

**PRAKTIKUM  
PEMROGRAMAN WEB**

**MODUL 6  
PENGENALAN JAVASCRIPT TINGKAT LANJUT**



**Informatika  
Telkom University  
Surabaya**

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**PROGRAM STUDI S1 INFORMATIKA  
FAKULTAS INFORMATIKA  
UNIVERSITAS TELKOM SURABAYA  
2024**

# TUGAS KAMPUS MODUL 6

- **LINK GITHUB :**

[https://github.com/danapraa/pemweb\\_praktikum6.git](https://github.com/danapraa/pemweb_praktikum6.git)

- Tipe Data Object

Code

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Tipe Data Object</title>
  </head>
  <body>
    <h1>Belajar Javascript: Tipe Data Object</h1>
  </body>
  <script>
    // Object Kosong
    let foo = {};
    console.log("Type of foo: ", typeof foo); // object

    // Object
    let mahasiswa = {
      nama: "Ali",
      jurusan: "Informatika",
      ipk: 3.67,
      semester: 4,
    };
    console.log("Nama Mahasiswa: ", mahasiswa.nama);
    console.log("Jurusan Mahasiswa: ", mahasiswa.jurusan);
    console.log("IPK Mahasiswa: ", mahasiswa.ipk);
    console.log("Semester Mahasiswa: ", mahasiswa.semester);

    // Menambah Properti
    let mahasiswa2 = {
      nama: "Budi",
      jurusan: "Sistem Informasi",
    };
    mahasiswa2.ipk = 3.67;
    mahasiswa2.semester = 4;
    console.log("Nama Mahasiswa2: ", mahasiswa2.nama);
    console.log("Jurusan Mahasiswa2: ", mahasiswa2.jurusan);
```

```
console.log("IPK Mahasiswa2: ", mahasiswa2.ipk);
console.log("Semester Mahasiswa2: ", mahasiswa2.semester);

// Mengubah nilai properti
let mahasiswa3 = {
  nama: "Dodi",
  jurusan: "Kedokteran",
  ipk: 3.67,
  semester: 4,
};
console.log("Nama Mahasiswa3: ", mahasiswa3.nama);
mahasiswa3.nama = "Joko";
console.log("Nama Mahasiswa3: ", mahasiswa3.nama);
console.log("IPK Mahasiswa3: ", mahasiswa3["ipk"]);
mahasiswa3["ipk"] = 2.9;
console.log("IPK Mahasiswa3: ", mahasiswa3["ipk"]);

// Object Method
let mobil = {
  nama: "Toyota Avanza",
  tipe: "MPV",
  harga: 3000000000,
  warna: "merah",
  hidupkan: function () {
    return "Mesin dihidupkan";
  },
};
console.log("Hidupkan mobil: ", mobil.hidupkan());

// Spread Operator
let mahasiswa4 = {
  nama: "Heri",
  jurusan: "Informatika",
};
let mahasiswaBaru = { ...mahasiswa4 };
mahasiswaBaru.jurusan = "Ekonomi Manajemen";
console.log("Jurusan Mahasiswa4: ", mahasiswa4.jurusan);
console.log("Jurusan MahasiswaBaru: ", mahasiswaBaru.jurusan);

