

Project	Specification	Date	Version
	SVN Access Tool	24.05.2012	1.0

VERSION CHECK

	Version	Content	Date	Processed by	Translation
Specification	1.0	New document	15.12.2011	KSamkova	
	1.1	Document reworked according to new requirements	13.02.2012	KSamkova	
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	1.3	Document reworked according to the implementation	19.05.2012	KSamkova	

SVN ACCESS TOOL

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1. Introduction

The new SVN Access tool is a web application. Some old features are removed, and new functionality is added. The main differences to the old system are:

- The tool contains user friendly GUI for editing of access rights to SVN.
- Changes in access list are also protected by authentication that determines who has rights to change access rights and who doesn't.

2. Specification

2.1 Features

The tool is accessible through the web application after login (a login mask is shown with the tool launching). It contains following features:

- Switch between all available repositories.
- Visualization of the directory tree and possibility of browsing it and searching in it.
- View of the access list after clicking on a particular directory.
- View of the rights of concrete users / groups, creating new local user groups.
- Possibility of manual entering of path to concrete directory in edit field.
- Loading groups from Active Directory – it is the central database of employees and employee groups and e.g. when an employee leaves the firm, he will automatically disappear from the list.
- Adding and removing groups and users for concrete tree levels.
- Authorization overview – who can edit access rights in particular parts of the tree.
- Given rights will be inherited from the root node to the depth, if this is not disabled by special feature (checkbox 'disable inheritance'). Usage of the string '* = r' is not supported anymore. The string "** =" provides the possibility of disabling inheritance.
- With saving will be automatically done a cleanup of redundant information (e.g. when there is selected user and a group he belongs to in the same directory, the user will be deleted but his rights remain the same).

The tool also generates / updates the overall *access.list* file that contains the list of paths of all directories and corresponding user rights.

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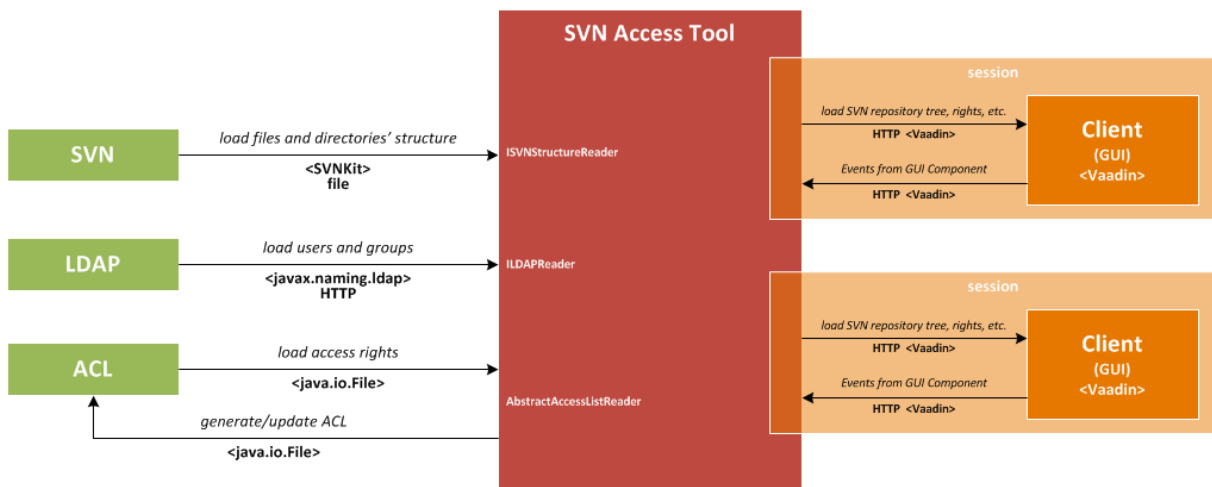
2.2 Authorization levels

These authorization levels are meant for the work with SVN access tool, they have different meaning than rights to the repository (SVN). Each user has assigned one authorization level – with restrictions what can he use and do after logging into the access tool using the login mask at the start of application. Levels and corresponding rights are following:

1. **View only** – user with this authorization level can browse the tree, but he cannot view any files, just the directories. He can also see the access rights (to find out who can e.g. give him some rights or save a file in a concrete directory). All users should be able to have this right to see who can give them rights to SVN, etc.
2. **Editing** – user with these rights is able to edit access list – add and remove users and user groups.
3. **Administrator** – complete rights – including possibility of change of settings.

