialog.
3. Fetch the user information from the corporate directory (who-is-who) and AEMT and store it in the VTAS cache:
4. The following information of the user's profile is prefilled and non-editable
  - i. User-Id
  - ii. first name
  - iii. last name
  - iv. department
  - v. E-Mail
  - vi. Mail
  - vii. Phone-Number
  - viii. Plant-IDs
  - ix. User status
  - x. Usertype
  - xi. cost center
  - xii. Operator
- The following information is not prefilled:
  - i. last login timestamp
  - ii. Creation date of User.
5. The languages German, English and Hungarian are available in the form of country flags.
6. The initially selected default language is German.
7. The language can be changed by selecting the country flag.
8. When the user selects the language, the country flag is highlighted.
9. A dropdown to select the time zone is available.
10. The dropdown contains the following time zones (hardcoded):
  - a. "East London (South Africa)"
  - b. "Tuscaloosa (Alabama)"
  - c. "Berlin (Deutschland)"
11. The initially selected default time zone is Berlin (Deutschland).
12. Once the user saves the Time zone, the system takes over the selected time zone for the current user profile and shows all dates/times in the selected timezone throughout the application.
13. "Created on" field is empty for the first time. Once the user clicks user profile and save it for the first time, "Created on" field stores the date and time for the first save.
14. The initial selected default value for Operator field is empty, user explicitly has to select Operator value, at this movement the value should be "VTAS". This operator value should be sent as an input for operator field in save faults.

#### Clicking on "Discard"

- When discard button is clicked, a popup with notification "Are you sure?" is displayed.
- Clicking on "yes" discards all the changes.
- Clicking on "No", remains you on the same user profile popup.

#### Clicking on "save"

When the save button is clicked, the selected language, the selected time zone is saved to the current user is saved

After saving, the system takes over the selected language and shows the UI labels in the same language.

And the system takes over the selected time zone for the current user profile and shows all dates/times in the selected timezone.

#### **Validations :**

We have no validations implemented here.

#### **Possible actions**

Action	Description
Click on the Discard button	A popup with notification "Are you sure?" is displayed.
Click on the Save button	Saves all the changes
Click on the flag image	Respective flag is highlighted
Click on close button in popup	Saves all the changes.
Click on timezone dropdown	Dropdown shows a list of selectable timezones.
Click on Operator dropdown	Dropdown shows a list of valid operators.

#### **2.4.8 "User Login"**

When the application is loaded, a user Login page is displayed providing an option to enter user name and password.

This Dialog is to login to VTAS so that, user can work with the projects.

#### Calling the dialog

The dialog is called when the application loads.

#### Structure

Login page is displayed as follows:

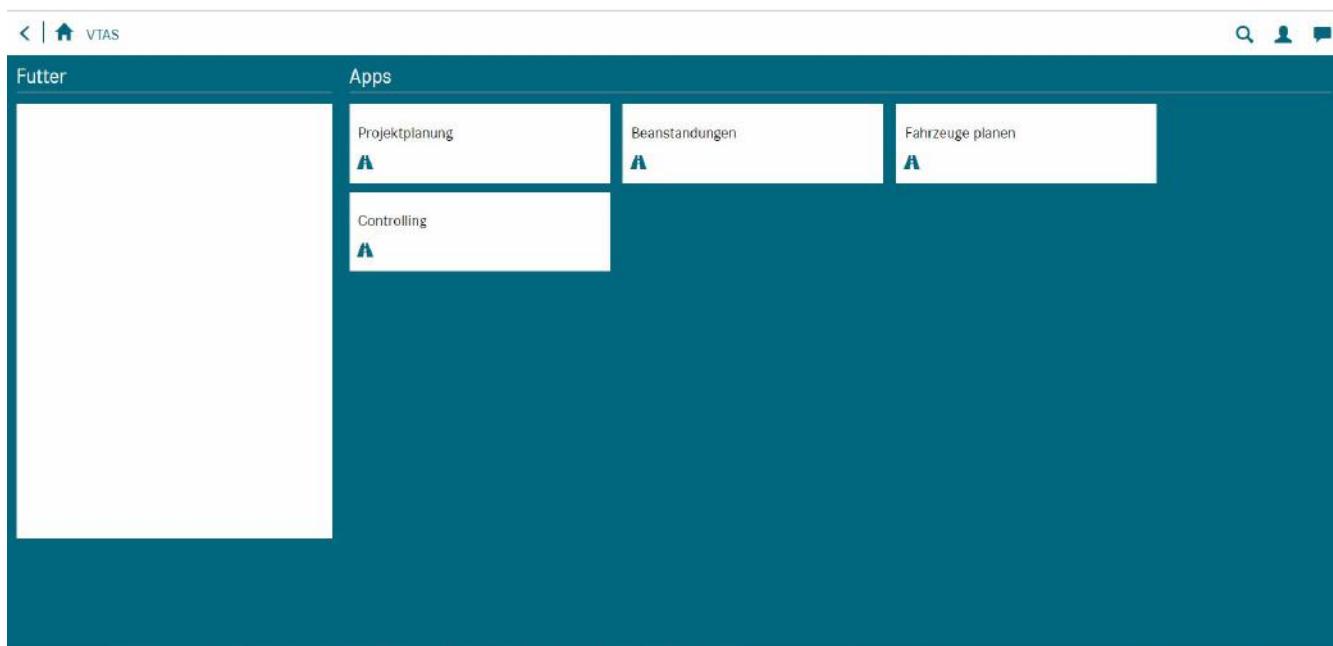
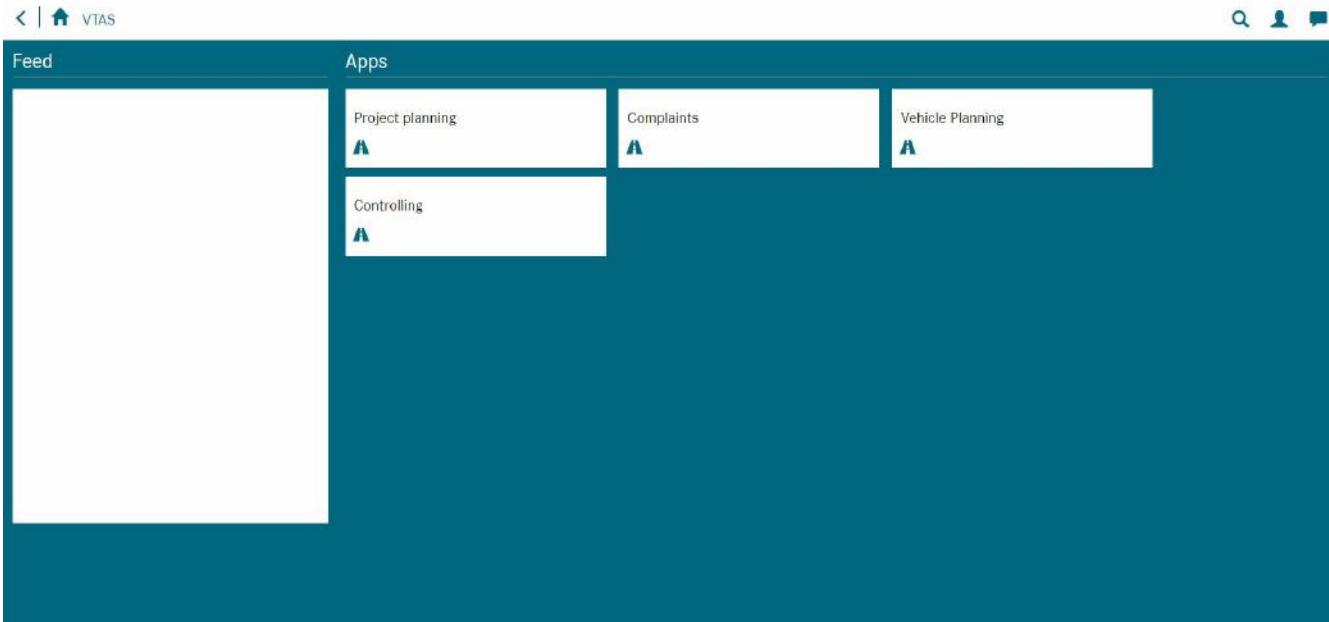
The screenshot shows the DAIMLER application interface. At the top, the word "DAIMLER" is displayed in a dark blue header bar. Below it, a modal dialog box is open, titled "Login". Inside the dialog, there is a message "Please type in your user name and password". Below this message are two input fields: "Name:" followed by a yellow-highlighted input box containing "IAPX0001", and "Password:" followed by a yellow-highlighted input box containing six dots ("....."). At the bottom of the dialog is a "Login" button.

#### Login fails:

The screenshot shows the DAIMLER application interface. At the top, the word "DAIMLER" is displayed in a dark blue header bar. Below it, a modal dialog box is open, titled "Login Failed". Inside the dialog, there is a message "Login Failed!".

#### Login ( If user is not an administrator ):

For users who don't have the role "Administrator" the module "Administration" will not be visible on the VTAS landing page as well as in Module switcher.



VTAS

All Projects Draft Projects Active Projects Closed Projects Export Projects

Create new project

Sensor Model Series Project Name PRO Phases

Project 1

Project planning ▾

- Project planning
- Complaints
- Vehicle Planning
- Controlling

Responsible:	Project Status:	Draft
Sensor:	Plant:	
Project Name:	Project ID:	50
Steering Codes:	Clearing Number:	
Model Series:	End Date:	
PRO Phases:	Approval dates:	
Cost Center:	Project Description:	
Start Date:	Vehicle Order Numbers:	0
Attachments:		

VTAS

Alle Projekte Entwurf Projekte Aktiv Projekte Geschlossen Projekte Export Projekte

Neues Projekt erstellen

Sensor Baureihen Projektname PRO-Phasen

Project 1

Projektplanung ▾

- Projektplanung
- Beanstandungen
- Fahrzeuge planen
- Controlling

Verantwortlich:	Projektstatus:	Draft
Sensor:	Werk:	
Projektname:	Projekt ID:	50
Lenkung codes:	Verrechnungsnummer:	
Baureihen:	Enddatum:	
PRO-Phasen:	Anfangsdatum:	Nov 23 2017
Kostenstelle:	Freigabedatum:	
Fahrzeug Auftragsnummer:	Projekt Beschreibung:	
Anhänge:		

### Initialization:

No initializations for this page.

### User-Login

- Authorized users are able to access the VTAS landing page
- Unauthorized users are not able to log in.
- When the user successfully logs in, he is navigated to VTAS landing page.
- When the user id or password is wrong, Login fail page is displayed.

### Admin Login :

When an user with role "Administrator" logs in the VTAS application, he can see the module "Administration" on the VTAS landing page and in the module switcher

And access the "Administration" module via the module switcher.

For users who don't have the role "Administrator" the module "Administration" will not be visible on the VTAS landing page

### Validations :

No validations for login since it is from the site minder login.

#### Possible actions

Action	Description
Click on the Login button	Successfully logs in or fails based on the credentials.

### 2.4.9. Module "Reporting"

#### 2.4.9.1 Dialog "View Reports"

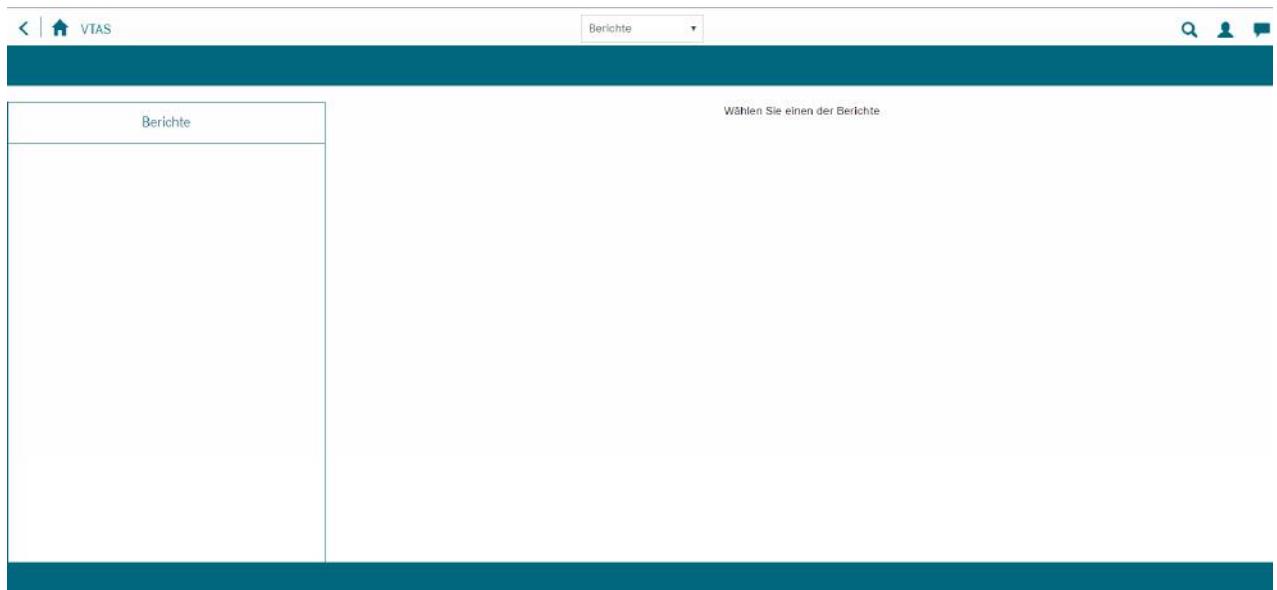
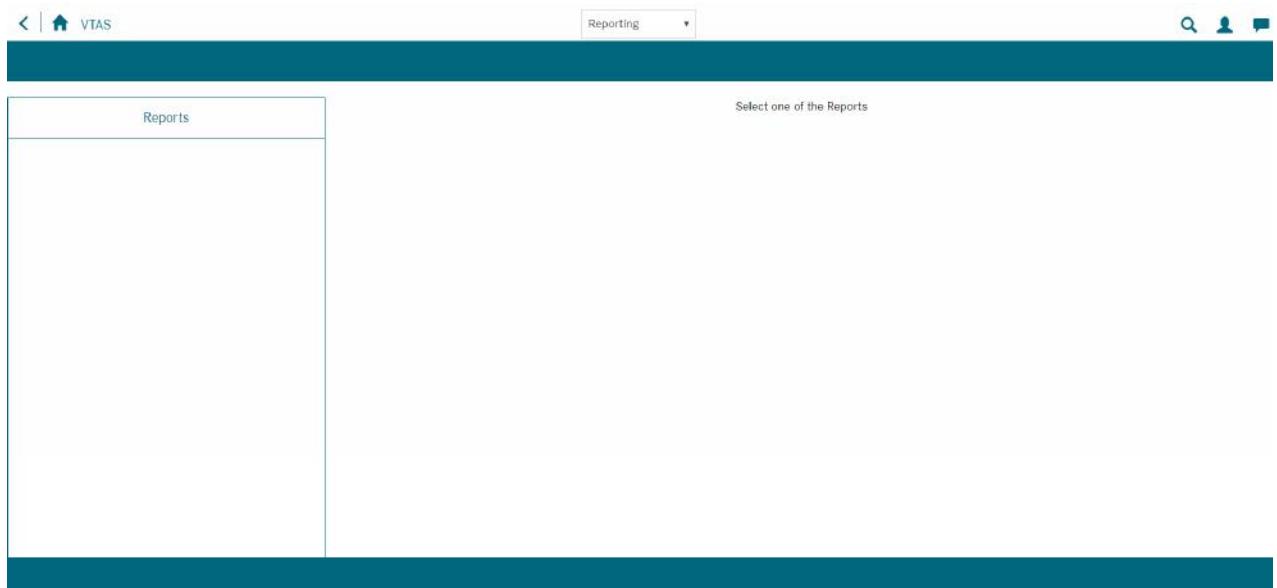
This dialog displays overview of reports where user can find the project reports.

##### Calling the dialog

The dialog is called from Reporting module.

##### Structure

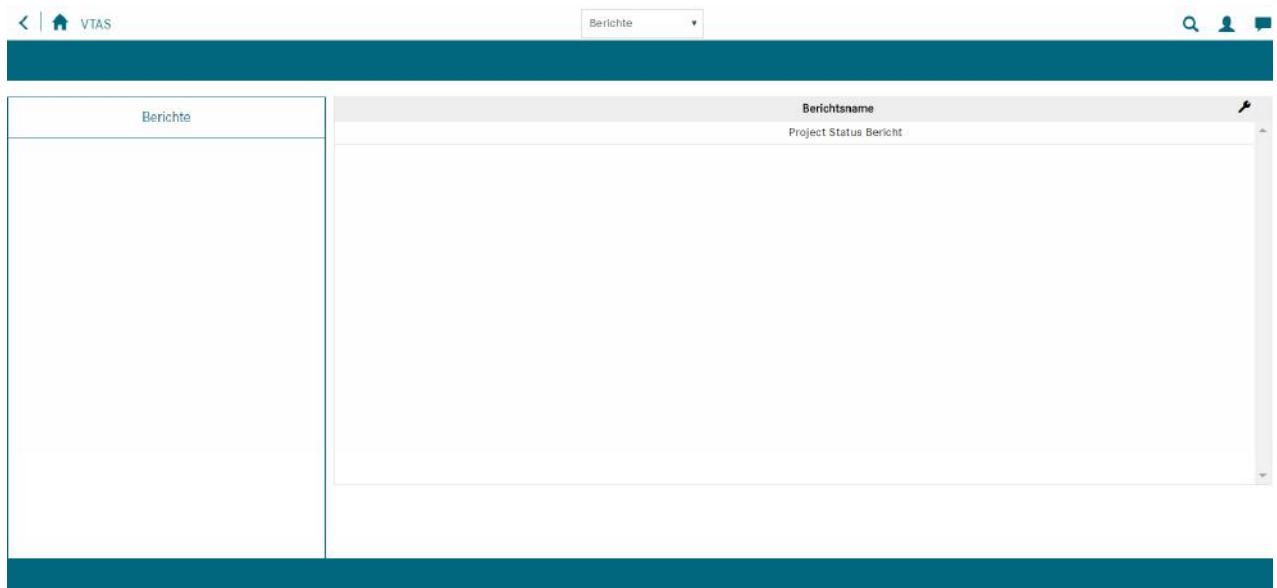
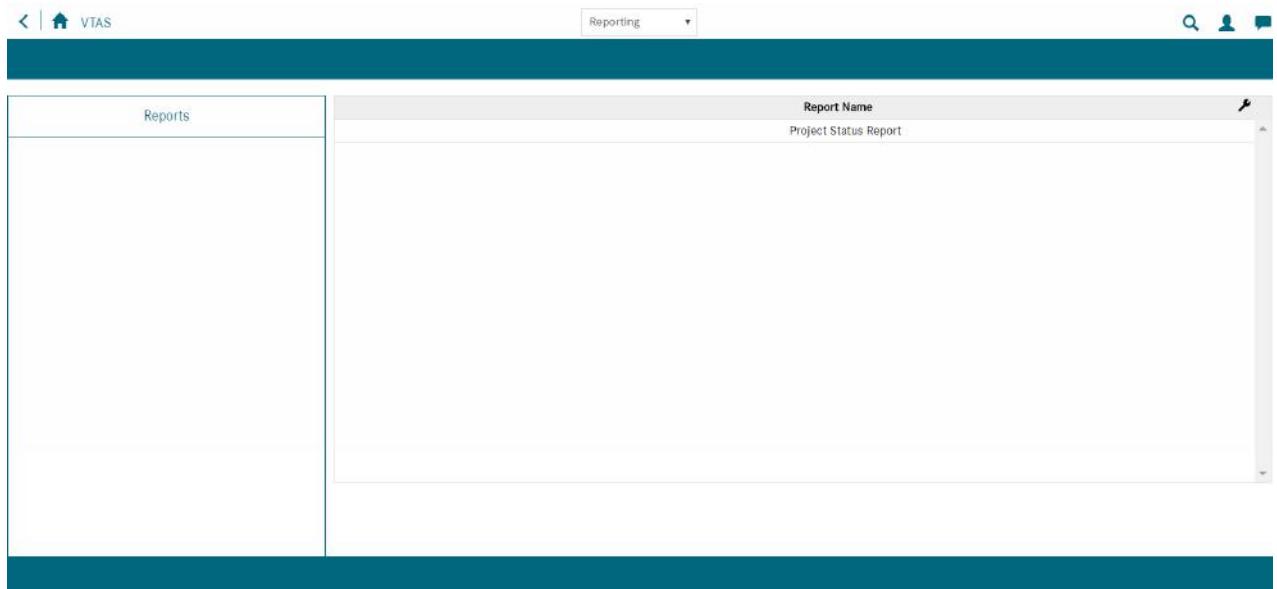
The dialog shows two sections, left section with a tab & right section shows the content.



