Assignment 8: "Microservice A" Implementation (Milestone #2)

1) Login Trend Analytics

Login Trend Analytics is a vital component in understanding user engagement and behavior within a digital platform. By analyzing login patterns, organizations can gain insights into peak usage times, frequency of user logins, and the duration of user sessions. This information is crucial for optimizing system performance, as it allows for better resource allocation during high-traffic periods. Additionally, identifying trends such as increased logins during specific events or promotions can help in strategizing future marketing efforts. Login Trend Analytics also aids in enhancing user experience by highlighting potential issues such as login difficulties or prolonged inactivity, enabling timely interventions to improve user satisfaction and retention.

2) Real-Time Activity Alert Analytics

Real-Time Activity Alert Analytics is an essential tool for monitoring and responding to user actions and system events as they occur. This type of analytics provides immediate insights into various activities, such as user logins, transactions, and interactions with different features. By processing and analyzing this data in real-time, organizations can swiftly detect and respond to anomalies, such as suspicious login attempts or unusual transaction patterns, enhancing security and reducing potential risks. Real-Time Activity Alert Analytics also helps in maintaining system performance and reliability by promptly identifying and addressing issues like system errors or performance bottlenecks. Furthermore, this proactive approach allows businesses to improve user experience by providing timely responses and support, thereby increasing user satisfaction and trust in the platform.

3) Personalized Usage Report Analytics

Personalized Usage Report Analytics provides tailored insights into individual user behaviors and interactions within a digital platform. By analyzing data specific to each user's activities, such as feature usage, login frequency, and time spent on various functionalities, these reports offer a detailed understanding of user preferences and patterns. This personalized approach enables organizations to deliver a more customized user experience, suggesting features or content that align with the user's interests and habits. Additionally, these reports can identify areas where users might be encountering difficulties, allowing for targeted improvements and support. Ultimately, Personalized Usage Report Analytics enhances user engagement and satisfaction by ensuring that the platform evolves in response to the unique needs and behaviors of its users.