Rights to SVN actually can be of three types – Read only (R) – just to be able to view and download the content of the repository; Write (W) – to be able to read and commit new versions and new files to the repository and Modify (M) which gives rights to edit access lists of people to given repositories.

2.3 Process Scheme

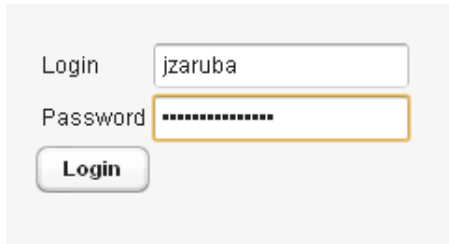


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2.4 GUI

2.4.1 Login dialog

Picture changed



Mask

GUI-element	Content
Edit field (Username)	Username of the user who wants to log in
Edit field (Password)	Password for the access to the tool

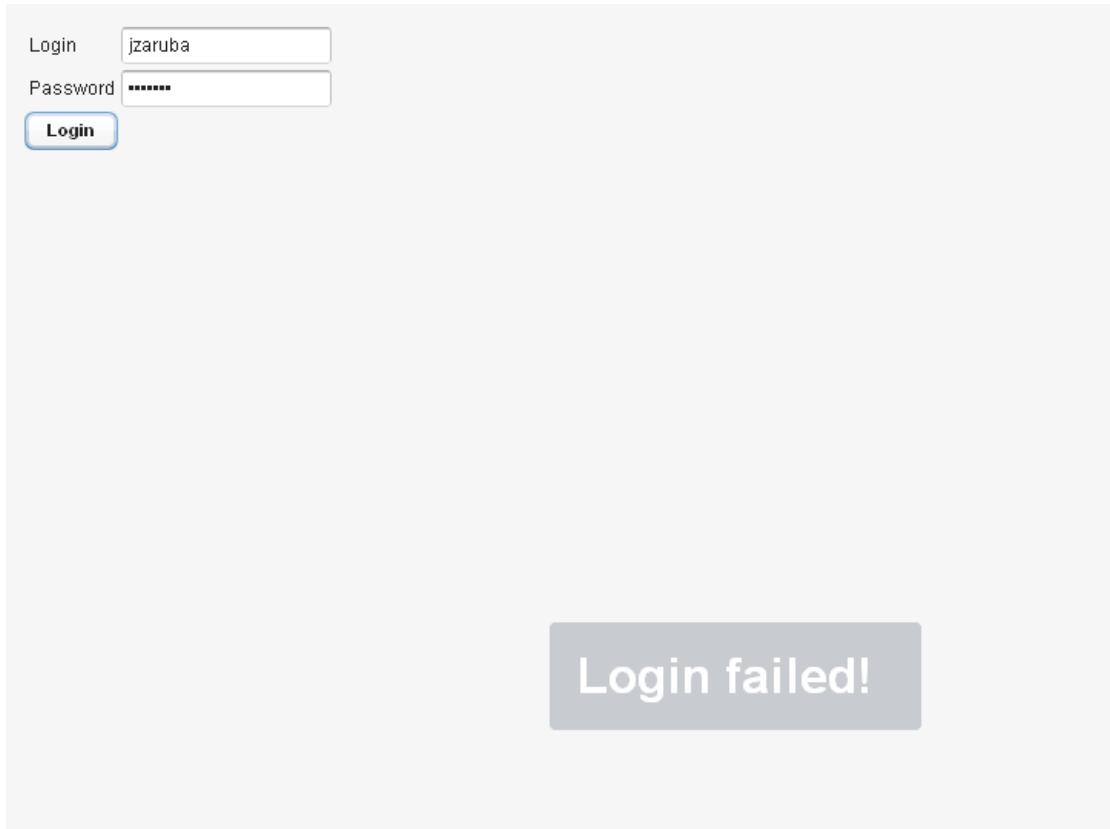
Buttons

Caption	Action	Enabled
Cancel	Leave the "Login" mask	Always
OK	Confirm entered data	Always

