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| SE2 Projekt MRT |
| API Documentation |
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# Dokumentinformationen

## Änderungsgeschichte

|  |  |  |  |
| --- | --- | --- | --- |
| Datum | Version | Änderung | Autor |
| 10.05.2011 | 1.0 | Erste Version des Dokuments | SD |

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# Einleitung

## Zweck

Dieses Dokument beschreibt das Externe Design für das Projekt MRT (Mobile Reporting Tool). Es erläutert wie das äussere Erscheinungsbild des Systems und wie dieses mit dem Nutzer interagiert. Das Dokument bezieht sich auf die Sicht des Nutzers.

## Gültigkeitsbereich

Dieses Dokument ist während der gesamten Projektdauer gültig (21.02 bis 03.06.2011).

## Definitionen und Abkürzungen

Die Definitionen und Abkürzungen befinden sich in der ausgelagerten Datei doc/01\_Projektplan/glossar.docx.

## Referenzen

# API Documentation

## Login

Um mit dem System interagieren zu können, bedarf e seines Authentication-Cookies, das man mit einem JSON Request auf /users/sign\_in.json erhält.

### Request

|  |  |
| --- | --- |
| Header | Wert |
| Method | POST |
| Content Type | application/json |
| URI | /users/sign\_in.json |
| Protocol | HTTP/1.1 |

|  |  |  |
| --- | --- | --- |
| Parameter | Beschreibung | Beispielwert |
| user | Das User Object mit den benötigten Attributen | { } (Hash) |
| user.email | Emailadresse des einzuloggenden Subjekts | [Field\_worker@mrt.ch](mailto:Field_worker@mrt.ch) |
| user.password | Passwort des einzuloggenden Subjekts (Cleartext) | „mrt“ |
| user.remember\_me | Soll der Benutzername gespeichert werden? | 1 |

#### Beispiel (HTTP)

POST /users/sign\_in.json HTTP/1.1Content-Type: application/jsonContent-Length: 75Host: mrt.elmermx.chConnection: Keep-Alive

{"user":{"password":"mrt","email":"field\_Worker@mrt.ch","remember\_me":"1"}}

### Response: Success

|  |  |
| --- | --- |
| Header | Wert |
| Status | 200 |
| Content Type | application/json |
| Charset | UTF-8 |
| Protocol | HTTP/1.1 |

|  |  |  |
| --- | --- | --- |
| Parameter | Beschreibung | Beispielwert |
| field\_worker | Der Typ des eingeloggten Subjektes | { } (Hash) |
| field\_worker.created\_at | Erstellungsdatum des eingeloggten Subjektes | 2011-05-10T15:45:46+02:00 |
| field\_worker.updated\_at | Letze Änderung des eingeloggten Subjektes | 2011-05-10T15:45:46+02:00 |
| field\_worker.id | ID des eingeloggten Subjektes auf dem Server | 2 |
| field\_worker.last\_name | Nachname des eingeloggten Subjektes | Worker |
| field\_worker.first\_name | Vorname des eingeloggten Subjektes | Fredi |
| field\_worker.phone | Telefonnummer des eingeloggten Subjektes | 044 210 111 11 11 |
| field\_worker.remember\_created\_at | Erstellungsdatum der letzten Session | 2011-05-10T15:45:46+02:00 |
| field\_worker.email | Emailadresse des eingeloggten Subjektes | Field\_worker@mrt.ch |

#### Beispiel (HTTP)

HTTP/1.1 200 OKDate: Thu, 12 May 2011 13:43:05 GMTServer: ApacheX-Powered-By: Phusion Passenger (mod\_rails/mod\_rack) 2.2.15ETag: "0736a29c31ffc1b236b21ea3f535e547"X-UA-Compatible: IE=Edge,chrome=1X-Runtime: 0.082116Cache-Control: max-age=0, private, must-revalidateSet-Cookie: remember\_user\_token=BAhbB1sGaQciIiQyYSQxMCRhZkxtSDU0dEN3U1E3MUZ6WC5iL3Mu--1f1edff405704f9c47c641f85f7788d26d475679; path=/; expires=Tue, 24-May-2011 14:51:53 GMT; HttpOnly

Set-Cookie: \_mrt\_session=BAh7ByIPc2Vzc2lvbl9pZCIlYTZiNmI3NThjMzVhMTU0MzA4ZDkxNWY4NmExZmEwZWYiGXdhcmRlbi51c2VyLnVzZXIua2V5WwgiEEZpZWxkV29ya2VyWwZpByIiJDJhJDEwJGFmTG1INTR0Q3dTUTcxRnpYLmIvcy4%3D--bfe5c2bcbe9b59b3b389f36584277ef8b2974054; path=/; HttpOnly

