



Example Documentation

Summer Term 2015

Table of Contents

1	Project	4
1.1	Entity External_Lecturer.....	4
1.2	Entity Lecturer	5
1.3	Entity Professor	5
1.4	Entity Lecturer_Event.....	6
1.5	Entity Event_Coupling	7
1.6	Entity Event	7
1.7	Entity Department.....	8
1.8	Entity Lecture	8
1.9	Relationship Lecturer_Lecturer_Event.....	9
1.10	Relationship Event_Coupling_Lecturer_Event.....	9
1.11	Relationship Event_Lecturer_Event	9
1.12	Relationship Department_Professor.....	9
1.13	Relationship Department_Event.....	10
1.14	Relationship Department_Event_76	10
1.15	Relationship Lecture_Event.....	10
2	User_View_Matchmaker.....	11
2.1	Entity Event	11
2.2	Entity Lecture	12
2.3	Entity Lecturer	13
2.4	Entity Lecturer_Event.....	13
2.5	Entity Event_Coupling	14
2.6	Relationship Lecturer_Lecturer_Event.....	14
2.7	Relationship Event_Lecturer_Event	14
2.8	Relationship Lecture_Event.....	14
2.9	Relationship Event_Coupling_Lecturer_Event.....	15
3	User_View_Workload_Reduction	16
3.1	Entity Professor	16
3.2	Entity Lecturer	17
3.3	Entity Event	17
3.4	Entity Lecturer_Event.....	18
3.5	Relationship Lecturer_Lecturer_Event.....	19
3.6	Relationship Event_Lecturer_Event	19

4	User_View_Course_Planner.....	20
4.1	Entity Lecture	20
4.2	Entity Event	21
4.3	Relationship Lecture_Event.....	22
5	User_View_Service_Planner	23
5.1	Entity Lecture	23
5.2	Entity Event	24
5.3	Relationship Lecture_Event.....	25
6	User_View_Time_Recording	26
6.1	Entity Event	26