2.4.2 Login failed

Picture changed

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Mask

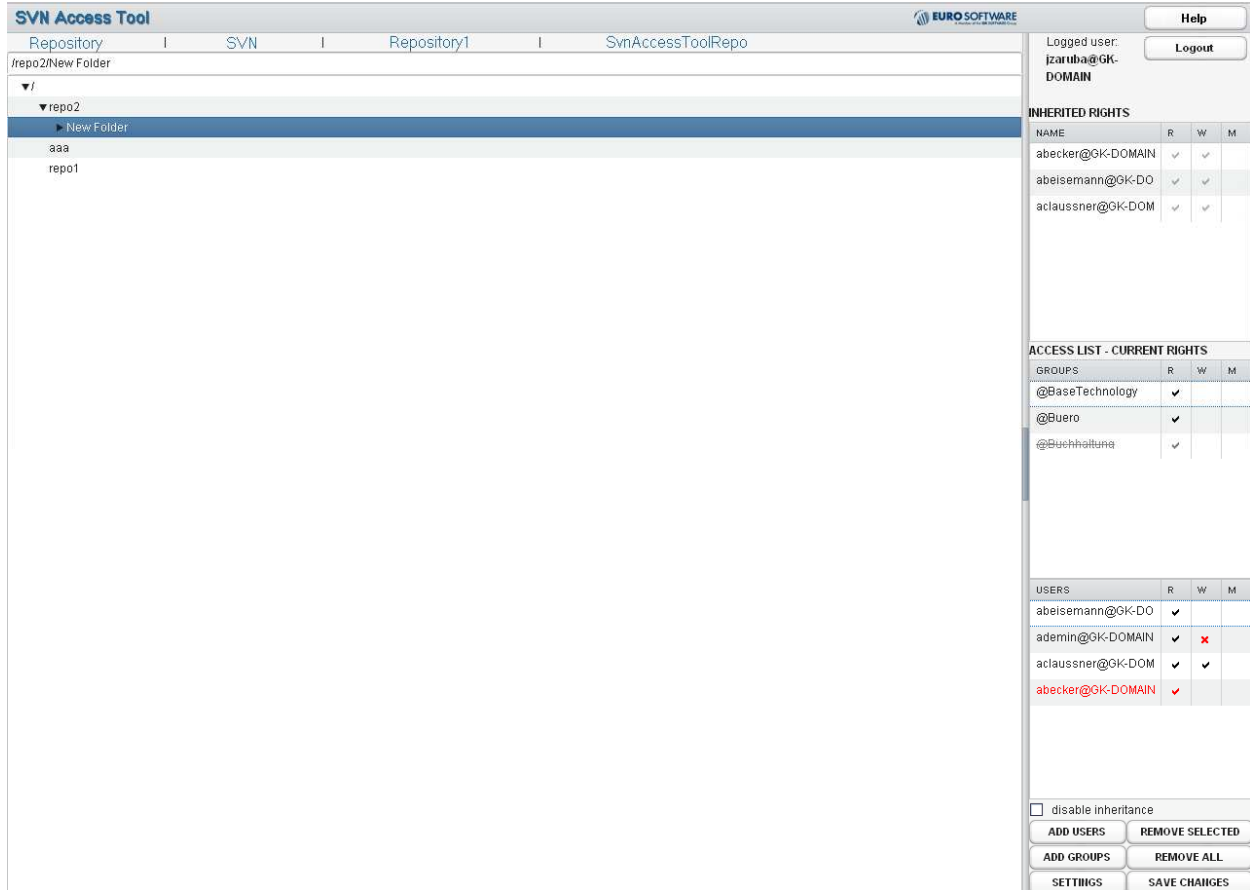
GUI-element	Content
Text	"Login failed!"

2.4.3 Main window

On the following picture is a scheme of web tool for SVN access rights view and editing. Particular parts and their functionality are described below.

Image changed

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Mask

GUI-element	Content
Header	"SVN Access Tool" title, Eurosoftware logo
Menu	List of available repositories
Edit field	Address of current directory / entering different address
Tree view	View of the currently selected repository / path to directory
Text	Logged user and his login name
Table - Inherited rights	Non-editable list of access rights that are inherited from parent directories – for better overview and information
Access list – groups	List of groups with rights in currently selected directory– inserted groups are marked with red colour– changed fields are marked with red colour, deleted are struck through and grey
Access list – users	List of users with rights in currently selected directory – inserted users are marked with red colour– changed fields are marked with red colour, deleted are struck through and grey
Access rights R/W/M	Detailed information about given rights to specific users / groups (Read/Write/Modify) – changed fields are marked with red colour
Checkbox "disable inheritance"	If this checkbox is selected, access data will not be inherited from this directory deeper. Enabled only for users with rights 'M'.

