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**ELMA object model in terms of users**

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# ELMA object model in terms of users

To work with users in ELMA, the following object model has been developed (fig. 1). The scheme also shows the connection between the user objects and the organizational structure objects (green).

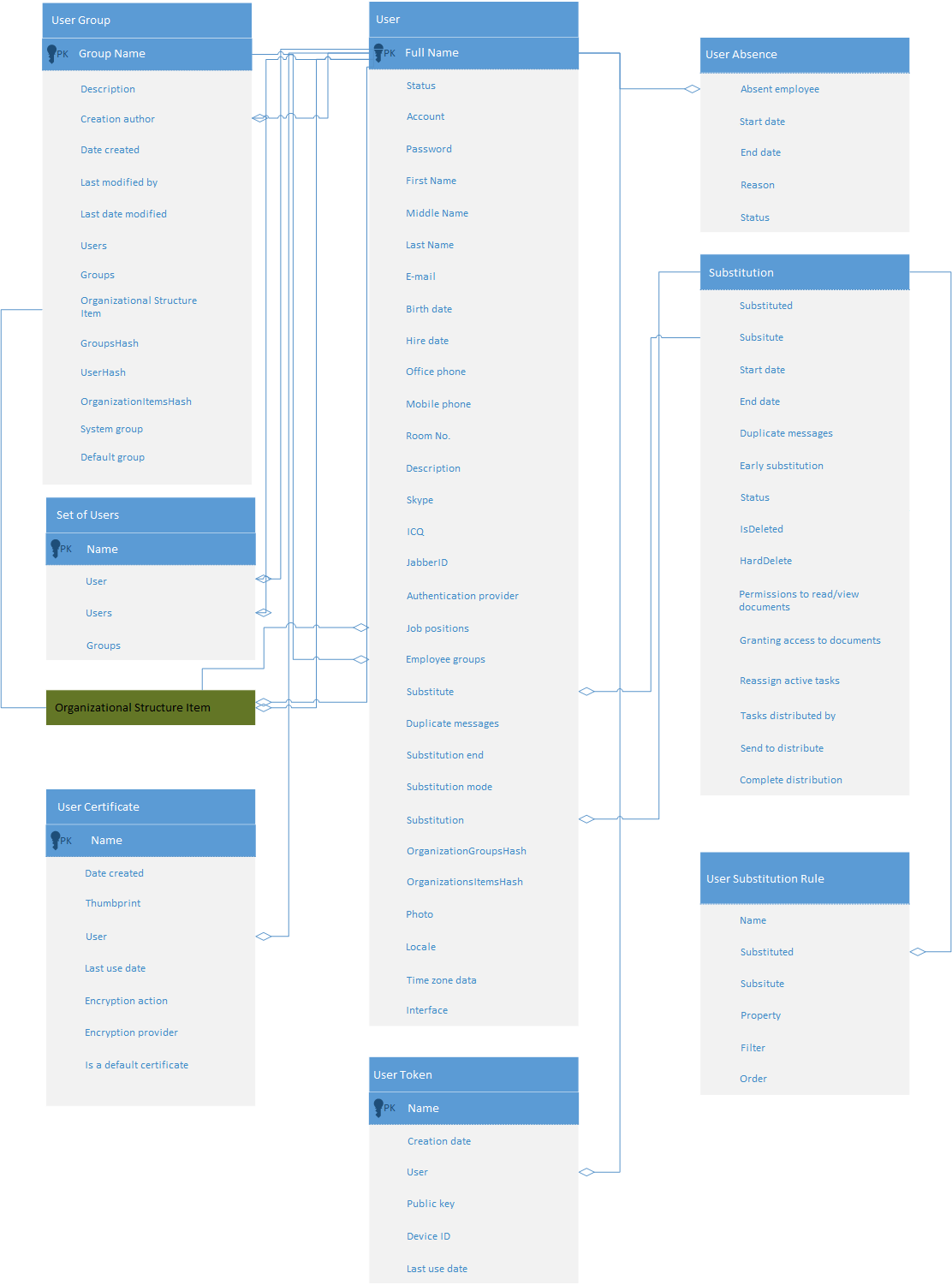


Fig. 1. Scheme of ELMA object model in terms of users

The following objects have been implemented for working with users:

