

```
from django.db import models
```

```
class Node(models.Model):
```

```
    name = models.CharField(max_length=10)
```

```
    x = models.DecimalField(max_digits=10, decimal_places=2)
```

```
    y = models.DecimalField(max_digits=10, decimal_places=2)
```

```
    z = models.DecimalField(max_digits=10, decimal_places=2)
```

```
    def __str__(self):
```

```
        return self.name
```

```
from rest_framework import serializers
```

```
from .models import Node
```

```
class NodeSerializer(serializers.ModelSerializer):
```

```
    class Meta:
```

```
        model = Node
```

```
        fields = '__all__'
```

```

from rest_framework.views import APIView
from rest_framework.response import Response
from rest_framework import status
from django.shortcuts import get_object_or_404
from .models import Node
from .serializers import NodeSerializer

class NodeListCreateView(APIView):
    def get(self, request):
        nodes = Node.objects.all()
        serializer = NodeSerializer(nodes, many=True)
        return Response(serializer.data)

    def post(self, request):
        serializer = NodeSerializer(data=request.data)
        if serializer.is_valid():
            serializer.save()
            return Response(serializer.data, status=status.HTTP_201_CREATED)
        return Response(serializer.errors, status=status.HTTP_400_BAD_REQUEST)

class NodeDetailView(APIView):
    def delete(self, request, pk):
        node = get_object_or_404(Node, pk=pk)
        node.delete()
        return Response({"message": "Node deleted"}, status=status.HTTP_204_NO_CONTENT)

```

```

1  from django.urls import path
2  from .views import NodeListCreateView, NodeDetailView
3
4  urlpatterns = [
5      path('nodes/', NodeListCreateView.as_view(), name='nodes-list-create'),
6      path('nodes/<int:pk>/', NodeDetailView.as_view(), name='node-detail'),
7  ]
8

```

```
2 from django.contrib import admin
3 from django.urls import path, include
4
5 urlpatterns = [
6     path('admin/', admin.site.urls),
7     path('api/', include('spaceTruss.urls')),
8
9 ]
10
```

```
DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.mysql',
        'NAME': 'space_truss_db_v2',
        'USER': 'spaceTrussUser',
        'PASSWORD': '934',
        'HOST': 'localhost',
        'PORT': '3306',
    }
}
```

```

import React, { useState, useEffect } from "react";
import axios from "axios";
import "../styles/spaceTruss.css"; // Import the CSS file

const API_URL = "http://127.0.0.1:8000/api/nodes/";

const SpaceTruss: React.FC = () => {
  const [coordinates, setCoordinates] = useState({ x: "", y: "", z: "" });
  const [points, setPoints] = useState<{ id: number; name: string; x: string; y: string; z: string }[]>([]);

  useEffect(() => {
    fetchPoints();
  }, []);

  const fetchPoints = async () => {
    try {
      const response = await axios.get(API_URL);
      setPoints(response.data);
    } catch (error) {
      console.error("Error fetching nodes:", error);
    }
  };

  const handleChange = (e: React.ChangeEvent<HTMLInputElement>) => {
    setCoordinates({ ...coordinates, [e.target.name]: e.target.value });
  };

  const handleAddPoint = async () => {
    if (coordinates.x && coordinates.y && coordinates.z) {
      const newNode = {
        name: `Node.${points.length + 1}`,
        x: coordinates.x,
        y: coordinates.y,
        z: coordinates.z,
      };

      try {
        const response = await axios.post(API_URL, newNode);
        setPoints([...points, response.data]); // Add new node to the list
        setCoordinates({ x: "", y: "", z: "" }); // Reset input fields
      } catch (error) {
        console.error("Error saving node:", error);
      }
    }
  };

  const handleDeletePoint = async (id: number) => {
    try {
      await axios.delete(`${API_URL}${id}/`); // Ensure correct URL format
      const updatedPoints = points.filter((point) => point.id !== id);

      // **Important**: Do NOT renumber database IDs; keep them unique
      setPoints(updatedPoints);
    } catch (error) {
      console.error("Error deleting node:", error);
    }
  };
};

```



```

import React from "react";
import ReactDOM from "react-dom/client";
import { BrowserRouter as Router, Routes, Route } from "react-router-dom";
import "./index.css";
import SpaceTruss from "../pages/SpaceTruss";
import App from "../App";

ReactDOM.createRoot(document.getElementById("root")!).render(
  <React.StrictMode>
    <Router>
      <Routes>
        <Route path="/" element={<App />} />
        <Route path="/space-truss" element={<SpaceTruss />} />
      </Routes>
    </Router>
  </React.StrictMode>
);

```

```

import { Link } from "react-router-dom";

function App() {
  return (
    <div className="flex flex-col items-center absolute top-2 min-h-screen">
      <h1 className="text-3xl font-bold mb-4">Home Page</h1>
      <Link to="/space-truss" className="px-4 py-2 bg-blue-500 text-white rounded">
        Go to Space Truss
      </Link>/.px-4.py-2.bg-blue-500.text-white.rounded
    </div>/.flex.flex-col.items-center.absolute.top-2.min-h-screen
  );
}

export default App;

```