3) Contacting Personalized Usage Report Analytics Microservice

1. Base URL

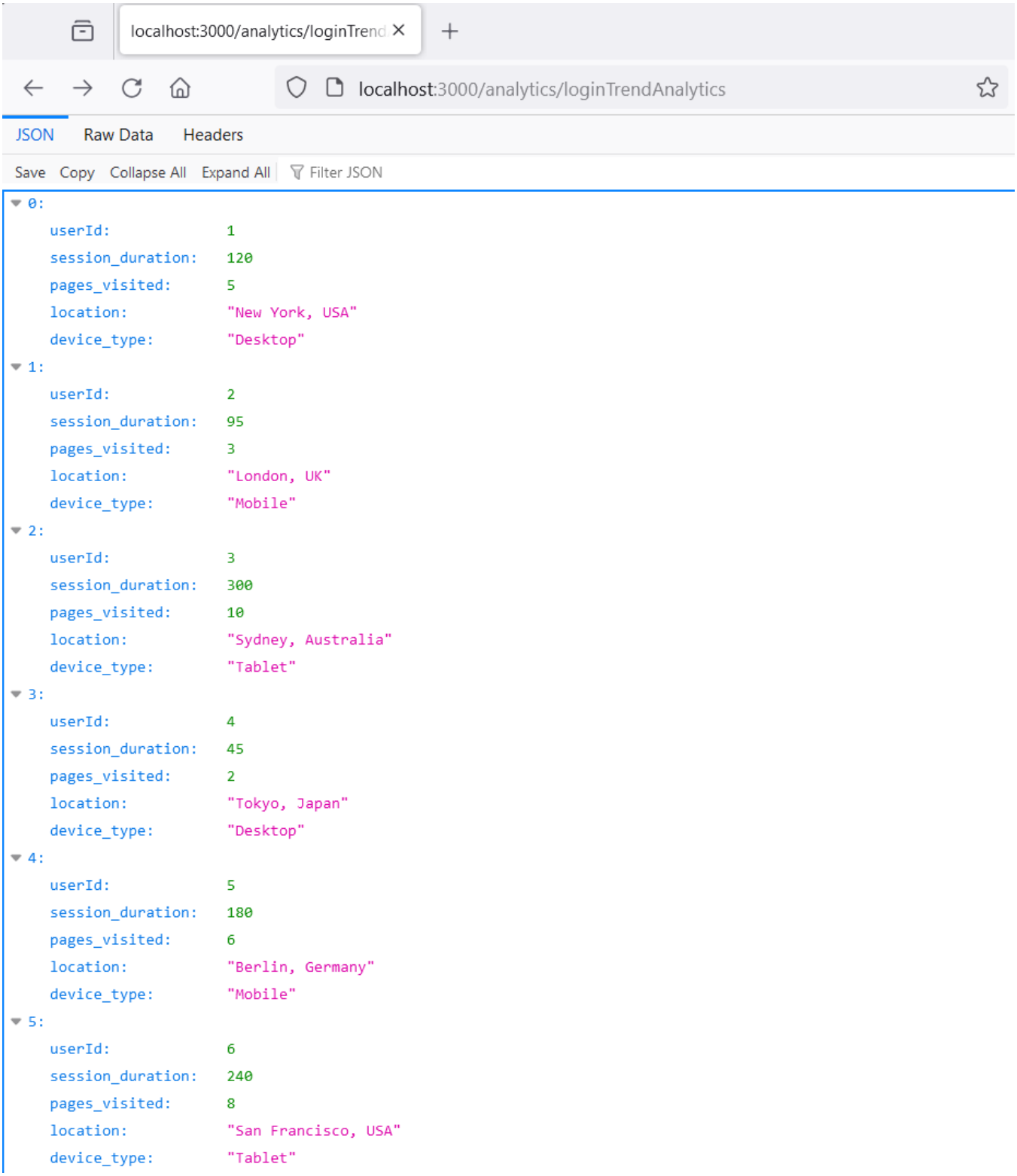
http://localhost:3000/analytics/loginTrendAnalytics

2. GET Request: Retrieve All Activities

```
// Function to get analytics for a specific user
async function getLoginTrendAnalytics(userId) {
    try {
        const response = await axios.get(`${_USER_BASE_URL}/${userId}`);
        console.log(`Login Trend Analytics for User ${userId}:`, response.data);
    } catch (error) {
        console.error(`Error fetching analytics for user ${userId}:`, error.message);
    }
}
```

3. Sample Response

```
Login Trend Analytics for User 1: {
  userId: 1,
  session_duration: 120,
  pages_visited: 5,
  location: 'New York, USA',
  device_type: 'Desktop'
}
```