##### Reports:

This dialog shows the content of Reports on the right section in the same window. A dgrid table with one report name currently, Project status report.

When user click on Project status report in dgrid,it navigates to Project report page.



### Initializing

- First time dialog is opened with two sections, left occupies 25% of window & right section occupies remaining 75% of window.
- Left Section has one tab currently
  - Reports
- Right section initially shows "Select one of the Reports".

### Reports

- When user click on one of the links in the left section, the content of the corresponding dialog appears in the right section without opening in new tab nor in new window.
- Clicking on "Reports" shows respective content on the right side.
- A scroll functionality is available in case the list gets bigger.

### Validations :

We have no validations implemented here.

### Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab

Click on the Back button	Navigates back to history back page
Click on the "Reports" tab	Shows the corresponding content on right section.
Click on the "Project Status Report" row in dgrid	Navigates to project status report dialog

#### 2.4.9.2. Dialog "Project Status Report"

This dialog displays the project pre-selection and the report for selected project status.  
Calling the dialog

The dialog is called from the reports dialog.

Structure

This dialog shows **Pencil icon** to select different projects.

The screenshot shows a dialog box titled "Projektinformation". It contains a table with project details:

Verantwortlich:	admin	Projektstatus:	Active
Sensor:	RGA	Werk:	6330
Projektname:	test 2	Projekt ID:	51
Lenkung codes:	1321		
Baureihen:	ms1		
PRO-Phasen:			
Kostenstelle:		Verrechnungsnummer:	
Anfangsdatum:	Jan 08 2018	Endatum:	Jan 26 2018
Freigabedatum:			

A blue pencil icon is located at the top right of the dialog. The background shows a portion of the main application interface with a toolbar and a grid.

When user click on Pencil icon a dialog pop up,which allows to select a different **active project**.

The screenshot shows a modal dialog box titled "Projektinformation" with a table of project details. At the bottom right of the dialog are two buttons: "akzeptieren" and "Stornieren". The background shows the main application interface with a grid and a toolbar.

Sensor	Baureihen	Projektname	PRO-Phasen	Status	Projekt anfangsdatum
RGA	ms1	test 2		Active	Jan 08 2018
RGA	ms1	admin		Active	Jan 10 2018

For the pre-selected project Project status report will be displayed with project Information,Kpi Information,Open Faults,Open Favs.

Projectname	Sensor	Projekt anfangsdatum	Projekt enddatum	Baureihen	
test 2	RGA	Jan 08 2018	Jan 26 2018	ms1	

### Projektinformation

Verantwortlich:	admin	Projekttstatus:	Active
Sensor:	RGA	Werk:	6330
Projektname:	test 2	Projekt ID:	51
Lenkung codes:	1321		
Baureihen:	ms1		
PRO-Phasen:			
Kostenstelle:		Vereinbarungsnummern:	
Anfangsdatum:	Jan 08 2018	Enddatum:	Jan 26 2018
Freigabedatum:			
Projekt Beschreibung:			
Fahrzeug Auftragsnummer:	3		
Anhänger:			

### KPI Information

Fortschritt:	<div style="width: 17%;">17</div>	83 % Verbindend
Fahrzeuge:	3	
Maßnahme:	5	5 offen
Fehler:	1	

### Offene Fehler

Fehlerort	FehlerTyp	Baureihen	Priorität	Produktionsnummer	Werk
Entschuldigung für Unannehmlichkeiten, wenden Sie sich bitte an Administrator					

### Offene FAVs

FAV-ID	Wiederholur	Priorität	Status	Problemtitel	Sensor	Baureihen	Fehler-ID	Erstellungsdatum	Validierungsdatum	Analyse Datum	Erliegt Datum
Keine Einträge gefunden											

## **Initializing**

- On clicking the Project Status Report row, the latest **active** project of the project list is pre-selected.
- If no projects are found when loading the page, a message "No projects found" will be displayed.

Description of fields

### Pre-Select Project:

- "Project name" describes the name of the project for reporting.
- "Sensor" describes the sensor value of the project.
- "Project start date" describes the start date of the project.
- "Project end date" describes the end date of the project.
- "Model series" describes the model series values for the project.

### Project Information:

- "Responsible" describes the responsible person for project.
- "Project status" describes the status of project(draft,active,closed).
- "Sensor" describes the sensor value for project.
- "Plant" describes the plant value selected for a project.
- "Project name" describes the name of a project.
- "Project Id" is auto generated and is unique.
- Model Series, Pro Phases and Steering Codes are displayed using comma separator.
- "Cost Center", "Clearing number", "Project Description", "Start date" and "End date" are shown, that are selected for a project.
- "Vehicle order numbers" will display the number of vehicles.
- Approval dates are shown in a read-only table with date and comment fields.
- Attachments are shown in a read-only table with title and description fields.
- The Fields which doesn't contain any value will be displayed empty.

### Kpi Information:

- "Time elapsed" shows Progress bar chart (Time) in %
- "Vehicles" shows Number of vehicles (Order numbers)
- "Measures" shows Number of measures
- "Faults" shows Number of faults

### Open Faults:

- "Fault Place" field describes the vehicle location of the fault.
- "Fault Type" field describes the type of fault.
- "Model Series" field describes model series value of fault vehicle.
- "Production Number" field describes the status of the measure (empty column for now).
- "Plant" field describes the plant ID.

### Open Favs:

- "FAV ID" describes the ID from CAT.
- "Flag if similar errors exist (WF)" describes the error flag.
- "Priority" describes the priority level of fault.
- "Status" describes the Fault status.
- "Problem Title" describes the title given for Fault.
- "Sensor" describes the sensor key mapping value for the sensor value from CAT.
- "Model Series" describes the series from CAT for a project.
- "Fault ID" describes the Fault ID.
- "Creation Date" describes the date Fault got created.
- "Containment Implemented" describes the containment status.
- "Analysis Date" describes the date Fault elimination analysis started.
- "Done Date" describes the Fault Elimination done date.

Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the historically previous page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of pre-select overview and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.

## 2.4.10 Module "Faults"

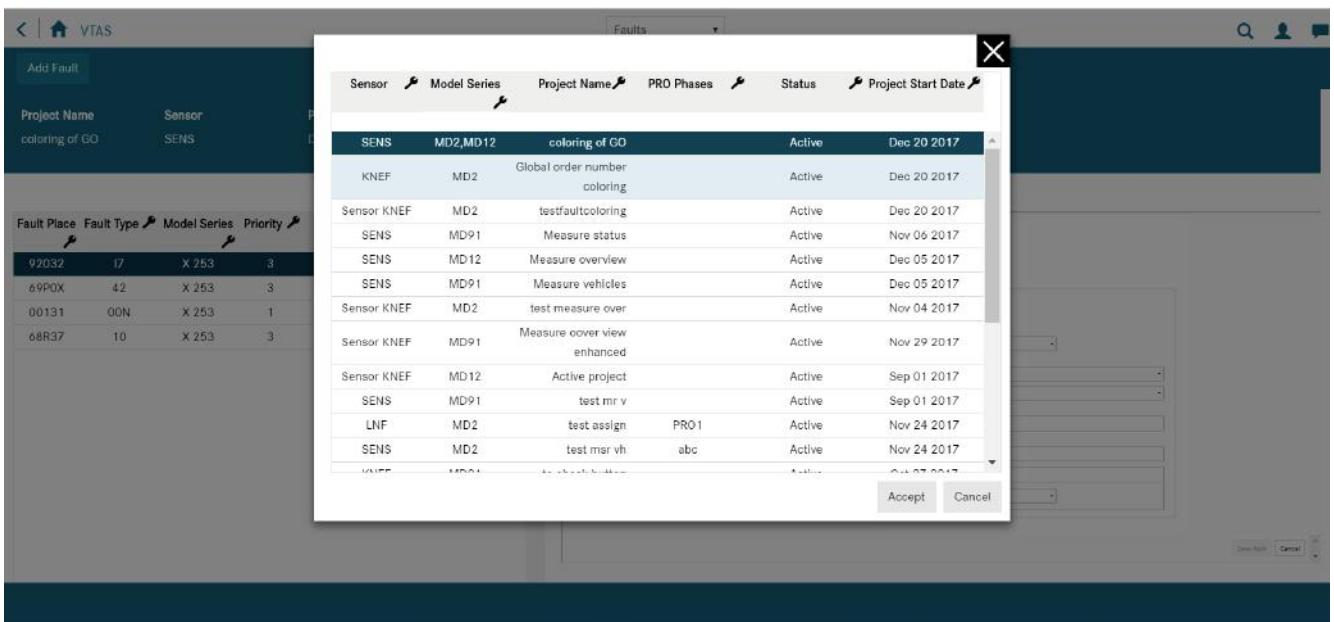
### 2.4.10.1 Dialog "Faults Overview"

Show the fault list for active projects, so that user can decide for which of the faults he need to start a fault elimination process.  
Calling the dialog

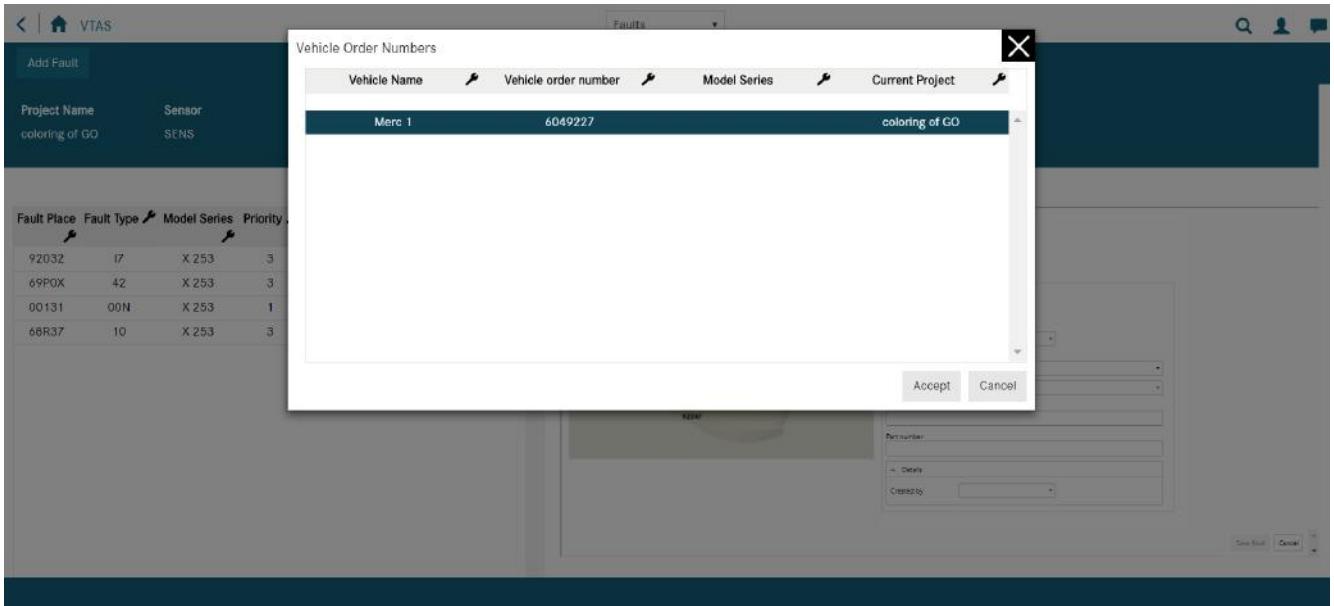
This dialog is called from the Faults module.  
Structure

This dialog shows **Pencil icon** to select different projects (Active projects) and **Add Fault** button to select vehicle to record fault.

After clicking on Pencil Icon the Pop-over allows to select a different **Active Projects**



This dialog opens when user click on **Add Fault**, from which user can select the vehicle to record fault.



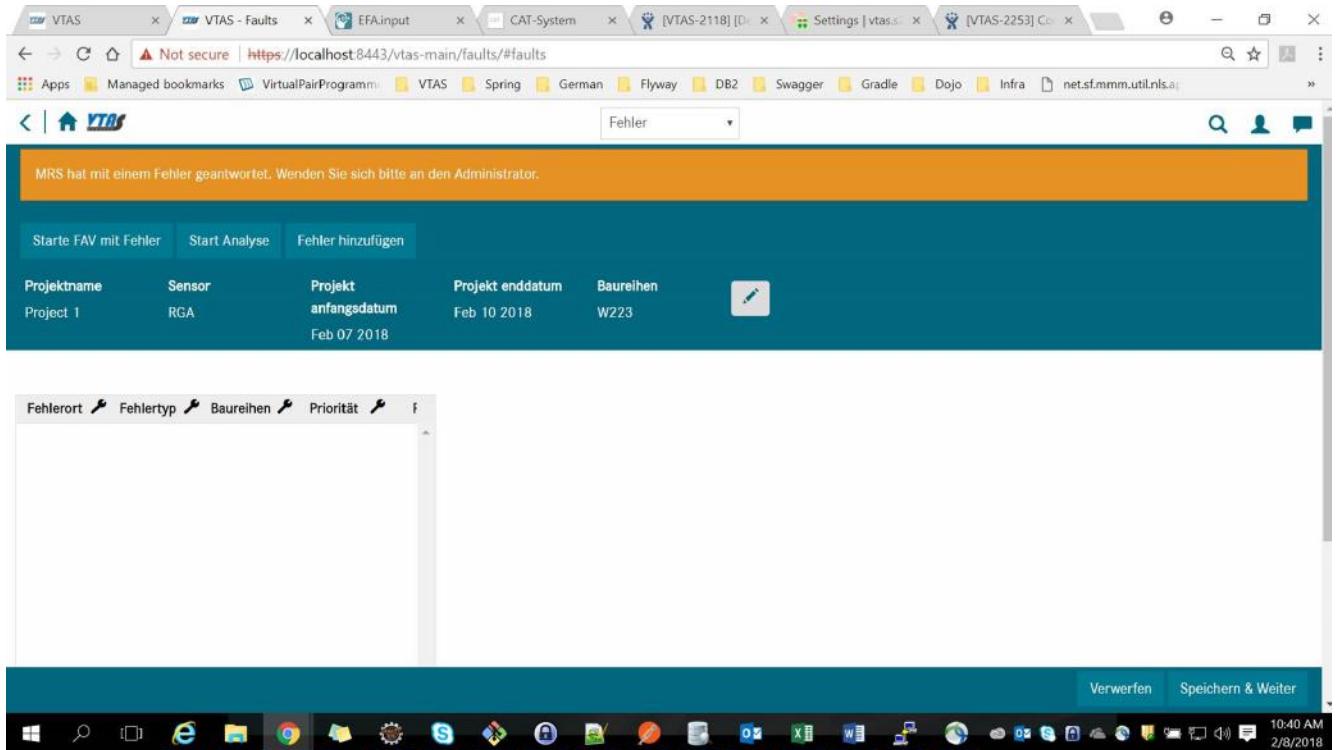
And The dialog shows a section containing the details of the EFA input widgets(EFA-Widget and SSL-Widget) after selecting particular record in faults table.

The screenshot shows the 'Faults' module interface. At the top, there are navigation links: 'Start IRA with fault', 'Start analysis', and 'Add Fault'. Below these are project details: 'Project Name: test132213', 'Sensor: LOS', 'Project Start Date: Feb 23 2018', 'Project End Date: Feb 28 2018', and 'Model Series: MD2'. A 'Faults' dropdown menu is open. On the left, a table lists faults with columns: 'Fault Place', 'Fault Type', 'Model Series', 'Priority', and 'Product'. One row is selected, showing '6807S', '10', 'S 213', '1', and '75'. To the right of the table is a detailed view for this fault. This view includes tabs for 'Symptom', 'Cause', and 'Result'. Under 'Basic data', there is an image of a car with various body parts labeled, and text indicating 'Vehicle location': 'Fault type': '6807S - Cover, mount, speaker; footwell, front' and '10 - Scratches'. There are also fields for 'Priority', 'Cause', 'Fault category', 'Comment', and 'Part number'. At the bottom right of the view are 'Discard' and 'Save Continue' buttons.

Clicking on **Production Number** link in faults table, executes the MRS call and triggers the report from MRS.

This screenshot is similar to the previous one, showing the 'Faults' module. The table on the left now lists faults by 'Model Series', 'Priority', 'Production Number', and 'Plant'. One row is selected, showing 'S 213', '10', '7570156', and 'EF10'. The detailed view on the right is identical to the previous one, showing the car diagram, fault description, and input fields. The 'Discard' and 'Save Continue' buttons are at the bottom right.

If MRS call fails system will display error message



### Initializing

- On opening the Faults dialog, the first **Active** project of the project list is pre-selected.
- The faults table shows the faults details for a particular selected vehicle for that project.
- If there are no vehicles found for that project, a message "no results found" is shown in the faults table.
- The right side EFA input widget content will be empty for the first time.
- If no projects are found when loading the page, a message "No projects found" will be displayed and **Add Fault** button is disabled.

Add fault:

- When user click **Add Fault** button, Pre-selected project's assigned vehicle list will be displayed.
- Selecting a vehicle row and clicking on accept button in vehicle list, resets the EFA input widget.

Open faults:

- Clicking on a "vehicle row" in the faults table shows EFA input widget for respective fault.
- Clicking on "Production Number" executes the MRS call and triggers the report from MRS.

Description of fields

"Project name" describes the name of the project for complaints

"Sensor" describes the sensor value of the project.

"Project start date" describes the start date of the project.

"Project end date" describes the end date of the project.

"Model series" describes the model series values for the project.

"PRO phases" describes the pro-phase values for the project

"Status" describes the status(i.e. "Active", "Draft", "Closed") of the project

"Vehicle Name" describes the name of paticular Vehicle.

"Global Ordering Number" describes the Order Number of respective vehicle.

"Current Project" describes the name of the project to which vehicles are assigned.

"Fault place" describes the place in the vehicle where it has a fault.

"Fault type" describes the type of the fault the vehicle has.

"Priority" describes the priority of that fault.

"Production number" describes the production number of the vehcile which is selected.

"Status" describes the current status of that fault.

Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Home button	Navigates back to landing page within the current tab
Click on the Back button	Navigates back to the history back page
Click on pencil icon	Pop-over appears and allows to select a different project from the list of the <b>Active</b> projects
Click on Accept button	Commits the selection and changes it on the main view of complaints page and closes the pop-over
Click on Cancel button	Cancels any changes to project selection and closes the pop-over.
Click on Module switcher	Navigates to selected module
Click on Sort icon	Table data will be sorted based on selected row
Click on Filter icon	Opens a popup to filter data.
Click on Add Fault button	Pop-over appears and allows to select a vehicle from list of vehicles. The vehicle list contains only vehicles which are assigned to the project preselected.
Click on Accept button in vehicle pop-over	Confirm Selection and corresponding error Input Screen from EFA opens.
Click on Production number	Executes the MRS call and triggers the report from MRS
Click on row in faults table	Respective EFA input widget will open
Click on Open button	Default status is "Open", user can also select by clicking on Open the button to set fault status for respective fault in VTAS
Click on "No action needed" button	To set fault status as "No action needed" in VTAS for respective fault
Click on Discard button	To discard the changes in Fault module
Click on Save & Continue button	To save fault dgrid changes and save fault of fault module in VTAS

#### 2.4.10.2 Dialog "Start IRA"

start the fault elimination process by choosing an existing fault, so that the Fault elimination process is started to fix the defects  
Calling the dialog

This dialog is called from the Faults module.

Structure

This dialog shows Start IRA with fault button, on click it opens our CAT widget which triggers the CAT service "GetMrsIra"

If no fault on the left side of the faults module has been selected, an error message "please select a fault to start an IRA" will be shown.

