Ideation Phase

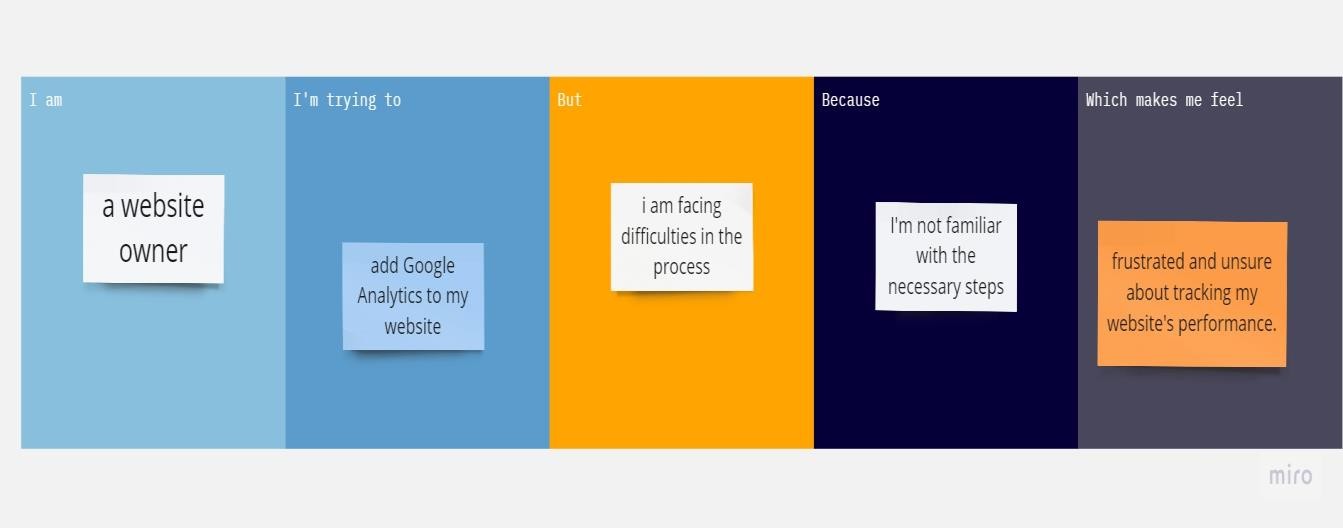
Define the problem statements

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| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| Project name | How To Add Google Analytics To A Website |

Create a problem statement to understand your customer's point of view. The Customer Problem Statement template helps you focus on what matters to create experiences people will love.

A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you’ll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.

Definition of problem diagram



Reference link [:h t t p s : / / m i r o . c o m / a p p / b o a r d / u X j V N T g T h n g = /](https://miro.com/app/board/uXjVNTgThng%3D/)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Problem statement | I am | I’m trying to | But | Because | Which  make me feel |
| PS | a website | add Google | I am facing | I'm not | frustrated and |
|  | owner | Analytics to | difficulties in | familiar with | unsure about |
|  |  | my website | the process | the | tracking my |
|  |  |  |  | necessary | website's |
|  |  |  |  | steps | performance. |

Ideation Phase Empathize & Discover

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| --- | --- |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| Project Name | How To Add Google Analytics To A Website |