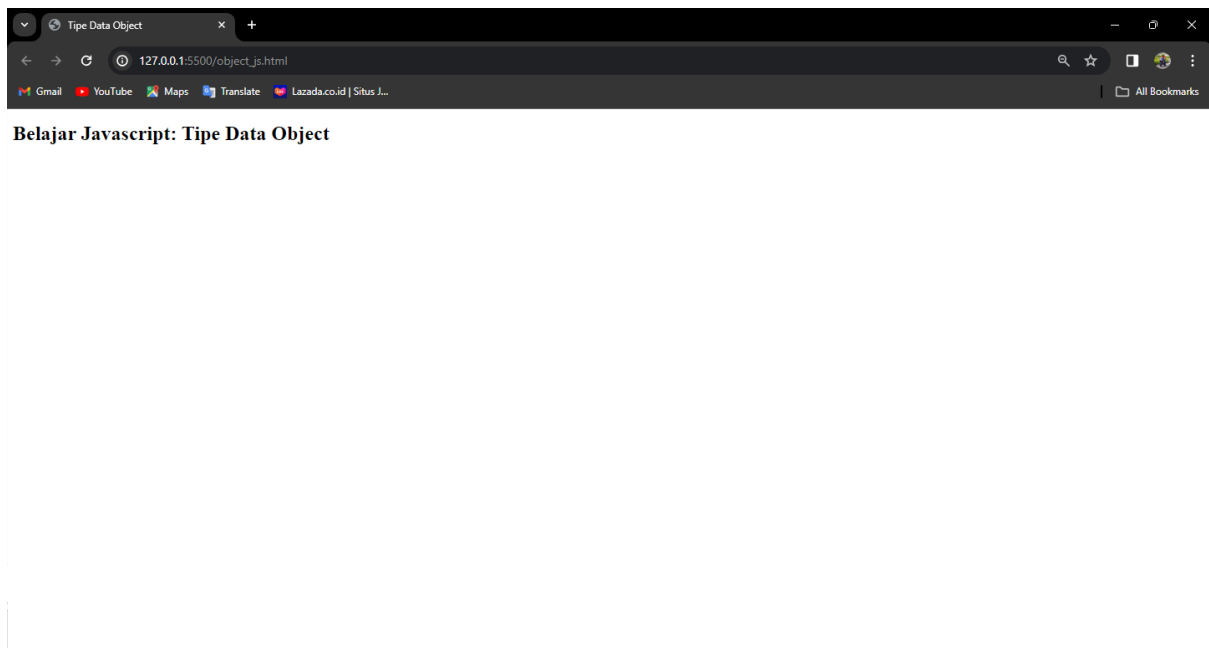
// For In Method
let mobil2 = {
  nama: "Toyota Avanza",
  tipe: "MPV",
  harga: 3000000000,
  warna: "merah",
  hidupkan: function () {
    return "Mesin dihidupkan";
  },
};
```

```

    };
    for (let prop in mobil2) {
        console.log("Prop: ", prop);
        console.log("Isi " + prop + " = " + mobil2[prop]);
    }
</script>
</html>

```

Output :



- Object Oriented Programming

Code :

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Object Oriented Programming (OOP)</title>
  </head>
  <body>
    <h1>Belajar Javascript: Object Oriented Programming (OOP)</h1>
  </body>
  <script>
    // Javascript Class
    class Mobil {
      constructor(nama, tipe, harga) {

```

```

        this.nama = nama;
        this.tipe = tipe;
        this.harga = harga;
    }

    hidupkan() {
        return `Mesin ${this.nama} dihidupkan`;
    }

    pergi(tempat) {
        return `Pergi ke ${tempat} dengan ${this.nama}`;
    }
}

let mobilAndi = new Mobil("Daihatsu Xenia", "MPV", 220000000);
console.log("Nama Mobil Andi: ", mobilAndi.nama);
console.log("Mobil Andi Pergi: ", mobilAndi.pergi("Jakarta"));
let mobilJoko = new Mobil("Toyota Camry", "Sedan", 750000000);
console.log("Nama Mobil Joko: ", mobilJoko.nama);
console.log("Mobil Joko Pergi: ", mobilJoko.pergi("Bali"));
</script>
</html>

```

Output :