Fault Place	Fault Type	Model Series	Priority	Production Number	Plan
92032	I7	X 253	3	6049227	633C
69POX	42	X 253	3	6049227	633C
00131	00N	X 253	1	6049227	633C
68R37	10	X 253	3	6049227	633C
92032	I7	X 253	3	6049227	633C
69POX	42	X 253	3	6049227	633C

10.44.247.84:8080/vtas-main/faults/#faults

Apps Managed bookmarks Production Line VTAS Dashboard - A Tutorial: Using Thymeleaf 09:30 PM [VTAS-1890] Preparation 2.4.6.8. Dialog "Show"

VTAS

Faults

Start IRA with fault Add Fault

Project Name	Sensor	Project Start Date	Project End Date	Model Series	
Global order number coloring	KNEF	Dec 30 2017	Dec 20 2017	MD2,mod1	

Fault Place	Fault Type	Model Series	Priority	Production Number	Plan
92032	17	X 253	3	6049227	6330
69POX	42	X 253	3	6049227	6330
00131	00N	X 253	1	6049227	6330
68R37	10	X 253	3	6049227	6330
92032	17	X 253	3	6049227	6330
69POX	42	X 253	3	6049227	6330

Please click or drop pictures!

**Symptom** **Cause** **Rework**

Vehicle location

Fault type

Priority

Creator

Comment

**Discard** **Save & Continue**

When user click on "Start Ira with Fault", FAVWidget will be loaded on right side. And clicking on "New Ira" button, description, SSL-Location,SSL-type,Plant,Fault-Id fields are prefilled in createla page.

Start IRA with fault Add Fault

Project Name	Sensor	Project Start Date	Project End Date	Model Series	
test	RGA	Jan 29 2018	Jan 29 2018	ms1	

Fault Place	Fault Type	Model Series	Priority	Production Nu
92032	17	X 253	3	604922
69POX	42	X 253	3	604922
00131	00N	X 253	3	604922

Description: VTAS FAULT 1

Priority:

Reporter:

VIN:

Creator Orga:

Fault-ID: 6049227

Plant: 6330

Sensor:

Shift:

Leading Model Series:

**Create IRA**

**Discard** **Save & Continue**

Not secure | 10.44.247.84:8080/vtas-main/faults/#faults

Apps Managed bookmarks Production Line VTAS Dashboard - All Tutorial: Using Thymeleaf 09:30 PM [VTAS-1890] Prepared 2.4.6.8. Dialog "Show"

< | VTAS Faults

Start IRA with fault		Add Fault			
Place	Fault Type	Series	Priority	Production Number	Plan
92032	I7	X 253	3	6049227	6330
69POX	42	X 253	3	6049227	6330
00131	00N	X 253	1	6049227	6330
68R37	10	X 253	3	6049227	6330
92032	I7	X 253	3	6049227	6330
69POX	42	X 253	3	6049227	6330
00131	00N	X 253	1	6049227	6330
68R37	10	X 253	3	6049227	6330
92032	I7	X 253	3	6049227	6330
69POX	42	X 253	3	6049227	6330
00131	00N	X 253	1	6049227	6330
68R37	10	X 253	3	6049227	6330

Description: test  
Priority: 1  
Sensor: 160  
Reporter: Klein R  
SSL-Location: 00131  
VIN: 7983761  
SSL-Type: 00N  
Creator Orga: 444  
Plant: 6330  
Fault-ID: 97074

**Create IRA**

**Discard** **Save & Continue**

Apps Managed bookmarks VTAS

< | VTAS Faults

Fault Place	Fault Type	Model Series	Priority	Production Number	Plant
82P01	38	vmodel severity	1234	0500	

New IRA

FAV-ID	Title	Model Series	Priority	FAV-Description	Created by plant	Status
17-11507	Leuchteinheit rechts - lose	W:213	2	MRS verursachende Kostenstelle: 2135/01 Schraube oben lose Fzg wurde Abt. 213 vorgef. Anlagedatum (MRS): 26.01.2017	050	<input checked="" type="radio"/>
17-11574	Abblendung InnenSpiegel elektrisch -	W:213	1	Beispielbeschreibung	050	<input type="radio"/>

**Discard** **Save & Continue**

Success!

Start IRA with fault Add Fault

MRS verursachende Kostenstelle:  
2135/01 Schraube oben lose Fzg wurde Abt. 213 vorgef.  
Anlagedatum (MRS): 26.01.2017

**Add**

**Discard** **Save & Continue**

VTAS

Faults

Start IRA with fault Add Fault

Fault Place	Fault Type	Model Series	Priority	Production Number	Plant
82P01	38	vmodel severity		1234	0500

Responsible

Name	First Name	E-Mail	Phone Number
KeAudrey	Aaron	-	
Abang Irfan	Abang Abdul Halli	+609 424 3134	
Salahuddin	Abd Ghani	-	
Abdul Razak	Abdul Majid	+60 19 2603922	
Mohd Eddy	Abdullah	+609 424 3192	
A	Abdulloh	+62 21 23519427	
Thomas	Aberle	+49 703190 87210	
Thomas	Abountiolas	+1 205 4625458	
Mustafa	Acer	+49 421 41990143	
Billy	Acker	+205 292 6920	
András	Ádám	jkjk	
Volker	Adam	+49 7222 9121768	

Discard Save & Continue

VTAS

Controlling

Project Information Vehicle Information Project Name Sensor Project Start Date Project End Date Model Series

Test 160 Jan 22 2018 Jan 28 2018 MS

KPI Measures Faults FAV Status Status

FAV-ID	Flag if similar errors exist	Priority	Status	Problem Title	Sensor	Model Series	Fault-ID	Creation Date	Containment Implemented	Analysis Date	Done Date
17-11575				Lufteinheit	oben Kühler - gebrochen	281	500	2017-11-24T10:46:54.141Z			

## Initializing

- On opening the Faults dialog, the first **Active** project of the project list is pre-selected.
- The faults table shows the faults details for a particular selected vehicle for that project.
- Clicking button "Start IRA with fault" opens our CAT widget which triggers the CAT service "GetMrsIras".
- If no fault on the left side of the faults module has been selected, an error message "please select a fault to start an IRA" will be shown.
- The information about the fault (fault place, fault type, fault id, plant) needs to be given to the widget when opening it
- Fields Description, SSL Location, SSL Type, Plant and Fault ID will be prefilled on create IRA page.

Description of fields

"Project name" describes the name of the project for complaints

"Sensor" describes the sensor value of the project.

"Project start date" describes the start date of the project.

"Project end date" describes the end date of the project.

"Model series" describes the model series values for the project.

"PRO phases" describes the pro-phase values for the project

"Status" describes the status(i.e. "Active", "Draft", "Closed") of the project

"Vehicle Name" describes the name of paticular Vehicle.

"Global Ordering Number" describes the Order Number of respective vehicle.

"Current Project" describes the name of the project to which vehicles are assigned.

"Fault place" describes the place in the vehicle where it has a fault.

"Fault type" describes the type of the fault the vehicle has.

"Priority" describes the priority of that fault.

"Production number" describes the production number of the vehicle which is selected.

"Status" describes the current status of that fault.

Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Start IRA with fault	opens our CAT widget which triggers the CAT service "GetMrsIras".
Click on the New IRA	Navigates to widget to fill the data to create new IRA
Click on Create IRA	Save the IRA to the db corresponding to a project
Click on Add	append the IRA to the corresponding project and fault
Click on FAV Status	Shows IRA with fault details

#### 2.4.10.3 Dialog "Create mapping for CreatorOrga"

When creating an IRA we use the field creator orga, when plant is selected from drop down the corresponding CreatorOrga should be populated in the field.

Calling the dialog

This dialog is called from the Faults module.

Structure

This dialog shows Start IRA with fault button, on click it opens our CAT widget which triggers the CAT service "GetMrsIra".

If no fault on the left side of the faults module has been selected, an error message "please select a fault to start an IRA" will be shown.

When creating new IRA we use the field creator orga, when plant is selected from drop down the corresponding CreatorOrga should be populated in the field.

Fault Place	Fault Type	Model Series	Priority	Production Number	Plan
92032	I7	X 253	3	6049227	633C
69POX	42	X 253	3	6049227	633C
00131	00N	X 253	1	6049227	633C
68R37	10	X 253	3	6049227	633C
92032	I7	X 253	3	6049227	633C
69POX	42	X 253	3	6049227	633C

The screenshot shows the VTAS software interface for managing faults. At the top, there's a navigation bar with links like 'Managed bookmarks', 'Production Line', 'VTAS Dashboard', 'Tutorial: Using Thym', '09:30 PM', '[VTAS-1890] Prepare', and '2.4.6.8. Dialog "Show"'. Below the header, the main title 'VTAS' is displayed next to a search icon and user profile icons.

The main content area has tabs for 'Start IRA with fault' and 'Add Fault'. The 'Faults' tab is selected, showing a table of faults with columns: Project Name, Sensor, Project Start Date, Project End Date, Model Series, and an edit icon. The first row in the table is highlighted.

A detailed view of fault '69POX' is shown on the right. It includes a note 'Please click or drop pictures!', a 'Vehicle location' field, a dropdown for 'Fault type', a dropdown for 'Priority', a dropdown for 'Causer', and a 'Comment' text area. Buttons at the bottom right are 'Discard' and 'Save & Continue'.

Fault Place	Fault Type	Model Series	Priority	Production Number	Plan
92032	I7	X 253	3	6049227	6330
69POX	42	X 253	3	6049227	6330
00131	00N	X 253	1	6049227	6330
68R37	10	X 253	3	6049227	6330
92032	I7	X 253	3	6049227	6330
69POX	42	X 253	3	6049227	6330

When user click on "Start Ira with Fault", FAVWidget will be loaded on right side. And clicking on "New Ira" button, description,SSL-Location,SSL-type,Plant,Fault-Id fields are prefilled in createIra page.

VTAS

Faults

Start IRA with fault Add Fault

Fault Place	Fault Type	Model Series	Priority	Production Number	Plant
82P01	38	vmodel	severity	1234	0500

New IRA

FAV-ID	Title	Model Series	Priority	FAV-Description	Created by plant	Status
17-11507	Leuchteinheit rechts - lose	W:213	2	MRS verursachende Kostenstelle: 2135/01 Schraube oben lose Fzg wurde Abt. 213 vorgef. Anlagedatum (MRS): 26.01.2017	050	<input checked="" type="radio"/>
17-11574	Abblendung Innenspiegel elektrisch -	W:213	1	Beispielbeschreibung	050	<input type="radio"/>

Discard Save & Continue

Success!

Start IRA with fault Add Fault

MRS verursachende Kostenstelle: 2135/01Schraube 2 oben lose Fzg wurde Abt. 213 vorgef.Anlagedatum (MRS): 26.01.2017	050	7983761	Add
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Discard Save & Continue

< | VTAS

Faults

Start IRA with fault Add Fault

Fault Place	Fault Type	Model Series	Priority	Production Number	Plant
82P01	38	vmodel	severity	1234	0500

Responsible

Name	First Name	E-Mail	Phone Number
KeAundrey	Aaron		-
Abang Irfan	Abang Abdul Halli	+609 424 3134	
Salahuddin	Abd Ghani		-
Abdul Razak	Abdul Majid	+60 19 2603922	
Mohd Eddy	Abdullah	+609 424 3192	
A	Abdulloh	+62 21 23519427	
Thomas	Aberle	+49 703190 87210	
Thomas	Abountiolas	+1 205 4625458	
Mustafa	Acer	+49 421 41990143	
Billy	Acker	+205 292 6920	
Andras	Ádám	Jkjk	
Volker	Adam	+49 7222 9121768	

Discard Save & Continue

< | VTAS

Controlling

Project Information	Vehicle Information	Project Name	Sensor	Project Start Date	Project End Date	Model Series	
		Test	160	Jan 22 2018	Jan 28 2018	MS	

KPI Measures Faults FAV Status Status

FAV-ID	Flag if similar errors exist	Priority	Status	Problem Title	Sensor	Model Series	Fault-ID	Creation Date	Containment Implemented	Analysis Date	Done Date
17-11575				Lufteinheit	oben Kühler - gebrochen	281	500	2017-11-24T10:46:54.14102			

Initializing

- On opening the Faults dialog, the first **Active** project of the project list is pre-selected.
- The faults table shows the faults details for a particular selected vehicle for that project.
- Clicking button "Start IRA with fault" opens our CAT widget which triggers the CAT service "GetMrsIras".
- If no fault on the left side of the faults module has been selected, an error message "please select a fault to start an IRA" will be shown.
- The information about the fault (fault place, fault type, fault id, plant) needs to be given to the widget when opening it
- Fields Description, SSL Location, SSL Type, Plant and Fault ID will be prefilled on create IRA page.

#### Description of fields

"Project name" describes the name of the project for complaints

"Sensor" describes the sensor value of the project.

"Project start date" describes the start date of the project.

"Project end date" describes the end date of the project.

"Model series" describes the model series values for the project.

"PRO phases" describes the pro-phase values for the project

"Status" describes the status(i.e. "Active", "Draft", "Closed") of the project

"Vehicle Name" describes the name of paticular Vehicle.

"Global Ordering Number" describes the Order Number of respective vehicle.

"Current Project" describes the name of the project to which vehicles are assigned.

"Fault place" describes the place in the vehicle where it has a fault.

"Fault type" describes the type of the fault the vehicle has.

"Priority" describes the priority of that fault.

"Production number" describes the production number of the vehcile which is selected.

"Status" describes the current status of that fault.

#### Validations

We have no validations implemented here.

#### Possible actions

Action	Description
Click on the Start IRA with fault	opens our CAT widget which triggers the CAT service "GetMrsIras".
Click on the New IRA	Navigates to widget to fill the data to create new IRA
Click on Create IRA	Save the IRA to the db corresponsion to a project
Click on Add	append the IRA to the corresponding project and fault
Click on FAV Status	Shows IRA with fault details

#### 2.4.10.4 "Dialog Start Analysis"

This use case is meant to see analysis status per IRA of a project.

Calling the dialog

This dialog is called from the Fault module.

Structure

When we click on "Start Analysis", user will get CAT loaded to start an analysis and additional two fields to add the status to VTAS.

The screenshot shows the 'Analysis (AU)' dialog box. It includes fields for Analysis ID (empty), Project Status (New), Analysis Responsible (empty), Analysis Type (empty), Subject (empty), Description (empty), and two large text areas for comments. Buttons at the bottom include 'Speichern' (Save) and 'Done'.

Erfolgreich Daten wurden erfolgreich gespeichert!

The screenshot shows a success message 'Erfolgreich Daten wurden erfolgreich gespeichert!' (Data saved successfully!) in a green bar. Below it is the Analysis dialog box with the same fields and save buttons.

Analyse-ID: 8698 Status: Done

The screenshot shows the Analysis dialog box with Analysis ID 8698 and Status checked. The 'Done' button is highlighted.

user has to fill Analysis-ID and choose Status from associated drop down.

On click on Save & Continue, the corresponding data is saved to the DB.

### Initializing

- On opening the controlling dialog, the first **active** project of the project list is pre-selected.
  - On clicking Controlling module under project information Status tab, iFrame will be loaded
- Description of fields

- User has to find correct Analysis-ID (in CAT).
- Manually copy it to Analysis-ID Inputfield and set or change corresponding status.
- If already existing analysis id is given, the status will be updated in database.
- user can add multiple analysis-Ids to one project.
- On clicking Save & Continue button, Data will be saved to database.
- On clicking discard button, a confirmation message will be popped up. If click yes then it will be discarded.

### Validations

We have no validations implemented here.

Possible actions

Action	Description
Click on the Save & Continue	will save the analysis id and corresponding status

Click on the Discard

The chosen value will be discarded

## 2.5 Use Cases

- 2.5.1 Module "Project Planning"
- 2.5.2 Module "Administration"
- 2.5.3 Module "Complaints"
- 2.5.4 Module "Vehicle Planning"
- 2.5.5 Module "Controlling"
- 2.5.6. "User Profile"
- 2.5.7. Landing Page
- 2.5.8 "User Login"
- 2.5.10 Module "Faults"
- 2.5.11. Module "Reporting"
- 2.5.12. Use Case "Respond to Errors"

### 2.5.1 Module "Project Planning"

- 2.5.1.1 Use Case "Open module Project Planning"
- 2.5.1.2 Use Case "Add project information"
- 2.5.1.3 Use Case "View Projects"
- 2.5.1.4 Use case "Set project to active"
- 2.5.1.5 Use case "Open Project"
- 2.5.1.6 Use case "Add Measures"
- 2.5.1.7 Use case "Delete/Delete All Measures"
- 2.5.1.8 Use case "Delete Attachment"
- 2.5.1.10 Use case "Open Attachment"
- 2.5.1.11 Use Case "Upload measures"
- 2.5.1.12 Use Case "Group & Ungroup Measures"
- 2.5.1.13 Use Case "Upload Vehicle Order Number"
- 2.5.1.14 Use case "Set project to Closed"
- 2.5.1.15. Use Case "Sending Project Information to FLIMS"
- 2.5.1.16. Use Case "Send Changes for Project and Vehicle to FLIMS"
- 2.5.1.17. Use Case "Send Vehicles Information to EFA.Input "

#### 2.5.1.1 Use Case "Open module Project Planning"

##### Definition

Opening a module in VTAS to work with the projects for this process step.

##### Trigger

This use case will be triggered when double-clicking or right-clicking on the module "Project Planning" on the Landing Page.

##### Parameters

What are the input and output parameters?

No.	Parameter	IN/OUT	Mandatory?
1	Module Name	IN	Yes

##### Prerequisites

The User has the rights to see and open the module.

##### Results

The module "Project Planning" is opened and the dialog "Project Overview" is shown.

##### Error messages

None.

#### 2.5.1.2 Use Case "Add project information"

##### Definition

This use case is meant to add project information with "Project Name" & "Model Series" as mandatory.

##### Trigger

Will be triggered when user click on the button "Create project".

##### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Responsible	IN / OUT	no

2	Project status	IN / OUT	no
3	Sensor	IN / OUT	no
4	plant	IN / OUT	no
5	Project name	IN / OUT	yes
6	Project id	IN	no
7	Steering codes	IN / OUT	no
8	Model Series	IN / OUT	no
9	Available Model Series	IN	no
10	Selected Model Series	IN / OUT	no
11	Pro Phases	IN / OUT	no
12	Available Pro Phases	IN	no
13	Selected Pro Phases	IN / OUT	no
14	Project description	IN / OUT	no
15	Approval dates	IN / OUT	no
16	Date	IN / OUT	no
17	Comment	IN / OUT	no
18	Attachments	IN	no
19	Add Attachment	IN	no
20	Description	IN / OUT	no
21	Upload File	IN / OUT	no
22	Vehicle Name	IN/OUT	no
23	Global ordering Number	IN/OUT	no
24	Vehicle Start Date	IN/OUT	no
25	Vehicle End Date	IN/OUT	no
26	Client	IN/OUT	no

## Prerequisites

The user has the right to add project information.

The Button Header is fixed on the top of the page, even when user scroll down the page the button header is visible.

A widget showing project information (initially empty) below the header.

## Results

### Main dialog

Button "Discard" is clicked, a notification "Are you sure?" is shown. If confirmed, a navigation back to the project tab without saving any changes. If not confirmed, it will resume to project information tab.

"Save & continue" will validate only "project name", which is mandatory and invalid data fields.

If project name & model series are given, by clicking "save & continue" button will generate a project ID.

If user clicks "save & continue" where 'Project ID' is already created, it will update the information and project information is displayed in a widget below the header.

If user clicks "New Add approval date" button, a new row will open for approval date and comment.

If user clicks "



" button, the corresponding approval date and comment row will delete from the list.

If user clicks "New Order Number" button, a new row will open for vehicle name, vehicle order number, vehicle start date (pre-filled with project start date, if available), vehicle end date (pre-filled with project end date, if available).

If user clicks "



" button, the corresponding row will delete from the list.

If user clicks on "Add attachments" button, a popup opens where user can add attachment and can enter description about the attachment.