1 Project

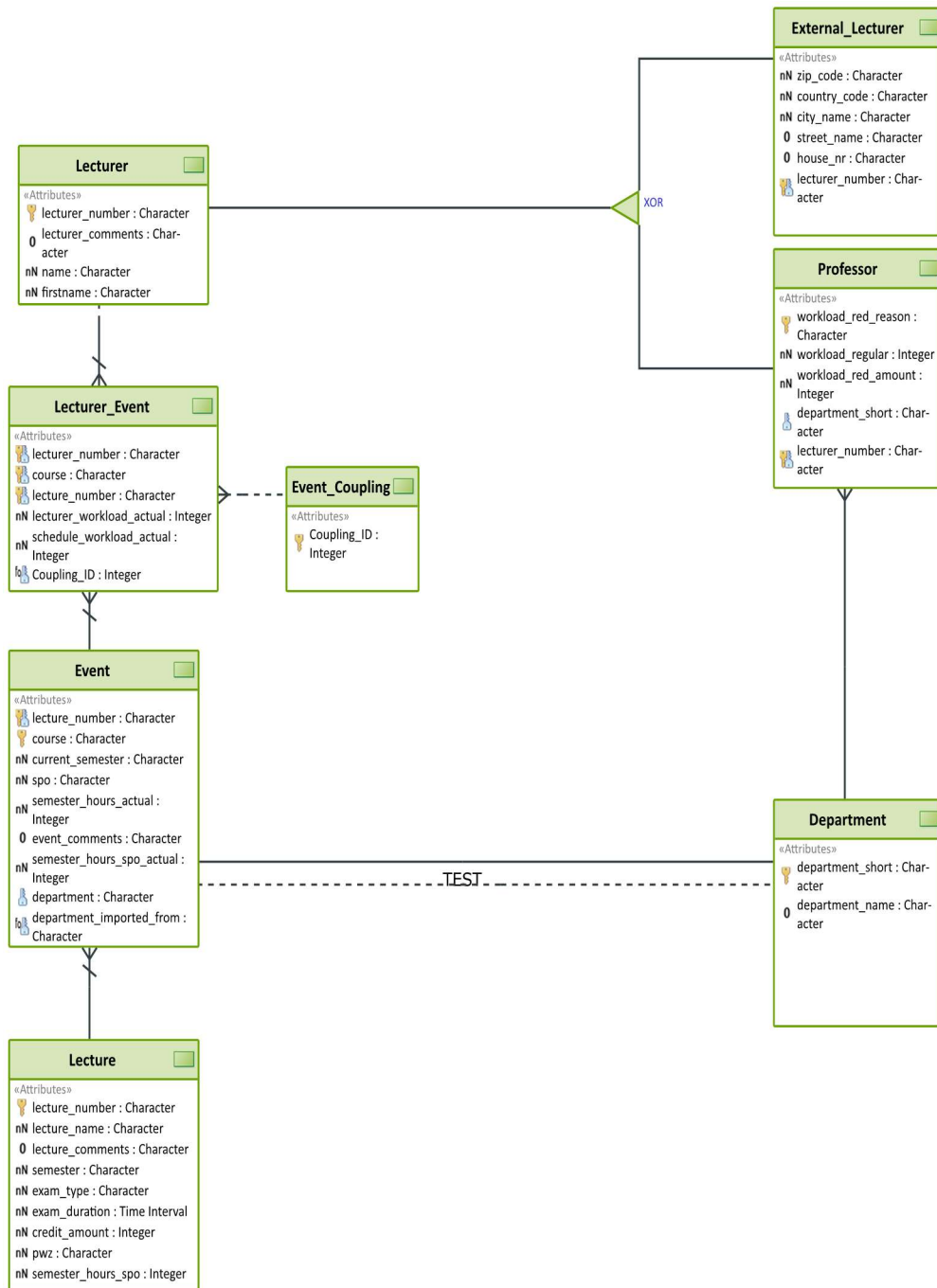


Figure 1: Entity-Relationship Diagram 'Project'

Global View of ERM for MRS-System

1.1 Entity External_Lecturer

Specialised term describing all external lecturers employed by HS Esslingen university

zip_code

External Lecturer's ZIP Code (Part of the address)

country_code

External Lecturer's country code (part of the address)

city_name

External Lecturer's city name (part of the address)

street_name

External Lecturer's street name (part of the address)

house_nr

External Lecturer's house number

lecturer_number

Ideally a lecturer's personnel number. If this is not possible this field should hold another kind of UID.

1.2 Entity Lecturer

General term describing all lecturers employed by HS Esslingen university

lecturer_number

A Lecturer's examiner number. (See POG_IT)

lecturer_comments

comments by the administration concerning a Lecturer

name

Lecturer's last name

firstname

Lecturer's first name

1.3 Entity Professor

Specialised term describing all professors employed by HS Esslingen university

workload_red_reason

Workload reduction reason for professors, e. g. for a special function.

Example:

Professor		Reduction Reason
-----------	--	------------------

Prof X		Dean
--------	--	------

workload_regular

Professor's regular workload according to their contract.

Example:

Professor		Regular Workload
-----------	--	------------------

Prof X		20
--------	--	----

workload_red_amount

Professor's workload reduction amount, depends on the reduction reason.

Example:

Professor		Reduction Amount
-----------	--	------------------

Prof X		10
--------	--	----

department_short

Professor's department

Example:

Professor		Department
-----------	--	------------

Prof X		IT
--------	--	----

lecturer_number

Professor's Lecturer Number, typically the personnel number.

1.4 Entity Lecturer_Event

A Lecturer_Event creates an imaginary many to many relationship.

The Lecturer_Event holds the actual workload for the event (workload_actual).

Relationship: Lecturer to Lecturer_Event

A Lecturer can exist without a Lecturer_Event.

On creation of an Event a Lecturer has to be selected, at least a dummy persona.

If a Lecturer is deleted, the Lecturer_Event is deleted, too, unless replaced by the dummy persona.

Relationship: Event to Lecturer_Event

On creation of an Event, the corresponding Lecturer_event is generated automatically.