- Built-In Object

Code :

```
<!DOCTYPE html>
```

```

<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Number, Math, String, Array</title>
  </head>
  <body>
    <h1>Belajar Javascript: Number, Math, String, Array</h1>
  </body>
  <script>
    // Number Static Property & Static Method
    console.log("Max Value: ", Number.MAX_VALUE);
    console.log('Is "A" integer? ', Number.isInteger("A"));
    console.log("Is 12 integer? ", Number.isInteger(12));

    // Number Object Instance Method
    let foo = new Number(5.123456);
    console.log("toPrecision : ", foo.toPrecision(3));

    // Math Static Property
    console.log("Math.E = " + Math.E); // 2.718281828459045
    console.log("Math.LN10 = " + Math.LN10); // 2.302585092994046
    console.log("Math.LN2 = " + Math.LN2); // 0.6931471805599453
    console.log("Math.LOG10E = " + Math.LOG10E); // 0.4342944819032518
    console.log("Math.LOG2E = " + Math.LOG2E); // 1.4426950408889634
    console.log("Math.PI = " + Math.PI); // 3.141592653589793
    console.log("Math.SQRT1_2 = " + Math.SQRT1_2); // 0.7071067811865476
    console.log("Math.SQRT2 = " + Math.SQRT2); // 1.4142135623730951

    // Math Static Method
    let num = 12.5;
    console.log("Floor: ", Math.floor(num)); // 12
    console.log("Ceil: ", Math.ceil(num)); // 13
    console.log("Round: ", Math.round(num)); // 13
    console.log("Random: ", Math.random());
    console.log("Pow: ", Math.pow(5, 2)); // 25
    console.log("Pow: ", Math.pow(2, 8)); // 256

    // String Object Instance Property & Method
    let text = new String("Selamat Belajar JavaScript");
    console.log("String length: ", text.length);
    console.log("Lowercase: : ", text.toLowerCase());
    console.log("Uppercase: : ", text.toUpperCase());

    // Array Static Method
    let a = new Array("a", "b", "c", "d", "e");
    let b = ["a", "b", "c", "d", "e"];
  </script>

```

```

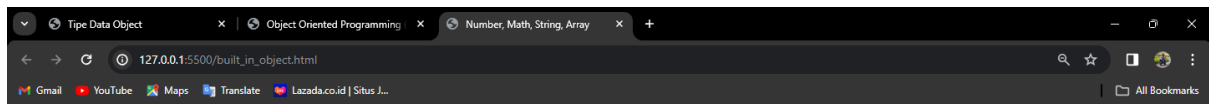
let c = "aiueo";
let d = 123456;
let e = true;
console.log("A: ", Array.isArray(a)); // true
console.log("B: ", Array.isArray(b)); // true
console.log("C: ", Array.isArray(c)); // false
console.log("D: ", Array.isArray(d)); // false
console.log("E: ", Array.isArray(e)); // false
console.log("isArray: ", Array.isArray([1, 2, 3])); // true

// Array Instance Property
let arr = ["a", "b", "c", "d", "e"];
console.log("Arr length: ", arr.length); // 5
let arr2 = ["apel", "pisang", "anggur", "jambu"];
console.log("Arr2 length: ", arr2.length); // 4
console.log("Array length: ", ["x", "y", "z"].length); // 3

// Array For Each
let arr3 = ["a", "b", "c", "d", "e"];
arr3.forEach(function (element) {
    console.log("Arr3 element: ", element);
});
arr3.forEach((element) =>
    console.log("Arr3 element from Arrow: ", element)
);
</script>
</html>

```

Output :



Belajar Javascript: Number, Math, String, Array

- Global Property dan Function

Code :

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Global Property dan Function</title>
  </head>
  <body>
    <h1>Belajar Javascript: Global Property dan Function</h1>
  </body>
  <script>
    // Global Property
    let nan = NaN;
    console.log("nan: ", nan); // NaN
    let infinity = Infinity;
    console.log("infinity: ", infinity); // Infinity
    let undfn = undefined;
    console.log("undfn", undfn); // undefined
    let n = null;
    console.log("n: ", n); // null

    // Global Function
```

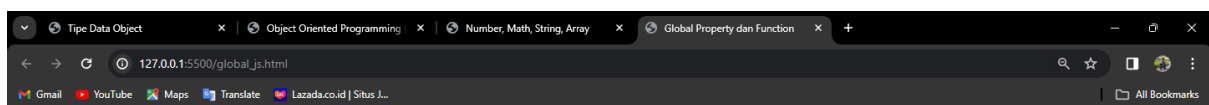


```

let foo = "1234.567";
console.log("parseInt: ", parseInt(foo)); // 1234
console.log("parseInt: ", parseInt(99.99)); // 99
let foo2 = "1234";
console.log("Type of foo2: ", typeof foo2); // string
foo2 = parseFloat(foo2);
console.log("foo2: ", foo2); // 1234
console.log("Type of foo2: ", typeof foo2); // number
</script>
</html>

```

Output :



Belajar Javascript: Global Property dan Function

- Form Validation

Code :