If button "Edit Model Series" is clicked by user, a popup opens where user see, all the Available model series (on left side list) & Selected model series (on right side list).

If button "Edit Pro Phases" is clicked by user, a popup opens where user see, all the Available Pro Phases (on left side list) & Selected Pro Phases (on right side list).

If project saved first time, user can click on "Draft" or "Active" button to set project status. By default "Draft", "Active" and "Closed" buttons are disabled.

If user clicks on "Active" button a confirmation pop will open to set project status is Active. Once project project status set to active, can not be revert back to draft status.

The error messages are displayed on top of the page under the header section and are included in header widget.

FLIMS-Client dropdown values are loaded from FLIMS application. It is mandatory field to set the project status to Active.

After setting the status to Active, FLIMS-Client field cannot be updated or changed.

#### Pop-up for editing Model series or Pro Phases

If button ">" in one of the pop-ups is clicked, selected items in left list will be added to right list & If button "<" is clicked, the selected items in right list will be removed from selected list.

If button "ok" in one of the pop-ups is clicked, the selected list will be displayed in the respective field.

If button "Deselect All" is clicked, it deselects all the selected list & right list will be empty.

If button "Cancel" is clicked, a notification "Are you sure?" is shown. If confirmed, it navigates to the Project tab without saving any changes. If not confirmed, it navigates back to the Edit popup.

If "close" button is clicked, it closes the Edit popup without saving any data.

#### Pop-up for Add Attachment :

If button "choose file" is clicked a popup will open to choose file.

If button "upload" is clicked in the popup upload file and description will moved from popup to add attachment screen with respective image, description, date and size.

If button "Cancel" is clicked attachment popup will be closed.

#### **Error messages**

An error message "Project name is mandatory" is shown, if project name is not filled.

An error message "Model Series is mandatory" is shown, if none of the model series are selected (If project status is Active).

An error message "The maximum size of attachments of 10 MB was exceeded. File upload failed", if attachments size exceeds 10 MB.

An error message "Error message- Unsupported file -format", if user selects invalid file format like executable files.

An error message "Responsible is mandatory" is shown, if responsible field is not filled (If project status is Active).

An error message "Sensor is mandatory" is shown, if none of the sensor is selected (If project status is Active).

An error message "Plant is mandatory" is shown, if none of the plant is selected (If project status is Active).

An error message "Start date is mandatory" is shown, if start date field is not filled (If project status is Active).

An error message "End date is mandatory" is shown, if end date field is not filled (If project status is Active).

An error message "Global ordering number is mandatory" is shown, Global ordering number field is not filled when trying to add vehicle (If project status is Active).

An error message "Invalid Global ordering Number Format" is shown, when the format does not correspond with the required format.

An error message "Global ordering Number Length should be 10 characters only." is shown, If User opens an existing Project with Global ordering number of 15 characters and tries to save.

An error message "Error! FLIMS-Client is mandatory" is shown, if value is not selected from FLIMS-Client Field (If project status is Active).

### **2.5.1.3 Use Case "View Projects"**

#### **Definition**

This use case is meant to display list of projects on left section and Project Information for selected project in right section. It supports both English and German language.

#### **Trigger**

This use case will be triggered when double-clicking or right-clicking on the module "Project Planning" on the Landing Page.

## Parameters

No.	Parameter	IN/OUT	Mandatory
1	All Projects	IN	No
2	Sensor	IN/OUT	No
3	Model Series	IN/OUT	Yes
4	Project Name	IN/OUT	Yes
5	PRO Phases	IN/OUT	No
6	Status	IN/OUT	No
7	Start Date	IN/OUT	No

## Prerequisites

The User has the rights to see the list of projects.

When user opens the page, the first project in the list will be shown in the preview and will be selected.

### Results

The module "Project Planning" is opened and the dialog "Project Overview" is shown with list of projects.

Clicking on "All projects" button, all projects are shown in the list.

Clicking on "Active projects" button, all projects of every production plant with the **status "Active"** are shown in the list.

Clicking on "Draft projects" button, all projects of every production plant with the **status "Draft"** are shown in the list.

The project list can be sorted. Initially it is sorted to show the projects with newest id first.

When user performs single click on one of the project in the list, particular project details are displayed on right section. It is possible to select only one project at a time.

### Error messages

"No project Found" message will be displayed when no projects are available.

### 2.5.1.4 Use case "Set project to active"

#### Definition

This use case is meant for how to set project status to Active.

#### Trigger

This use case can be triggered after project saved. Draft and Active buttons will be enabled and user able to click on the button in project planning module.

## Parameters

No.	Parameter	IN/OUT	Mandatory
1	Project status	IN / OUT	yes (Default status is Draft)
2	Responsible	IN / OUT	yes (If project status is Active)
3	Sensor	IN / OUT	yes (If project status is Active)
4	Plant	IN / OUT	yes (If project status is Active)
5	Start Date	IN / OUT	yes (If project status is Active)

## Prerequisites

A project should save at least once, then only Draft and Active buttons will be enabled.

### Results

#### Confirmation popup for Active

If project creates first time and saved, user can able to change the project status from Draft to Active, if user clicks on "Active" button, a confirmation popup opens to get confirmation like "Do you want to change the status from Draft to Active?" Yes or No. If user clicks on "Yes" button then project status should be set as Active, if user clicks on "No" button the status remains as Draft.

Once user clicks on "Yes" button, Draft button will disable and "Active" button will highlighted.

## Error messages

An error message "Model Series is mandatory" is shown, if none of the model series are selected.

An error message "Responsible is mandatory" is shown, if responsible field is not filled (If project status is Active).

An error message "Sensor is mandatory" is shown, if none of the sensor is selected (If project status is Active).

An error message "Plant is mandatory" is shown, if none of the plant is selected (If project status is Active).

An error message "Start date is mandatory" is shown, if start date field is not filled (If project status is Active).

### 2.5.1.5 Use case "Open Project"

#### Definition

This use case is meant to open a project from the project overview so that project planner can continue working with the project. This page will support both English and German language.

#### Trigger

Will be triggered when user double clicking on a single project(a row) from the project overview page.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Responsible	IN / OUT	Yes(when status changed to active)
2	Project status	IN	No
3	Sensor	IN / OUT	Yes(when status changed to active)
4	plant	IN / OUT	Yes(when status changed to active)
5	Project name	IN / OUT	Yes
6	Project id	IN	No
7	Steering codes	IN / OUT	Yes(when status changed to active)
8	Model Series	IN / OUT	Yes
9	Available Model Series	IN	No
10	Selected Model Series	IN / OUT	No
11	Pro Phases	IN / OUT	No
12	Available Pro Phases	IN	No
13	Selected Pro Phases	IN / OUT	No
14	Project description	IN / OUT	No
15	Approval dates	IN / OUT	No
16	Date	IN / OUT	No
17	Comment	IN / OUT	No
18	Attachments	IN	No
19	Add Attachment	IN	No
20	Description	IN / OUT	No
21	Upload File	IN / OUT	No
22	Vehicle Name	IN/OUT	No
23	Vehicle Order Number	IN/OUT	No
24	Vehicle Start Date	IN/OUT	No
25	Vehicle End Date	IN/OUT	No

#### Prerequisites

The project overview has to provide at least one project that can be selected by the user. So that user can open and update the project.

The Header and Button Header is fixed on the top of the page, even when user scroll down the page the button header is visible.

#### Results :

For results please refer to add project information use case. Open project will support the same functionality as add project information with

prepopulated data.

#### 2.5.1.2 Use Case "Add project information"

##### Error messages :

For error messages please refer to add project information use case. Open project will support the same functionality as add project information with prepopulated data.

#### 2.5.1.2 Use Case "Add project information"

#### 2.5.1.6 Use case "Add Measures"

##### Definition

This use case is meant to add measure information with "Project Name" & "Model Series" as mandatory. It supports both English and German language.

##### Trigger

Will be triggered when user click on the button "Create project - > Measure Tab".

##### Parameters

.No.	Parameter	IN/OUT	Mandatory?
1	Project name	IN / OUT	yes
2	Model Series	IN / OUT	yes
3	Measure number	IN/OUT	no
4	SA-Codes	IN/OUT	no
5	Affected models	IN/OUT	no
6	Measure title	IN/OUT	no
7	Description current state	IN/OUT	no
8	Description to-be state	IN/OUT	no
9	Affected model series	IN/OUT	no
10	Affected codes	IN/OUT	no
11	Vehicle amount	IN/OUT	no
12	Business department	IN/OUT	no
13	Comments	IN/OUT	no

##### Prerequisites

Minimum one model series must be added through admin screen

The Button Header is fixed on the top of the page, even when user scroll down the page the button header is visible.

##### Results

###### Main dialog

Button "Discard" is clicked, a notification "Are you sure?" is shown. If confirmed, a navigation back to the project tab without saving any changes. If not confirmed, it will resume to project information tab.

"Save & continue" will validate only "project name", which is mandatory and invalid data fields.

If project name & model series are given, by clicking "save & continue" button will generate a project ID.

If user clicks "save & continue" where 'Project ID' is already created, and **it will navigate to Measures tab**

Now in the "Measures" tab user has to enter the value of fields which are mentioned as "Parameters". In this particular tab none of the fields are mandatory but there are validation aligned to each and every field.

When user clicks on help button represented by "i" icon in Affected Codes columns it opens a popover in dialog that shows, an explanation about the dependencies between the special equipment codes for the measures to be taken.

This("Measures") particular tab is also having similar functionality of "Discard" and "Save & continue" button as we have for "Project" tab.

Some other functionalities specific to "Measures" tab are as follows:

### 1. Adding Of Measure

- a. Enter the value of fields which are mentioned as "Parameters" and by following aligned validation.
- b. Click on "Save & continue" will update the record of project with provided measures

### Error Messages

An error message "Model Series is mandatory" is shown, if none of the model series are selected.

An error message "Project name is mandatory" is shown, if project name field is not filled

Apart from this ,maximum length validation is associated with each and every field of "Measure tab" for which we are not displaying any error message.As per validation we are just restricting the users once they extend the maximum length.

### **2.5.1.7 Use case "Delete/Delete All Measures"**

#### **Definition**

This use case is meant to add measure information with "Project Name" & "Model Series" as mandatory.It supports both English and German language.

#### **Trigger**

Will be triggered when user click on the button "Create project - > Measure Tab".

#### **Parameters**

No.	Parameter	IN/OUT	Mandatory?
1	Project name	IN / OUT	yes
2	Model Series	IN / OUT	yes
3	Measure number	IN/OUT	no
4	SA-Codes	IN/OUT	no
5	Affected models	IN/OUT	no
6	Measure title	IN/OUT	no
7	Description current state	IN/OUT	no
8	Description to-be state	IN/OUT	no
9	Affected model series	IN/OUT	no
10	Affected codes	IN/OUT	no
11	Vehicle amount	IN/OUT	no
12	Business department	IN/OUT	no
13	Comments	IN/OUT	no

#### **Prerequisites**

Minimum one modal series must be added through admin screen

The Button Header is fixed on the top of the page, even when user scroll down the page the button header is visible.

#### **Results**

##### Main dialog

Button "Discard" is clicked, a notification "Are you sure?" is shown. If confirmed, a navigation back to the project tab without saving any changes. If not confirmed, it will resume to project information tab.

"Save & continue" will validate only "project name", which is mandatory and invalid data fields.

If project name & model series are given, by clicking "save & continue" button will generate a project ID.

If user clicks "save & continue" where 'Project ID' is already created, and **it will navigate to Measures tab**

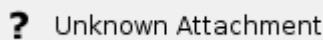
Now in the "Measures" tab user has to enter the value of fields which are mentioned as "Parameters".In this particular tab none of the fields are mandatory but there are validation aligned to each and every field

This("Measures") particular tab is also having similar functionality of "Discard" and "Save & continue" button as we have for "Project" tab.

Some other functionalities specific to "Measures" tab are as follows:

### 1. Deleting Of Measure

- a. When user clicks on



, which is located at end of each and every row of measure table

- b. It will ask for confirmation : "Do you really want to delete the selected measure?"
- c. Once we click on "yes" respective measure will get deleted

### 2. Deleting Of All Measures

- a. When user clicks on "Delete All" button located in fixed header section
- b. It will ask for confirmation : "Do you really want to delete all measures?"
- c. Once we click on "yes" all measures will get deleted

#### Error Messages

An error message "Model Series is mandatory" is shown, if none of the model series are selected.

An error message "Project name is mandatory" is shown, if project name field is not filled

Apart from this ,maximum length validation is associated with each and every field of "Measure tab" for which we are not displaying any error message.As per validation we are just restricting the users once they extend the maximum length.

#### **2.5.1.8 Use case "Delete Attachment"**

##### Definition

This use case is meant to delete an attachment of a project.

##### Trigger

This use case can be triggered after an attachment is added in "Add project information" page. Recycle bin icon will be enabled and user can click on it to delete the attachment.

##### **Parameters**

No.	Parameter	IN/OUT	Mandatory
1	Attachment	IN/OUT	Yes

##### **Prerequisites**

At least one attachment should be added to delete an attachment.

##### Results

Notification, when deleting a attachment to make sure deleting is intended (security question: "Do you really want to delete the attachment?")

After confirming the security question Attachment is not visible any more.

Attachments are only deleted from the database when clicking on "Save and Continue" or with any other saving mechanism (Home-Button, Changing tabs...)

##### Error messages

None.

#### **2.5.1.10 Use case "Open Attachment"**

##### Definition

This use case is meant to open an attachment of a project.

##### Trigger

This use case can be triggered after an attachment is added in "Add project information" page. "eye" icon will be enabled and user can click on it to open the attachment.

##### **Parameters**

No.	Parameter	IN/OUT	Mandatory
1	Attachment	IN/OUT	Yes

##### **Prerequisites**

At least one attachment should be added to open an attachment.

##### Results

Opening the attachment via clicking on the "eye"-icon. After clicking the "eye" button the user can open the file by using the default behavior of the browser.

When the program cannot be found there must be a possibility to use the "Open with..." function

##### Error messages

None.

#### **2.5.1.11 Use Case "Upload measures"**

##### Definition

This use case is meant to upload measure to the project.

##### Trigger

Upload measures page will be triggered when user click on the button "Create project - > Measure Tab".

##### **Parameters**

No.	Parameter	IN/OUT	Mandatory?
1	Project name	IN / OUT	yes
2	Model Series	IN / OUT	yes
3	Measure number	IN/OUT	no
4	SA-Codes	IN/OUT	no
5	Affected models	IN/OUT	no
6	Measure title	IN/OUT	no
7	Description current state	IN/OUT	no
8	Description to-be state	IN/OUT	no
9	Affected model series	IN/OUT	no
10	Affected codes	IN/OUT	no
11	Vehicle amount	IN/OUT	no
12	Business department	IN/OUT	no
13	Comments	IN/OUT	no

### Prerequisites

To upload measure, measures table must be empty

The Button Header is fixed on the top of the page, even when user scroll down the page the button header is visible.

### Results:

We can see the uploaded content in the table after finishing upload.

#### Main dialog

Button "Discard" is clicked, a notification "Are you sure?" is shown. If confirmed, a navigation back to the project tab without saving any changes. If not confirmed, it will resume to project information tab.

"Save & continue" will validate only "project name", which is mandatory and invalid data fields.

If project name & model series are given, by clicking "save & continue" button will generate a project ID.

If user clicks "save & continue" where 'Project ID' is already created, and **it will navigate to Measures tab**

Now in the "Measures" tab user has to enter the value of fields which are mentioned as "Parameters". In this particular tab none of the fields are mandatory but there are validation aligned to each and every field

This("Measures") particular tab is also having similar functionality of "Discard" and "Save & continue" button as we have for "Project" tab.

Some other functionalities specific to "Measures" tab are as follows:

- Uploading Of Measure

When the button "Upload measures" is clicked, a dialog to browse the file which is to be uploaded is opened.

#### Error Messages

An error message "Error message- unsupported file-format" is shown, if uploaded file has the incorrect format (i.e. if file is not an Excel file).

An error message "Model Series is mandatory" is shown, if none of the model series are selected.

An error message "Project name is mandatory" is shown, if project name field is not filled

Apart from this, maximum length validation is associated with each and every field of "Measure tab" for which we are not displaying any error message. As per validation we are just restricting the users once they extend the maximum length.

### 2.5.1.12 Use Case "Group & Ungroup Measures"

#### Definition

This use case is meant to group and ungroup measures to have better overview over measures.

#### Trigger

Group & Ungroup measures dialog will be triggered when user click on the button "Create project - > Measure Tab".

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Measure number	IN/OUT	no

2	SA-Codes	IN/OUT	no
3	Affected models	IN/OUT	no
4	Measure title	IN/OUT	no
5	Description current state	IN/OUT	no
6	Description to-be state	IN/OUT	no
7	Affected model series	IN/OUT	no
8	Affected codes	IN/OUT	no
9	Vehicle amount	IN/OUT	no
10	Business department	IN/OUT	no
11	Comments	IN/OUT	no

#### Prerequisites

To group & ungroup measure are done based on similar codes and to have better overview over the measures to assign them easier to the correct vehicles.

The Button Header is fixed on the top of the page, even when user scroll down the page the button header is visible.

#### Group Measures:

Grouping is possible via drag and drop ie., by dragging the measure that has the similar affected code and drop it on to another measure, will be highlighted with "+"

The measure onto which the first measure has been dropped will be the master measure.

When the user wants to see the child measure from the master measure, the user should click on the "+" and it will be replaced with "-"

When the user wants to close the child measures , then user have to click on "-" next to master measure and it will be replaced by "+"

When the columns are sorted, the master measure only will be sorted ie., the child measures will stay within the master measures only.Editing of rows is also possible.

#### Ungroup Measures:

Ungrouping is possible through clicking on an icon in each child-row left of the recycle bin.

Once ungrouping of all child measures is done, the "+" icon will be shown next to the master measure ,then duplicated parent measure will be deleted.

#### Error Messages

An error message "You grouped different affected codes" is shown, If user tries to assign different SA-Code measure to a group.

### 2.5.1.13 Use Case "Upload Vehicle Order Number"

#### Definition

This use case is meant to allow the Project Planner upload vehicle order number and add a list of vehicles to a project.  
Trigger

The dialog will be triggered when user click on the button "Create project -> Project Tab" from Project Planning Module.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Vehicle Name	IN/OUT	no
2	Vehicle Order Number	IN/OUT	no
3	Vehicle Start Date	IN/OUT	no
4	Vehicle End Date	IN/OUT	no

#### Prerequisites

A Default row for the Vehicle Order Numbers will be displayed in the Project Tab of Project Planning Module.

User can upload vehicle orders using a button "Upload Vehicle Order Number".

When user change status from Draft to Active,"Upload Vehicle Order Number" will disable.

The Button Header is fixed on the top of the page, even when user scroll down the page the button header is visible.  
Error Messages

An error message "File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed" is shown, if uploaded file has the

incorrect format (i.e. if file is not an Excel file).

An error message "File could not be uploaded. Wrong start or end date." is shown, If the dates do not match

An error message "File could not be uploaded due wrong form." is shown,If the content of the file is not correct.

An error message "File could not be uploaded. Maximum field length exceeded."is shown,If the fields are too long.

#### **2.5.1.14 Use case "Set project to Closed"**

##### **Definition**

This use case is meant for how to set project status to Closed.

##### **Trigger**

This use case can be triggered after project saved. "Closed" button will be enabled and user able to click on the button in project planning module.

##### **Parameters**

No.	Parameter	IN/OUT	Mandatory
1	Project status	IN / OUT	yes (Default status is Draft)

##### **Prerequisites**

A project should save at least once, then only Closed button will be enabled.

##### **Results**

Clicking in the "Close"-button opens a pop-up with the question "Has Q-Approval been given?" and buttons "Yes" and "No"

If user clicks on "Yes", project will be set to closed (everything will be set to read only, no more actions possible and all buttons are disabled)

If user clicks on "No" , another notification is shown "Do you really still want to close the project?" With buttons "Yes" and "No".

If user clicks on "Yes", project will be set to closed (everything will be set to read only, no more actions possible and all buttons disabled)

If user clicks on "No" closing will be discarded.

After the project was closed it is read-only, no more changes are allowed.