Buttons

Caption	Action	Enabled
Help	Download documentation about SVN Access Tool	1,2,3
Logout	Logout user	1,2,3
ADD USER	Add user to the access list	2,3

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ADD GROUP	Add group to the access list	2,3
REMOVE SELECTED	Remove selected users/groups	2,3
REMOVE ALL	Remove all entries from the access list	2,3
SETTINGS	Enter window with program settings	3
SAVE CHANGES	Save changes that were done in access rights	2,3 – when some rights were changed directly

All buttons except “Logout” and “Help” are not enabled for users from level 1 (view only), all of them are enabled for admin users (level 3) and group 2 has enabled only some of them (see the table above).

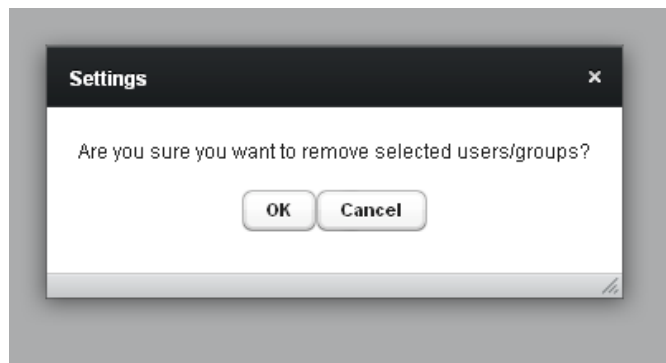
Selection of more than 1 user or group can be done by holding the CTRL button and selecting more users during that (multiselect).

Changed items are coloured in red - inserted user and its rights, mark for rights that were added (R/W/M) and if a right was removed, the character used is changed from “✓” to “X” and also marked with red colour.

Users that were deleted are stuck through and in grey colour.

2.4.4 Header line contains ES logo that should be possible to be changed simply or just load the file *logo.png* from some specified folder where it could be replaced by other picture. Button “Help” will download PDF file containing this specification from given address (will be specified in a property). It should be possible to view/download this PDF file. Info Message (Confirmation)

picture changed



Mask

GUI-element	Content
Text	“Are you sure you want to remove selected users/groups?” or “Are you sure you want to remove all users and groups?”

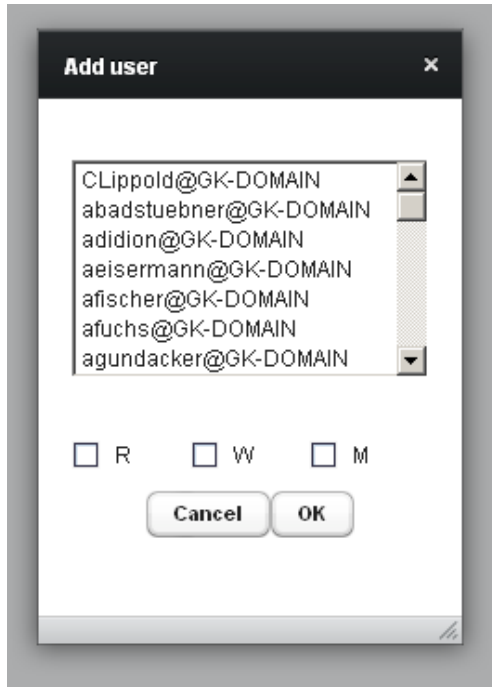
Buttons

Caption	Action	Enabled
Cancel	Cancel the action	Always
Yes	Confirm the action (removing of selected/all users and groups)	Always

2.4.5 Add users/groups

Picture changed

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Mask

GUI-element	Content
Check boxes	Selection of given rights (Read/Write/Modify)
List box	List of all users or groups