```
<!DOCTYPE html>
```

```

<html lang="id">
  <head>
    <meta charset="utf-8" />
    <title>Form Validation</title>
    <style>
      .error {
        color: red;
        width: 300px;
        text-align: center;
        padding: 2px 10px;
        margin-left: 10px;
      }
    </style>
  </head>
  <body>
    <h1>Belajar Javascript: Form Validation</h1>
    <form id="formKu" name="formKu" method="get" action="proses.php">
      <p>
        Username: <input type="text" name="username" id="username" />
        <span id="usernameSpan"></span>
      </p>
      <p>
        Password: <input type="password" name="pass" id="pass" />
        <span id="passSpan"></span>
      </p>
      <p>
        Konfirmasi Password:
        <input type="password" name="konfPass" id="konfPass" /><span
          id="konfPassSpan"
        ></span>
      </p>
      <p>
        <input type="checkbox" name="syarat" id="syarat" /> Saya menyetujui
        syarat dan ketentuan<span id="syaratSpan"></span>
      </p>
      <p>
        <input type="submit" name="submit" id="submit" value="Kirim Data" />
      </p>
    </form>
    <script>
      let formKuNode = document.getElementById("formKu");

      let usernameNode = document.getElementById("username");
      let usernameSpanNode = document.getElementById("usernameSpan");

      let passNode = document.getElementById("pass");
      let passSpanNode = document.getElementById("passSpan");
    </script>
  </body>
</html>

```

```

let konfPassNode = document.getElementById("konfPass");
let konfPassSpanNode = document.getElementById("konfPassSpan");

let syaratNode = document.getElementById("syarat");
let syaratSpanNode = document.getElementById("syaratSpan");

const diProses = (e) => {
  //===== Untuk Validasi username ===== //
  let usernameError = "";

  if (usernameNode.value.trim() === "") {
    usernameError = "Username harus diisi";
  } else if (/^\W/.test(usernameNode.value.trim())) {
    usernameError = "Hanya bisa diisi karakter alfanumerik";
  } else if (usernameNode.value.trim().length < 6) {
    usernameError = "Username minimal 6 karakter";
  }

  if (usernameError !== "") {
    usernameSpanNode.innerHTML = usernameError;
    usernameSpanNode.className = "error";
    usernameNode.style.border = "2px solid red";
    e.preventDefault();
  }

  //===== Untuk Validasi Password ===== //
  let passError = "";
  if (passNode.value.trim() === "") {
    passError = "Password harus diisi";
  } else if (passNode.value.trim().length < 6) {
    passError = "Password minimal 6 karakter";
  }

  if (passError !== "") {
    passSpanNode.innerHTML = passError;
    passSpanNode.className = "error";
    passNode.style.border = "2px solid red";
    e.preventDefault();
  }

  //===== Untuk Validasi Konfirmasi Password ===== //
  let konfPassError = "";
  if (konfPassNode.value.trim() === "") {
    konfPassError = "Konfirmasi Password harus diisi";
  } else if (konfPassNode.value.trim().length < 6) {
    konfPassError = "Konfirmasi Password minimal 6 karakter";
  } else if (konfPassNode.value !== passNode.value) {
    konfPassError = "Konfirmasi Password tidak sama";
  }

```

```

    }

    if (konfPassError !== "") {
        konfPassSpanNode.innerHTML = konfPassError;
        konfPassSpanNode.className = "error";
        konfPassNode.style.border = "2px solid red";
        e.preventDefault();
    }

    //===== Untuk Validasi Checkbox Syarat ===== //
    let syaratError = "";
    if (syaratNode.checked !== true) {
        syaratError = "Syarat dan ketentuan harus di setujui";
    }

    if (syaratError !== "") {
        syaratSpanNode.innerHTML = syaratError;
        syaratSpanNode.className = "error";
        e.preventDefault();
    }
};

const hapusError = (e) => {
    e.target.style.border = "";
    e.target.parentElement.lastElementChild.innerHTML = "";
};