On deletion of an Event, the corresponding Lecturer_event is destroyed automatically, without consequences regarding the Lecturer.

lecturer_number

link to the Lecturer table

course

the course to which the Lecturer_Event is linked

lecture_number

link to the Lecture table

lecturer_workload_actual

Event's actual workload per Lecturer

Example:

Lecturer		Workload
Prof X		3
Lect Y		1
Lect Z		5

9

schedule_workload_actual

workload according to the schedule, has to be dividable by 2

Coupling_ID

relevant if Lecturer_Event is coupled with another one

1.5 Entity Event_Coupling

aggregates coupled Lecturer_Events

Coupling_ID

several Events can be coupled together by having the same Coupling_ID

1.6 Entity Event

General term describing all lecture events of HS Esslingen university.

lecture_number

Event's Lecture Number

Example: AN_999100

course

Event's Course

Example: TIB

current_semester

Event's Current Semester

Example: WS2015

spo

Event's SPO

Example: SPO2

semester_hours_actual

semester_hours_actual holds information about scheduling the Event. This amount has to be dividable by 2.

event_comments

Free text field to comment Events

semester_hours_spo_actual

actual hours for this Event accrding to SPO

department

Event is held for one Department

Example: Informatik 1 is held for IT

department_imported_from

Event is given by a Department.

Example: Mathematik 1 is given by G

1.7 Entity Department

General term describing all deparments of HS Esslingen university

department_short

Department's shortcut, e. g. IT for Information Technology.

department_name

Department's name, e. g. Information Technology

1.8 Entity Lecture

General term describing all lectures of HS Esslingen university

lecture_number

Lecture's unique number

Example: AN_999100

lecture_name

Lecture's Name

Example: Databases 2

lecture_comments

annotations by the administration concerning a Lecture

semester

Lecture's Semester according to Lecture's SPO

Example: DB2 in Sem6

exam_type

Lecture's Exam Type according to Lecture's SPO.

Possible values: oral exam, written exam, testate.

Example: DB2, written exam

exam_duration

Lecture's exam duration, e. g. 90 minutes

credit_amount

Lecture's credit amount, e. g. 5 credits for DB2

pwz

Encodes if a Lecture is mandatory (P), can be chosen (W), or is completely facultative (Z)

semester_hours_spo

Event's Semester Hours according to SPO

Example: DB2 Lab, 2h/per week

1.9 Relationship Lecturer_Lecturer_Event

One Lecturer participates in several Lecturer_Events.

1.10 Relationship Event_Coupling_Lecturer_Event

Event Coupling describes a Lecture Event given by a Lecturer to several courses at once.

Example: DB2 is taught by Prof. Nonnast to Sem 6 (SPO2) and Sem 4 (SPO3/4) at the same time.

1.11 Relationship Event_Lecturer_Event

One Event can be connected with several Lecturer_Events, this means that several Lecturers can teach the same subject for the same course at the same time.

1.12 Relationship Department_Professor

Professor has to be a member of exactly one Department, Departments typically hold more than one Professor.

1.13 Relationship Department_Event

Every Event has to have one Department

1.14 Relationship Department_Event_76

Every Event can have one Department from which it is imported

1.15 Relationship Lecture_Event

Lectures have at least one Event.

Example:

Lecture		Event
Databases 2		Class
Databases 2		Lab

2 User_View_Matchmaker

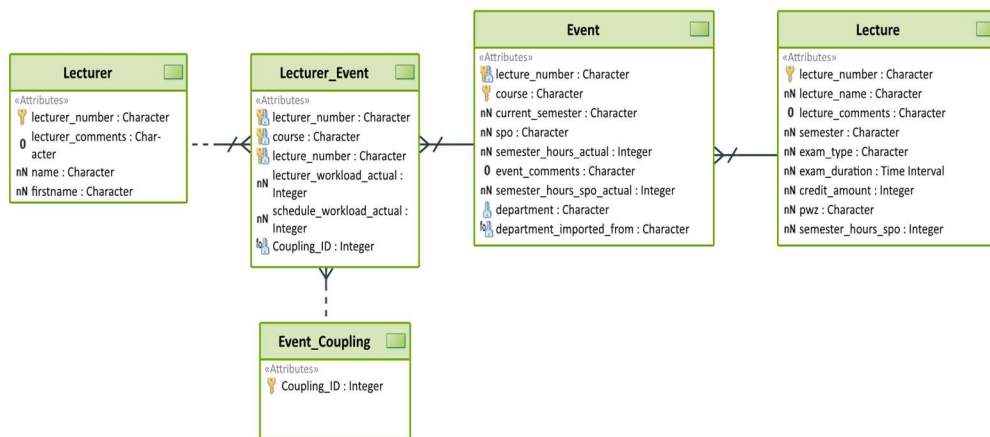


Figure 2: Entity-Relationship Diagram 'User_View_Matchmaker'

User view for the Matchmaker.

This role matches Events to Lecturers and optionally adds time- or room-constraints.

2.1 Entity Event

General term describing all lecture events of HS Esslingen university.

lecture_number

Event's Lecture Number

Example: AN_999100

course

Event's Course

Example: TIB

current_semester

Event's Current Semester

Example: WS2015

spo

Event's SPO

Example: SPO2

semester_hours_actual

semester_hours_actual holds information about scheduling the Event. This amount has to be dividable by 2.

event_comments

Free text field to comment Events

semester_hours_spo_actual

actual hours for this Event according to SPO

department

Event is held for one Department

Example: Informatik 1 is held for IT

department_imported_from

Event is given by a Department.

Example: Mathematik 1 is given by G

2.2 Entity Lecture

General term describing all lectures of HS Esslingen university

lecture_number

Lecture's unique number

Example: AN_999100

lecture_name

Lecture's Name

Example: Databases 2

lecture_comments

annotations by the administration concerning a Lecture

semester

Lecture's Semester according to Lecture's SPO

Example: DB2 in Sem6

exam_type

Lecture's Exam Type according to Lecture's SPO.

Possible values: oral exam, written exam, testate.

Example: DB2, written exam

exam_duration

Lecture's exam duration, e. g. 90 minutes

credit_amount

Lecture's credit amount, e. g. 5 credits for DB2

pwz

Encodes if a Lecture is mandatory (P), can be chosen (W), or is completely facultative (Z)

semester_hours_spo

Event's Semester Hours according to SPO

Example: DB2 Lab, 2h/per week

2.3 Entity Lecturer

General term describing all lecturers employed by HS Esslingen university

lecturer_number

A Lecturer's examiner number. (See POG_IT)

lecturer_comments

comments by the administration concerning a Lecturer

name

Lecturer's last name

firstname

Lecturer's first name

2.4 Entity Lecturer_Event

A Lecturer_Event creates an imaginary many to many relationship.

The Lecturer_Event holds the actual workload for the event (workload_actual).

Relationship: Lecturer to Lecturer_Event

A Lecturer can exist without a Lecturer_Event.

On creation of an Event a Lecturer has to be selected, at least a dummy persona.

If a Lecturer is deleted, the Lecturer_Event is deleted, too, unless replaced by the dummy persona.

Relationship: Event to Lecturer_Event

On creation of an Event, the corresponding Lecturer_event is generated automatically.

On deletion of an Event, the corresponding Lecturer_event is destroyed automatically, without consequences regarding the Lecturer.

lecturer_number

link to the Lecturer table

course

the course to which the Lecturer_Event is linked

lecture_number

link to the Lecture table

lecturer_workload_actual

Event's actual workload per Lecturer

Example:

Lecturer		Workload
Prof X		3
Lect Y		1
Lect Z		5

9

schedule_workload_actual

workload according to the schedule, has to be dividable by 2

Coupling_ID

relevant if Lecturer_Event is coupled with another one

2.5 Entity Event_Coupling

aggregates coupled Lecturer_Events

Coupling_ID

several Events can be coupled together by having the same Coupling_ID

2.6 Relationship Lecturer_Lecturer_Event

One Lecturer participates in several Lecturer_Events.