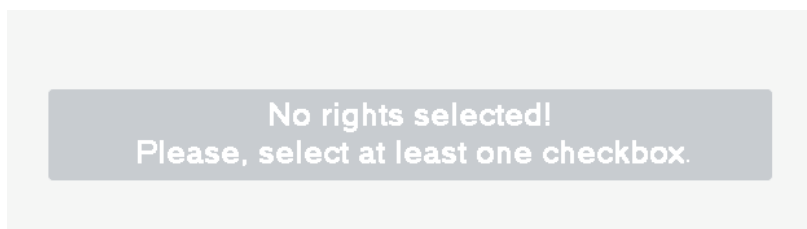
Buttons

Caption	Action	Enabled
Cancel	Go back without changes	Yes
OK	Confirm the selection	After user/group selection and at least one check box checked

This window is for “Add Users” action. Similar window appears for “Add Groups” action – the only difference is in the caption of window (“Add Users”/”Add Groups”) and in content of the list.

2.4.6 Warning Message “No rights selected”

Picture changed



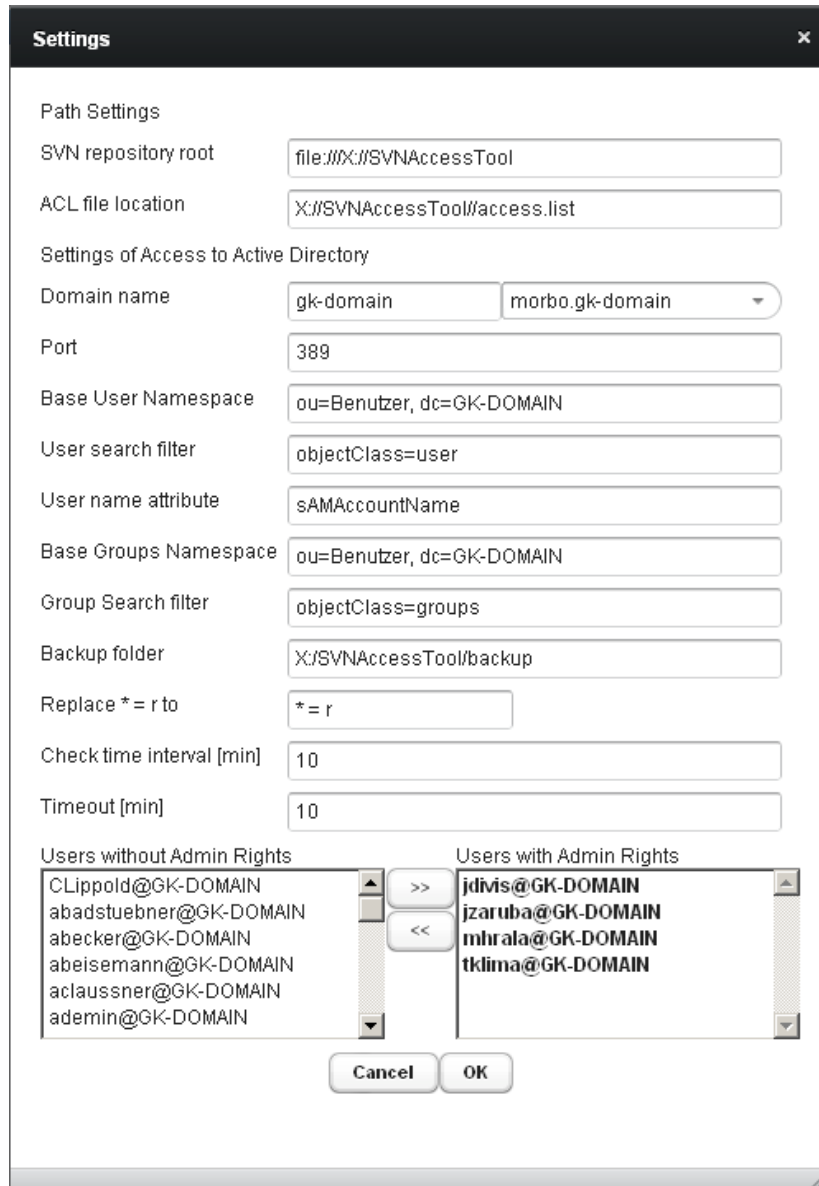
Mask

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GUI-element	Content
Text	"No rights selected! Please, select at least one checkbox."