##### **Error messages**

No error messages.

#### **2.5.1.15. Use Case "Sending Project Information to FLIMS"**

##### **Definition**

This use case is meant for sending vehicle information and project information to FLIMS and saving extra vehicle information to VTAS DB.  
Trigger

This use case can be triggered from double click on project row (or) single click on the "Create project" button from view-project overview page.

##### **Parameters**

Please refer "Add Project Information" document from below URL.

#### **2.5.1.2 Use Case "Add project information"**

##### **Prerequisites**

The user has the right to add project information.

##### **Results**

##### **Sending Vehicle Information to FLIMS:**

After setting the "Project Status" to Active and clicking on "Save & Continue", each vehicle information is sent to FLIMS.

If a vehicle has been created successfully in FLIMS, the status "success" and response from FLIMS will be displayed in the vehicle order number table.

If the vehicle information is not created in FLIMS successfully then,status of vehicle will be displayed FAILURE in vehicle order number table.

### **Sending Project Information to FLIMS:**

After sending vehicle information, Project information will be sent to FLIMS. If project information is saved successfully in FLIMS, project details will be saved to VTAS and project status will be active.

If the project information is not saved successfully to FLIMS, error message will be displayed and project status will be saved in draft state.

### **Error Messages**

If the project information is not saved successfully to FLIMS, error message from FLIMS "An error ha occurred" will be displayed.

If more proPhases are selected, an error message "Please set proPhase manually in FLIMS" will be displayed.

### **2.5.1.16. Use Case "Send Changes for Project and Vehicle to FLIMS"**

This use case is meant to update the information in FLIMS so that user can plan the audits in FLIMS with the most current data.  
Trigger

This use case can be triggered from double click on project row (or) single click on the "Create project" button from view-project overview page.

### **Parameters**

Please refer "Add Project Information" document from below URL.

### **2.5.1.2 Use Case "Add project information"**

### **Prerequisites**

The user has the right to update project information.

### **Results**

Whenever a project in status active is saved, we need to check all the vehicles assigned to a project, if they already exist in FLIMS. If not, each vehicle that has not been sent to FLIMS yet, needs to be sent to FLIMS and save extra vehicle information to VTAS.

Save the status, if a vehicle has been created successfully in FLIMS and display it in the vehicle order number table in Project Planning.

Update project information for any changes that happened in the project information as well as any changes that happened in the vehicle start dates or vehicle end dates.

After successful response from FLIMS it saves all changes in the VTAS Database.

### **Error Messages**

If the project information is not saved successfully to FLIMS, error message from FLIMS "An error ha occurred" will be displayed.

If more proPhases are selected, an error message "Please set proPhase manually in FLIMS" will be displayed.

### **2.5.1.17. Use Case "Send Vehicles Information to EFA.Input "**

This use case is meant to send Vehicle Information to EFA.Input after successful FLIMS vehicle post.  
Trigger

This use case can be triggered from double click on project row (or) single click on the "Create project" button from view-project overview page.

### **Parameters**

Please refer "Add Project Information" document from below URL.

### **2.5.1.2 Use Case "Add project information"**

### **Prerequisites**

The user has the right to update project information.

### **Results**

Whenever a project in status active is saved and FLIMS vehicle post is successful then vehicle information will be sent to EFA.Input.

Save the status, if a vehicle has been created successfully in EFA.Input and display it in the vehicle order number table in Project Planning when user revisit the project.

Update vehicle information for any changes that happened in the vehicle start dates or vehicle end dates.

After successful response from FLIMS , vehicle information sent to EFA.Input it saves all changes in the VTAS Database.

### **Error Messages**

No Error Messages are displayed

## **2.5.2 Module "Administration"**

- 2.5.2.1 Use Case "Configure categories for values"
- 2.5.2.3 Use Case "Open Administration"
- 2.5.2.4 Use Case "View values for prefilled category fields"
- 2.5.2.5 Use Case "View UI labels in different languages"
- 2.5.2.6 Use case "Configure Maintenance Message"
- 2.5.2.7 Use Case "Change Log Levels"
- 2.5.2.8 Use Case "Administrat sensor/plant mapping"
- 2.5.2.9 Use Case "Change mapping for plants to be sent to third parties"
- 2.5.2.10 Use Case "View interface information"
- 2.5.2.11 Use Case "Check Status Of Interface"

### **2.5.2.1 Use Case "Configure categories for values"**

#### **Definition**

This use case is meant to configure existing categories and edit the descriptions.

#### **Trigger**

This use case will be triggered the Admin user clicks on "Generic Categories" in the Administration overview, selecting a category and clicking on the "Edit" button.

#### **Parameters**

No.	Parameter	IN/OUT	Mandatory?
1	Key	IN	yes
2	Category	IN / OUT	yes
3	Changed on	IN / OUT	yes
4	Changed by	IN / OUT	yes

#### **Prerequisites**

The user has the rights to see and open the module.

At least one category needs to be available in the table to edit.

The user when select a checkbox and click on edit button, the respective values navigated to edit page, where key is not editable.  
Results

The dialog is shown with exiting "Category values" with list sorting.

In the edit categories page the user can edit the Category. When clicking "Save" the modified data of the selected row is overwritten with the new information, with new time stamp ("Changed on") and the user, who has modified the information ("Changed by") is updated and the table is shown again.

If in the edit categories page the button "Discard" is clicked, a notification "Discard all changes?" is shown. If confirmed, a navigation back to the table with the categories takes place. If not confirmed, it will stay back on the edit dialog.

In case of refresh of the page happens, then user navigates to the categories page.

#### **Error messages**

An error message "categories not found" is shown, if Category values are empty.

An error message "Category: {name} already exists" is shown, if already existing category name is input.

### **2.5.2.3 Use Case "Open Administration"**

#### **Definition**

This use case is meant to open the module "Administration", so that user can configure values and configure settings for VTAS.  
Trigger

This Administration module will be displayed along with the VTAS main page.

#### **Prerequisites**

The user has the rights to see and open the module.

The landing page should contain the Administration module.

#### **Results**

When user double click or right click on the Administration module, opens the Administration overview page in a new window or new tab respectively.

When user click module switcher, drop down box containing modules is displayed.

When user selects particular module in module switcher, opens the respective selected module overview in the same page.

## Error Message

No error messages for this Administration module and Administration overview.

### 2.5.2.4 Use Case "View values for prefilled category fields"

#### Definition

This use case is meant to configure existing categories values and can add and edit the values.

#### Trigger

This use case will be triggered when the Admin/user clicks on "Generic values" in the Administration overview, selecting a category and clicking on the "Edit" button.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	ID	IN	Yes
2	Category	IN / OUT	Yes
3	Name	IN / OUT	Yes
4	Description	IN / OUT	Yes
5	Sorting order	IN / OUT	Yes
6	Active?	IN / OUT	No
7	Changed on	IN / OUT	Yes
8	Changed by	IN / OUT	Yes

#### Prerequisites

The user has the rights to see and open the module.

At least one category needs to be available in the table to edit.

#### Results

The dialog is shown with exiting "Category values" with list sorting.

In the **Edit dialog** the user can edit the Category values. When clicking "Save" the modified data of the selected row is overwritten with the new information, with new time stamp ("Changed on") and the user who has modified the information ("Changed by") is updated and the table is shown again.

In the **Add dialog** the user can add the Category values. When the button "Save" is clicked, a new row at the top of the table with the entered information is shown in the list. A new ID is generated, a new time stamp and the user who created the entry will be saved.

In the edit dialog or add dialog if the button "Discard" is clicked, a notification "Are you sure ?" is shown. If confirmed, a navigation back to the table with the categories takes place. If not confirmed, it will stay back on the edit dialog.

#### Error messages

An error message "category name is mandatory" is shown, if category name is empty.

An error message "category value already exists" is shown, if category name is duplicated.

An error message "German description is mandatory" is shown, if description is empty.

An error message "Sorting Order is mandatory" is shown, if sorting order is empty.

### 2.5.2.5 Use Case "View UI labels in different languages"

#### Definition

This use case is meant to view the available UI-Labels and edit UI-Labels in different languages, export the translated UI labels to excel and import the UI-labels in different languages so that the Admin can adapt the naming of a function easily if needed and bring lots of translations to the system at once.

#### Trigger

This use case will be triggered when the Admin/user clicks on "Resources" in the Administration overview.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	ID	IN	Yes
2	Key	IN / OUT	Yes
3	Module	IN / OUT	Yes
4	Page	IN / OUT	Yes
5	Meaning	IN / OUT	Yes
6	Translation English	IN / OUT	No

7	Translation German	IN / OUT	Yes
8	Translation Hungarian	IN / OUT	Yes
9	Changed on	IN / OUT	Yes
10	Changed by	IN / OUT	Yes

#### Prerequisites

The user has the rights to see and open the module.

At least one UI label data needs to be available in the table to edit.

A row must be selected from the view UI labels table to edit it.

#### Results

The dialog is shown with exiting UI labels with list sorting.

Edit dialog is shown when clicked on 'Edit' button.

UI labels are updated when clicked on 'Save and Continue' button.

An excel file containing UI labels information, will be generated when clicked on the "Export UI labels" button.

Clicking on the "Import UI-Labels" button, the user provided with the "Browse" option from where he can select the desired file to import and uploaded to table.

The imported file overwrite the corresponding content in the database.

#### Error Message

- English translation is mandatory.If English translation is missing, then an error message "English Translation" mandatory displays.
- If a wrong file (only xsl, xlsx allowed) is given, an error message appear: "File could not be uploaded due to wrong file format. Only xsl and xlsx is allowed."
- If the content of the file is not correct (columns) an error message "File could not be uploaded due wrong form." is shown.
- If the default language (English) is not filled then an error message "File could not be uploaded. Default language English is missing." is given.
- If any of the translations exceeds 1000 characters, an error message "File could not be uploaded. Translation is too long." is shown.
- If important columns like key, module, page name are not filled error message "File could not be uploaded. Please recheck mandatory columns key, module and page name." is shown.

### 2.5.2.6 Use case "Configure Maintenance Message"

#### Definition

This use case is meant to view Landing Page with News feed area on left side so users can be informed when the system is available during updates.

#### Trigger

This dialog is directly called and opened after logging in to the VTAS application.

#### Prerequisites

The Landing page consists of a fixed news area on the left side and "Project planning" , "Administration" , "Complaints" and "Vehicle Planning" modules at the right side.

A new category "Maintenance Message" is available to add values in Administration Module.

#### Results

Admin can set or change a maintenance message, so that other users can be informed when the system is not or partly available during hotfixes or updates.

A category "Maintenance Message" is available for administrator to add maintenance messages to update user.

Language of the message will be shown according to the selected user profile language.If no description is available for selected user language then default german language description will be displayed.

Only active messages will be displayed in the Feed Blog in given sorting order.

If No Maintenance message are available or no message is in active state then empty feed will be shown.

#### Error Message

No error messages for this Landing Page overview.

### 2.5.2.7 Use Case "Change Log Levels"

#### Definition

This use case is meant to view and change the Log Levels over REST call.

#### Trigger

This use case will be triggered when the Admin/user clicks on "Log Levels" in the Administration overview.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Application Name	IN/OUT	Yes
2	Current Log Level	IN / OUT	Yes
3	Log Levels	IN / OUT	Yes
4	Action	IN / OUT	Yes

#### Prerequisites

If logged-in user have admin role, he can access the log level dialog.

#### Results

Dialog is opened with existing log levels for each application from server by clicking on "Log Levels" tab in Administration Page.

#### Error Message

No error messages for this Log Level overview.

### 2.5.2.8 Use Case "Administrate sensor/plant mapping"

#### Definition

This use case is meant to map sensor and plant.

#### Trigger

This use case will be triggered when the Admin/user clicks on "Sensor-Plant" in the Administration overview.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Sensor	IN/OUT	Yes
2	Plant	IN / OUT	Yes
3	Key	IN / OUT	Yes

#### Prerequisites

If logged-in user have admin role, he can access the log level dialog.

#### Results

Sensor Plant is mapped and saved to DB and the data will be seen on the screen

#### Error Message

No error messages for this Sensor-Plant mapping.

### 2.5.2.9 Use Case "Change mapping for plants to be sent to third parties"

#### Definition

This use case is meant to configure existing plant mapping values and can add and edit the values.

#### Trigger

This use case will be triggered when the Admin/user clicks on "Plant Mapping" in the Administration overview.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Name Of Plant	IN	Yes
2	VTAS plant number	IN / OUT	Yes
3	FLIMS plant	IN / OUT	Yes

4	MRS plant	IN / OUT	Yes
5	EFA.Input plant	IN / OUT	Yes
6	CAT plant	IN / OUT	No
7	Changed on	IN / OUT	Yes
8	Changed by	IN / OUT	Yes

#### Prerequisites

The user has the rights to see and open the module.

At least one plant mapping needs to be available in the table to edit.

#### Results

The dialog is shown with exiting "Plant mapping" with list sorting.

Clicking on Edit button opens the edit plant mapping dialog.

In the **Edit dialog** the user can edit the plant mapping values. When clicking "Save" the modified data of the selected row is overwritten with the new information, with new time stamp ("Changed on") and the user who has modified the information ("Changed by") is updated and the table is shown again.

Clicking on Add button opens the add plant mapping dialog.

In the **Add dialog** the user can add the Plant mapping values. When the button "Save" is clicked, a new row at the top of the table with the entered information is shown in the list. A new time stamp and the user who created the entry will be saved.

In the edit dialog or add dialog if the button "Discard" is clicked, a notification "Are you sure ?" is shown. If confirmed, a navigation back to the table with the categories takes place. If not confirmed, it will stay back on the edit dialog.

#### Error messages

No error messages.

### 2.5.2.10 Use Case "View interface information"

#### Definition

This use case is meant to have an third party system interface overview, so that Admin can check which interface or system is working or not.

#### Trigger

This use case will be triggered the Admin user clicks on "Interface monitoring" in the Administration overview.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	System	IN / OUT	
2	Interface	IN / OUT	
3	Status OK	IN / OUT	
4	Status NOK	IN / OUT	
5	Last status recorded	IN / OUT	
6	Date of last status recorded	IN / OUT	

#### Prerequisites

The user has the rights to see and open the module.

#### Results

Table shows a static list with connection quality information of all monitored interface functions in VTAS.

#### Error messages

No error messages.

### 2.5.2.11 Use Case "Check Status Of Interface"

#### Definition

This use case is meant to have a third party system interface overview, so that Admin can check which interface or system is working or not.

#### Trigger

This use case will be triggered the Admin user clicks on "Interface monitoring" in the Administration overview.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	System	IN/OUT	

2	Status	IN/OUT	
3	Trigger	IN/OUT	

#### Prerequisites

The user has the rights to see and open the module.

#### Results

Table shows dynamic information regarding the availability of interface.

#### Error messages

No error messages.

### 2.5.3 Module "Complaints"

- 2.5.3.1 Use Case "Open module Complaints"
- 2.5.3.2 Use Case "Add faults in complaints module"

#### 2.5.3.1 Use Case "Open module Complaints"

##### Definition

This use case is meant to open the module "Complaints", so that the user can configure complaints and faults in VTAS.

##### Trigger

This Administration module will be displayed along with the VTAS main page.

##### Prerequisites

The user has the rights to see and open the module.

The landing page should contain the "Complaints" module.

##### Results

When user double click or right click on the "Complaints" module, opens the "Complaints" overview page in a new window or new tab respectively.

When user click module switcher, drop down box containing modules is displayed.

When user selects particular module in module switcher, opens the respective selected module overview in the same page.

##### Error Message

No error messages for this "Complaints" module and "Complaints" overview.

#### 2.5.3.2 Use Case "Add faults in complaints module"

**Currently in complaints page saving fault cannot be done.User can save faults in Faults module.**

##### Definition

This use case is meant to select active projects and record faults for particular vehicle assigned to current project.

##### Trigger

This complaints module will be displayed when a single right click or double click on complaints module in VTAS main page.

##### Prerequisites

The complaints page contains a Pre-selected active project.

##### Results

When user clicks on pencil icon, opens the pop-over for selecting from the list of **Active Projects**.

When user clicks "Accept" button, it commits the selection and changes it on the main view of pre-select complaint page and closes the pop-over.

When user clicks "Cancel" button, it cancels any changes to project selection and closes the pop-over.

When user clicks on **Add Fault** button, opens the pop-over for selecting a vehicle from list of vehicles assigned for pre-selected project.

When user clicks "Accept" button, it confirm Selection and corresponding error Input Screen from EFA opens.

When user clicks "Cancel" button, it cancels any changes to project selection and closes the pop-over.

From EFA.Input mask, user select particular part and the fill required information and clicking on **save fault**, Fault ID will be given back from EFA.Input and will be stored in VTAS.

Success message "Data Saved Successfully!" will be shown after successfully getting Fault ID.

### Error Message

If no projects are found when loading the page, a message "No projects found" will be displayed and the pencil icon and **Add Fault** will be disabled.

## 2.5.4 Module "Vehicle Planning"

### 2.5.4.1 Use Case "View projects for vehicle planning"

#### Definition

The use case is meant to view all active projects. It supports both English and German language.

#### Trigger

This use case will be triggered when user do either double click or right click on the vehicle planning module in VTAS main page.

#### Parameters

No.	Parameter	IN/OUT	Mandatory
1	Sensor	IN/OUT	No
2	Model Series	IN/OUT	Yes
3	Project Name	IN/OUT	Yes
4	Pro_Phases	IN/OUT	No
5	Status	IN/OUT	No
6	Start Date	IN/OUT	No

#### Prerequisites

The user has the rights to view all active projects.

#### Results

when user opens vehicle planning module, the dialog should display all active projects.

If no projects created system should display error message "No projects found".

#### Error messages

"No project Found" message will be displayed when no projects are created.

### 2.5.4.2 Use Case "Vehicle-Measure Assignment"

This use case is meant to open a matrix-table for vehicle and measures data, so that user can do the assignment of measures to vehicles. This page will support both English and German language.

#### Trigger

Will be triggered when user double clicking on a single project(a row) from project overview of the module Vehicle Planning.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Measure Number	IN / OUT	No
2	Measure Title	IN / OUT	No
3	Number Planned	IN / OUT	No
4	Number choosen	IN/OUT	No
5	Vehicle Name	IN / OUT	No
6	Production number	IN / OUT	No

7	Baumuster	IN/ OUT	No
8	Type	IN/ OUT	No
9	Paint	IN/ OUT	No
10	Mileage	IN/ OUT	No
11	Vehicle Order Number	IN / OUT	No
12	Business Department	IN / OUT	No
13	Comment	IN / OUT	No
14	Engine	IN/ OUT	No
15	Transmission	IN/ OUT	No

#### Prerequisites

The active project overview has to provide at least one project that can be selected by the user. So that user can open and view vehicle-measure assignment.

This dialog will open when user double clicks on a single project(a row) from project overview of the module Vehicle Planning

The Header and Button Header is fixed on the top and Button Footer is fixed on bottom of the page, even when user scroll down the page the button header and footer is visible.

#### Results

When user double click on a project,it navigates to vehicle-measure assignment dialog with two sections.

"Master List" tab displays the vehicle-measure assignment,where user can see a matrix-table for vehicle and measures data, so that user can do the assignment of measures to vehicles.

In the right corner above the table, the parent measures of selected project are displayed column-wise.Horizontal scroll function is available to see all the measures after the column "Comments".

Vehicle table should display all vehicle data of that particular project and checkbox table should display with vertical scroll if the list gets bigger.

In the vehicle table all vehicle information specific to that project will be fetching from FLIMS and some fields like Vehicle name, vehicle order number ,department, comments will be fetching from the VTAS database.

User can assign measures to the vehicles by clicking the check boxes.

Number choosen field will display count of selected checkbox for that particular measure.

The page will have save&continue and discard buttons in the button footer.

When click on save & continue button system should save assigned measures to vehicle information should save in the database.

When user click on discard button user should navigate back to vehicle planning page.

When user open the same project again user should be able to see the saved information.

If user deleted any measure or vehicle from the project in project planning module that particular measure should not display in the vehicle measure assignment page.

"Project Information" tab will be empty currently.