Status: 200Keep-Alive: timeout=15, max=150Connection: Keep-AliveTransfer-Encoding: chunkedContent-Type: application/json; charset=utf-8

f2

{"field\_worker":{"created\_at":"2011-05-10T15:45:46+02:00","updated\_at":"2011-05-10T16:51:53+02:00","id":2,"last\_name":"Worker","phone":null,"remember\_created\_at":"2011-05-10T16:51:53+02:00","email":"field\_worker@mrt.ch","first\_name":"Fredi"}}

### Response: Fail

|  |  |
| --- | --- |
| Header | Wert |
| Status | 401 |
| Content Type | application/json |
| Charset | UTF-8 |
| Protocol | HTTP/1.1 |

|  |  |  |
| --- | --- | --- |
| Parameter | Beschreibung | Beispielwert |
| error | Fehlermeldung | Ungültige Anmeldedaten |

#### Beispiel (HTTP)

HTTP/1.1 401 Authorization Required

Date: Mon, 16 May 2011 11:04:26 GMT

Server: Apache

X-Powered-By: Phusion Passenger (mod\_rails/mod\_rack) 2.2.15

X-UA-Compatible: IE=Edge,chrome=1

X-Runtime: 0.321662

Cache-Control: no-cache

Set-Cookie: \_mrt\_session=BAh7BiIPc2Vzc2lvbl9pZCIlZTY4ZTU0MTYzODliY2RiM2JiMGUzZWRhNzk3OWRiZTQ%3D--bf8c828f976cbfafd21b9c070575b9c6e27d28f5; path=/; HttpOnly

Status: 401

Keep-Alive: timeout=15, max=150

Connection: Keep-Alive

Transfer-Encoding: chunked

Content-Type: application/json; charset=utf-8

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{"error":"Ungültige Anmeldedaten."}

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## Synchronize Customers

MRT bietet die Möglichkeit eine Liste der Kunden auf dem Endgerät zu verwalten. Damit nicht jedesmal die ganze Liste übertragen werden muss, werden immer nur die seit der letzten Synchronisation veränderten Kunden überliefert.

### Request

|  |  |
| --- | --- |
| Header | Wert |
| Method | POST |
| Content Type | application/json |
| URI | /customers/synchronize.json |
| Protocol | HTTP/1.1 |

|  |  |  |
| --- | --- | --- |
| Parameter | Beschreibung | Beispielwert |
| last\_update | Der höchste Zeitstempfel aus der lokalen Kundentabelle aus den Spalten created\_at, updated\_at oder deleted\_at | 2011-05-10T15:45:46+02:00 |

#### Beispiel (HTTP)

POST /customers/synchronize.json HTTP/1.1

Content-Type: application/json

cookie: remember\_user\_token=BAhbB1sGaQciIiQyYSQxMCRhZkxtSDU0dEN3U1E3MUZ6WC5iL3Mu--1f1edff405704f9c47c641f85f7788d26d475679; path=/; expires=Tue, 24-May-2011 14:51:53 GMT; HttpOnly

Content-Length: 46

Host: mrt.elmermx.ch

Connection: Keep-Alive

{"last\_update":"1970-01-01T01:00:00GMT+01:00"}

### Response Success

|  |  |
| --- | --- |
| Header | Wert |
| Status | 200 |
| Content Type | application/json |
| Charset | UTF-8 |
| Protocol | HTTP/1.1 |

|  |  |  |
| --- | --- | --- |
| Parameter | Beschreibung | Beispielwert |
|  | Das root Element ist ein Array mit allen geänderten Kunden | [] (Array) |
| customer | Enthält alle zu einem Kunden zugehörigen Attribute | {} (Hash) |
| customer.first\_name | Vorname des Kunden | Peter |
| customer.last\_name | Nachname des Kunden | Muster |
| customer.address | Enthält alle zu einer Adresse eines Kunden zugehörigen Attribute | {} (Hash) |
| customer.phone | Telefonnummer des Kunden | +41 44 340 00 00 |
| customer.address\_id | ID der Adresse auf dem Server | 1 |
| customer.address.line1 | 1. Adresszeile | Hungerbergstr. 1 |
| customer.address.line2 | 2. Adresszeile | 2. Stock |
| customer.address.line3 | 3. Adresszeile | Postfach 11 |
| customer.address.gps\_position | Enthält alle GPS Positionsdaten einer Adresse eines Kunden | {} (Hash) |
| customer.address.zip | Postleitzahl der Adresse | 8000 |
| customer.address.place | Ort der Adresse | Zürich |
| customer.address.gps\_position\_id | ID der GPS Positionsdaten auf dem Server | 1 |
| customer.address.  gps\_position.latitude | Breitengrad der Adresse als Double | 47.4206532 |
| customer.address.  gps\_position.longitude | Längengrad der Adresse als Double | 8.501602 |