2.7 Relationship Event_Lecturer_Event

One Event can be connected with several Lecturer_Events, this means that several Lecturers can teach the same subject for the same course at the same time.

2.8 Relationship Lecture_Event

Lectures have at least one Event.

Example:

Lecture		Event
Databases 2		Class

Databases 2 | Lab

2.9 Relationship Event_Coupling_Lecturer_Event

Event Coupling describes a Lecture Event given by a Lecturer to several courses at once.

Example: DB2 is taught by Prof. Nonnast to Sem 6 (SPO2) and Sem 4 (SPO3/4) at the same time.

3 User_View_Workload_Reduction

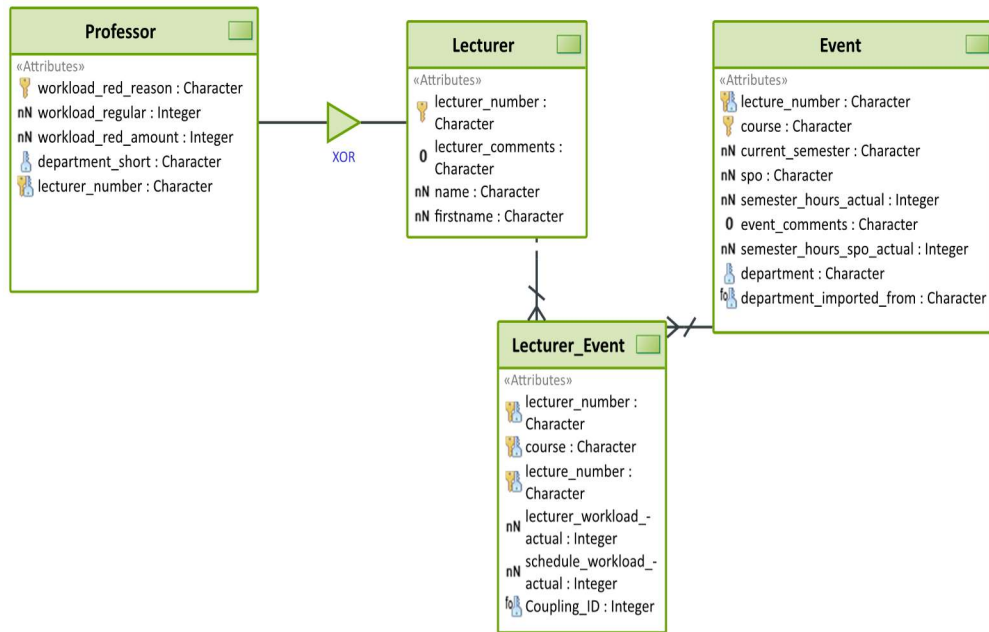


Figure 3: Entity-Relationship Diagram 'User_View_Workload_Reduction'

Shows the User View for the person responsible for workload reductions.

3.1 Entity Professor

Specialised term describing all professors employed by HS Esslingen university

workload_red_reason

Workload reduction reason for professors, e. g. for a special function.

Example:

Professor		Reduction Reason
Prof X		Dean

workload_regular

Professor's regular workload according to their contract.

Example:

Professor		Regular Workload
Prof X		20

workload_red_amount

Professor's workload reduction amount, depends on the reduction reason.

Example:

Professor		Reduction Amount
-----------	--	------------------

Prof X | 10

department_short

Professor's department

Example:

Professor | Department

Prof X | IT

lecturer_number

Professor's Lecturer Number, typically the personnel number.

3.2 Entity Lecturer

General term describing all lecturers employed by HS Esslingen university

lecturer_number

A Lecturer's examiner number. (See POG_IT)

lecturer_comments

comments by the administration concerning a Lecturer

name

Lecturer's last name

firstname

Lecturer's first name

3.3 Entity Event

General term describing all lecture events of HS Esslingen university.

lecture_number

Event's Lecture Number

Example: AN_999100

course

Event's Course

Example: TIB

current_semester

Event's Current Semester

Example: WS2015

spo

Event's SPO

Example: SPO2

semester_hours_actual

semester_hours_actual holds information about scheduling the Event. This amount has to be dividable by 2.

event_comments

Free text field to comment Events

semester_hours_spo_actual

actual hours for this Event according to SPO

department

Event is held for one Department

Example: Informatik 1 is held for IT

department_imported_from

Event is given by a Department.