2.4.7 Settings

Picture changed



Settings

Path Settings

SVN repository root: file:///X:/SVNAccessTool

ACL file location: X:/SVNAccessTool/access.list

Settings of Access to Active Directory

Domain name: gk-domain morbo.gk-domain

Port: 389

Base User Namespace: ou=Benutzer, dc=GK-DOMAIN

User search filter: objectClass=user

User name attribute: sAMAccountName

Base Groups Namespace: ou=Benutzer, dc=GK-DOMAIN

Group Search filter: objectClass=groups

Backup folder: X:/SVNAccessTool/backup

Replace *= r to: *= r

Check time interval [min]: 10

Timeout [min]: 10

Users without Admin Rights

- CLippold@GK-DOMAIN
- abadstuebner@GK-DOMAIN
- abecker@GK-DOMAIN
- abeisemann@GK-DOMAIN
- aclaussner@GK-DOMAIN
- ademin@GK-DOMAIN

Users with Admin Rights

- jdivis@GK-DOMAIN
- jzaruba@GK-DOMAIN
- mhrala@GK-DOMAIN
- tklima@GK-DOMAIN

Cancel OK

Mask

GUI-element	Content
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Edit field "SVN repository root"	The place where are physically saved available repositories
Edit field "ACL file location"	Physical location of the access.list file
Edit field "Domain name"	Name of the domain for connections and downloading of information
Combo box "Domain"	List of available servers for selected domain (the list is generated automatically with change in field "Domain name" after pressing TAB or selecting another field)
Edit field "Port"	Port for connection
Edit field "Base User Namespace"	The place where would in the tree structure start searching for users
Edit field "User search filter"	Restriction of object types for users
Edit field "User name attribute"	Selection of the object type – the user object contains more information than only the username
Edit field "Base Groups Namespace"	The place where would in the tree structure start searching for groups
Edit field "Group Search filter"	Restriction of object types for groups
Edit field "Backup folder"	Where access.list is stored – it is saved always when it is changed
Edit field "Replace *=r with"	If there is found old definition "*" = r", define the string to be replaced with
Edit field "Check time interval [min]"	How often will be sent a query to server – check if the structure was changed: User groups are downloaded from LDAP and if they are different than the current ones, the whole access list will be saved
Edit field "Timeout [min]"	The time after which will be the inactive user automatically logged out
List box (Left)	List of all users that are not currently set as administrators
List box (Right)	List of all users that are currently set as administrators

Buttons

Caption	Action	Enabled
Cancel	Go back without changes	Yes
OK	Confirm settings	Yes
-->	Add selected users from left box to right box	Yes
<--	Remove selected users from right box	Yes

2.5 Process

2.5.1 Logging in

Before entering the application, user must log himself in with his username and password. This action is confirmed by pressing button "Login" in the login mask. If the username or corresponding password is not valid, a warning message is shown and user can correct the appropriate data or leave the program.

If a user is inactive for more than defined time (property "Timeout" – see section "Settings"), the session is terminated, user automatically logged out and tool left.

The application will access the SVN using a local file system, so there's no need to login for access the SVN.

2.5.2 Directory selection and browsing

Repository is selected by clicking on the desired one in the upper menu. After this selection the tree structure is updated in the *Tree View* field.

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Directories can be rolled out or in by clicking on the “unpack” or “pack” sign at the left side. There is always shown path to the current directory that is rolled out in the edit field. Selected repository is always highlighted by bold font. The address can be edited by inserting a different address and confirming it by pressing “Enter” key. The desired path is then rolled out. If we enter a path that doesn't exist, message “Wrong path” is shown.

To select the directory for access rights view, click on it with the left mouse button. The access list for selected directory is then shown.

2.5.3 Access list and its editing

When a directory is selected, the correspondent access list is shown – with groups and employees separately. Each line also contains at right three columns that show the exact SVN rights for each user (group) – R (read) / W (write) / M (modify). If the user has authorization to change rights, it is possible to add/remove directly some concrete rights by clicking in the appropriate field. Changed items are coloured in red before saving - mark “✓” for rights that were added (R/W/M) or if a right was removed, the character used is changed from “✓” to “✗” and also marked with red colour. These actions must be confirmed by pressing the button “Save changes”.