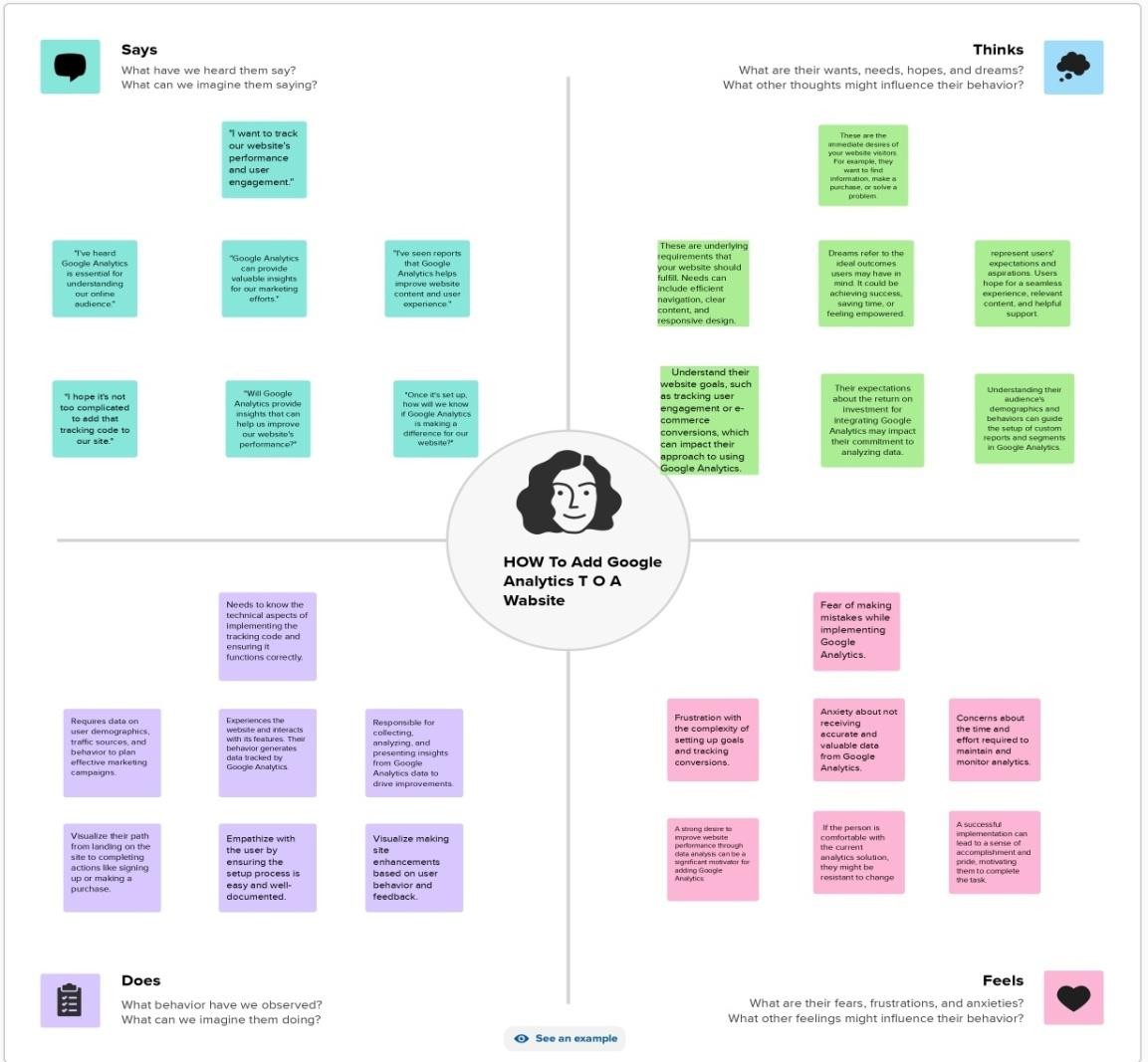
**Empathy Map Canvas:**

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user’s behaviours and attitudes.

It is a useful tool to helps teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user’s perspective along with his or her goals and challenges.