| **No.** | **Name** | **Object purpose** |
| --- | --- | --- |
| 1 | [User group](#_Группа_пользователей) | Data on user groups in the system |
| 2 | [Substitution](#_Замещение) | Data on configured substitutions |
| 3 | [Set of users](#_Набор_пользователей) | Data on created sets of users |
| 4 | [User absence](#_Отсутствие_пользователя) | Data on absent users |
| 5 | [User](#_Пользователь) | Data on system users |
| 6 | [User substitution rule](#_Правило_замещения_пользователя) | Data on substitution rules in the system |
| 7 | [User certificate](#_Сертификат_пользователя) | Data on digital signature certificates, bound to users |
| 8 | [User token](#_Токен_пользователя) | Data on tokens, bound to users |

## Specifics of creating objects

### User group

This object is created and edited in Web Application in ***Administration – Users – Groups.***

| **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** | **Field purpose** |
| --- | --- | --- | --- | --- |
| 1 | Group name | Name | String, required field | User group name |
| 2 | Description | Description | String, optional field | Additional information about the user group |
| 3 | Creation author | CreationAuthor | User (object), filled in automatically | User, who created the user group |
| 4 | Date created | CreationDate | Date/Time, filled in automatically | Date and time when the user group was created |
| 5 | Last modified by | ChangeAuthor | User (object), filled in automatically | User, who made the last change to the user group |
| 6 | Last date modified | ChangeDate | Date/Time, filled in automatically | Date and time of the last change made to the user group |
| 7 | Users | Users | <User (object)> (N-N) list, optional field | List of users included in this user group |
| 8 | Groups | Groups | <User group (object)> (N-N) list, optional field | List of user groups, included in this user group |
| 9 | Organizational structure item | OrganizationItems | <Organizational structure item (object)> (N-N) list, optional field | List of organizational structure items, included in this user group |
| 10 | GroupsHash | GroupsHash | String, optional field | Hash for tracking changes in the Groups collection |
| 11 | UserHash | UserHash | String, optional field | Hash for tracking changes in the User collection |
| 12 | OrganizationItemsHash | OrganizationItemsHash | String, optional field | Hash for tracking changes in the OrganizationItems collection |
| 13 | System group | IsSystem | Yes/No, filled in by the platform developer | Defines whether the user group is a system group. If Yes, then users will not be able to change it in Web Application |
| 14 | Default group | AddToNewUser | Yes/No, required field | Defines whether the user group is a default group. If Yes, then all the new users will be included in this group |

### Substitution

This object is created and edited in Web Application in ***Administration – Users – Substitutions.***

| **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** | **Field purpose** |
| --- | --- | --- | --- | --- |
| 1 | Substituted | SourseUser | User (object), required field | User, who is being substituted |
| 2 | Substitute | TargetUser | User (object), required field | User, who substitutes |
| 3 | Substitution mode |  | Substitution mode in tasks (Enumeration).  Allowed values:  0 – Full;  1 – Co-executor. | Substitution mode |
| 4 | Start date | StartDate | Date/Time, required field | Substitution start date |
| 5 | End date | EndDate | Date/Time, required field | Substitution end date |
| 6 | Duplicate messages | DuplicateMessage | Yes/No, optional field | Defines whether to duplicate messages for the substitute user. If Yes, then system messages will be sent to the substituted user and to the substitute user |
| 7 | Early substitution | PreReplace | Integer, required field | Number of business days before the substitution start date, when you need the system to start the substitution (reassign tasks, inform users) |
| 8 | Status | Status | Substitution status (Enumeration), required field.  Allowed values:  0 – Active,  1 – Deleted | Substitution status |
| 9 | IsDeleted | IsDeleted | Yes/No | Used for soft deleting. If Yes, then the object will be marked as deleted. |
| 10 | HardDelete | HardDelete | Yes/No | If Yes, then the entry will be deleted at the next saving to the database |
| 11 | Permissions to read/view documents | DocumentPermissions | Yes/No, required field | Defines the possibility to automatically grant permissions to documents attached to tasks to the substitute user. If Yes, when reassigning tasks with attached documents, the substitute user will be automatically granted View/Load permissions to the document. |
| 12 | Granting access to documents | ManageDocumentPermissions | Yes/No, required field | Defines the possibility to automatically grant the substitute user Manage Access permissions to the documents attached to tasks. If Yes, then when reassigning a task with a document, the substitute user will be automatically granted Manage Access permissions to the document. |
| 13 | Reassign active tasks | ReAssignActiveTasks | Yes/No, required field | Defines the possibility to reassign active tasks of the substituted user. If Yes, then active tasks of the substituted user will be reassigned to the substitute user. |
| 14 | Tasks distributed by | TasksDistributer | User (object), optional field | User who will receive a task to reassign active tasks of the substituted user.  Note: It is recommended to select the substituted user. |
| 15 | Send to distribute | ReAssignStartDays | Integer, required field | Number of days before the substitution start date when the task to reassign active tasks of the substituted user will be sent |
| 16 | Complete distribution | ReAssignFinishDays | Integer, required field | Number of days to reassign active tasks of the substituted user |