formKuNode.addEventListener("submit", diProses);
usernameNode.addEventListener("focus", hapusError);
passNode.addEventListener("focus", hapusError);
konfPassNode.addEventListener("focus", hapusError);
syaratNode.addEventListener("focus", hapusError);
</script>
</body>
</html>

```

Output :

Belajar Javascript: Form Validation

Username:

Password:

Konfirmasi Password:

☐ Saya menyetujui syarat dan ketentuan

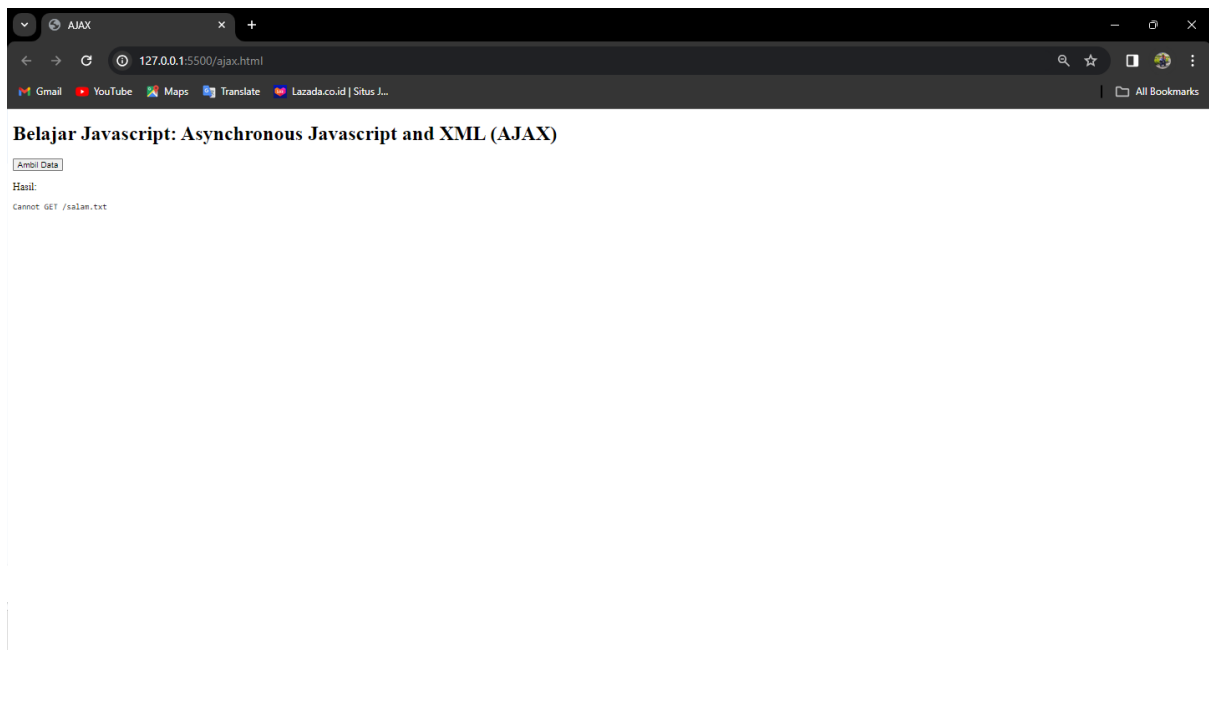
- Asynchronous Javascript and XML (AJAX)

```
<!DOCTYPE html>
<html lang="id">
  <head>
    <meta charset="utf-8" />
    <title>AJAX</title>
  </head>
  <body>
    <h1>Belajar Javascript: Asynchronous Javascript and XML (AJAX)</h1>
    <button id="tombol">Ambil Data</button>
    <p>Hasil: <span id="hasil"></span></p>
    <script>
      let tombolNode = document.getElementById("tombol");
      let hasilNode = document.getElementById("hasil");

      const getAJAX = () => {
        let request = new XMLHttpRequest();
        request.open("GET", "salam.txt", false);
        request.send();
        hasilNode.innerHTML = request.responseText;
      };

