Plan365

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STUDENT AFFAIRS SYSTEM INTEGRATION

STUDENT AFFAİRS SYSTEM INTEGRATİON WEB SERVİCE APPLİCATİON
SOFTWARE REQUİREMENTS DOCUMENT

www.plan365.com.tr

The structure of the web service application development interface that must be provided by the university to integrate Plan365 with the university student affairs system is explained in this document.

Document Versions

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Solutions Data Published in the Student Exams Web Service has been added.			

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1. INTRODUCTION

This document defines the web service application programming interface (API) that the Plan365 system, used to carry out academic planning activities, should use when receiving data from the university student affairs automation system.

The target audience of the document is the project manager, software developer and software architects who will work on the integration project. The document can be used as a reference document for both software development and testing of the developed API.

API return values must be in Json format.

The Web Service should be prepared as **Rest API.** The method to be used for security may vary. The service provider must decide which method will be used, document how the authentication will be done and notify Advancity (The recommended security method is Basic Authentication). Content- Type of sent parameters With application / json, the necessary structure is ready to capture the response data with the json data format by default.

Some information is requested for the "Exam" module and some information for the "Course" module. For this reason, there may be more than one function that provides the same information. Data obtained from the student affairs system via web service are as follows:

- Campus
- Building
- Classroom
- Faculty
- Department / Program
- Teaching staff
- Courses
- Student Course Registration

2. SYNCED DATA

The data that Plan365 needs to receive from the student affairs system via web service is explained in the following sections.

2.1. Campus

In this section, all campuses where the university is located should be sent via service.

URL	method
/api/v1/campus	**post**

Table 1. Campus Url Structure

There is no request parameter. The format in which the data will be returned is given in a table below.

Data Label	Name	Explanation
CampusCode *	Campus Code	Must be unique value
CampusName *	Campus name	
Address	Address	

Table 2. Campus Data Type Fields

2.2. Building

The API end where the campus buildings return. The URL structure is as follows.

URL	method
/api/v1/building	**post**

Table 3. Build Url Structure

It takes an array of Campus codes as a parameter and the buildings of the Campuses in this array are returned.

Parameter name	Parameter Type	Explanation
campusCodes	string array	Campus Code. If the list is sent empty, all data must be listed

Table 4. Building Parameters

Data requested in response.

Data Label	Name	Explanation
BuildCode *	Building Code	Must be unique value
BuildName *	building name	
CampusCode *	Campus Code	

Table 5. Build Data Type Fields

2.3. Classroom

Transfer of classroom information to the Aplan side will be provided through this API end.

URL	method
/api/v1/classroom	**post**

Table 6. Classroom Url Structure

Parameter name	Parameter Type	Explanation
buildingCodes	string array	Building codes are taken as parameters. If the parameter is sent empty, all data must be listed

Table 7. Classroom Parameters

Data from more than one main course may come as a response.

Data Label	Name	Explanation
ClassroomCode *	Classroom code	Must be unique value
ClassroomName *	Classroom name	
ActiveStatus *	activity	“True” or “False ”.
CampusCode *	Campus code	
BuildingCode *	building code	
CourseCapacity *	Course capacity	This is the field required for the Aplan course module.
ExamCapacity *	Exam capacity	This is the field required for the Aplan exam module.
Floor *	Floor/Department	The floor of the classroom in the building is written. 0 can be written for ground, -1 can be written for below ground.
Corridor *	Corridor Row Number	Classroom Corridor Consecutive Row Number is written. If the Classroom Name is 105, 106, 107, the Classroom Corridor Consecutive Row Number should be 1, 2, 3.
Type *	Type	Classroom type is written. Classroom type, for example; Lab Classroom Kitchen
Preference	Features	Classroom Features are as follows: *Proj, "Projector"* *AT, "Smart Board" DVD, "DVD"* *SesSist, "Sound System" Bil, "Computer"* *Int, "Internet Access " SbtPer, "Fixed Curtain" Vid, "Video"* *Air Conditioner, "Air Conditioner"* *For Multiple Features: Proj;* *DVD; Vid; know* *form ";" You can write by putting.*
ClassroomDescription	Explanation	Classroom Description

Table 8. MasterCourse Data Type Fields

2.4. Faculty

It is the function that retrieves the information of all faculties in the university.