Empathy map



### Reference link:

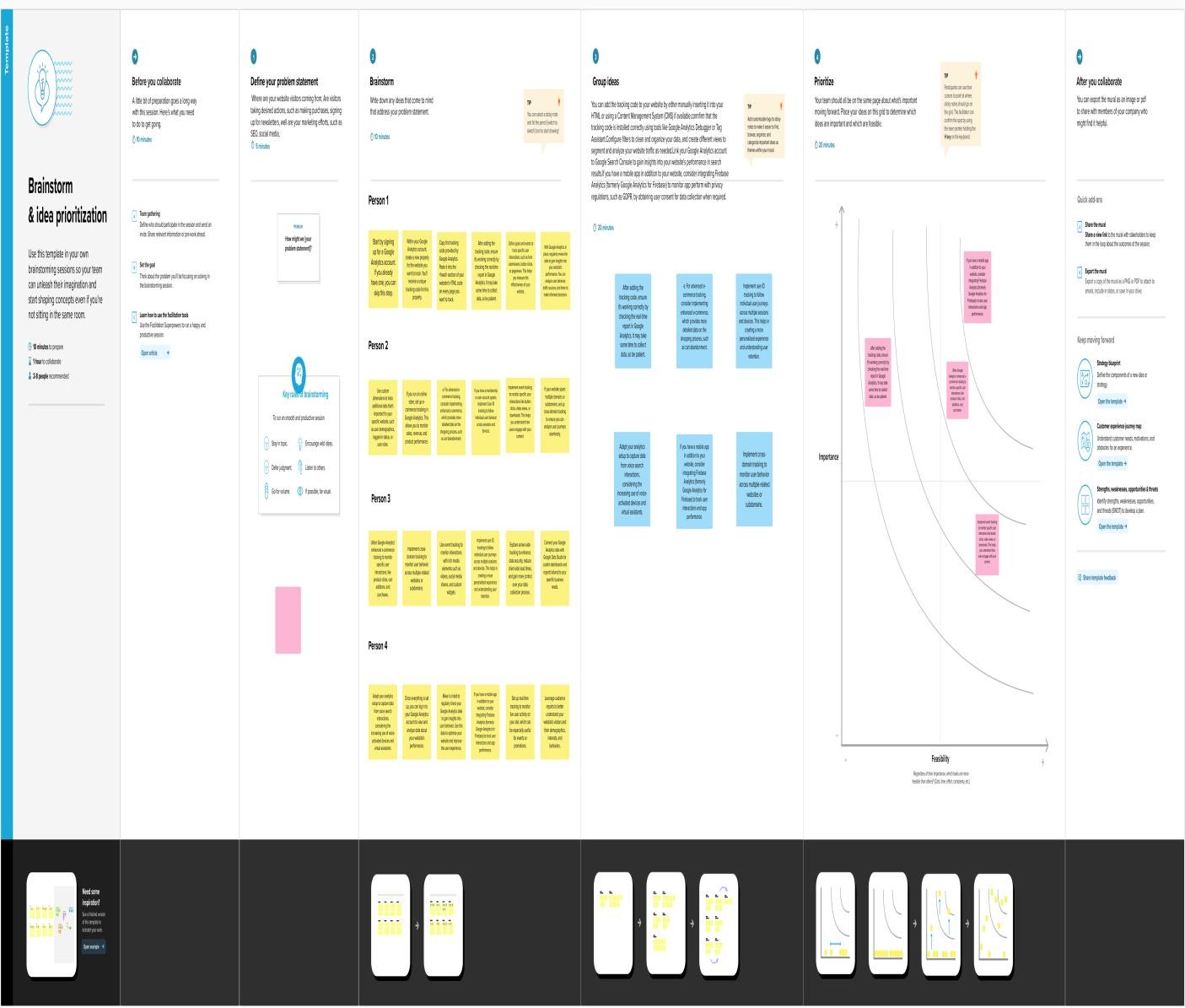
[https://app.mural.co/t/addgoogleanalyticstoawabsite7086/m/addgoogleanalyticstoawabsite7086/169](https://app.mural.co/t/addgoogleanalyticstoawabsite7086/m/addgoogleanalyticstoawabsite7086/1697984892869/cbaecaad6a22a46b2e4b462c76ccbadc5a15123b?sender=u1bd75a0935448c04f57a5483) [7984892869/cbaecaad6a22a46b2e4b462c76ccbadc5a15123b?sender=u1bd75a0935448c04f57a5483](https://app.mural.co/t/addgoogleanalyticstoawabsite7086/m/addgoogleanalyticstoawabsite7086/1697984892869/cbaecaad6a22a46b2e4b462c76ccbadc5a15123b?sender=u1bd75a0935448c04f57a5483)

Ideation Phase Brainstrom & Prioritization Template

|  |  |
| --- | --- |
| Team ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| Project Name | How To Add Google Analytics To A Website |

**Brainstorm & Idea Prioritization Template:**

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions. Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.



Reference link:

[https://app.mural.co/t/addgoogleanalyticstoawabsite7086/m/addgoogleanalyticstoawabsite708](https://app.mural.co/t/addgoogleanalyticstoawabsite7086/m/addgoogleanalyticstoawabsite7086/1697984892869/cbaecaad6a22a46b2e4b462c76ccbadc5a15123b?sender=u1bd75a0935448c04f57a5483) [6/1697984892869/cbaecaad6a22a46b2e4b462c76ccbadc5a15123b?sender=u1bd75a0935448c0](https://app.mural.co/t/addgoogleanalyticstoawabsite7086/m/addgoogleanalyticstoawabsite7086/1697984892869/cbaecaad6a22a46b2e4b462c76ccbadc5a15123b?sender=u1bd75a0935448c04f57a5483) [4f57a5483](https://app.mural.co/t/addgoogleanalyticstoawabsite7086/m/addgoogleanalyticstoawabsite7086/1697984892869/cbaecaad6a22a46b2e4b462c76ccbadc5a15123b?sender=u1bd75a0935448c04f57a5483)