      tombolNode.addEventListener("click", getAJAX);
    </script>
  </body>
</html>
```

Output :



- **JSON, API, Fetch**

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>JSON, API, Fetch</title>
  </head>
  <body>
    <h1>Belajar Javascript: JSON, API, Fetch</h1>
  </body>
  <script>
    // JSON Parse
    let mahasiswaJSON = `{"nim":"18010245","nama":"Budi Susanto",
    "jurusan":"Informatika","asalProvinsi":"DKI Jakarta"}`;
```

```

let mahasiswa = JSON.parse(mahasiswaJSON);
console.log("Mahasiwa: ", mahasiswa);
console.log("Nama Mahasiswa: ", mahasiswa.nama);

// JSON Stringify
let mahasiswa2 = {
  nim: "18010245",
  nama: "Budi Susanto",
  jurusan: "Informatika",
  asalProvinsi: "DKI Jakarta",
};
let mahasiswa2JSON = JSON.stringify(mahasiswa2);
console.log("Mahasiswa2 JSON", mahasiswa2JSON);

// Fetch
fetch("https://reqres.in/api/users/1")
  .then((response) => response.json())
  .then((data) => {
    console.log("Data: ", data);
    let user = data.data;
    console.log("ID: ", user.id);
    console.log("Firstname: ", user.first_name);
    console.log("Lastname: ", user.last_name);
    console.log("Email: ", user.email);
    console.log("Avatar: ", user.avatar);
  });
</script>
</html>

```

Output :



## Belajar Javascript: JSON, API, Fetch



# TUGAS RUMAH MODUL 6

- Code Form Registrasi

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Form Registrasi</title>
    <link rel="stylesheet" href="/tugas_rumah/style.css" />
  </head>
  <body>
    <div class="container">
      <h2>Form Registrasi</h2>
      <form id="registrationForm" onsubmit="return validateForm()">
        <div class="form-group">
          <label for="name">Nama:</label>
          <input type="text" id="name" name="name" />
          <span id="nameError" class="error"></span>
        </div>
        <div class="form-group">
          <label for="username">Username:</label>
          <input type="text" id="username" name="username" />
          <span id="usernameError" class="error"></span>
        </div>
        <div class="form-group">
          <label for="email">Email:</label>
          <input type="email" id="email" name="email" />
          <span id="emailError" class="error"></span>
        </div>
        <div class="form-group">
          <label for="password">Password:</label>
          <input type="password" id="password" name="password" />
        </div>
        <div class="form-group">
          <label for="phone">No Telepon:</label>
          <input type="tel" id="phone" name="phone" />
        </div>
        <div class="form-group">
          <label for="gender">Jenis Kelamin:</label>
          <select id="gender" name="gender">
            <option value="male">Laki-laki</option>
            <option value="female">Perempuan</option>
          </select>
        </div>
        <div class="form-group">
          <label for="website">Alamat Website:</label>
          <input type="text" id="website" name="website" />
        </div>
      </form>
    </div>
  </body>
</html>
```

```

        </div>
        <input type="submit" value="Submit" />
    </form>
</div>
<script src="/tugas_rumah/script.js"></script>
</body>
</html>

```

- Style.css

```

body {
    font-family: Arial, sans-serif;
    background-color: #f4f4f4;
    background-image: url("/tugas_rumah/bgform.jpg");
    background-size: cover;
}
.container {
    max-width: 400px;
    margin: 50px auto;
    padding: 20px;
    background-color: #fff;
    border-radius: 8px;
    box-shadow: 0 0 10px rgba(0, 0, 0);
}
h2 {
    margin-bottom: 20px;
    text-align: center;
}
.form-group {
    margin-bottom: 20px;
}
label {
    display: block;
    font-weight: bold;
}
input[type="text"],
input[type="email"],
input[type="password"],
input[type="tel"] {
    width: 100%;
    padding: 10px;
    border: 1px solid #ccc;
    border-radius: 4px;
    box-sizing: border-box;
}
input[type="submit"] {
    width: 100%;
}

```

```
padding: 10px;
background-color: #2b39ff;
color: #fff;
border: none;
border-radius: 4px;
cursor: pointer;
}
input[type="submit"]:hover {
background-color: #23aeff;
}
.error {
color: red;
}
```

- Script.js

```
function validateForm() {
var name = document.getElementById("name").value;
var username = document.getElementById("username").value;
var email = document.getElementById("email").value;

var nameError = document.getElementById("nameError");
var usernameError = document.getElementById("usernameError");
var emailError = document.getElementById("emailError");

var isValid = true;