URL	method
/api/v1/faculty	**post**

Table 9. Faculty Url Structure

Data Label	Name	Explanation
FacultyCode *	Faculty code	Must be unique value
FacultyName *	Faculty name	
CampusCode *	Campus code to which it is affiliated	

Table 10. Faculty Data Type Fields

2.5. Department / Program

Listing of the programs at the university is done with this API end.

URL	method
/api/v1/program	**post**

Table 11. Program (Program) Url Structure

Parameter name	Parameter Type	Explanation
facultyCodes	string array	The Department/Program given the faculty code is listed. If the list is empty, the entire Department / Program must be listed.

Table 12. Program (Program) Data Type Fields

Data Label	Name	Explanation
ProgramCode *	Program code	Must be unique value
ProgramName *	Program name	Must be unique value
FacultyCode *	Faculty code	
EducationType *	Teaching Type	Normal Education (NO) Evening Education (IO) Distance Education (UE)
CourseGradeLevel *	Grade level (for Plan365 course)	More than one code can be written by using (;) which must be written at all grade levels in the program and department.

Table 13. Program (Program) Data Type Fields

2.6. Faculty Members

Instructors may differ between Aplan lessons and Aplan exams. Information for which module the fields are requested is given in the table.

URL	method
/api/v1/instructor	**post**

Table 14. Instructors Url Structure

Parameter name	Parameter Type	Explanation
year	int	Instructor information for the given year must be sent.
term	int	Instructor information for the given semester must be sent. Fall is 1 Spring is 2 Summer is 3

Table 15. Instructors Parameters

In response, data from more than one instructor may be received for each course (more than one instructor may be teaching a course).

Data Label	Name	Explanation
InstructorCode *	Instructor code	The instructor code in your Student Information System must be a unique value.
ActiveStatus *	activity	“True” or “False”.
UserName *	User name	The instructor may receive a unique instructor code or e-mail information.
Email *	string	Email information
PhoneNo	string	Phone number information for example: 5554443322
Title *	Title	This Column Goes One of the Following Prof. Dr. / Prof. Assoc. Dr. Assoc. / Dr. Lecturer Member of / Lecturer See. Dr. / Lecturer See. / Research. See. Dr. / Research. See. / Lecturer / Thesis / advisor / Project consultant / Employee
FullName *	Name surname	
WorkType *	How it works	This Column Goes One of the Following TZ: Full Time / YZ: Part Time
TaskFacultyCode *	Place of duty Faculty code (for Plan365 exam)	Faculty, College or Institute codes appear in this column. More than one code can be written using (;).

TaskDepartmentCode *	Place of duty Program / Department Name	The name of the department or program in which he/she works is written in this column.
TaskLevel	Supervisor degree (for Plan365 exam)	This column comes with one of the following. *Do not do / Very Little / Little / Medium / Much / Too Much*
InvigilationCampusCode	Oversight Campus (for Plan365 exam)	The campus code that the student will supervise should be written in this column. It is a mandatory field and cannot be left blank.
InvigilationFacultyCode	Faculty of Observation (for Plan365 exam)	Faculty, College, or Institute codes appear in this column. More than one code can be written using (;). It is a mandatory field and cannot be left blank.
InvigilationProgramCode	Proctoring Program (for Plan365 exam)	More than one code can be written using the relevant Program or Section Codes (;) in this column. It is a mandatory field and cannot be left blank. If it is not known, you can write the Duty Station Program Code.
DailyMaxClass	Maximum Courses per a Day	Faculty member wants to give in Regular Education and Evening Education in a day are written in this column. It cannot be left blank. By default, you can type "8".

Table 16. Instructors Data Type Fields

2.7. Courses

Term and year parameters are required when listing courses. With these parameters, you will be able to use the plan application for the year and period you want.

Some of the requested data is requested for the Plan365 Exam module and some for the Plan365 Course module. You can find which module is requested for in the table containing the return values.