### Set of users

This object is created and edited in Web Application when creating activities (message, task, calendar event, etc.).

| **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** | **Field purpose** |
| --- | --- | --- | --- | --- |
| 1 | User | Owner | User (object), required field | User, who created the set of users |
| 2 | Name | Name | String, required field | Name of the set of users |
| 3 | Users | Users | <User (object)> (N-N) list, optional field | List of users included in this set of users |
| 4 | Groups | Groups | <User group (object)> (N-N) list, optional field | List of groups included in this set of users |

### User absence

This object is created and edited in Web Application in ***Administration – Users – Absence Schedule.***

| **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** | **Field purpose** |
| --- | --- | --- | --- | --- |
| 1 | Absent employee | User | User (object), required field | User, for whom absence is created |
| 2 | Start date | StartDate | Date/Time, required field | Absence start date and time |
| 3 | End date | EndDate | Date/Time, required field | Absence end date and time |
| 4 | Reason | Description | String, required field | Reason of the user absence |
| 5 | Status | Status | Absence status (enumeration).  Allowed values:  0 – Active,  1 – Canceled | Absence status |

### User

This object is created and edited in Web Application in ***Administration – Users – Users.***

| **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** | **Field purpose** |
| --- | --- | --- | --- | --- |
| 1 | Account | UserName | String, required field | User login for signing in to the system |
| 2 | Password | Password | String, optional field | User password for signing in to the system |
| 3 | Last Name | LastName | String, required field | System user last name |
| 6 | First Name | FirstName | String, required field | System user first name |
| 4 | Middle Name | MiddleName | String, optional field | System user middle name |
| 5 | Full Name | FullName | String, filled in automatically based on the Last Name, First Name and Middle Name fields | Key field (object instance name) |
| 7 | Status | Status | Account stats (Enumeration).  Allowed values:  0 – Active,  1 – Locked,  10 – Not confirmed,  100 - System | User account status |
| 8 | E-Mail | EMail | String, optional field | User e-mail |
| 9 | Birth Date | BirthDate | Date/Time, optional field | User birthday |
| 10 | Hire date | EmployDate | Date/Time, optional field | Date of hiring. By default, the user creation date is selected |
| 11 | Office phone | WorkPhone | String, optional field | User office phone |
| 12 | Mobile phone | MobilePhone | String, optional field | User mobile phone |
| 13 | Room No. | RoomNumber | String, optional field | Room number in an office building |
| 14 | Description | Description | String, optional field | Additional information about the user |
| 15 | Skype | Skype | String, optional field | User Skype |
| 16 | ICQ | ICQ | String, optional field | User ICQ |
| 17 | Jabber ID | JabberID | String, optional field | User JabberID |
| 18 | Authentication provider | AuthProviderGuid | Unique identifier (GUID), optional field | User authentication method. If null, the standard authentication is used, if non-null LDAP/AD is used |
| 19 | Job positions | OrganizationItems | <Organizational structure item (object)> (1-N) list), optional field | List of organizational structure items of the Job Position type, to which this user is assigned |
| 20 | Employee group | OrganizationGroups | <Organizational structure item (object)> (N-N) list, optional field | List of organizational structure items of the Employee Group type, which include the user |
| 21 | Substitute | ReplacementUser | User (object), filled in automatically when creating a Substitution object | User, who is the substitute when creating a substitution for this user |
| 22 | Duplicate messages | DuplicateMessage | Yes/No, filled in automatically when creating a Substitution object | Defines whether to duplicate messages for the substitute user. If Yes, then system messages will be sent to the substituted user and to the substitute user |