3) Contacting Personalized Usage Report Analytics Microservice

1. Base URL

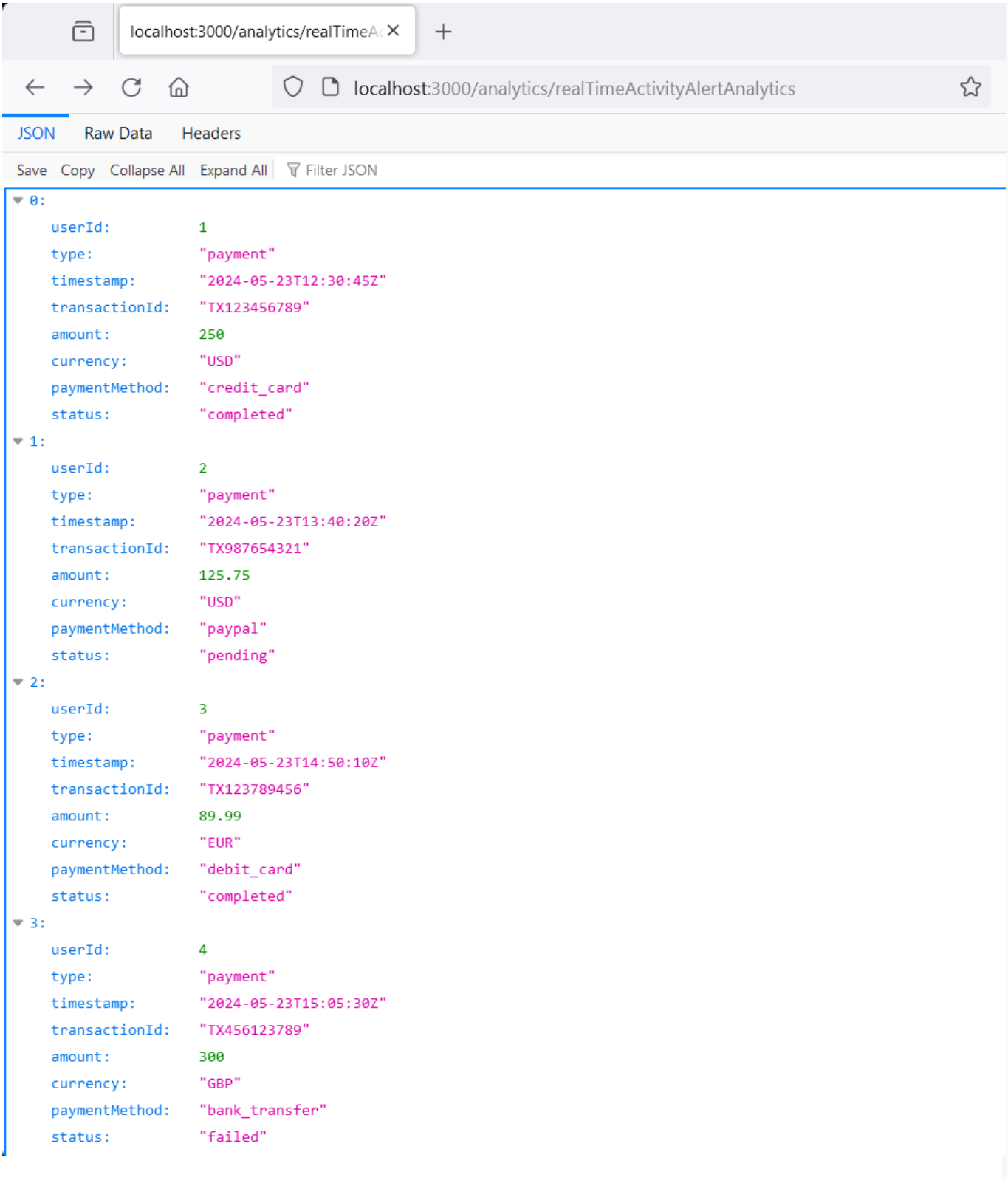
http://localhost:3000/analytics/realTimeActivityAlertAnalytics

2. GET Request: Retrieve All Activities

```
// Function to get realtime activity alert analytics for a specific user
async function getRealTimeActivityAlertAnalytics() {
    try {
        const response = await axios.get(`${_USER_BASE_URL}/realTimeActivityAlertAnalytics/`);
        console.log(`Realtime Activity Alert Analytics`, response.data);
    } catch (error) {
        console.error(`Error fetching realtime activity alert analytics:`, error.message);
    }
}
```