Example: Mathematik 1 is given by G

3.4 Entity Lecturer_Event

A Lecturer_Event creates an imaginary many to many relationship.

The Lecturer_Event holds the actual workload for the event (workload_actual).

Relationship: Lecturer to Lecturer_Event

A Lecturer can exist without a Lecturer_Event.

On creation of an Event a Lecturer has to be selected, at least a dummy persona.

If a Lecturer is deleted, the Lecturer_Event is deleted, too, unless replaced by the dummy persona.

Relationship: Event to Lecturer_Event

On creation of an Event, the corresponding Lecturer_event is generated automatically.

On deletion of an Event, the corresponding Lecturer_event is destroyed automatically, without consequences regarding the Lecturer.

lecturer_number

link to the Lecturer table

course

the course to which the Lecturer_Event is linked

lecture_number

link to the Lecture table

lecturer_workload_actual

Event's actual workload per Lecturer

Example:

Lecturer		Workload
Prof X		3
Lect Y		1
Lect Z		5

9

schedule_workload_actual

workload according to the schedule, has to be dividable by 2

Coupling_ID

relevant if Lecturer_Event is coupled with another one

3.5 Relationship Lecturer_Lecturer_Event

One Lecturer participates in several Lecturer_Events.

3.6 Relationship Event_Lecturer_Event

One Event can be connected with several Lecturer_Events, this means that several Lecturers can teach the same subject for the same course at the same time.

4 User_View_Course_Planner

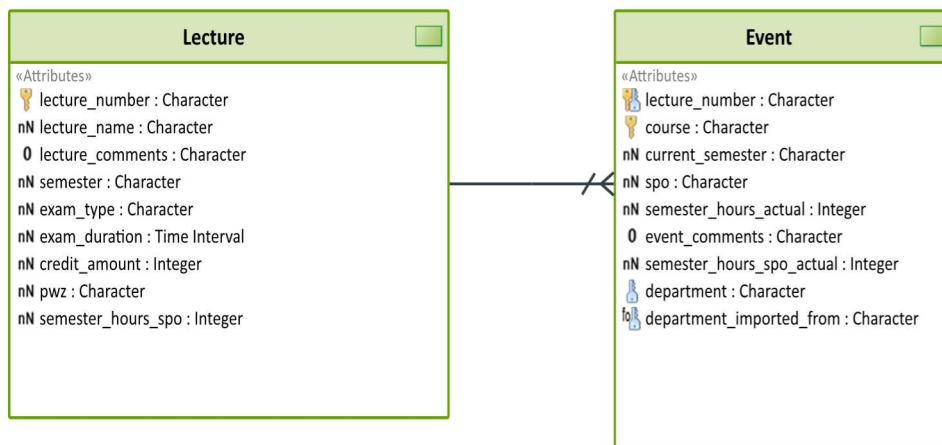


Figure 4: Entity-Relationship Diagram 'User_View_Course_Planner'

Shows the user view for the person responsible for course planning.

4.1 Entity Lecture

General term describing all lectures of HS Esslingen university

lecture_number

Lecture's unique number

Example: AN_999100

lecture_name

Lecture's Name

Example: Databases 2

lecture_comments

annotations by the administration concerning a Lecture

semester

Lecture's Semester according to Lecture's SPO

Example: DB2 in Sem6

exam_type

Lecture's Exam Type according to Lecture's SPO.

Possible values: oral exam, written exam, testate.