**Project Design Phase-I Proposed Solution Template**

|  |  |
| --- | --- |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| Project Name | How To Add Google Analytics To A Website |

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Parameter** | **Description** |
| 1. | Problem Statement (Problem to be solved) | Website owners may not have the technical knowledge or experience to correctly implement Google Analytics tracking code on their websites. |
| 2. | Idea / Solution description | Adding Google Analytics to a website is essential for tracking and analyzing user behavior, which can provide valuable insights for improving your website's performance and user experience. |
| 3. | Novelty / Uniqueness | Create an interactive step-by-step tutorial using a visually engaging platform or tool. You could use a website builder like Wix or a specialized  tutorial creation tool to make the process more engaging. |
| 4. | Social Impact / Customer Satisfaction | Google Analytics provides information about website performance, including page load times and user engagement metrics.  Optimizing website speed and functionality  can lead to a better user experience and higher customer satisfaction. |
| 5. | Business Model (Revenue Model) | Offer a one-time service to integrate Google Analytics into websites for clients who lack the technical expertise or time to do it themselves.  Charge a flat fee or an hourly rate for this service. |
|  |
| 6. | Scalability of the Solution | Google Analytics is designed to handle a wide range of website traffic volumes. It can accommodate small websites with limited traffic as well as large-scale websites with millions of visitors. As your website's traffic grows, Google Analytics should be able to scale with it. |

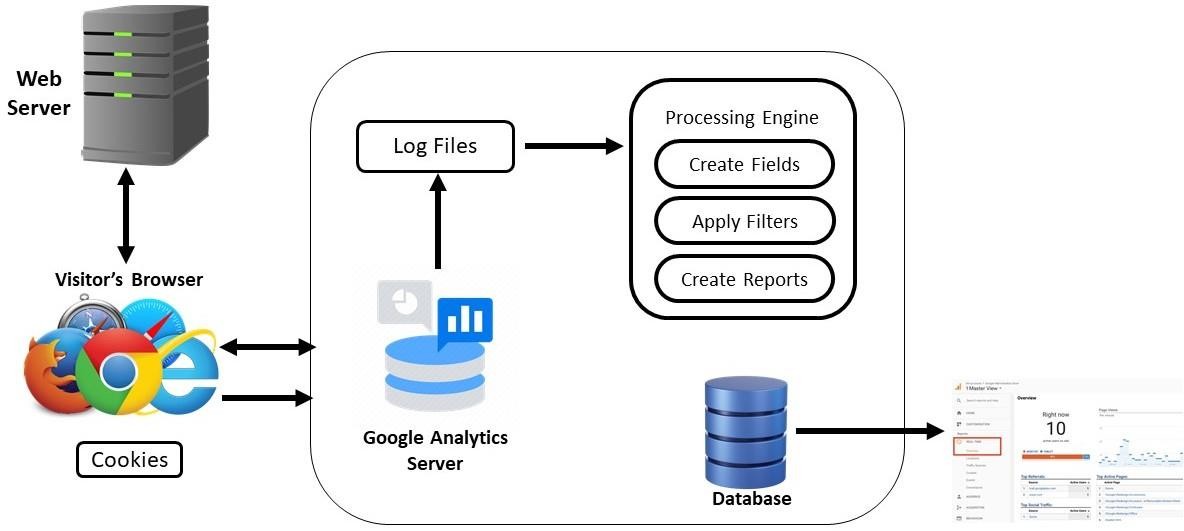
## Project Design Phase-I Solution Architecture

|  |  |
| --- | --- |
| **NM ID** | **76860632B2D43EFBE814FEC16F13E5E4** |
| **Project Name** | **How To Add Google Analytics To A Website** |

### Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

* Find the best tech solution to solve existing business problems.
* Describe the structure, characteristics, behaviour, and other aspects of the software to project stakeholders.
* Define features, development phases, and solution requirements
* Provide specifications according to which the solution is defined, managed, and delivered.The solution architecture of my project “How To Add Google Analytics To A Website “ is shown below.