3. Sample Response

```
Realtime Activity Alert Analytics [
  {
    userId: 1,
    type: 'payment',
    timestamp: '2024-05-23T12:30:45Z',
    transactionId: 'TX123456789',
    amount: 250,
    currency: 'USD',
    paymentMethod: 'credit_card',
    status: 'completed'
  },
  {
    userId: 2,
    type: 'payment',
    timestamp: '2024-05-23T13:40:20Z',
    transactionId: 'TX987654321',
    amount: 125.75,
    currency: 'USD',
    paymentMethod: 'paypal',
    status: 'pending'
  },
  {
    userId: 3,
    type: 'payment',
    timestamp: '2024-05-23T14:50:10Z',
    transactionId: 'TX123789456',
    amount: 89.99,
    currency: 'EUR',
    paymentMethod: 'debit_card',
    status: 'completed'
  },
  {
    userId: 4,
    type: 'payment',
    timestamp: '2024-05-23T15:05:30Z',
    transactionId: 'TX456123789',
    amount: 300,
    currency: 'GBP',
    paymentMethod: 'bank_transfer',
    status: 'failed'
  },
  {
    userId: 5,
    type: 'payment',
    timestamp: '2024-05-23T16:20:15Z',
    transactionId: 'TX789456123',
    amount: 45.5,
    currency: 'USD',
    paymentMethod: 'credit_card',
    status: 'completed'
  }
]
```


localhost:3000/analytics/realTimeA
localhost:3000/analytics/realTimeActivityAlertAnalytics
JSON
Raw Data
Headers
Save
Copy
Collapse All
Expand All
Filter JSON
0:
userId: 1
type: "payment"
timestamp: "2024-05-23T12:30:45Z"
transactionId: "TX123456789"
amount: 250
currency: "USD"
paymentMethod: "credit_card"
status: "completed"
1:
userId: 2
type: "payment"
timestamp: "2024-05-23T13:40:20Z"
transactionId: "TX987654321"
amount: 125.75
currency: "USD"
paymentMethod: "paypal"
status: "pending"
2:
userId: 3
type: "payment"
timestamp: "2024-05-23T14:50:10Z"
transactionId: "TX123789456"
amount: 89.99
currency: "EUR"
paymentMethod: "debit_card"
status: "completed"
3:
userId: 4
type: "payment"
timestamp: "2024-05-23T15:05:30Z"
transactionId: "TX456123789"
amount: 300
currency: "GBP"
paymentMethod: "bank_transfer"
status: "failed"

3) Contacting Personalized Usage Report Analytics Microservice

1. Base URL

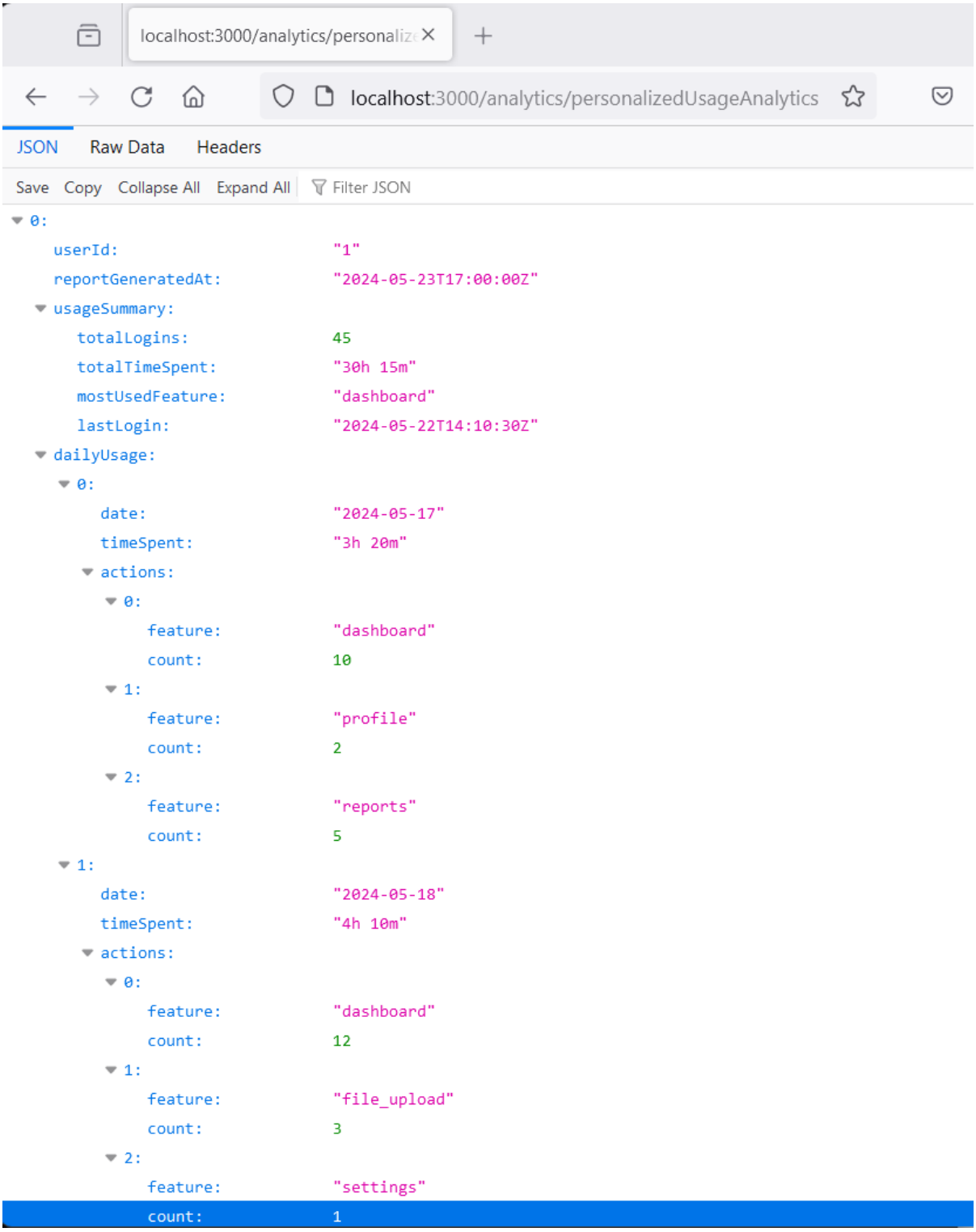
http://localhost:3000/analytics/personalizedUsageAnalytics