#### Error Message

No error messages

#### 2.5.4.3 Use Case "Show SA-Codes for Vehicle"

This use case is meant to see SA-Codes for a specific vehicle so that user can reassure assigning the right measures to the right vehicles.

#### Trigger

Will be triggered when user clicks on a global ordering number in the vehicle-measure assignment table of the module Vehicle Planning.

#### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	Measure Number	IN / OUT	No
2	Measure Title	IN / OUT	No
3	Number Planned	IN / OUT	No
4	Number choosen	IN/OUT	No
5	Vehicle Name	IN / OUT	No

6	Vehicle Order Number	IN / OUT	No
7	Business Department	IN / OUT	No
8	Comment	IN / OUT	No

#### Prerequisites

The active project overview has to provide at least one project that can be selected by the user. So that user can open and view vehicle-measure assignment.

This dialog will open when user double clicks on a single project(a row) from project overview of the module Vehicle Planning.

#### Results

Each vehicle order number value(per row) is clickable in vehicle data table.

when user clicks on any vehicle order number, it opens a new tab and show SA-Codes report which are assigned with Vehicle Order number from MRS.

#### Error Message

No error messages

### 2.5.5 Module "Controlling"

#### 2.5.5.1 Use Case "Open Module Controlling"

##### Definition

This use case is meant to open the module "Controlling", so that user can manage the required vehicles.  
Trigger

This Controlling module will be displayed along with the other modules in VTAS main page.  
Prerequisites

The user has the rights to see and open the module.

The landing page should contain the Controlling module.

#### Results

When user double click or right click on the Controlling module, opens the Controlling overview page in a new window or new tab respectively.

When user click module switcher, drop down box containing modules is displayed.

When user selects particular module in module switcher, opens the respective selected module overview in the same page.

#### Error Message

No error messages for this Controlling module and Controlling overview.

#### 2.5.5.2 Use Case "Pre-Select Project For Controlling"

##### Definition

This use case is meant to select active projects and record faults for the correct project.

##### Trigger

This controlling module will be displayed when a single right click or double click on controlling module in VTAS main page.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	Project Name	IN/OUT	No
2	Sensor	IN/OUT	No
3	Project Start Date	IN/OUT	No
4	Project End Date	IN/OUT	No
5	Pro_Phases	IN/OUT	No
6	Status	IN/OUT	No
7	Model Series	IN/OUT	No

#### Prerequisites

The controlling page contains a Pre-selected active project.

## Results

Clicking on "Project Information" button, Pre-Select Project Information list is shown.

Clicking on "Vehicle Information" button, Vehicle Information is shown in the list.

When user clicks on pencil icon, opens the pop-over for selecting from the list of **Active Projects**.

When user clicks "Accept" button, it commits the selection and changes it on the main view of pre-select controlling page and closes the pop-over.

When user clicks "Cancel" button, it cancels any changes to project selection and closes the pop-over.

## Error Message

If no projects are found when loading the page, a message "No projects found" will be displayed and the pencil icon will be disabled.

### 2.5.3 Use Case "Show KPI overview for projects"

#### Definition

This use case is meant to have the most important KPI graphically prepared, so that the user can get a quick overview of the status of a project.

#### Trigger

This controlling module will be displayed when clicks on KPI tab in controlling module which is present in VTAS main page.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	Time Elapsed	IN/OUT	No
2	Vehicles	IN/OUT	No
3	Measures	IN/OUT	No
4	Faults	IN/OUT	No
5	Analysis Process	IN/OUT	No
6	Fav	IN/OUT	No

#### Prerequisites

The controlling page contains a Pre-selected active project.

## Results

Clicking on "KPI" tab , KPI overview for the project is shown.

The field Time elapsed shows the progress bar chart (Time) in %.

The field Vehicles shows the number of vehicles (Order numbers).

The field Faults shows the number of faults for the respective project.

When project end date is not given, the Time elapsed KPI is hidden.

If the project start date is after or on today date Time Elapsed is 100% Remaining.

If the project end date is before or on today date Time Elapsed is 100% Done.

If no projects are found when loading the page, a message "No projects found" will be displayed.

The field Measures shows the number of parent measures and Measure KPI corresponding to the measure status in a bar chart for the respective project.

The field Analysis process displays the count and status of saved analysis Id status in progress bar

The field Fav shows status of Ira lds from CAT system related to that project.

### 2.5.4 Use Case "Show measures overview for a project"

#### Definition

The dialog is to display measure overview and the assigned vehicles to that particular measures of a project.

#### Trigger

This module will be displayed when clicks on Measures tab present in "Project Information" toggle button in controlling module.

## Parameters

No.	Parameter	IN/OUT	Mandatory
1	Measure Number	IN/OUT	No
2	Measure Title	IN/OUT	No
3	Global Ordering Number	IN/OUT	No
4	Status	IN/OUT	No

## Prerequisites

The controlling page contains a Pre-selected active project.

## Results

Clicking on "Measures" tab , Measures overview for the project is shown.

The field "Measure number" describes 'Project Vehicle Measure Number' of maximum length 15.

The field "Measure title" describes 'Title of project vehicle measure '

The field "Global ordering numbers" describes the list of all vehicles assigned to a particular measure.

The field "Status of measure" describes the status of a measure is Open initially.

We can select different status from status drop down, when we click on save, the measure number with corresponding status will be saved in measure table.

If no Measure are found for that particular project, a message "No measures found" will be displayed in the table.

## 2.5.5.5 Use Case "Show list of Faults"

### Definition

This use case is meant to display the list of faults, so that user can get an overview over the faults of a project.

### Trigger

This module will be displayed when clicks on Faults tab present in "Project Information" toggle button in controlling module.

## Parameters

No.	Parameter	IN/OUT	Mandatory
1	Fault Place	IN/OUT	No
2	Fault Type	IN/OUT	No
3	Model Series	IN/OUT	No
4	Priorities	IN/OUT	No
5	Production Number	IN/OUT	No
6	Plant	IN/OUT	No

## Prerequisites

The controlling page contains a Pre-selected active project.

## Results

Clicking on "Faults" tab , Faults overview for the project is shown.

Left side table content faults details from MRS and other side is EFA Input Widget.

The field "Fault Place" field describes the vehicle location of the fault.

The field "Fault Type" field describes the type of fault.

The field "Model Series" field describes model series value of fault vehicle.

The field "Production Number" field describes the status of the measure (empty column for now).

The field "Plant" field describes the plant ID.

## 2.5.5.6 Use Case "Pre-Select Vehicle For Controlling"

### Definition

This use case is meant to select vehicle for active projects

### Trigger

This controlling module will be displayed when a single right click or left click on controlling module in VTAS main page.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	Project Name	IN/OUT	No
2	Vehicle Name	IN/OUT	No
3	Modal Series	IN/OUT	No
4	Vehicle Order Number	IN/OUT	No

### Prerequisites

The controlling page contains a Pre-selected vehicle for active project.

### Results

Clicking on "Vehicle Information" button, Pre-Select Vehicle Information list is shown.

When user clicks on pencil icon, opens the pop-over for selecting from the list of vehicles for **Active Projects**.

When user clicks "Accept" button, it commits the selection and changes it on the main view of pre-select controlling page and closes the pop-over.

When user clicks "Cancel" button, it cancels any changes to vehicle selection and closes the pop-over.

### Error Message

If no vehicles are found when loading the page, a message "No vehicles orders found" will be displayed and the pencil icon will be disabled.

## 2.5.5.7 Use Case "Show fault details"

### Definition

This use case is meant to see details of a fault so that the specific fault details can be looked.

### Trigger

This controlling module will be displayed when a single right click or left click on controlling module in VTAS main page.

### Result

By clicking on a row on the left fault table, the values on the right side are displayed pre filled.

## 2.5.5.9 Use Case "Show status of analysis for a project"

### Definition

This use case is meant to see analysis status of a project so that user can get an overview of the analysis processes that are part of that project.

### Trigger

This controlling module will be displayed when clicks on Status tab in controlling module which is present in VTAS main page.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	Analysis-ID	IN/OUT	Yes
2	Status	IN/OUT	Yes

### Prerequisites

The controlling page contains a Pre-selected active project.

### Results

Clicking on "Status" tab , iFrame will be loaded.

User need to fill Analysis\_ID and select Status from drop down  
on Clicking Save and Continue, data will be saved to DB.

If analysis-id is already present, the status will be overridden.

#### 2.5.5.10 Use Case "Show FAV-Status"

##### Definition

The dialog is to display the status of all fault eliminations for a project, so that admin get an overview of what is still to be done for a project.

##### Trigger

This module will be displayed when clicks on FAV Status tab present in "Project Information" toggle button in controlling module.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	FAV Id	IN/OUT	Yes
2	Flag if similar errors exist (WF)	IN/OUT	No
3	Priority	IN/OUT	No
4	Status	IN/OUT	No
5	Problem Title	IN/OUT	No
6	Sensor	IN/OUT	No
7	Model Series	IN/OUT	No
8	Fault Id	IN/OUT	No
9	Creation Date	IN/OUT	No
10	Containment Implemented	IN/OUT	No
11	Analysis Date	IN/OUT	No
12	Done Date	IN/OUT	No

##### Prerequisites

The controlling page contains a Pre-selected active project.

##### Results

Clicking on "FAV Status" tab , Fault Elimination process overview for the project is shown.

For the selected project,associated Ira Ids Fault Elimination Processes Information is displayed in the table.

If Ira Ids is not valid,then an error message "Sorry for Inconvenience " will be displayed.

If no IRA Id are found for that particular project, a message "No results found" will be displayed in the table.

#### 2.5.5.11 Use Case "Show measures overview for vehicles"

##### Definition

The dialog is to display measure overview which are assigned to vehicles and particular project.

##### Trigger

This module will be displayed on click of vehicle information tab and also on click Measures tab present in "Vehicle Information" toggle button in controlling module.

Parameters

No.	Parameter	IN/OUT	Mandatory
No.	Parameter	IN/OUT	Mandatory
1	Measure Number	IN/OUT	No
2	Measure Title	IN/OUT	No
3	Global Ordering Number	IN/OUT	No
4	Status	IN/OUT	No

##### Prerequisites

The controlling page contains a Pre-selected vehicle which is assigned to active project.

## Results

Clicking on "Measures" tab , Measures overview for the vehicle is shown.

The field "Measure number" describes 'Project Vehicle Measure Number' of maximum length 15.

The field "Measure title" describes 'Title of project vehicle measure '

The field "Global ordering numbers" describes the list of all vehicles assigned to a particular measure.

The field "Status of measure" describes the status of a measure is Open initially.

We can select different status from status drop down, when we click on save, the measure number with corresponding status will be saved in measure table.

If no Measure are found for that particular project, a message "No measures found" will be displayed in the table.

### 2.5.5.12. Use Case "KPI for Analysis Status"

#### Definition

This use case is meant to display the KPI bar for Analysis Status in controlling module and to update the status of existing analysis IDs or can add multiple analysis-Ids to one project in status tab.

#### Trigger

This dialog will be displayed when clicks on KPI tab present in "Project Information" toggle button in controlling module.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	Time Elapsed	IN/OUT	No
2	Vehicles	IN/OUT	No
3	Measures	IN/OUT	No
4	Faults	IN/OUT	No
5	Analysis Process	IN/OUT	No

#### Prerequisites

The controlling page contains a Pre-selected active project.

## Results

Clicking on "KPI" tab , KPI overview for the project is shown.

The field "Analysis Process" shows the number of status analysis-id saved and KPI bar

when no analysis-ids are there,then no KPI bar will be displayed

Clicking on Status tab ,user can update the Analysis-Id status to the db and add multiple analysis Id to one project.

#### Error Message

No error messages are displayed.

### 2.5.5.13 Use Case "Show faults assigned to a vehicle"

#### Definition

This use case is meant to display the list of faults associated with a vehicle.

#### Trigger

This module will be displayed when clicks on Faults tab present in "Vehicle Information" toggle button in controlling module.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	Fault Place	IN/OUT	No
2	Fault Type	IN/OUT	No
3	Model Series	IN/OUT	No
4	Priorities	IN/OUT	No
5	Production Number	IN/OUT	No

6	Plant	IN/OUT	No
7	Fault status	IN/OUT	No

### Prerequisites

The controlling page contains a Pre-selected vehicle..

### Results

Clicking on "Faults" tab in "Vehicle Information" , faults associated with a vehicle are shown.

Left side table content faults details from MRS and other side is EFA Input Widget.

The field "Fault Place" describes the vehicle location of the fault.

The field "Fault Type" describes the type of fault.

The field "Model Series" describes model series value of fault vehicle.

The field "Production Number" describes the status of the measure (empty column for now).

The field "Plant" describes the plant ID.

The field "Status" describes the status of the fault.

### 2.5.5.14. Use Case "Show Fault Elimination Process for Vehicle"

#### Definition

The dialog is to display the status of all fault eliminations for a vehicle, so that admin get an overview of what is still to be done.

#### Trigger

This module will be displayed when clicks on FAV Status tab present in "Vehicle Information" toggle button in controlling module.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	FAV Id	IN/OUT	Yes
2	Flag if similar errors exist (WF)	IN/OUT	No
3	Priority	IN/OUT	No
4	Status	IN/OUT	No
5	Problem Title	IN/OUT	No
6	Sensor	IN/OUT	No
7	Model Series	IN/OUT	No
8	Fault Id	IN/OUT	No
9	Creation Date	IN/OUT	No
10	Containment Implemented	IN/OUT	No
11	Analysis Date	IN/OUT	No
12	Done Date	IN/OUT	No

### Prerequisites

The controlling page contains a Pre-selected active project.

### Results

Clicking on "FAV Status" tab , Fault Elimination process overview for the vehicle is shown.

For the selected vehicle ,associated Ira Ids Fault Elimination Processes Information is displayed in the table.

If Ira Ids is not valid,then an error message "Sorry for Inconvenience " will be displayed.

If no IRA Id are found for that particular project, a message "No results found" will be displayed in the table.

### Error Message

An error message "VTAS-TEC-2: CAT responded with an error. Please contact the administrator." is displayed,when CAT trows an error.

### 2.5.6. "User Profile"

#### Definition

This use case is meant to view the user profile for a user.

#### ***Trigger***

This use case will be triggered when the user clicks on user profile icon on displayed on the header.

#### ***Parameters***

No.	Parameter	IN/OUT	Mandatory?
1	User-Id	IN/OUT	Yes
2	first name	IN	Yes
3	last name	IN	Yes
4	department	IN	Yes
5	E-Mail	IN	Yes
6	Mail	IN	Yes
7	Phone-Number	IN	Yes
8	Plant-IDs	IN	Yes
9	User status	IN	Yes
10	Usertype	IN	Yes
11	cost center	IN	Yes
12	last login	IN	---
13	Creation date	IN	---
14	Language	IN/OUT	Yes
15	Timezone	IN/OUT	Yes
16	Operator	IN/OUT	Yes

#### ***Prerequisites***

The user has the rights to see and open the Header.

#### ***Results***

If user login into VTAS application first time, user details (required details like User Id and last loggedOn) will be stored into VTAS database, when user clicks on user profile icon will fetch user details from AEMT and VTAS DB.

When the save button is clicked, the selected language, the selected time zone is saved to the current user is saved  
After saving, the system takes over the selected language and shows the UI labels in the same language.And the system takes over the selected time zone for the current user profile and shows all dates/times in the selected timezone.

When discard button is clicked, a popup with confirmation notification is displayed.  
clicking on "Yes" discards all the changes.

Clicking on "No", remain you on the same user profile popup.

#### ***Error messages***

No error messages.

### **2.5.7. Landing Page**

#### **Definition**

This use case is meant to view Landing Page with News feed area on left side and fixed modules at right side.

#### ***Trigger***

This dialog is directly called and opened after logging in to the VTAS application.

#### ***Prerequisites***

The Landing page consists of a fixed news area on the left side and "Project planning" , "Administration" , "Complaints" , "Vehicle Planning" , "Faults" and "Reporting" modules at the right side.

#### ***Results***

If user left click on the modules,it opens overview in a new tab and right click on the modules opens the overview page in a new window.

Admin can set or change a maintenance message, so that other users can be informed when the system is not or partly available during hotfixes or updates.

A category "Maintenance Message" is available for administrator to add maintenance messages to update user.

Language of the message will be shown according to the selected user profile language.If no description is available for selected user language then default german language description will be displayed.

Only active messages will be displayed in the Feed Blog in given sorting order.

If No Maintenance message are available or no message is in active state then empty feed will be shown.

#### Error Message

No error messages for this Landing Page overview.

### 2.5.8 "User Login"

#### *Definition*

This use case is meant to login to the VTAS application so that I can work with my projects.

#### *Trigger*

This use case will be triggered when the application loads.

#### *Parameters*

No.	Parameter	IN/OUT	Mandatory?
1	User Name	IN	Yes
2	password	IN	Yes

#### *Prerequisites*

When the application is loaded, a user Login page is displayed providing an option to enter user name and password.

#### *Results*

When the user clicks on login button and successfully logs in, he is navigated to VTAS landing page.

When an user with role "Administrator" logs in the VTAS application, he can see the module "Administration" on the VTAS landing page and in the module switcher

And access the "Administration" module via the module switcher.

For users who don't have the role "Administrator" the module "Administration" will not be visible on the VTAS landing page.

#### *Error messages*

When the user id or password is wrong, Login fail page is displayed

### 2.5.10 Module "Faults"

#### 2.5.10.1 Use Case "Show faults for project"

#### *Definition*

This use case is meant to show the fault list for active projects, so that user can decide for which of the faults he needs to start a fault elimination process.

#### *Trigger*

This faults module will be displayed when a single right click or left click on faults module in VTAS main page.

#### *Parameters*

No.	Parameter	IN/OUT	Mandatory
1	Project Name	IN/OUT	YES
2	Vehicle Name	IN/OUT	YES

3	Modal Series	IN/OUT	YES
4	Global ordering number	IN/OUT	YES
5	Fault place	IN/OUT	No
6	Fault type	IN/OUT	No
7	Priority	OUT	No
8	Plant	IN/OUT	YES
9	Production Number	IN/OUT	YES
10	Status	IN/OUT	YES

### Prerequisites

The faults page contains a Pre-selected vehicle for active project.

From user profile "Operator" must be selected, which is added in generic values tab in Administration.

### Results

When user clicks on pencil icon, opens the pop-over for selecting from the list of vehicles for **Active Projects**.

When user clicks "Accept" button, it commits the selection and changes it on the main view of pre-select controlling page and closes the pop-over.

When user clicks "Cancel" button, it cancels any changes to vehicle selection and closes the pop-over.

By clicking on a row on the left fault table, the values on the right side are displayed pre filled.

Fault status can be set by the user by clicking on either "Open" or "No action needed" button. Default status is Open.

### Error Message

No error messages

## 2.5.10.2 Use Case "View open faults for a vehicle"

### Definition

This use case is meant to see all open faults for a particular vehicle, so that the user can analyze and verify if they are faults and how they need to be handled.

### Trigger

It can be opened by clicking on a button in a "vehicle row" in the table or on a "production number".

### Parameters

No.	Parameter	IN/OUT	Mandatory
1	Project Name	IN/OUT	YES
2	Vehicle Name	IN/OUT	YES
3	Modal Series	IN/OUT	YES
4	Global ordering number	IN/OUT	YES
5	Fault place	IN/OUT	No
6	Fault type	IN/OUT	No
7	Priority	OUT	No
8	Plant	IN/OUT	YES
9	Production Number	IN/OUT	YES
10	Status	IN/OUT	YES

### Prerequisites

The faults page contains a Pre-selected vehicle for active project.

From user profile "Operator" must be selected, which is added in generic values tab in Administration.

### Results

When user clicks on "Production Number", it executes the MRS call and triggers the report from MRS.

#### Error Message

No error messages

#### 2.5.10.3 Use Case "Add fault per vehicle"

##### Definition

This use case is meant to record the faults for a particular Vehicle so that the user can have an overview over all vehicles and their faults.

##### Trigger

This can be opened by clicking on the "Add fault" button in the faults module

##### Parameters

No.	Parameter	IN/OUT	Mandatory
1	Project Name	IN/OUT	YES
2	Vehicle Name	IN/OUT	NO
3	Modal Series	IN/OUT	YES
4	Global ordering number	IN/OUT	YES
8	Plant	IN/OUT	YES

##### Prerequisites

The faults page contains a Pre-selected vehicle for active project.