// Validasi Nama
if (name === "") {
nameError.innerHTML = "Nama harus diisi";
isValid = false;
} else {
nameError.innerHTML = "";
}

// Validasi Username
if (username === "") {
usernameError.innerHTML = "Username harus diisi";
isValid = false;
} else {
usernameError.innerHTML = "";
}

// Validasi Email
if (email === "") {
emailError.innerHTML = "Email harus diisi";
isValid = false;
} else if (!isValidEmail(email)) {
```

```

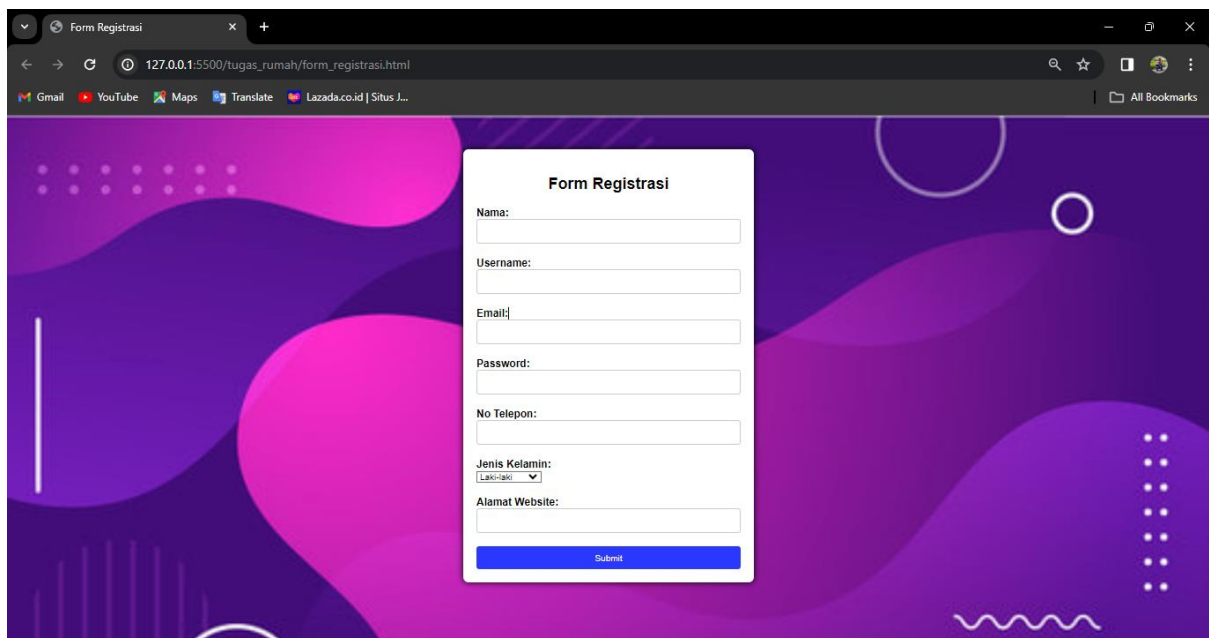
        emailError.innerHTML = "Email tidak valid";
        isValid = false;
    } else {
        emailError.innerHTML = "";
    }

    return isValid;
}

// Fungsi untuk memeriksa apakah email valid
function isValidEmail(email) {
    var emailPattern = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
    return emailPattern.test(email);
}

```

Output :



The screenshot shows a web browser window with the title 'Form Registrasi'. The address bar displays the URL '127.0.0.1:5500/tugas\_rumah/form\_registrasi.html'. The browser's bookmark bar includes links to Gmail, YouTube, Maps, Translate, Lazada.co.id, and Situs J... The main content area features a registration form with a white background and a blue 'Submit' button. The form fields are as follows:

- Nama:** Text input field.
- Username:** Text input field.
- Email:** Text input field.
- Password:** Text input field.
- No Telepon:** Text input field.
- Jenis Kelamin:** Dropdown menu with 'Laki-laki' selected.
- Alamat Website:** Text input field.

The background of the page is a vibrant purple and pink abstract design with wavy lines and circles.