2. GET Request: Retrieve All Activities

```
// Function to get realtime activity alert analytics for a specific user
async function getPersonalizedUsageAnalytics() {
    try {
        const response = await axios.get(`${_USER_BASE_URL}/personalizedUsageAnalytics/`);
        console.log(`Personalized Usage Report Analytics`, response.data);
    } catch (error) {
        console.error(`Error fetching realtime activity alert analytics:`, error.message);
    }
}
```

3. Sample Response

```
Personalized Usage Report Analytics [
  {
    userId: '1',
    reportGeneratedAt: '2024-05-23T17:00:00Z',
    usageSummary: {
      totalLogins: 45,
      totalTimeSpent: '30h 15m',
      mostUsedFeature: 'dashboard',
      lastLogin: '2024-05-22T14:10:30Z'
    },
    dailyUsage: [ [Object], [Object], [Object], [Object], [Object] ],
    recommendations: {
      increaseUsageOfFeatures: [Array],
      reduceTimeSpentOn: [Array],
      tips: [Array]
    }
  }
]
```


localhost:3000/analytics/personalize
localhost:3000/analytics/personalizedUsageAnalytics
JSON
Raw Data
Headers
Save
Copy
Collapse All
Expand All
Filter JSON
0:
userId: "1"
reportGeneratedAt: "2024-05-23T17:00:00Z"
usageSummary:
totalLogins: 45
totalTimeSpent: "30h 15m"
mostUsedFeature: "dashboard"
lastLogin: "2024-05-22T14:10:30Z"
dailyUsage:
0:
date: "2024-05-17"
timeSpent: "3h 20m"
actions:
0:
feature: "dashboard"
count: 10
1:
feature: "profile"
count: 2
2:
feature: "reports"
count: 5
1:
date: "2024-05-18"
timeSpent: "4h 10m"
actions:
0:
feature: "dashboard"
count: 12
1:
feature: "file_upload"
count: 3
2:
feature: "settings"
count: 1