Example: DB2, written exam

exam_duration

Lecture's exam duration, e. g. 90 minutes

credit_amount

Lecture's credit amount, e. g. 5 credits for DB2

pwz

Encodes if a Lecture is mandatory (P), can be chosen (W), or is completely facultative (Z)

semester_hours_spo

Event's Semester Hours according to SPO

Example: DB2 Lab, 2h/per week

4.2 Entity Event

General term describing all lecture events of HS Esslingen university.

lecture_number

Event's Lecture Number

Example: AN_999100

course

Event's Course

Example: TIB

current_semester

Event's Current Semester

Example: WS2015

spo

Event's SPO

Example: SPO2

semester_hours_actual

semester_hours_actual holds information about scheduling the Event. This amount has to be dividable by 2.

event_comments

Free text field to comment Events

semester_hours_spo_actual

actual hours for this Event according to SPO

department

Event is held for one Department

Example: Informatik 1 is held for IT

department_imported_from

Event is given by a Department.

Example: Mathematik 1 is given by G

4.3 Relationship Lecture_Event

Lectures have at least one Event.

Example:

Lecture		Event
Databases 2		Class
Databases 2		Lab

5 User_View_Service_Planner

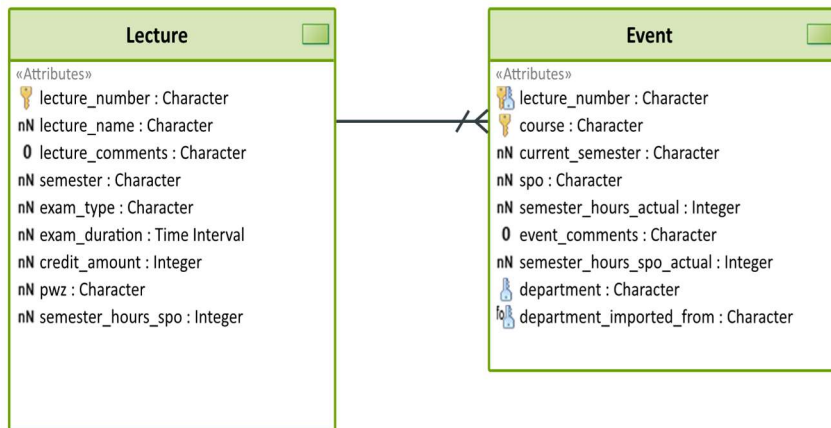


Figure 5: Entity-Relationship Diagram 'User_View_Service_Planner'

Shows the user view for the person responsible for service planning.

5.1 Entity Lecture

General term describing all lectures of HS Esslingen university

lecture_number

Lecture's unique number

Example: AN_999100

lecture_name

Lecture's Name

Example: Databases 2

lecture_comments

annotations by the administration concerning a Lecture

semester

Lecture's Semester according to Lecture's SPO

Example: DB2 in Sem6

exam_type

Lecture's Exam Type according to Lecture's SPO.

Possible values: oral exam, written exam, testate.

Example: DB2, written exam

exam_duration

Lecture's exam duration, e. g. 90 minutes

credit_amount

Lecture's credit amount, e. g. 5 credits for DB2

pwz

Encodes if a Lecture is mandatory (P), can be chosen (W), or is completely facultative (Z)

semester_hours_spo

Event's Semester Hours according to SPO

Example: DB2 Lab, 2h/per week

5.2 Entity Event

General term describing all lecture events of HS Esslingen university.

lecture_number

Event's Lecture Number

Example: AN_999100

course

Event's Course

Example: TIB

current_semester

Event's Current Semester

Example: WS2015

spo

Event's SPO

Example: SPO2

semester_hours_actual

semester_hours_actual holds information about scheduling the Event. This amount has to be dividable by 2.

event_comments

Free text field to comment Events

semester_hours_spo_actual

actual hours for this Event according to SPO

department

Event is held for one Department

Example: Informatik 1 is held for IT

department_imported_from

Event is given by a Department.

Example: Mathematik 1 is given by G

5.3 Relationship Lecture_Event

Lectures have at least one Event.

