

# Database documentation

## ER Diagram explained

The entities and their attributes are listed below with explanations, for each entity all the relationships are explained below the tables:

Company	id	The ID of the company, it is unique for each company and it is the primary key
	name	Name of the company
	city	City where the company is located
	address	The address of the company
	postal_code	Postal code of the company
	email	Email of the company
	phone_number	Phone number of the company
	website	A link to the company website (optional)
	description	A description/introduction for the company profile
	logo	Company logo
	field	The area of work/profession of the company
	user_level_id	User level of the company, this is a foreign key

Student	oib	The OIB of the student, it is unique for each student and it is the primary key
	firstname	Student first name
	lastname	Student last name
	age	Student age
	email	Student email
	Phone_number	Student phone number (optional)
	city	City of the student
	address	Student address (optional)
	postal_code	Postal code of the student's city (optional)
	university	The university the student is attending
	picture	Picture for the student's profile (optional)

	user_level_id	User level of the student, this is a foreign key
	resume_id	The id of the student's resume, this is a foreign key

user_level	id	The ID of the user level
	type	The type of user, can be 'company', 'student' or 'administrator'

review	id	The ID of the review/comment, it is unique for each review and it is the primary key
	created	The date and time when the review was created
	status	The status defines whether the review had been approved by an administrator or not
	text	The body of the review
	company_id	The ID of the company that the review refers to, this is a foreign key
	Student_oib	The OIB of the author of the review, this is a foreign key

internship	id	The ID of the open internship/contract, it is unique for each internship and it is part of the primary key
	created	The date and time when it was created
	position	The job title/position that is open
	description	A description of the internship (optional)
	city	City where the internship will take place
	requirements	Required skills/knowledge/characteristic
	status	Defines whether the internship is still open or not
	salary	If and how much the intern will be paid

	deadline	Defines how long students can apply for this internship
	Company_id	The ID of the company that created the internship, this is a foreign key and part of the primary key

resume	id	The ID of the resume, it is unique for each resume and it is the primary key
	title	Title of the resume (optional)
	description	Description/introduction (optional)

work experience	id	The ID of the work experience, it is unique for each work experience and it is the primary key
	title	The title/position
	country	The counter where the work took place
	city	The city where the work took place
	start_month	Starting month (optional)
	end_month	Ending month (optional)
	start_year	Starting year (optional)
	end_year	Ending year (optional)
	description	A description of the job
	resume_id	The ID of the resume where the work experience is listed, this is a foreign key

education	id	The ID of the education, it is the primary key
	start_year	Starting year (optional)
	end_year	Ending year (optional)
	title	Name of the degree/institution
	country	Country where education took place
	city	City where education took place

keyword	id	The ID of the keyword, it is the primary key
	category	The broader category to which the word belongs
	word	The keyword itself

skill	id	The ID of the skill, it is the primary key
	name	The name of the skill
	level	Defines how good the student is at the skill 1 (very weak) - 5 (very strong)

language	id	The ID of the language, it is the primary key
	name	The name of the language
	level	Defines how good the student is at the skill 1 (A1 level) - 6 (C2 level)

To understand the entities: application, resume\_education, resume\_keyword, resume\_skill, resume\_language, we need to first take a look at the relationships:

#### **INTERNSHIP – STUDENT (The application entity):**

The relationship between the student and the internship entity is many to many, because a student can apply to more than one internship, and one internship can have many applicants at a time. A student can also have applied to no internships, and an internship can have no applied students yet e.g. if it has just been created. That is why the application side of these relationships is optional. Therefore, to simplify the relationship we introduce a new entity called application, which contains a composite primary key that is made up of the primary keys from the parent tables (student\_oib from the student table, and internship\_id, company\_id from the internship table.) Each part of the composite primary key also acts as a foreign key.

#### **RESUME – EDUCATION (The resume\_education entity):**

This relationship is a many to many relationship, because a student can have multiple schools/courses on their resume, and a certain school/course can be on many resumes e.g. if two students took the same course. A student can have no education, but a certain education cannot exist without a resume because it would be of no use to the database and application. Therefore this relationship is mandatory-optional. Again, by simplifying the relationship we get a new entity which has a composite primary key made up of the primary keys of its parent tables (education\_id and resume\_id), which separately act as foreign keys.

#### **RESUME – KEYWORD (The resume\_keyword entity):**

This relationship is many to many because, a resume can have multiple keywords associated with it, and a certain keyword can be on multiple resumes. Both of these relationships are mandatory, because the keywords provide a great use to the application so each resume has to have atleast one keyword, and a keyword has to be associated to atleast one student resume or there would be no use for it in the database. By simplifying the relationship we get a new entity which has a composite primary key (resume\_id, keyword\_id) which separatly act as foreign keys.

**RESUME – SKILL (The resume\_skill entity):**

This relationship is many to many because a resume can have multiple skills listed, and a skill can be on multiple resumes. A resume can also have no skills listed, but a skill must be associated with a resume otherwise it wouldn't be in the database so the relationship is mandatory-optional. By simplifying the relationship we get a new entity which has a composite primary key (resume\_id, skill\_id) which separatly act as foreign keys.

**RESUME – LANGUAGE (The resume\_language entity):**

This relationship is many to many because a resume can have multiple languages listed, and a single language can be on multiple resumes. A resume can have no languages, but a language must be associated with a resume otherwise it wouldn't be in the database, therefore the relationship is mandatory-optional. By simplifying the relationship we get a new entity which has a composite primary key (resume\_id, language\_id) which separatly act as foreign keys.