To add user or group, click on the appropriate button and a new window with list of all users / groups is shown, one or more of them is selected by clicking on their names and then are selected the appropriate access rights from the checkbox. Action is confirmed by pressing “OK” button. Newly added users and their rights are until saving marked with red colour.

Button “Remove all” removes all entries from access list (after confirmation of message “Are you sure you want to remove all users and groups?”), button “Remove selected” removes only selected users also after confirmation of message “Are you sure you want to remove selected users/groups?”. For both user list and group list is possible to do a multi-select using the Ctrl key and left mouse key.

Button “Settings” opens a window with tool settings and properties.

Checkbox “disable inheritance” is enabled only for users with ‘M’ rights. If this field is checked, access list data will not be inherited from above in the current directory and deeper in the tree.

2.5.4 Settings

Change of settings is available only for users with admin rights. There are three groups of settings:

1. Path Settings

- *SVN repository root* – specifies path to the root directory of SVN
- *ACL file location* – specifies the location of file with access list

2. Settings of Access to Active Directory – detailed settings

- *Domain name* – Name of the domain and server for connections and downloading of information
- *Port* – Port for connection

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- *Base User Namespace* – The place where would in the tree structure start searching for users
- *User search filter* – Restriction of object types for users
- *User name attribute* – Selection of the object type – the user object contains more information than only the username
- *Base Groups Namespace* – The place where would in the tree structure start searching for groups
- *Backup folder* – storage place for access.list file
- *Replace * = r* – what should replace the old “* = r” marking for read rights for all
- *Group Search filter* – Restriction of object types for groups
- *Check time interval* – time period for the periodical check – each *n* minutes will be launched a revision of groups and users, if the structure was changed
- *Timeout [min]* - The time after which will be the inactive user automatically logged out

- 3. Administration of users with admin rights** – users can be added or removed from the group with administrator rights by selecting them and clicking the appropriate button (“-->” to add users or “<—” to remove them). More than one user can be selected at once.

Changes in settings are confirmed by pressing “OK” button or the mask is left without changes by pressing “Cancel” button. A warning message with text “Settings were changed, leave without saving?” is shown when the button “Cancel” is pressed after changing something in the “Settings” window. Action is confirmed by pressing “Yes” or the tool returns to the settings window by pressing “No” button.

2.5.5 Solution of conflicts

Problem of conflict in data saving can appear when two or more users are modifying access lists at once. The check is done in three steps:

First in the moment user starts to modify the file – if someone else is already modifying it, the Tool must warn the user that the file is already being modified somewhere else.

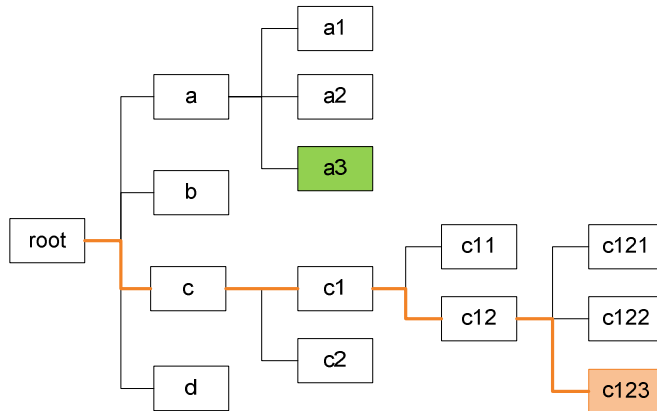
Second check is done when someone is checking/unchecking some checkbox (for Read, Write or Modify rights).

Third check is performed during the saving. When one of them wants to save modified access list, it must be certain, that no other access list was saved in a different place of the tree structure by someone else in between. So the tool must remember files from the path to root from the currently modified file and when user wants to save the access list, all files from this path must be checked whether they were modified or not. If not, process can continue but if at least one of them was modified, the tool doesn't let the user to save changed data and shows an error message “Unable to save data, changes will be lost”.