URL	method
/api/v1/course	**post**

Table 17. Courses Url Structure

Parameter name	Parameter Type	Explanation
departmentCodes	string array	A series containing the codes of the departments whose courses we want to take. If blank is given, all data must be received.
year	int	Year parameter
term	int	Period parameter Fall: 1 Spring: 2 Write: 3

Table 18. Courses Data Type Fields

The required fields according to the relevant period, year and department dollar given in response are explained below.

Data Label	Name	Explanation
CourseCode *	Course code	Student Information System must be a unique value.
ActiveStatus *	Activity	“True” or “False”.
CourseName *	Course name	Course Name in Your Student Information System.
ActivityType *	Activity type (for Plan365 course)	Type the Activity type you want. *(Theoretical, Practical, Laboratory, Problem Solving, Internship, etc.)*
CourseType	Lesson Type	The course to which the activity belongs is a Compulsory or Elective Course in the Curriculum. "Z" value should be sent for Compulsory Courses and "S" value should be sent for Elective Courses.
ActivityDuration	Activity Duration (for Plan365 course)	How many slots are required for the activity should be specified. For example, if the activity duration is 2 hours and 1 activity slot is 1 hour, 2 should be written here.
CourseLocation *	Location of the course (for Plan365 course)	*Campus Code / External-Responsible / External-Active / Distance Education*
EducationType *	Education (for Plan365 course)	Education Type Must Be Written. *NO* *(Normal Education) / *IO* *(Evening Education) *Distance Education*
CampusCode *	Campus code (for Plan 365 exam)	*Campus Code* *Uzaktan Sınav * (Online Exam)*
FacultyCode *	Faculty code (for Plan365 exam)	

DepartmentCodes *	Department code	The code of the programs to which the course is connected is written here. If more than one program is affiliated with the same course, ";" is added between the Department codes of the programs. can be written by putting.
CourseGradeLevel *	Class	The class information to which the course is affiliated (for example, 4) is written here. If more than one class is connected to the same course, ";" is placed between the classes. It is written by adding (for example. 1;2;3;4). If more than one program is linked to the same course, class information is written respectively corresponding to these programs. (for example, DepartmentCodes: "ABC1; CBA2" CourseGradeLevel: "1;2")
CourseGroup *	Course Group-Branch	Group, Branch and Branch information (for example: 4) to which the course is affiliated is written here. If more than one branch information is linked to the same course, ";" is placed between the branch information. (for example. 1;2;3;4 or A;B;C;). If more than one program is connected to the same course, branch information is written respectively corresponding to these programs. (for example. DepartmentCodes: "ABC1;CBA2" CourseGroup: "A;B")
Instructor *	Instructors	The Code of the Instructor assigned the Course is Written. If more than one instructor assigned the same course, codes ";" It can be separated by.
Assistants	Assistants (for Plan365 exam)	The code for the course assistant is written here. If more than one assistant is assigned the same course, the faculty member code of the assistants is filled with ";" can be written by putting. The assistants defined here are also primarily appointed as invigilators for the course exam. If there is no assistant for the course or it is not clear, it can be left blank.
StudentCount *	Number of Students (for Plan365 course)	Number of Students Taking the Course Must be a numerical value
StudentCounts *	Number of Students to Take the Exam (for Plan365 exam)	The number of students who will take the exam is written here. If there are more than one program-based number of students taking the exam, the student numbers can be separated with the **";" character.** In this case, the number of faculties, programs, faculty members, classes and branches should be added in equal numbers and in the correct order. The same number of students can be added more than once.

