**Express.js urlencoded Middleware**

The express.urlencoded() middleware is a built-in middleware function in Express.js that is used to **parse incoming URL-encoded form data** from application/x-www-form-urlencoded requests.

**1. Basic Usage**

The middleware must be used before handling requests that contain URL-encoded data.

const express = require('express');

const app = express();

// Middleware to parse URL-encoded data

app.use(express.urlencoded({ extended: true }));

app.post('/submit', (req, res) => {

    res.json({ receivedData: req.body });

});

app.listen(3000, () => console.log('Server running on port 3000'));

📌 **Example Request:**  
A form submission using application/x-www-form-urlencoded:

POST /submit

Content-Type: application/x-www-form-urlencoded

name=John+Doe&email=john%40example.com

📌 **Parsed Output (req.body):**

{

"name": "John Doe",

"email": "john@example.com"

}

**2. extended: true vs extended: false**

The extended option determines how URL-encoded data is parsed:

* **extended: false** → Uses **querystring module** (Only supports simple key-value pairs)
* **extended: true** → Uses **qs module** (Supports nested objects & arrays)

app.use(express.urlencoded({ extended: true })); // Recommended

📌 **Example with Nested Data (extended: true)**

POST /submit

Content-Type: application/x-www-form-urlencoded

user[name]=John&user[email]=john@example.com

* **Parsed Output (req.body with extended: true):**

{

"user": {

"name": "John",

"email": "john@example.com"

}

}

* **Parsed Output (req.body with extended: false):**

{

"user[name]": "John",

"user[email]": "john@example.com"

}

* **Recommendation:**  
  ✅ Use extended: true to allow more complex objects.

**3. Handling Form Data in Express**

You can use express.urlencoded() to process form submissions.

**Example: Handling an HTML Form**

<form action="/submit" method="POST">

    <input type="text" name="username" placeholder="Enter username">

    <input type="password" name="password" placeholder="Enter password">

    <button type="submit">Submit</button>

</form>

**Express Handling Form Data**

app.use(express.urlencoded({ extended: true }));

app.post('/submit', (req, res) => {

    console.log(req.body); // { username: 'John', password: '123456' }

    res.send(`Received: ${req.body.username}`);

});

**4. Limiting Payload Size**

To prevent **DoS attacks** from large payloads, set a size limit:

app.use(express.urlencoded({ extended: true, limit: '10kb' })); // Limit to 10KB

**5. Combining with express.json()**

For handling **both JSON and form data**, use:

app.use(express.json());

app.use(express.urlencoded({ extended: true }));

**Summary**

| **Feature** | **Example** |
| --- | --- |
| Parse form data | app.use(express.urlencoded({ extended: true })) |
| Support nested objects | extended: true |
| Simple key-value pairs only | extended: false |
| Limit request size | app.use(express.urlencoded({ extended: true, limit: '10kb' })) |
| Handle both JSON & forms | app.use(express.json()); app.use(express.urlencoded({ extended: true })) |

Would you like any more details?