If there are no active projects, "Add fault" button is disabled.

##### Results

When user clicks "Add Fault" button, Pre-selected project's assigned vehicle list will be displayed.

If there are no vehicles found for that project, a message "no results found" is shown in the faults table.

When user selects a vehicle row and clicks on accept button in vehicle list, resets the EFA input widget.

##### Error Message

No error messages

#### 2.5.10.4 Use Case "Integrate CAT Widget into Faults module"

##### Definition

This use case is meant to start the fault elimination process by choosing an existing fault, so that the Fault elimination process is started to fix the defects

##### Trigger

This can be opened by clicking on the " Start IRA with fault" button in the faults module

##### Parameters

No.	Parameter	IN/OUT	Mandatory?
1	MRS Plant	IN/OUT	Yes
2	Fault Id	IN/OUT	Yes
3	FAV ID	IN	Yes
4	Title	IN	No
5	Priority	IN	No
6	Model Series	IN	No
7	FAV-Description	IN	No
8	Created by Plant	IN	No
9	Status	IN	No
10	Production Nr.	IN	No
11	Licence Plate	IN	No

12	Description	IN/OUT	Yes
13	SSL-Location	IN/OUT	Yes
14	SSL-Type	IN/OUT	Yes
15	Plant	IN/OUT	Yes
16	Priority	IN/OUT	Yes
17	Reporter	IN/OUT	Yes
18	VIN	IN/OUT	Yes
19	Creator Orga	IN/OUT	Yes
20	Fault Id	IN/OUT	Yes
21	Sensor	IN/OUT	Yes
22	Shift	IN/OUT	Yes
23	Leading Model Series	IN/OUT	Yes
24	Name	IN/OUT	Yes
25	FirstName	IN/OUT	Yes
26	Mail	IN/OUT	Yes
27	phone	IN/OUT	Yes

### Prerequisites

### Results

When user clicks "Start IRA with faul" button, opens our CAT widget which triggers the CAT service "GetMrsIras"

The information about the fault (fault place, fault type, fault id, plant) needs to be given to the widget when opening it.

When user click on New IRA button, a widget will open with some prefilled field and completing all field when user click on create IRA the ira id will be saved to DB corresponding to project and fault

When user click on Add button the ira will be appended to the project and fault

When user click on FAV Status in controlling module, All Ira details with associated fault will be shown to that screen

### Error Message

If no fault on the left side of the faults module has been selected, an error message "please select a fault to start an IRA" will be shown.

## 2.5.10.6 "Use case Start Analysis"

### Definition

This use case is meant to see analysis status per IRA of a project so that user can get an overview of the analysis processes that are part of that project.

### Trigger

This fault module will be displayed when clicks on Status tab in controlling module which is present in VTAS main page.  
Parameters

No.	Parameter	IN/OUT	Mandatory
1	Analysis-ID	IN/OUT	Yes
2	Status	IN/OUT	Yes

### Prerequisites

The controlling page contains a Pre-selected active project.

### Results

Clicking on "Status" tab , iFrame will be loaded.

User need to fill Analysis\_ID and select Status from drop down

on Clicking Save and Continue, data will be saved to DB.

If analysis-id is already present, the status will be overridden.

## 2.5.11. Module "Reporting"

### 2.5.11.1 Use Case "View Reports"

#### Definition

The use case is meant to view the reports overview for projects.

#### Trigger

This use case will be triggered the clicks on the Reporting module in VTAS main page.

#### Prerequisites

The user has the rights to see and open the module.

Initially the right section shows "Select one of the Reports "

Left section shows one tabs "Reports"

#### Results

When user single click on the Reports tab, the corresponding content will be displayed on the right side.

On right side a dgrid table is displayed with all report name. Currently, only one report name "Project Status Report" is available.

when user double click on the Report name it navigates to the Project status report page.

#### Error Message

No error messages for this reports overview page.

### 2.5.11.2 Use Case "Project Status Report"

#### Definition

This use case is meant to select active projects and display project status report for selected project.

#### Trigger

This dialog is triggered on double click of report name in reporting page.

#### Parameters

No.	Parameter	IN/OUT	Mandatory
1	Project Name	IN/OUT	No
2	Sensor	IN/OUT	No
3	Project Start Date	IN/OUT	No
4	Project End Date	IN/OUT	No
5	Pro_Phases	IN/OUT	No
6	Status	IN/OUT	No
7	Model Series	IN/OUT	No

#### Prerequisites

The controlling page contains a Pre-selected active project.

#### Results

When user clicks on pencil icon, opens the pop-over for selecting from the list of **Active Projects**.

It display the Project status report (with Project Information, Kpi Information, Open Faults details, Open FAVs details) for selected project

When user clicks "Accept" button, it commits the selection and changes it on the main view of pre-select status report page and closes the pop-over.

When user clicks "Cancel" button, it cancels any changes to project selection and closes the pop-over.

#### Error Message

If no projects are found when loading the page, a message "No projects found" will be displayed and the pencil icon will be disabled.

## 2.5.12. Use Case "Respond to Errors"

### Definition

This use case is meant to display error response from third party interfaces

### Trigger

This dialog will be displayed in application where the third party systems are called.

### Results

Each error that a thirdparty system can throw, is caught by the VTAS backend and display error messages on screen

VTAS-TEC-1: MRS responded with an error. Please contact the administrator.

VTAS-TEC-2: CAT responded with an error. Please contact the administrator.

VTAS-TEC-3: FLIMS responded with an error. Please contact the administrator.

### Error Message

When MRS throws an error.An error message along with code will be displayed "VTAS-TEC-1: MRS responded with an error. Please contact the administrator."

When CAT throws an error.An error message "VTAS-TEC-2: CAT responded with an error. Please contact the administrator."

When FLIMS throws an error.An error message "VTAS-TEC-3: FLIMS responded with an error. Please contact the administrator."

## 2.6 Roles and rights

### Core Concepts

- Optimistic Locking
- Table Concept
- Header

### Optimistic Locking

Regarding concurrent access of multiple users on the same dialog we go with the following **Optimistic Locking** approach.

If two users manipulate same data this causes an org.hibernate.StaleObjectStateException. We have to catch this exception and throw an exception which populates the following information on dialog level:

*The data could not be saved due to write conflict.*

The dialog should then be reloaded automatically, populating the most recent data on UI level. It's accepted that user changes will be lost then.

Message will be displayed at the top of a dialog.

### Table Concept

#### Button Header

The Button header section is a petrol colored bar beneath the Navigation header at the top of the page. Both headers are fixed at the top of the page and stay visible even during scrolling of the page. The Button header consists as a visual storage container for action buttons (e.g. "New Add approval date" or "New Order Number") applying to the table beneath on the page.

The screenshot shows a web-based application interface. At the top, there is a navigation bar with icons for back, forward, and home, followed by the title 'VTAS - Add Project Information'. To the right of the title is a dropdown menu labeled 'Project Planning'. On the far right of the top bar are icons for search, user profile, and a square. Below the top bar is a petrol-colored 'Button Header' section. This section contains two buttons: 'New Add approval date' and 'New Order Number'. The entire 'Button Header' section is outlined with a thick red border. Below this is the main content area of the dialog, which includes tabs for 'Project' (selected) and 'Measures', and fields for 'Responsible:' (set to 'Test 1234'), 'Project Status:' (with options 'Draft', 'Active', and 'Closed'), and a status bar indicating 'Test 1234'.

### Adding & Removing

Adding of new rows is conducted by clicking the respective button in the Button header (red border). A new empty default row then appears

at the last position in a table.

Removing of rows in tables are conducted with a recycle bin icon (green border) at the end of each and every row in a separate column. Before deleting content a security question is asked.

New Add approval date	New Order Number							
Start Date:	02/08/2017	End Date:						
Approval dates:	<table border="1"><thead><tr><th>Date</th><th>Comment</th></tr></thead><tbody><tr><td>02/08/2017</td><td></td></tr><tr><td>02/09/2017</td><td></td></tr></tbody></table>		Date	Comment	02/08/2017		02/09/2017	
Date	Comment							
02/08/2017								
02/09/2017								

### Scroll Bars

Scroll bars only appear in x and y direction (red border) when the content of a table gets out of bounds. Otherwise they are invisible.

Show:	All Projects	Create new project		
Model	PRO			
Sensor	Series	Project Name	Phases	Status
X170,W230	uploadtest	Draft		
W179	upload	Draft		
Sensor1	W179,X170	test auto save		Draft
Sensor1	X170,W230	Test demo active		Active
LNF	X170	Test date utility		Draft
LNF	W179	Test demo	PRO1	Draft

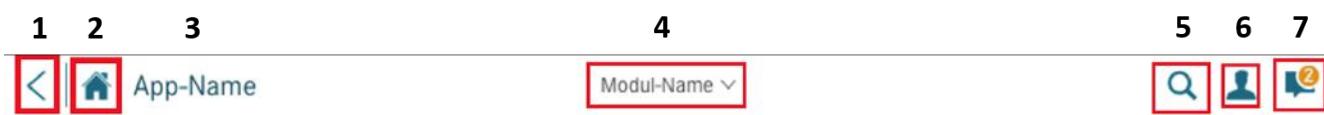
## Eager loading

Eager loading is a design pattern, where related objects (child objects) are loaded automatically with its parent object. The opposite is lazy loading where content gets only loaded and initialized when especially asked for it. Eager loading is applied for any table in VTAS so content is loaded all at once when opening a page. No button for loading further content is available (red border).

The screenshot shows a table with the following columns: Model, Sensor, Series, Project Name, Phases, and Status. The table has three rows of data. The first row contains descriptive text about the feature: "the text wrap and line break functionality feature has been implemented for VTAS6". The second row contains data: KNEF, X170, VTAS - TEST 2, PRO1, Draft. The third row contains data: Sensor1, X170,W179, VTAS TEST, PRO2,PRO1, Draft. The fourth row, which is highlighted with a red border, contains data: Sensor1, W179,X170, Project1, PRO1,PRO2, Draft. A scroll bar is visible on the right side of the table.

Model					
Sensor	Series	Project Name	Phases	Status	PRO
the text wrap and line break functionality feature has been implemented for VTAS6					
KNEF	X170	VTAS - TEST 2	PRO1	Draft	
Sensor1	X170,W179	VTAS TEST	PRO2,PRO1	Draft	
Sensor1	W179,X170	Project1	PRO1,PRO2	Draft	

## Header



The **Header** is always available in the top row of each page/window and is displayed as in the depiction above.

The **main navigation concept** is stored in this header and consists of the button on the left side (**Back-Button**, **Home-Button**), a **Module Switcher** in the middle and the three buttons on the right side (**Search-Button**, **User settings**, **Message area**).

- 1) The **Back-Button** works chronologically and is always available. That means that it always leads you to the page you have been before. There is no hierarchy! As long as there is no previous page the Button is greyed out.
- 2) The **Home-Button** always brings you back to the VTAS Landing page.
- 3) The **Module Switcher** is a dropdown list and is available on every window except the landing page. When you click on the button a list with all modules of VTAS expands.
- 4) The **App-Name** displays "VTAS-" and the name of the the page that is currently visible.

## Glossary

Expression	Definition	Explanation
ACM	Agile Change Management	A system in which Daimler documents their changes/measures for the model series.
Audit	Audit	This is a test drive or check of the vehicle in order to identify faults or complaints.
Auditor	Auditor	The driver that drives the car and identifies the complaints or faults.
BA	Business Analyst	A person who analyzes the business in order to gather data on which he than is able to draw conclusions. Major career track for consultants within capgemini.
BRD	Business Requirements Document	Business requirements are specifications which once delivered, provide value. Products, systems, software, and processes are ways of how to deliver, satisfy, or meet business requirements . Consequently, business requirements are often discussed in the context of developing or procuring software or other systems.
CAT	Corrective Action Tool	A system within Daimler where all fault elimination processes and their status are documented and tracked.
CC	Compact Cars	Cars that are larger than a subcompact but smaller than a mid-size car.
CG Team	Capgemini Team	The employees of Capgemini working on the same project.
Complaint	Complaint	An indication for a fault. Something that seems not to be right with a vehicle. It needs to be verified if it really is a fault.
Daily Scrum	Daily Scrum (Scrum event)	The Daily Scrum is a 15-minute time-boxed event for the Development Team to synchronize activities and create a plan for the next 24 hours.
Dev Team	Development Team (Role in Scrum)	The Development Team consists of professionals who do the work of delivering a potentially releasable Increment of "Done" product at the end of each Sprint. Development Teams are structured and empowered by the organization to organize and manage their own work.
EDC	European Data Center	The EDC supplies Daimler with various IT-services from hardware to applications.
EFA.Input	Unified error call (Einheitliche Fehleransprache)	A system within Daimler which allows a unique interface to enter new faults and complaints.
FAP	Fault elimination process (Fehlerabstellprozess)	A fault elimination process is used to analyse faults to find out the root cause and how to fix it. It is tracked until the fault has been solved also for the future.
FAV	Error elimination process (Fehlerabstellvorgang)	Processes are defined to eliminate errors occurring in a car.
FCD	Subject chief designer (Fachlicher chief designer)	Responsible person in a project for the subject and business architecture and its implementation.
FLIMS	Fleet management system (Flotten Informations- und Managementsystem)	This is the system of Daimler to organize and manage all vehicles.
HLD	High level design	High level design explains the architecture that would be used for developing a software product.
KNFE	Closeup customer test (Kundennahe Fahrerprobung)	A category/sensor of a VTAS process where not auditors but Daimler employees do the test drives.
LQS	Longterm quality assurance (Langzeit Qualitätssicherung)	A category/sensor of a VTAS process where used vehicles of customers are used for test drives and audits to evaluate long term quality.
Measure	Measure	Measures document which changes were made for a specific model series and which changes need to be tested to ensure the quality.
MRS	Manufacturing Reporting System	A system within Daimler where all the faults are stored and can be queried as a report.
PAI	Pro-active infrastructure	A strategic platform for the development of company applications.
PLQ	Project Leader Quality	Old role, that actually don't exists anymore

PM	Project Manager	The Project Manager is the person responsible for a project and takes over organizational responsibilities in order to keep the project running.
PO	Product Owner (Role in Scrum)	The Product Owner is responsible for maximizing the value of the product and the work of the Development Team. The Product Owner is responsible for managing the Product Backlog.
POP	Product Owner Proxy	The Product Owner Proxy is in the original sense not Scrum conform. It is used to disburden the original Product Owner. The POP needs to stay synchronized with the PO.
Prod. Nr.	Production number	Assigned identification to a vehicle.
Product Backlog	Product Backlog (Scrum artifact)	The Product Backlog is an ordered list of everything that might be needed in the product and is the single source of requirements for any changes to be made to the product.
Project	VTAS Project	A project is used to bundle vehicles and measures as well as all the audits needed for a specific quality goal.
QM	Quality management	Describes actions of assuring a quality product.
Report	VTAS Report	Those are summarized data from the whole process flow displayed in diagrams and tables.
RGA	Assurance for a Degree of maturity (Reifegrad Absicherung)	A category/sensor of a VTAS process which takes place in the early phases of production.
SA	Special equipment code (Sonderausstattung)	Codes for assigning and identifying special equipment/ parts on a vehicle.
Scrum	Agile development framework	A framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value.
Scrum Master	Scrum Master (Role in Scrum)	The Scrum Master is responsible for ensuring Scrum is understood and enacted. Scrum Masters do this by ensuring that the Scrum Team adheres to Scrum theory, practices, and rules.
SME	Subject Matter Expert	A person who has special and substantial knowledge of the subject of a project. Mostly done by business analysts.
Sprint	Sprint (Scrum event)	The heart of Scrum is a Sprint, a time-box of one month or less during which a “Done”, useable, and potentially releasable product Increment is created. Sprints best have consistent durations throughout a development effort.
Sprint Backlog	Sprint backlog (Scrum artifact)	The Sprint Backlog is the set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal.
Sprint Planning	Sprint Planning (Scrum event)	The work to be performed in the Sprint is planned at the Sprint Planning. This plan is created by the collaborative work of the entire Scrum Team.
Sprint Retrospective	Sprint Retrospective (Scrum event)	The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.
Sprint Review	Sprint Review (Scrum event)	A Sprint Review is held at the end of the Sprint to inspect the Increment and adapt the Product Backlog if needed. During the Sprint Review, the Scrum Team and stakeholders collaborate about what was done in the Sprint.
SRS	System Requirements Specification (Feinspezifikation)	A detailed concept is created from a rough concept.
TCD	Technical chief designer	Responsible person in a project for the technical architecture and its implementation.
VTAS	Vehicle Testing Analyzing System	VTAS harmonizes the quality management within Daimler. The name of the system.

**Table 1:** List of Definitions in VTAS

## Onboarding Plan

1. Onboarding overview
2. Onboarding Onshore-DE
3. Onboarding Offshore-IN

### Onboarding Overview

#### Welcome Onboard to VTAS Project

We are thrilled to officially welcome you to the VTAS family.

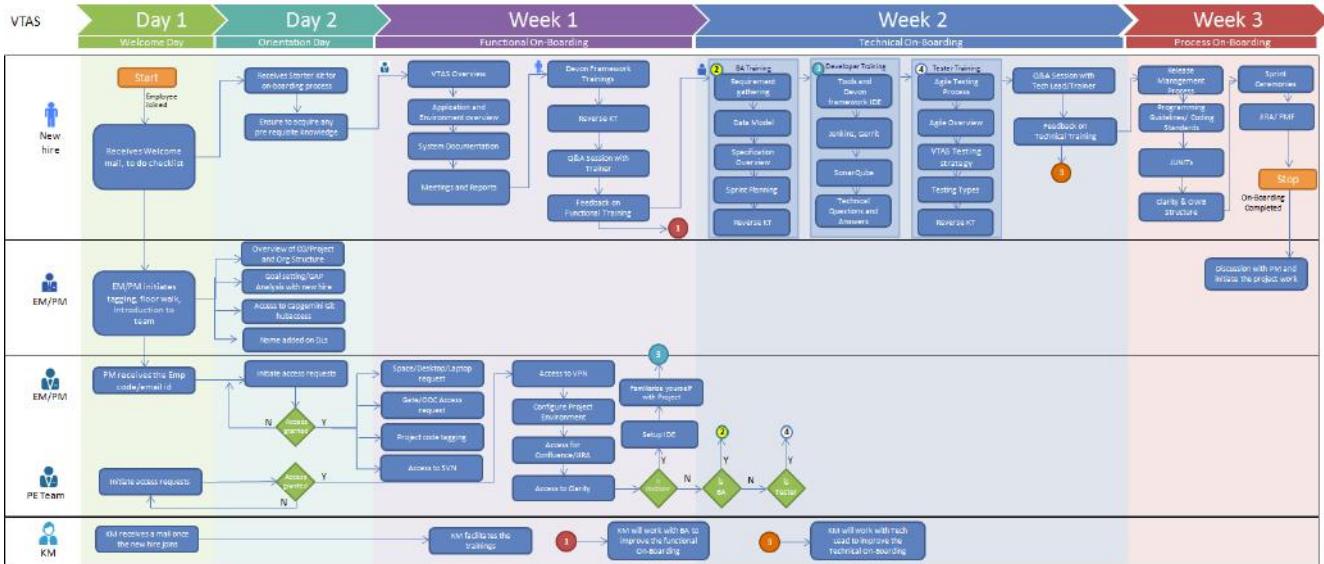
New employee onboarding is the process of getting new hires adjusted to their new jobs quickly and smoothly. While orientation prepares someone for their first day of work, onboarding is a broader, more long-term process that helps new employees acclimate smoothly, so that they become an engaged part of our team at VTAS.

### Onboarding Plan

Your on-boarding is broadly planned in three phases which will run for next few weeks to give you an overview of VTAS, its functional & technical aspects and different process & tools used by the team.