### Flow of a Project:

The data flow of my project is discussed with step by step process as below.

1. **Planning**:- Define your goals for using Google Analytics, such as tracking website traffic, user behavior, conversions, etc.
2. **Create a Google Analytics Account:** - If you don't already have one, sign up for a Google Analytics account at [https://analytics.google.com/](https://analytics.google.com/).
3. **Set Up a Property:** - In Google Analytics, create a new property for your website. You'll need to enter your website's URL and other details.
4. **Get Your Tracking Code:-** After setting up the property, you'll be provided with a tracking code (a snippet of JavaScript). Copy this code.
5. **Implement the Tracking Code:** - You need to add the tracking code to your website. The exact steps for doing this depend on your website platform (e.g., WordPress, HTML, etc.).

Common methods include:- For HTML websites: Paste the tracking code just before the closing </head> tag on every page.

1. **Verify Tracking Code Installation**: Go back to Google Analytics and check if the tracking code is working correctly. It may take some time for data to appear.
2. **Set Up Goals and Events**: - Configure goals and events within Google Analytics to track specific actions or conversions on your website (e.g., form submissions, button clicks).
3. **Customize Tracking**: - Customize your tracking settings in Google Analytics, such as excluding your own visits or tracking e-commerce data if applicable.
4. **View Reports**:- Once data starts flowing into Google Analytics, you can access a wide range of reports to analyze user behavior, traffic sources, and more.
5. **Regular Monitoring**:- Continuously monitor your Google Analytics data to gain insights and make data-driven decisions for your website.
6. **Documentation**: - Document the setup and configurations for future reference and to help others who may work on the website.
7. **Optimize:-** Use the insights from Google Analytics to optimize your website for better user experience and achieving your goals.
8. **Stay Informed**: - Keep up with Google Analytics updates and best practices to make the most of the data it provides.

**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

|  |  |
| --- | --- |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| Project Name | How To Add Google Analytics To A Website |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | **User authentication requirement** | To add Google Analytics to a website, you'll need a Google Analytics account and the tracking code provided by Google.. |
| FR-2 | **Mobile accessibility requirement** | Ensure your website's Google Analytics implementation is mobile-friendly and complies with accessibility guidelines, such as providing alternative text for tracking images and ensuring all tracking elements are keyboard navigable. |
| FR-3 | **Notification requirement** | To add Google Analytics to a website, you need to insert the tracking code provided by Google into the website's HTML code. |
| FR-4 | **Reporting requirements** | To add Google Analytics to a website, you typically need to insert the provided tracking code into your site's HTML. |
| FR-5 | **Data export requirement** | To export data from Google Analytics, use the platform's  data export and reporting features, such as custom reports or Google Analytics APIs. |
| FR-6 | **Feedback requirements** | To add Google Analytics to a website, you need to insert the tracking code provided by Google into the HTML of your web pages. |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Google Analytics enhances website usability by providing valuable data and insights on user behavior and site performance.. |

|  |  |  |
| --- | --- | --- |
| NFR-2 | **Security** | Securing Google Analytics involves implementing proper access controls and monitoring to protect sensitive user data and prevent unauthorized access. |
| NFR-3 | **Reliability** | Google Analytics ensures website reliability by offering real- time tracking and accurate data, aiding in performance optimization and user experience improvement. |

|  |  |  |
| --- | --- | --- |
| NFR-4 | **Performance** | Google Analytics can impact website performance by identifying bottlenecks and helping optimize content and user experiences for faster loading times. |
| NFR-5 | **Availability** | Google Analytics availability ensures uninterrupted data collection and reporting, promoting a consistent view of website performance. |
| NFR-6 | **Scalability** | Scalability in Google Analytics allows websites to handle increased traffic and data volume while maintaining efficient tracking and reporting. |