#### Beispiel (HTTP)

HTTP/1.1 200 OK

Date: Thu, 12 May 2011 13:43:11 GMT

Server: Apache

X-Powered-By: Phusion Passenger (mod\_rails/mod\_rack) 2.2.15

ETag: "9eeca918e7558c58d19b642f0c1828fa"

X-UA-Compatible: IE=Edge,chrome=1

X-Runtime: 0.169414

Cache-Control: max-age=0, private, must-revalidate

Set-Cookie: remember\_user\_token=BAhbB1sGaQciIiQyYSQxMCRhZkxtSDU0dEN3U1E3MUZ6WC5iL3Mu--1f1edff405704f9c47c641f85f7788d26d475679; path=/; expires=Tue, 24-May-2011 14:51:53 GMT; HttpOnly

Set-Cookie: \_mrt\_session=BAh7ByIPc2Vzc2lvbl9pZCIlMjZhMTgzOTJjYzcxZWRmNjdiOTk2NGNlZTcwYzFkZjIiGXdhcmRlbi51c2VyLnVzZXIua2V5WwgiEEZpZWxkV29ya2VyWwZpByIiJDJhJDEwJGFmTG1INTR0Q3dTUTcxRnpYLmIvcy4%3D--12c3a9000436874138557b7dd11e48ceaea1cb81; path=/; HttpOnly

Status: 200

Keep-Alive: timeout=15, max=150

Connection: Keep-Alive

Transfer-Encoding: chunked

Content-Type: application/json; charset=utf-8

1f40

[{"customer":{"address":{"line1":"Hungerbergstr. 1","zip":8046,"line2":null,"created\_at":"2011-05-10T15:45:49+02:00","line3":null,"updated\_at":"2011-05-10T15:46:00+02:00","id":1,"gps\_position\_id":35,"place":"Z\u00fcrich","gps\_position":{"created\_at":"2011-05-10T15:46:00+02:00","latitude":"47.4206532","updated\_at":"2011-05-10T15:46:00+02:00","id":35,"longitude":"8.501602"}},"created\_at":"2011-05-10T15:45:53+02:00","deleted\_at":null,"updated\_at":"2011-05-10T15:45:53+02:00","id":1,"address\_id":1,"last\_name":"Lamprecht","phone":"0683093560","first\_name":"Waldemar"}},{"customer":{"address":{"line1":"Hungerbergstr. 100","zip":8046,"line2":null,"created\_at":"2011-05-10T15:45:50+02:00","line3":null,"updated\_at":"2011-05-10T15:45:55+02:00","id":5,"gps\_position\_id":15,"place":"Z\u00fcrich","gps\_position":{"created\_at":"2011-05-10T15:45:55+02:00","latitude":"47.4188677","updated\_at":"2011-05-10T15:45:55+02:00","id":15,"longitude":"8.4978201"}},"created\_at":"2011-05-12T13:09:00+02:00","deleted\_at":null,"updated\_at":"2011-05-12T13:09:00+02:00","id":34,"address\_id":5,"last\_name":"Aaronson","phone":"1","first\_name":"Waldtraut"}}]

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## Synchronize TimeEntryTypes

POST /time\_entry\_types/synchronize.json HTTP/1.1

Content-Type: application/json

cookie: remember\_user\_token=BAhbB1sGaQciIiQyYSQxMCRhZkxtSDU0dEN3U1E3MUZ6WC5iL3Mu--1f1edff405704f9c47c641f85f7788d26d475679; path=/; expires=Tue, 24-May-2011 14:51:53 GMT; HttpOnly

Content-Length: 46

Host: mrt.elmermx.ch

Connection: Keep-Alive

{"last\_update":"1970-01-01T01:00:00GMT+01:00"}HTTP/1.1 200 OK

Date: Thu, 12 May 2011 13:43:13 GMT

Server: Apache

X-Powered-By: Phusion Passenger (mod\_rails/mod\_rack) 2.2.15

ETag: "2a7f5e4ebe04e4c6f54298937ed888bd"

X-UA-Compatible: IE=Edge,chrome=1

X-Runtime: 0.014304

Cache-Control: max-age=0, private, must-revalidate

Set-Cookie: remember\_user\_token=BAhbB1sGaQciIiQyYSQxMCRhZkxtSDU0dEN3U1E3MUZ6WC5iL3Mu--1f1edff405704f9c47c641f85f7788d26d475679; path=/; expires=Tue, 24-May-2011 14:51:53 GMT; HttpOnly