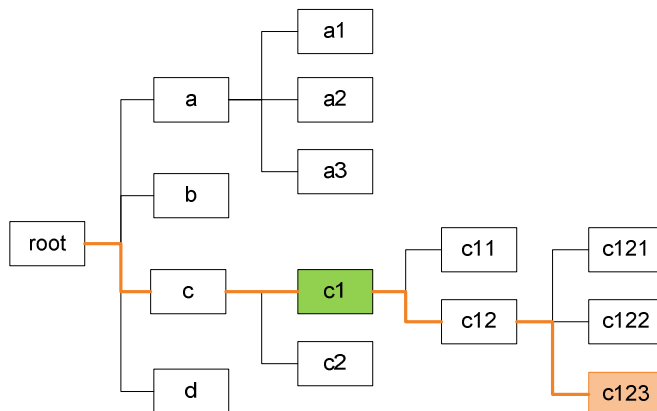
Examples:

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- 1) We start to change the access list for the orange directory “c123” (path: `root/c/1/2/3`) while someone changes and saves the access list for the green directory “a3” (path: `a/3`). When we want to save our changes in file “c123”, the tool checks the path to root (orange line) – no file was changed on that path, so “our” file can be saved with changes:



- 2) We start to change an access list for the orange directory “c123” (path: `root/c/1/2/3`) while someone changes and saves the access list for the green directory “c1” (path: `c/3`). When we want to save our changes in file “c123”, the tool checks the path to root (orange line) – the file was changed on that path, so “our” file cannot be saved with changes – an error message “Unable to save data, changes will be lost” is shown and changes made in access list file for directory “c123” are lost.



2.6 Structure and handling of Access List

The file `access.list` has following structure:

First is the list of all available groups and their members, e.g.:

```

es-internal = vsouhrada@GK-DOMAIN,msimek@GK-DOMAIN,lplichta@GK-
DOMAIN,kprouza@GK-DOMAIN,mberanova@GK-DOMAIN

```

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Then follows all directories (paths from the repository tree structure) that contain the file *access.list* and below it is written its content:

```
[es:/]
* = r
esadminsvn@GK-DOMAIN = rw

[es:/_tools/]
@es-managers = rw
esadminsvn@GK-DOMAIN = rw
rdanicek@GK-DOMAIN = rw
* = r

[es:/_tools/track_rule_checker]
esadminsvn@GK-DOMAIN = rw
rdanicek@GK-DOMAIN = rw
* = r
```

In square brackets are listed paths to concrete directory. There are listed access rights for each directory path under it. The possibilities are:

- Groups – starts with at sign, e.g.: @es-managers
- Users – name followed by suffix @GK-DOMAIN, e.g.: rdanicek@GK-DOMAIN
- Groups and users have assigned rights: = r, = rw
- All users with read rights that cancels inheritance for current directory: * = r – this will be replaced by different information – see the chapter about “Settings” for more details
- All users with read rights that cancels inheritance of all access right that were defined before in the tree structure: * =

Here is an example of edits that can be done on this part of the *access.list* file together with brief description of entries:

```
[es:/]
* = r
Ksamkova@GK-DOMAIN= rw      this user was added here and its new rights will be
                              inherited down to the tree if it doesn't contain in
                              following directories “* = r” or “* = “
                              user

esadminsvn@GK-DOMAIN = rw

[es:/_tools/]                directory path
@es-managers = rw             group
esadminsvn@GK-DOMAIN = rw
rdanicek@GK-DOMAIN = rw
```

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* = r

This line cancels inheritance for this directory (es:/_tools/). This entry won't be used in the future – will be replaced by other – see chapter “Settings” for more details.

* =

This line cancels inheritance of everything before, i.e. nothing from directories on the path to the root will be inherited to deeper structure from here. But the inheritance of users or groups listed in this or deeper directory works in a usual way as long as it is not cancelled again by this entry (“* =”).

```
[es:/_tools/track_rule_checker]
```

```
esadminsvn@GK-DOMAIN = rw
```

```
rdanicek@GK-DOMAIN = rw
```

group “@es-managers” has access rights here, but user “ksamkova@GK-DOMAIN” doesn't, because of the inheritance cancel that was done in the parent directory.

2.7 Remarks to graphic design

-
- Smaller font in menu with available repositories and use same aligning for all entries
- Rework layout of the right column (add spacing between borders and text itself and between particular components, also horizontal spacing should be bigger and symmetric)
- Layout of “Logged user” and button “Logout”
- Prepare design of header that will correspond with the rest of the design when it will be ready
- Add some spacing between buttons (also in messages between “OK” and “Cancel”)
- Remark from developers: “OK” button should be always the left one, “Cancel” the right one