ConjugateCourses	Conjugate Course (for Plan365 exam)	If available, the course codes that are equivalent to the relevant course are written. If there is more than one course ";" Conjugate course codes can be separated. These equivalent courses are combined when taking the exam. If there is no equivalent course, it should be left blank.
ExamDuration *	Exam Duration (for Plan365 exam)	Slots are required for the course exam should be specified. For example, if the exam duration is 2 hours and 1 exam slot is 1 hour, 2 should be written here.
ExamSession *	Number of Sessions (for Plan365 exam)	It is used to increase Capacity in the same Exam Slot. For example, let the Exam Slot duration be 2 hours. When you type 2 here, the existing capacity is used for 2 sessions of 1 hour in the same time period. If this is not the case, "1" should be written. It is a mandatory field and cannot be left blank.
InvigilatorGapBeforeExam	Vacancy Period Before Proctoring (Number of Slots) (for Plan365 exam)	For invigilators assigned to Exam Invigilators, it indicates how much space will be given before the exam. If 1 is entered here in an exam with an exam slot duration of 2 hours, the invigilator assigned to the exam leaves the 1 slot before the exam blank. If there is no such application, you can write "0". It is a mandatory field and cannot be left blank.
InvigilatorGapAfterExam	Vacancy Period After Proctoring (Number of Slots) (for Plan365 exam)	It specifies how much space will be given to Exam Invigilators after the exam for the invigilators they are assigned to. If 1 is entered here in an exam with an exam slot duration of 2 hours, the invigilator assigned to the exam leaves the 1 slot time slot empty until the next task after the exam. If there is no such application, you can write "0". It is a mandatory field and cannot be left blank.

ClassroomCombineStatus*	Classroom Combine Status (for Plan365 exam)	This column, one of the following is given regarding how to proceed when combining branches in the exam program in courses that have more than one branch or group (section). Regardless of the faculty member or program, all students are mixed to be placed in the exam proctorships, according to the faculty member to place students taking courses from the same faculty member in a mixed way, according to the program to place students taking this course in the same program and department in a mixed way. should be selected. 0, 1 or 2 (0: Combined, 1: By Faculty Member, 2: By Program) If unknown, write "1" as the value.
ExamType	Exam Type (for Plan365 exam)	Exam Type can only be one of the following. 1, 2, 3 or 4 (1: Multiple Choice / Classic Open-Ended / Written, 2: Application, 3: Assignment / Project / Report Submission, 4: Jury / Defense) If unknown, write "0" as the value.
ExamEnvironment	Exam Environment (for Plan365 exam)	Exam Environment can only be one of the following. 1 or 2 (1: Face to Face, 2: Online Exam) If unknown, write "0" as the value.
CourseEnvironment	Course Environment (for Plan365 course)	Course Environment can only be one of the following. 1, 2 or 3 (1: Face to Face, 2: Distance Education, 3: Hybrid) If unknown, write "0" as the value.
CourseLanguage	Course Language	The language of the recorded course is written in the settings. For example; Turkish English
ClassroomType	Classroom Type	The registered classroom type is written in the settings. For example; Lab, Classroom
Description	Explanation	Description of the course or exam
CourseOpenedId *	Course Offered ID	Course ID in the Student Information System is written.

Table 19. Courses Data Type Fields

2.8. Student course registration *(for Plan365 exam)*

This information is requested for the Aplan Exam Module.

URL	method
/api/v1/enrollment	**post**

Table 20. Course Enrollment Url Structure

Parameter name	Parameter Type	Explanation
courseCodes	string array	It is the array containing the course codes. If the course codes parameter is sent empty, the classes of all courses must be listed.
year	int	Year parameter
term	int	Period parameter Fall: 1 Spring: 2 Write: 3

Table 21. Course Enrollment Parameters

Data Label	Name	Explanation
UserIdentifier	Unique Identity Number	
StudentNumber *	Student number	
FullName *	Name surname	
RegisteredDepartmentCode *	Department code	Department code where registered
CourseCode *	Course code	
TakeFacultyCode *	Faculty code	Faculty code where the course is taken
TakeDepartmentCode *	Department code	Department code where the course is taken
CourseGradeLevel *	Course Grade Level	Grade Level of the Course in the curriculum
CourseGroup	Course Group-Branch	Group, Branch, Branch

Table 22. Course Enrollments Data Type Fields

3. SSO

These are the functions that need to be prepared so that users can enter the system with the information in the Student Information System. What needs to be taken into consideration is that which username will be verified from the student information system, this information must be returned as the username in the "/api/aplan/instructors" methods.