Set-Cookie: \_mrt\_session=BAh7ByIPc2Vzc2lvbl9pZCIlZDYxMDI2ZjcxODU1NTI1ZWFiMDA3NmE3MjFlY2Y3MDgiGXdhcmRlbi51c2VyLnVzZXIua2V5WwgiEEZpZWxkV29ya2VyWwZpByIiJDJhJDEwJGFmTG1INTR0Q3dTUTcxRnpYLmIvcy4%3D--2c1c30b03a3ab592d52908a6de428f28113bd864; path=/; HttpOnly

Status: 200

Keep-Alive: timeout=15, max=150

Connection: Keep-Alive

Transfer-Encoding: chunked

Content-Type: application/json; charset=utf-8

2fc

[{"time\_entry\_type":{"created\_at":"2011-05-10T15:45:47+02:00","time\_entry\_type\_id":null,"updated\_at":"2011-05-10T15:45:47+02:00","id":1,"valid\_until":null,"description":"Heizung ansehen"}},{"time\_entry\_type":{"created\_at":"2011-05-10T15:45:48+02:00","time\_entry\_type\_id":null,"updated\_at":"2011-05-10T15:45:48+02:00","id":2,"valid\_until":null,"description":"Lavabo wechseln"}},{"time\_entry\_type":{"created\_at":"2011-05-10T15:45:48+02:00","time\_entry\_type\_id":null,"updated\_at":"2011-05-10T15:45:48+02:00","id":3,"valid\_until":null,"description":"Wasserz\u00e4hler ersetzen"}},{"time\_entry\_type":{"created\_at":"2011-05-11T11:48:08+02:00","time\_entry\_type\_id":null,"updated\_at":"2011-05-11T11:48:08+02:00","id":4,"valid\_until":null,"description":"Digis sync test"}}]

0

## Synchronize TimeEntries

POST /time\_entries.json HTTP/1.1

Content-Type: application/json

cookie: remember\_user\_token=BAhbB1sGaQciIiQyYSQxMCRhZkxtSDU0dEN3U1E3MUZ6WC5iL3Mu--1f1edff405704f9c47c641f85f7788d26d475679; path=/; expires=Tue, 24-May-2011 14:51:53 GMT; HttpOnly

Content-Length: 261

Host: mrt.elmermx.ch

Connection: Keep-Alive

{"time\_entry":{"time\_start":"2011-05-12T16:12:35GMT+02:00","time\_stop":"2011-05-12T16:12:44GMT+02:00","hashcode":"l5qok5vrq74b036541presgcbd","gps\_position\_data":{"longitude":-122.084095,"latitude":37.422005},"description":"Neues Keramiklavao","customer\_id":3}}HTTP/1.1 201 Created

Date: Thu, 12 May 2011 14:13:01 GMT

Server: Apache

X-Powered-By: Phusion Passenger (mod\_rails/mod\_rack) 2.2.15

X-UA-Compatible: IE=Edge,chrome=1

X-Runtime: 0.143018

Cache-Control: no-cache

Set-Cookie: remember\_user\_token=BAhbB1sGaQciIiQyYSQxMCRhZkxtSDU0dEN3U1E3MUZ6WC5iL3Mu--1f1edff405704f9c47c641f85f7788d26d475679; path=/; expires=Tue, 24-May-2011 14:51:53 GMT; HttpOnly

Set-Cookie: \_mrt\_session=BAh7ByIPc2Vzc2lvbl9pZCIlMDExZGVhZDZjMTI4ODI1YmE1NjkyODYxNjAxM2ZhZjciGXdhcmRlbi51c2VyLnVzZXIua2V5WwgiEEZpZWxkV29ya2VyWwZpByIiJDJhJDEwJGFmTG1INTR0Q3dTUTcxRnpYLmIvcy4%3D--61998f19a2bb7e5f87f6b06505873136f66b6530; path=/; HttpOnly

Location: http://mrt.elmermx.ch/time\_entries/81

Status: 201

Keep-Alive: timeout=15, max=150

Connection: Keep-Alive

Transfer-Encoding: chunked

Content-Type: application/json; charset=utf-8

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{"time\_entry":{"created\_at":"2011-05-12T16:13:01+02:00","time\_stop":"2011-05-12T16:12:44+02:00","order\_id":null,"time\_entry\_type\_id":null,"updated\_at":"2011-05-12T16:13:01+02:00","hashcode":"l5qok5vrq74b036541presgcbd","id":81,"user\_id":2,"customer\_id":3,"description":"Neues Keramiklavao","gps\_position\_id":68,"time\_start":"2011-05-12T16:12:35+02:00"}}

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