**Project Design Phase-II**

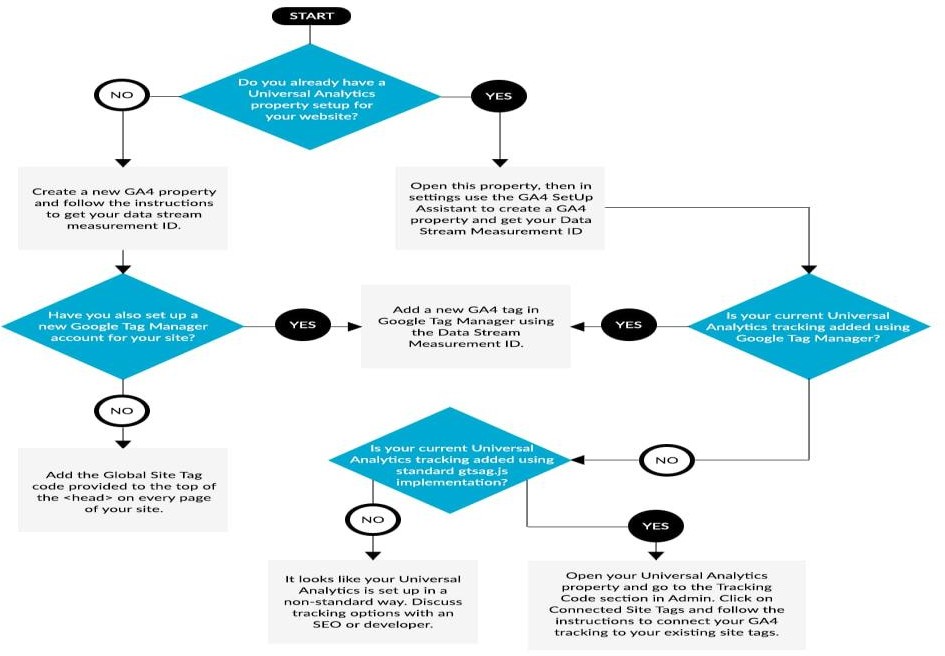
**Data Flow Diagram & User Stories**

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| --- | --- |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| Project Name | How To Add Google Analytics To A Website |

**Data Flow Diagrams:**

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: Data Flow Diagram [(Simplified)](https://developer.ibm.com/patterns/visualize-unstructured-text/)



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **User Type** | **Functional Requirement (Epic)** | **User Story Number** | **User Story / Task** | **Acceptance criteria** | **Priority** | **Team Member** |
| Customer(websi te user ) | Registration | USN-1 | As a user once I visited the website for sign up I will enter the credentials like name, email id, password etc.... | I can access my account in Google | High | Musica |
|  |  | USN-2 | As a user I can also signup with my Google account. | I can receive confirmation email & click confirm | High | Narmatha |
|  |  | USN-3 | As a user, I can register for the application through social medias. | I can register & access the dashboard with Facebook Login | Medium | Vishalini |
|  |  | USN-4 | As a website residient,I want to report website issues so that they can be addressed by the local authorities. |  | Medium | Suriya shri |
|  | Login | USN-5 | Once I get registered, I will receive a confirmation mail. | I can register & access the dashboard with Facebook  Login | High | Musica |
|  | Dashboard | USN-6 | By login I will get into the website dashboard. | All the information about the website are given in the dashboard. | High | Narmatha |
| Performance | Registration | USN-7 | As a user, I will receive confirmation email once I have registered for the application | By giving this credential  details I can access my account or Dashboard. | Low | Vishalini |
|  |  | USN-8 | As a user once I visited the website for signup I will enter the credentials like name, email | Through confirmation mail I have get into the  website | Medium | Suriya shri |
| Analysis | Registration | USN-9 | As a user I can also signup with my Google account. | By entering my Facebook details I can get sign in with the website. | Low | Musica |
|  | Login | USN-10 | After getting signup, I can login into the website by entering the email and password. | Once I get the login I can enter the dashboard of the website. | High | Narmatha |
| Administrator | Maintenance | USN-11 | As a administrator I can maintain all the activities of the website. | Administrator must maintain all activities of both the all performance. | Medium | Vishalini |