3.1. User Login Authentication

It is a service that verifies users' information by obtaining a username and password.

URL	method
/api/v1/validate-user	**post**

Table 23. Validate User Url Structure

Parameter name	Parameter Type	Explanation
username	string	User name
password	string	Password

Table 24. Validate User Parameters

In response, “true” or “false” values will be returned in the IsLogin field . If the login is successful, extra user information will be returned.

Data Label	Name	Explanation
LoginStatus	int	Login attempt information
UserName	string	Username information
Name	string	Name information
surname	string	Surname information
E-mail	string	Email information

Table 25. Validate User

4. Student Exams Web Service

Student exam information for published exam solutions can be accessed via the addresses below.

4.1. Published Solutions Data

In the published solutions, student lists for exams are available and thus information about student exams can be accessed. Information about the relevant solutions for the exam periods can be reviewed at the address below. In this way, you will be able to access exam information Term ID and solution ID information can be determined for students.

URL	method
https://[OrganizationName].aplancloud.com/api/integration/published-solution/1	**get**

Table 26. Published Solutions Data Url Structure

In response, the list data of all exam solutions published in the system will be returned.

Data Label	Explanation
solutionId	Solution ID
termId	Period Id
createDate	Created date
explanation	Solution description
isPublished	Publishing status
institutionName	University Name
term_type _	Term type (0: course, 1: exam)
name	Period name
year	Year
academic_term _	Academic term type (1:Fall, 2:Spring, 3:Summer)
exam _type	Semester exam type

Table 27. Available Solutions Data Type Fields

4.2. Student Exams Data

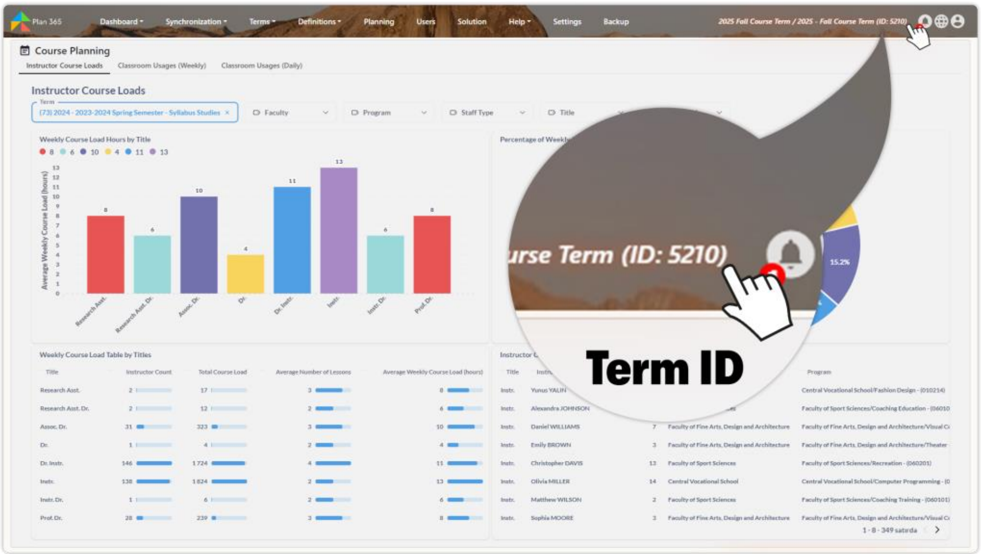
The ID of the current exam period , the ID of the solution published in the relevant period and the student number of the student whose exam information will be accessed must be known. The relevant id information can be determined using the address mentioned in Section 4.1. Additionally, this information can be accessed in the "Solution" tab on the interface after logging into the system.