| 23 | Substitution end | EndReplacement | Date/Time, filled in automatically when creating a Substitution object | End date of the current user substitution |
| 24 | Substitution mode | ReplacementMode | Substitution mode (Enumeration).  Allowed values:   * 0 – None, * 1 – Manual substitution, * 2 – Automatic substitution | Substitution mode |
| 25 | Substitution | Replacement | Substitution (object), optional field | Current substitution |
| 26 | OrganizationGroupsHash | OrganizationGroupsHash | String, optional field | Hash for tracking changes in the OrganizationGroups collection |
| 27 | OrganizationItemsHash | OrganizationItemsHash | String, optional field | Hash for tracking changes in the OrganizationItems collection |
| 28 | Photo | Photo | File, optional field | User photo, the file size limit is 1000MB. It will be displayed in the system interface |
| 29 | Locale | Lang | String, optional field | System language |
| 30 | E-mail format | EmailFormat | String, optional field | Regular expression for setting an e-mail address format |
| 31 | Installed system locale | IsSystemLocal | Yes/No, optional field | Use the system language |
| 32 | Time zone data | TimeZoneDate | String, optional field | Serialized time zone |
| 33 | Interface | WorkPlace | Interface (object), required field | User interface type, which will be used for this user by default |

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### User substitution rule

This object is created and edited in ***Administration – Users – Substitutions.***

| **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** | **Field purpose** |
| --- | --- | --- | --- | --- |
| 1 | Name | Name | String, required field | Substitution rule name |
| 2 | Substitution | Replacement | Substitution (object), required field | Existing substitution, for which this substitution rule is used |
| 3 | Substitute user | TargetUser | User (object), required field | Substitute user |
| 4 | Property | PropertyUid | Unique identifier (GUID), optional field | List of task types specifying the user property, which defines the user role in the task, for which the rule is created |
| 5 | Filter | Filter | XML-serializable object, optional field | Serializable object in the XML format |
| 6 | Order | Order | Integer (32 bit), optional field | Stage number in the rule application order |

### User certificate

This object is not created or edited in Web Application.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** | **Field purpose** |
| 1 | Name | Name | String, required field | User certificate name |
| 2 | Date created | CreationDate | Date/Time, filled in automatically | Certificate creation date and time |
| 3 | Thumbprint | Thumbrint | String, required field | Thumbprint |
| 4 | User | User | User (object), required field | User who owns the certificate |
| 5 | Last use date | LastTouchDate | Date/Time, filled in automatically | Date and time of the last use of the certificate |
| 6 | Encryption action | CryptoActionGuid | Unique identifier (GUID), required field | Action, which can be executed with this user certificate |
| 7 | Encryption provider | CryptoProviderGuid | Unique identifier (GUID), required field | Encryption provider, to which the user certificate belongs |
| 8 | Is a default certificate | IsDefault | Yes/No, optional field | Defines whether this user certificate is a default certificate |

### User token

This object is not created or edited in Web Application.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **№** | **No.** | **Displayed Name** | **Property Name** | **Value type, filling in rules** |
| 1 | Name | Name | String, required field | Token name |
| 2 | Date created | CreationDate | Date/Time, filled in automatically | User token creation date and time |
| 3 | User | User | User (object), required field | User, who owns this token |
| 4 | Public key | PublicKey | String, required field | Token public key |
| 5 | Device ID | Deviceld | String, required field | Device ID |
| 6 | Last use date | LastLogonDate | Date/Time, filled in automatically | Token last use date and time |