



API Contract - DCD Allocation Client

Project Create API

Endpoint

```
POST /api/projects
```

Description

Creates a new project with its associated activities and sub-activities. This endpoint handles the complete project creation workflow including validation, team composition calculation, and resource allocation.

Request Headers

```
Content-Type: application/json  
Authorization: Bearer <token>
```

Request Body Schema

Project Create Request

```

interface CreateProjectRequest {
  name: string;
  code?: string; // Optional, auto-generated if not provided
  team: Team;
  category: ProjectCategory; // Required, one of: "Small" | "Medium" | "Big"
  priority: ProjectPriority; // Required, one of: "Low" | "Medium" | "High" | "Critical"
  budget: number; // Required, positive number
  startDate: string; // Required, ISO date string (YYYY-MM-DD)
  endDate: string; // Required, ISO date string (YYYY-MM-DD)

  activities: CreateActivityRequest[]; // Required, at least one activity
}

interface CreateActivityRequest {
  activityName: string; // Required, 3-100 characters
  startDate: string; // Required, ISO date string (YYYY-MM-DD)
  endDate: string; // Required, ISO date string (YYYY-MM-DD)
  fte: number; // Required, 0.1-2.0 in 0.1 increments
  duration: number; // Required, 1-2000 hours, integer
  calculationMode: "auto" | "manual";
  role: "SE" | "DE" | "SA" | "";
  excludeLevel?: "none" | "junior" | "middle" | "senior"; // Optional

  // Sub-activities (optional)
  subActivities?: CreateSubActivityRequest[];
}

interface CreateSubActivityRequest {
  activityName: string; // Required, 3-100 characters
  startDate: string; // Required, must be within parent activity dates
  endDate: string; // Required, must be within parent activity dates
  fte: number; // Required, 0.1-2.0 in 0.1 increments
  duration: number; // Required, 1-2000 hours, integer
  calculationMode: "auto" | "manual"; // Required
  excludeLevel?: "none" | "junior" | "middle" | "senior"; // Optional
}

```

Validation Rules

Project Level Validation

- `name` : Required, 3-100 characters
- `team` : Must be one of the predefined teams
- `category` : Must be one of: "Small", "Medium", "Big"
- `priority` : Must be one of: "Low", "Medium", "High", "Critical"
- `budget` : Must be a positive number
- `startDate` : Required, valid ISO date format
- `endDate` : Required, valid ISO date format, must be after startDate
- `activities` : Required, must contain at least one activity

Activity Level Validation

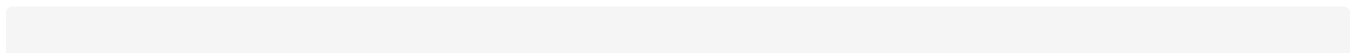
- `activityName` : Required, 3-100 characters
- `startDate` : Required, valid ISO date format, must be within project dates
- `endDate` : Required, valid ISO date format, must be after startDate and within project dates
- `fte` : Required, 0.25-1.0 in increments of 0.25
- `duration` : Agregated from subactivity
- `calculationMode` : Required, either "auto" or "manual"

Sub-Activity Level Validation

- Same as activity validation rules
- `startDate` : Must be within parent activity date range
- `endDate` : Must be within parent activity date range

Response Schema

Success Response (201 Created)



Error Response (400 Bad Request)

```
interface CreateProjectErrorResponse {
    success: false;
    error: {
        code: "VALIDATION_ERROR" | "BUSINESS_RULE_ERROR" | "DUPLICATE_PROJECT";
        message: string;
        details?: {
            field: string;
            message: string;
        }[];
    };
}
```

Error Response (500 Internal Server Error)

```
interface CreateProjectServerErrorResponse {
    success: false;
    error: {
        code: "INTERNAL_SERVER_ERROR";
        message: string;
    };
}
```

Example Request

```
{
  "name": "Customer Portal Enhancement",
  "team": "DMA",
  "category": "Medium",
  "priority": "High",
  "budget": 150000,
  "budgetCode": "PRJ-2025-001",
  "startDate": "2025-01-15",
  "endDate": "2025-06-30",
  "activities": [
    {
      "activityName": "Requirements Analysis",
      "startDate": "2025-01-15",
      "endDate": "2025-02-15",
      "fte": 1.0,
      "duration": 160,
      "calculationMode": "auto",
      "role": "SA",
      "subActivities": [
        {
          "activityName": "Stakeholder Interviews",
          "startDate": "2025-01-15",
          "endDate": "2025-01-30",
          "fte": 0.5,
          "duration": 80,
          "calculationMode": "manual",
          "role": "SA"
        }
      ]
    },
    {
      "activityName": "System Development",
      "startDate": "2025-02-16",
      "endDate": "2025-05-30",
      "fte": 2.0,
      "duration": 640,
      "calculationMode": "auto",
      "role": "SE"
    }
  ]
}
```

```
]
}
```

Example Success Response

Example Error Response

```
{
  "success": false,
  "error": {
    "code": "VALIDATION_ERROR",
    "message": "Invalid input data",
    "details": [
      {
        "field": "activities[0].endDate",
        "message": "End date must be after start date"
      },
      {
        "field": "activities[1].fte",
        "message": "FTE must be in increments of 0.1"
      }
    ]
  }
}
```

Error Codes

Code	Description
VALIDATION_ERROR	Input validation failed (400)
BUSINESS_RULE_ERROR	Business logic validation failed (400)
DUPLICATE_PROJECT	Project with same name/code already exists (400)
INTERNAL_SERVER_ERROR	Server error occurred (500)

Business Rules

1. **Project Dates:** Project end date must be after start date
2. **Activity Dates:** All activities must fall within project date range
3. **Sub-Activity Dates:** All sub-activities must fall within their parent activity date range
4. **FTE Validation:** FTE values must be between 0.1 and 2.0 in increments of 0.1
5. **Duration Validation:** Duration must be between 1 and 2000 hours and must be an integer
6. **Project Code:** If not provided, will be auto-generated based on team and sequence
7. **Budget:** Must be a positive number
8. **Team Composition:** System will automatically calculate team composition based on activities and roles