URL	method
https://[OrganizationName].aplancloud.com/api/integration/search-exam-solution/	**post**

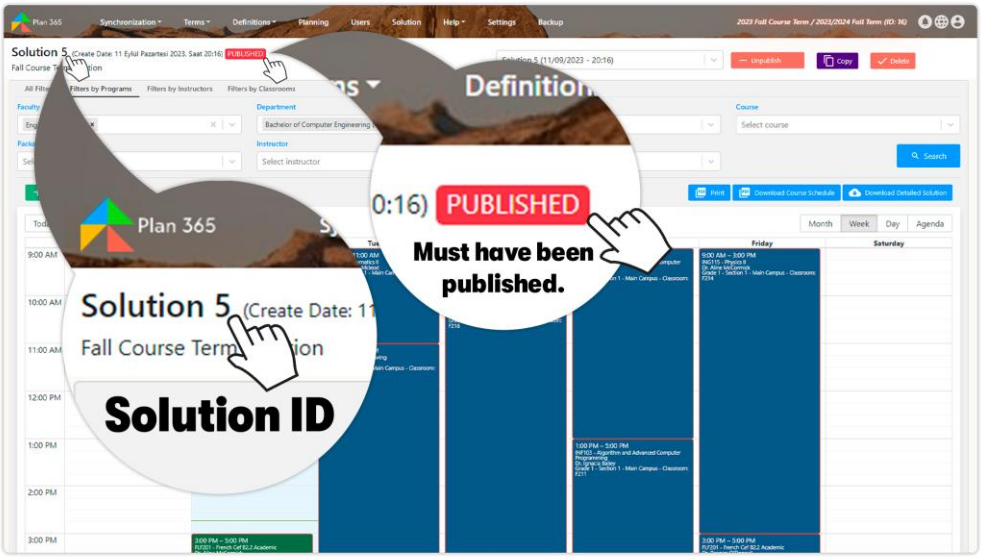
Table 28. Student Exams Web Service Url Structure

Parameter name	Parameter Type	Explanation
term _id	int	Period Id
solution _id	int	Solution ID
student_number _	string	Student number

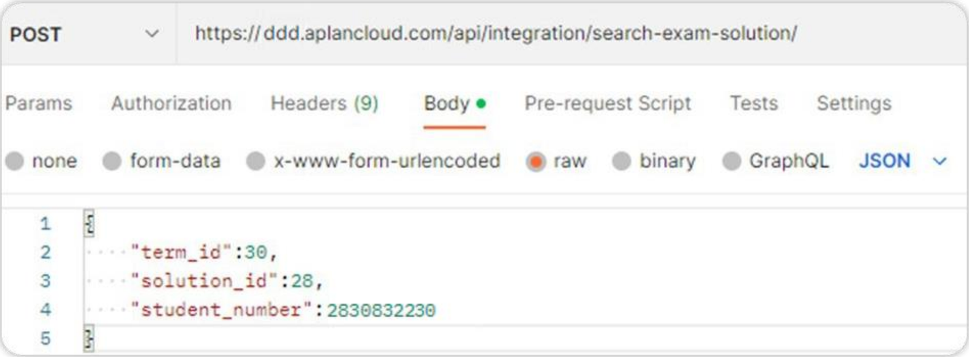
Table 29. Student Exams Web Service Url Parameters



Picture 1: Term ID



Picture 2: Solution ID and Release Status



POST https://ddd.aplancloud.com/api/integration/search-exam-solution/

```
{
    "term_id":30,
    "solution_id":28,
    "student_number":2830832230
}
```