- **Welcome Day:** This is the day when a new hire joins the team. He receives a welcome email and a [checklist](#) (Things to do in next few days).
- **Orientation Day:** On the second-day new hire has to start the onboarding. The Project Enabling team will initiate access request for VPN, Confluence, JIRA and Project Environment. For a Developer, workspace set up with all required software and tools will be configured additionally to start the Technical Onboarding. New hire name will be added on the VTAS DLs.
- **Functional Onboarding:**  
The first phase of training is Functional Onboarding where you get to know about Project Overview, Application & Environment overview, Devon Framework Video, Knowledge on microservices, VTAS components.
  - Reverse KT is planned to ensure that new hire has learned and understood the concepts. Once the Functional Onboarding is completed, new hire has to provide feedback to ensure that trainer is aware of how well they are doing and where they can improve.
  - This phase should be completed in one week from the time you start the on-boarding exercise.
- **Technical Onboarding:** The second phase is more advanced and technical. Technical Onboarding is meant to train the new hire on the technical aspects of the project.
  - *BA Training:* This training includes Requirement gathering, Functional Overview, Data Model and Specification Overview.
  - *Developer Training:* This training includes Tools and Devon framework IDE, C/S Side Development, Data Model and Code walkthrough and Recorded session.
  - *Tester Training:* This training includes Agile Testing Process, Test Process Overview, Data Model and Testing Types.
  - The new hire has to complete the given exercises and assessment will be done by Technical Lead. Training materials are mainly self-reading pages from the confluence.
  - This phase should be completed within 1 weeks from the time you start the technical on-boarding.
- **Process and Tools:** The third phase is focused on Process and Tools of VTAS project. Topics covered under this are Release Management Process, Programming Guidelines/ Coding Standards, JUNITs, Clarity & OWB Structure, Sprint Ceremonies, Timecard, Empulse & LMS and JIRA/ PMF.
- This phase should be completed in one week from the time you start the Process and Tools on-boarding.

### Onboarding Workflow



## Functional Onboarding

Topic Name	Description	Document/Recording Links	Duration/ Mode of Training
Project Overview	VTAS Overview	VTAS Project Overview Processes and definitions Organizational Overview Agile Overview Functional FAQs	2 Full days Self/ Online
Application and Environment overview	PRE-DEV, DEV Servers and DB2	Environment Details	0.5 days Self/Online
System Documentation	Introduction System Documentation Glossary	System Documentation	1 day Self/Online
Meetings and Reports	D-Stum Sprint ceremonies Retrospective	Meetings and Reports	0.5 days Self/Online
Devon Framework Trainings	Devon Framework	Devon Training videos	1 day Self/Online

## Technical Onboarding

Topic Name	Description	Document/Recording Links	Duration/ Mode of Training
<b>BA Training</b>			
Requirement Gathering	BA Grooming	BA Grooming	1 day Self/Online
Functional Overview	VTAS Project Overview	VTAS Business Knowledge	1 day Self/Online

Data Model	Physical and Logical Data model	Data model	1 day Self/Online
Specification Overview	VTAS complete system documentation	System documentation	1 day Self/Online
JIRA & Confluence	Working with JIRA & Confluence	Working with confluence Working with JIRA	0.5 day Self/Online
Sprint Planning	Spring planning	Sprint planning	0.5 day Self/Online
<b>Developer Training</b>			
Tools and Devon framework IDE	Information for developers	Developer onboarding Technical Overview Technical Interfaces Infrastructure details Processes and definitions GIT developer reference Steps to push gerrit review patch Architecture & Techstack	3 Full days Self/ Online
Jenkins, GIT GERRIT SONARQUBE		Jenkins SonarQube Gerrit	0.5 day Self/Online
Data Model	Physical and Logical Data model	Data model	0.5 day Self/Online
Technical Questions and Answers	Technical questions and answers	Technical FAQs	1 day Self/Online
<b>Tester Training</b>			
Agile Testing Process	VTAS Agile Testing process	Presentations	1 day Self/Online
Agile Overview	VTAS Agile overview	VTAS Agile overview	1 day Self/Online
VTAS Testing strategy	VTAS Testing strategy	VTAS Testing Strategy	1 day Self/Online
Data Model	Physical and Logical Data model	Data model	1 day Self/Online
Testing Types	Manual and Automation(TBD)	Testing Types	1 day Self/Online

## Process and Tools Onboarding

Topic Name	Description	Document/Recording Links	Duration/ Mode of Training
Release Management Process	Release plan	Currently having Pre-DEV & DEV. DEV server is at client side. Production release planned by Feb 2018 <a href="#">Sprint &amp; Release Plans</a>	0.25 day Self/Online

Programming Guidelines/Coding Standards	Best practices	Programming Guidelines	
JUNITS	Junit Test cases	JUnit	0.75 day Self/Online
Clarity & OWB Structure		TBD	
Sprint Ceremonies	Agile Methodology	Sprint Events and Schedule	0.25 day Self/Online
Timecard, Empulse & LMS	Capgemini Internal	<a href="http://indiaapps.in.capgemini.com/Aspxpages/Applications.aspx">http://indiaapps.in.capgemini.com/Aspxpages/Applications.aspx</a> <a href="https://lms.in.capgemini.com/Dashboard/Dashboard">https://lms.in.capgemini.com/Dashboard/Dashboard</a>	0.25 day Self/Online
JIRA/ PMF	Daimler PAAS Specific	VTAS Confluence VTAS Dashboard	0.5 day Self/Online
KM Framework	Knowledge Management is based on the idea that an organization's most valuable resource is the knowledge of its people. It is about applying the collective knowledge of the entire workforce to achieve organizational goals. It is ensuring that people have the knowledge they need, where they need it, when they need it – the right knowledge, in the right place, at the right time.	Training material link	1 Hour Self Reading Materials

## Onboarding Onshore-DE

1	Request Access for PE Account, JIRA, Confluence, SVN	PM/Self	Try to use your PU credentials to access the PE. If you don't have a password, then create one by accessing the URL:  <a href="http://www.sdm.de/app/adam/pw">http://www.sdm.de/app/adam/pw</a>  or, Ask your PM to send an email to XTECH team "IN, daimlerxtechjiratracker"
2	Addition to Team email distribution list	PM	<a href="https://corporatedirectory.capgemini.com/MyDirectory/portals/std/index-portal.jsp">https://corporatedirectory.capgemini.com/MyDirectory/portals/std/index-portal.jsp</a>
3	JAVA 1.8 Version	PM	Download: <a href="https://troom.capgemini.com/sites/vc/c/devon/getstarted.aspx#">https://troom.capgemini.com/sites/vc/c/devon/getstarted.aspx#</a>  Note:-  Java 8 download and installation is not required.  Devon Framework shipped with java 7.
4	Team Introduction	PM	External contact details  Orgchart  Team contact details and pictures
5	VTAS Project Overview	BA/PM	VTAS Project Overview
6	Devon framework IDE	Tech Lead	1. Get all required access Onboarding grant access 2. Set up your workspace following Developer onboarding 3. Git Check-Out: <a href="#">Git Developer Guide</a> 4. Understand devon framework <a href="#">Devon Framework</a>
7	Devon Framework Video	Self	Navigate to below file location and download "devon overview sessions"  <a href="https://seu.sdm.de/pu/daimlervtas/sn/repository/06_Architecture/DevOn">https://seu.sdm.de/pu/daimlervtas/sn/repository/06_Architecture/DevOn</a>

8	Access to capgemini Git hubaccess	PM	You will be given access to VTAS production line to pull out the existing codebase.  <a href="https://vtas.s2-eu.capgemini.com/login">https://vtas.s2-eu.capgemini.com/login</a>  <b>Note:</b> Register with Capgemini UserName and Email Id
9	Infrastructure details(DB, Environment, credentials)	Self	Infrastructure
10	Use knowledge of team members (offshore)	Self	Have a discussion with PM/Architect/TechLead to clarify your technical & functional doubts
11	Software required	Self	1) Devon Distribution 2) DB visualizer 3)Spring Boot 4)Spring-JPA 5)Junit, Mockito, Spring MVC 6)Docker 7)Flyway 8)DB2 9)Gradle
12	Production Line	Tech Lead/Architect	Production Line  Nexus Repository  Jenkins  Gerrit for Git

## Onboarding Offshore-IN

Step	Actionp	Responsible	Details
1	Request Access for PE Account, JIRA, Confluence, SVN	PM/Self	Try to use your PU credentials to access the PE. If you don't have a password. then create one by accessing the URL:  <a href="http://swv.sdm.de/app/adam/pw">http://swv.sdm.de/app/adam/pw</a>  or, Ask your PM to send an email to XTECH team "IN, daimlerxtechjiratracker"  Ensure of the <a href="#">access</a> are provided to you, before you start working in the project officially
2	Addition to Email distribution	PM	<a href="https://corporatedirectory.capgemini.com/MyDirectory/portals/std/index-portal.jsp">https://corporatedirectory.capgemini.com/MyDirectory/portals/std/index-portal.jsp</a>
3	JAVA 1.8 Version	PM	Download: <a href="https://troom.capgemini.com/sites/vcc/devon/getstarted.aspx#">https://troom.capgemini.com/sites/vcc/devon/getstarted.aspx#</a>  Note:-  Java 8 download and installation is not required.  Devon Framework shipped with java 7.
4	Team Introduction	PM	<a href="#">External contact details</a>  <a href="#">Orgchart</a>  <a href="#">Team contact details and pictures</a>
5	VTAS Project Overview	BA/PM	<a href="#">VTAS Project Overview</a>
6	Devon framework IDE	Tech Lead	1. Get all required access <a href="#">Onboarding grant access</a> 2. Set up your workspace following <a href="#">Developer onboarding</a> 3. <a href="#">Git Check-Out: Git Developer Guide</a> 4. <a href="#">Devon Framework</a>
7	Devon Framework Video	Self	Navigate to below file location and download "devon overview sessions"  <a href="https://seu.sdm.de/pu/daimlervtas/svn/repository/06_Architecture/DevOn">https://seu.sdm.de/pu/daimlervtas/svn/repository/06_Architecture/DevOn</a>

8	Access to capgemini Git hubaccess	PM	<a href="https://vtas.s2-eu.capgemini.com/login">https://vtas.s2-eu.capgemini.com/login</a> <b>Note:</b> Register with Capgemini UserName and Email Id
9	Infrastructure details(DB, Environment, credentials)	Self	<a href="#">Infrastructure</a>
10	Use knowledge of team members (offshore)	Self	Have a discussion with PM/Architect/TechLead to clarify your technical & functional doubts
11	Software required	Self	1) Devon Distribution 2) DB visualizer 3)Spring Boot 4)Spring-JPA 5)Junit, Mockito, Spring MVC 6)Docker 7)Flyway 8)DB2 9)Gradle
12	Production Line	Tech Lead/Architect	<a href="#">Production Line</a> <a href="#">Nexus Repository</a> <a href="#">Jenkins</a> <a href="#">Gerrit for Git</a>

## OffBoarding Plan

### Offboarding remove access

Steps	Action	Responsible	
1	Request Remove Access for PE Account, JIRA, Confluence, SVN	PM	<p>Raise a ticket with XTECH to remove all access (email to: IN, daimlerxtechjiratracker &lt;<a href="mailto:daimlerxtechjiratracker.in@capgemini.com">daimlerxtechjiratracker.in@capgemini.com</a>&gt;)</p> <ol style="list-style-type: none"> <li>Confluence page for PaaS: [1] <a href="https://d3.ce.capgemini.com/jira/secure/Dashboard.jspa?selectPageId=18313">https://d3.ce.capgemini.com/jira/secure/Dashboard.jspa?selectPageId=18313</a></li> <li>Jira Board – PaaS: [2] <a href="https://d3.ce.capgemini.com/jira/secure/Dashboard.jspa?selectPageId=18313">https://d3.ce.capgemini.com/jira/secure/Dashboard.jspa?selectPageId=18313</a></li> <li>SVN URL : [3] <a href="https://seu.sdm.de/pu/daimlervtas/svn/repository/">https://seu.sdm.de/pu/daimlervtas/svn/repository/</a></li> <li>PE Account: Manager/Team Lead to remove access from Production LIne 1. Git, Gerrit, Jenkins, sonar etc.,<a href="https://vtas.s2-eu.capgemini.com/login">https://vtas.s2-eu.capgemini.com/login</a></li> </ol>
2	Remove ID from Email distribution	PM/Team Lead	<p>DL DE TS-Prj-DAI-VTAS-IN &lt;<a href="mailto:ts-prj-dai-vtas-in.de@capgemini.com">ts-prj-dai-vtas-in.de@capgemini.com</a>&gt; DL DE TS-Prj-DAI-VTAS-DE &lt;<a href="mailto:ts-prj-dai-vtas-de.de@capgemini.com">ts-prj-dai-vtas-de.de@capgemini.com</a>&gt;</p> <p>Remove from <a href="https://corporatedirectory.capgemini.com/MyDirectory/portals/std/index-portal.jsp">https://corporatedirectory.capgemini.com/MyDirectory/portals/std/index-portal.jsp</a></p>
3	Project Detagging	PM	<ol style="list-style-type: none"> <li>Raise a ticket in PMTT tool <a href="https://pmtt.in.capgemini.com/Pages/default.aspx">https://pmtt.in.capgemini.com/Pages/default.aspx</a></li> </ol>
4	Handover the asset (Desktop/Laptop/Headset/Tokens)	PM	
5	Knowledge Transfer	PM	
6	Handover of Active work	PM	
7	Location of Working Files	PM	
8	Save the artifacts and update the confluence page	PM	<p>Update confluence page Offboarding remove access Save the artifacts(email) under <a href="#">SVN Link</a></p>

# Meeting notes

Create meeting note

## Incomplete tasks from meetings

Description	Due date	Assignee	Task appears on
<input type="checkbox"/> Sujith Nair  <b>12 Mar 2018</b> : Update physical datamodel(externalsystems microservice missing)	12 Mar 2018	Sujith Nair	2018-02-28 Architecture meeting
<input type="checkbox"/> Sujith Nair  <b>12 Mar 2018</b> : Update physical datamodel(externalsystems microservice missing)	12 Mar 2018	Sujith Nair	2018-02-22 Architect meeting
<input type="checkbox"/> Sujith Nair: review physical datamodel and give feedback to Sergej Koshevnikow		Sujith Nair	2018-02-28 Architecture meeting
<input type="checkbox"/> Sujith Nair: Look into JMS Queue possibilities		Sujith Nair	2018-02-28 Architecture meeting
<input type="checkbox"/> Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.		Sujith Nair	2018-02-28 Architecture meeting
<input type="checkbox"/> Sujith Nair: Test EHCache for multiple servers, is also working in PreDEV Servers.		Sujith Nair	2018-02-22 Architect meeting
<input type="checkbox"/> Sujith Nair: review physical datamodel and give feedback to Sergej Koshevnikow		Sujith Nair	2018-02-22 Architect meeting
<input type="checkbox"/> Sujith Nair: Look into JMS Queue possibilities		Sujith Nair	2018-02-22 Architect meeting

## All meeting notes

Title	Creator	Modified
2018-02-28 Architecture meeting	Wolfgang Fuker	Feb 28, 2018
2018-02-22 Architect meeting	Wolfgang Fuker	Feb 28, 2018
2018-02-12 Architect meeting	Wolfgang Fuker	Feb 22, 2018
2018-01-29 Architect meeting	Wolfgang Fuker	Feb 22, 2018
2018-01-22 Architect Meeting	Wolfgang Fuker	Feb 22, 2018
2018-01-17 Architect meeting	Wolfgang Fuker	Feb 22, 2018
2018-01-15 Architecture meeting	Wolfgang Fuker	Feb 22, 2018
2018-01-10 Architecture meeting	Wolfgang Fuker	Feb 22, 2018
2018-02-07 Architecture Meeting	Wolfgang Fuker	Feb 22, 2018
2018-02-19 Architect meeting	Wolfgang Fuker	Feb 22, 2018
2017-09-27 Architecture discussion	Wolfgang Fuker	Dec 04, 2017
2017-11-09 SCRUM Verbesserungen	Wolfgang Fuker	Nov 09, 2017
2017-10-06 SCRUM Verbesserungen	Wolfgang Fuker	Nov 09, 2017

2017-10-18 Architecture discussions	Wolfgang Fuker	Oct 25, 2017
2017-09-25 Architecture discussions	Wolfgang Fuker	Oct 17, 2017
2017-09-29 SCRUM Verbesserungen	Wolfgang Fuker	Oct 05, 2017
2017-10-03 Architecture discussion	Wolfgang Fuker	Oct 03, 2017

## VTAS Weekly Status Report

### Project Description

VTAS (Vehicle Testing Analyzing System) is the product getting designed for the quality management departments in production plants, who execute the validation of production. VTAS is a quality management system, that is going to support process management and project planning. Unlike, their older legacy systems, VTAS is relevant for the approval phase of vehicle production and delivery

GFS Code	GFS Name	Start Date	End Date	GFS Type	GFS Sub Type	Billability Type	Project	Account	Engagement	IDP	Sub Bu
10037 3092	DAI-L OG-V TAS-U MS	15-No v-2016	31-De c-2018	Project	Billabl e	End Client Billabl e	Daimle rvtas	Daimle r AG	Daimle r	Apps Two CSD AD	AppsT wo CSD AD

<b>Domain</b>	Auto	<b>Start Date</b>	15-Nov-2016	<b>Geographies</b>	Germany – Stuttgart; Austria -Vienna, India - Bangalore
<b>Sub-Domain</b>	Quality Auditing	<b>End Date</b>	open	<b>OTACE</b>	-
<b>Client Name</b>	DAIMLER	<b>Current Phase</b>	Sprint 12 Development		
<b>Technology</b>	JAVA, Spring, Spring Boot, DB2	<b>Remarks / Additional information</b>	First and Renewed Contract		

### Pipeline / Roadmap Description

- As per the renewed contract signed, it is planned for 14 Sprints.
- Further sprints and releases are already planned by our customer.

## Planning and Tracking

### Summary

- Sprint 1 - 11 is completed

- Sprint 12 is in progress

## Sprint 12 Sprint Burn Down Chart

<b>Project Name</b>	Daimler VTAS
Project Manager	Stefanie Wüstemann, Kiran Kumar Panda
Engagement Manager	Philipp Moschinger, Sudha Saravana
Reporting Period	01 Dec 2017 - 08 Dec 2017

Area	Status	Go-Green Plan (If Any)	
Overall Status	<b>GREEN</b>		
Staffing	<b>GREEN</b>		
Capacity	<b>GREEN</b>		
Quality	<b>GREEN</b>		
Schedule	<b>GREEN</b>		
Team motivation and internal dynamics	<b>GREEN</b>		

## Project Agile Metrics

Summary											
Team Velocity											
Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6	Sprint 7	Sprint 8	Sprint 9	Sprint 10	Sprint 11	
0,0	47,0	65,0	62,0	76,0	63,0	72,0	48,0	66,0	78,0	73,0	

## Project Defects Dashboard

### Summary

- Sprint 12 started and in progress (1st week)
- 17 defects are raised in Sprint 12

Sr. No.	Sprint	Total Defects	Open	Closed	WIP/ Others
1	Sprint 12	18	13	5	2

## Project Financials

Release	GFS Code	GFS Code Name	Status
Release/Sprint 12	100373092	Daimler VTAS	Active till 31-Dec-2018

Click [here](#) to access N2K to check current financial status

DVI : 153 KEUR, 49.75 %	CM %	Cost (KEUR)	Revenue (KEUR)	Offshore Effort (PD)
Budgeted				
Actual				
ETC				
Forecasted (EAC)				

## Staffing Outlook

	<b>India</b>	<b>Germany</b>	<b>Austria</b>
+	Kiran Kumar Panda Sujith Nair Niranjan Pathipati N Aju Kalyana Rao Geetha Nettem Bhaskar Bhardwaj Manish Rane Chandrika Padavala Bhanu Prasad DVS Chakrabarty Nitesh Thakur Chillal Dattatreya	Wüstemann, Stefanie Koshevnikow, Sergej Rodrigues Ribeiro, Patricia	Moschinger, Philipp Fuker, Wolfgang
-			

## Project Pyramid

### FTE report – Forecasted vs. Actual

#### **Summary**

- No PMF resources booked time
- No Xtech resource booked time

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- No PMF resources booked time
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## **Key Issues & Risks**

Risks and Issues