Example:

Lecture		Event
Databases 2		Class
Databases 2		Lab

6 User_View_Time_Recording

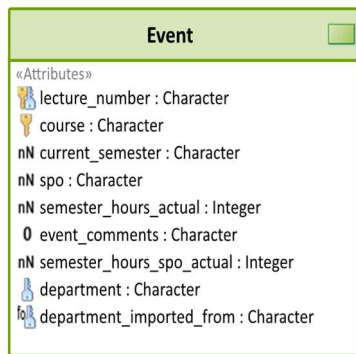


Figure 6: Entity-Relationship Diagram 'User_View_Time_Recording'

Shows the user view for the person responsible for time recordings.

6.1 Entity Event

General term describing all lecture events of HS Esslingen university.

lecture_number

Event's Lecture Number

Example: AN_999100

course

Event's Course

Example: TIB

current_semester

Event's Current Semester

Example: WS2015

spo

Event's SPO

Example: SPO2

semester_hours_actual

semester_hours_actual holds information about scheduling the Event. This amount has to be dividable by 2.

event_comments

Free text field to comment Events

semester_hours_spo_actual

actual hours for this Event accrding to SPO

department

Event is held for one Department

Example: Informatik 1 is held for IT

department_imported_from

Event is given by a Department.

Example: Mathematik 1 is given by G

Table Of Figures

Figure 1: Entity-Relationship Diagram 'Project'	4
Figure 2: Entity-Relationship Diagram 'User_View_Matchmaker'	11
Figure 3: Entity-Relationship Diagram 'User_View_Workload_Reduction'	16
Figure 4: Entity-Relationship Diagram 'User_View_Course_Planner'	20
Figure 5: Entity-Relationship Diagram 'User_View_Service_Planner'	23
Figure 6: Entity-Relationship Diagram 'User_View_Time_Recording'	26

Index

city_name.....	5
country_code.....	5
Coupling_ID	7, 14, 19
course	7, 11, 13, 17, 18, 21, 24, 26
credit_amount.....	9, 12, 21, 23
current_semester	7, 11, 17, 21, 24, 26
department	8, 12, 18, 21, 24, 27
department_imported_from.....	8, 12, 18, 22, 24, 27
department_name	8
department_short.....	6, 8, 17
Entity Department.....	8
Entity Event	7, 11, 17, 21, 24, 26
Entity Event_Coupling	7, 14
Entity External_Lecturer.....	4
Entity Lecture	8, 12, 20, 23
Entity Lecturer	5, 13, 17
Entity Lecturer_Event.....	6, 13, 18
Entity Professor	5, 16
event_comments.....	8, 11, 18, 21, 24, 26
exam_duration	9, 12, 20, 23
exam_type.....	9, 12, 20, 23
firstname	5, 13, 17
house_nr.....	5
lecture_comments	9, 12, 20, 23
lecture_name	8, 12, 20, 23
lecture_number.....	7, 8, 11, 12, 14, 17, 18, 20, 21, 23, 24, 26
lecturer_comments.....	5, 13, 17
lecturer_number	5, 6, 13, 17, 18
lecturer_workload_actual.....	7, 14, 19
name.....	5, 13, 17
Project	4
pwz	9, 12, 21, 24
Relationship Department_Event.....	10
Relationship Department_Event_76.....	10
Relationship Department_Professor.....	9
Relationship Event_Coupling_Lecturer_Event.....	9, 15
Relationship Event_Lecturer_Event	9, 14, 19
Relationship Lecture_Event.....	10, 14, 22, 25
Relationship Lecturer_Lecturer_Event.....	9, 14, 19
schedule_workload_actual	7, 14, 19
semester	9, 12, 20, 23
semester_hours_actual.....	8, 11, 18, 21, 24, 26
semester_hours_spo	9, 13, 21, 24
semester_hours_spo_actual	8, 12, 18, 21, 24, 26
spo	8, 11, 17, 21, 24, 26
street_name	5
User_View_Course_Planner	20
User_View_Matchmaker.....	11
User_View_Service_Planner	23
User_View_Time_Recording	26
User_View_Workload_Reduction	16

workload_red_amount.....	6, 16
workload_red_reason	5, 16
workload_regular	5, 16
zip_code	5