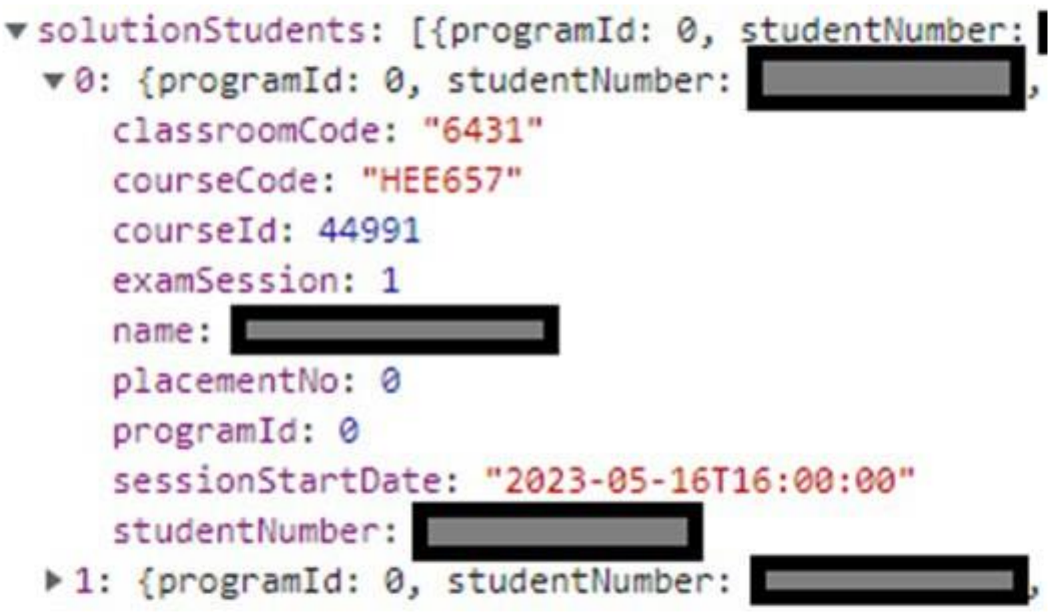
Picture 3: Student Number, Term ID and Solution ID

In response, detailed solution data for the relevant filters will be returned.

Data Label	Explanation
SolutionStudents	Student information
SolutionCourses	Course Information
SolutionClassrooms	Classroom Information
SolutionPrograms	Program Information
SolutionFaculties	Faculty Information
SolutionBuildings	Building Information
SolutionCampuses	Campus Information
SolutionInstructors	Instructor Information
SolutionInvigilators	Exam Proctor Information

Table 30. Student Exams Web Service Data Type Fields

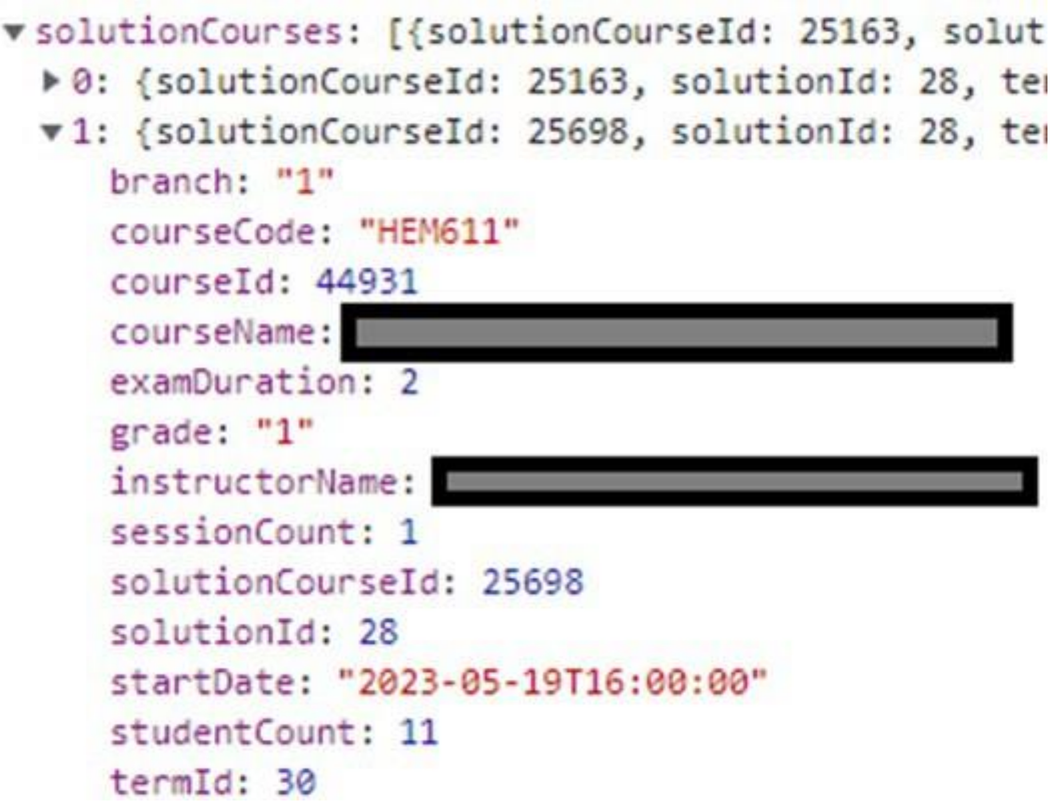
If only information about the exam the student will take is requested, “SolutionStudents” data can be examined. Here is a list of student exams. Through each value, the course code of the exam the student will take, the classroom code where the exam will be held and the start date of the exam session the student will take can be accessed.



```
▼solutionStudents: [{programId: 0, studentNumber: [redacted]
  ▼0: {programId: 0, studentNumber: [redacted],
      classroomCode: "6431"
      courseCode: "HEE657"
      courseId: 44991
      examSession: 1
      name: [redacted]
      placementNo: 0
      programId: 0
      sessionStartDate: "2023-05-16T16:00:00"
      studentNumber: [redacted]
  ▶1: {programId: 0, studentNumber: [redacted],
```

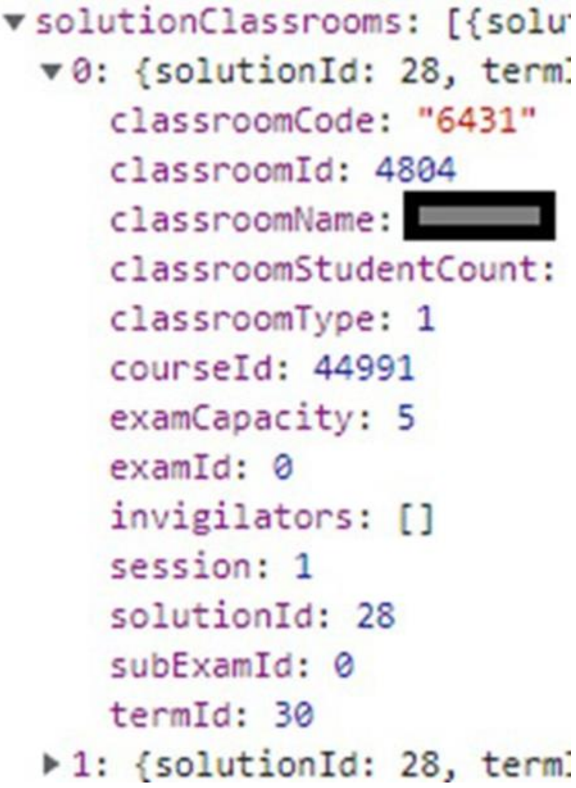
Picture 4: Solution Students

If detailed information of the student exam is required, for example, if information about the classroom where the exam will be held is required, data can be accessed by matching the "classroomCode" value on the "SolutionClassrooms" list, or if information about the course of the exam is required, by matching the "courseId" value on the "SolutionCourses" list. This process can be performed on all lists via identification codes or course ID.



```
▼ solutionCourses: [{solutionCourseId: 25163, solut
  ▶ 0: {solutionCourseId: 25163, solutionId: 28, te
  ▼ 1: {solutionCourseId: 25698, solutionId: 28, te
      branch: "1"
      courseCode: "HEM611"
      courseId: 44931
      courseName: [redacted]
      examDuration: 2
      grade: "1"
      instructorName: [redacted]
      sessionCount: 1
      solutionCourseId: 25698
      solutionId: 28
      startDate: "2023-05-19T16:00:00"
      studentCount: 11
      termId: 30
```

Picture 5: Solution Courses



```
▼ solutionClassrooms: [{solu
  ▼ 0: {solutionId: 28, term
      classroomCode: "6431"
      classroomId: 4804
      classroomName: [redacted]
      classroomStudentCount:
      classroomType: 1
      courseId: 44991
      examCapacity: 5
      examId: 0
      invigilators: []
      session: 1
      solutionId: 28
      subExamId: 0
      termId: 30
  ▶ 1: {solutionId: 28, term
```

Picture 6: Solution Classrooms