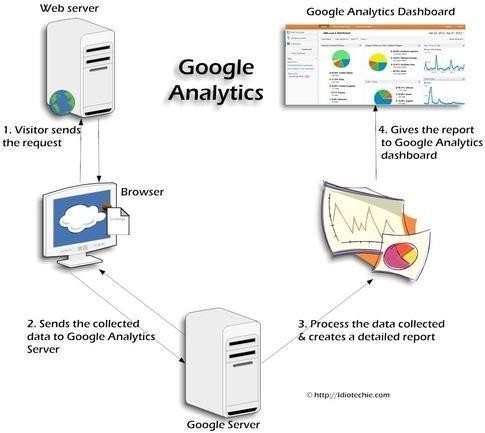
**Project Design Phase-II**

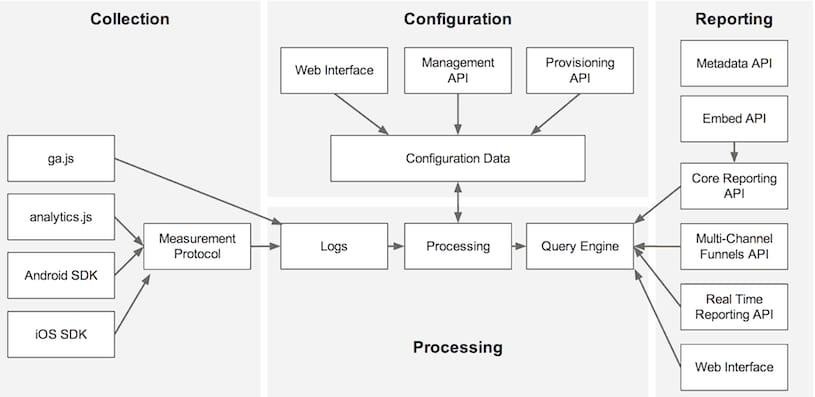
**TechnologyStack(Architecture&Stack)**

|  |  |
| --- | --- |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| ProjectName | How To Add Google Analytics To A Website |

### TechnicalArchitecture:

TheDeliverableshallincludethearchitecturaldiagramasbelowandtheinformationasperthetable1&table2





**Table-1:Components&Technologies:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| 1. | UserInterface | Integrate Google Analytics with Blogspot using JavaScript tracking code for real-time data tracking and analysis.. | JavaScript |

|  |  |  |  |
| --- | --- | --- | --- |
| 2. | ApplicationLogic-1 | Use event tracking to monitor user interactions on your Blogspot blog and send data to Google Analytics via JavaScript for improved insights. | JavaScript |
| 3. | ApplicationLogic-2 | Implement custom dimensions and metrics in Google Analytics for Blogspot to track specific user behaviors and attributes through JavaScript integration. | JavaScript integration |
| 4. | ApplicationLogic-3 | Utilize URL parameters to track marketing campaigns and referral sources in Google Analytics for your Blogspot blog through JavaScript code. | JavaScript code. |
| 5. | Database | integrate Google Analytics with Blogspot using JavaScript tracking code for comprehensive website data analysis. | data analysis. |
| 6. | Cloud Database | Leverage Google Cloud Firestore as a scalable cloud database for Google Analytics data integration with Blogspot. | data integration with Blogspot. |
| 7. | FileStorage | You can integrate Google Analytics with Blogspot using JavaScript tracking code for data storage and analysis.. | JavaScript tracking code |
| 8. | ExternalAPI-1 | Google Analytics on Blogspot can't directly access external APIs to gather data, but you can use Google Tag Manager to add custom tracking solutions and integrate with external APIs for advanced analytics. | Googlelocation |
| 9. | ExternalAPI-2 | integrate the Google Analytics API into Blogspot using JavaScript for enhanced website analytics. | Googlelocation |
| 10. | MachineLearningModel | Implement machine learning models in Google Analytics data analysis for Blogspot websites using Python and TensorFlow. . | Python |
| 11. | Infrastructure(Server/Cloud) | Set up a scalable cloud infrastructure for Google Analytics integration with Blogspot using AWS (Amazon Web Services) for efficient data processing and storage. | Amazon Web Services |

**Table-2:ApplicationCharacteristi**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Characteristics** | **Description** | **Technology** |
| 1. | Open-SourceFrameworks | You can use the "Blogger Google Analytics" open- source framework for integrating Google Analytics into your Blogspot blog, using JavaScript and HTML. | Blogger Google Analytics |
| 2. | SecurityImplementations | Implement security for Google Analytics on Blogspot using HTTPS (TLS/SSL) to encrypt data transmission and proper access controls to protect user data . | TLS/SSL |
| 3. | ScalableArchitecture | Design a scalable architecture for Google Analytics on Blogspot using cloud-based serverless functions (e.g., AWS Lambda or Google Cloud Functions) to handle tracking and analytics requests. | AWS Lambda or Google Cloud  Functio |
| 4. | Availability | Ensure high availability for Google Analytics on Blogspot by leveraging a distributed architecture and content delivery networks (CDNs) to minimize downtime and improve responsiveness. . | CDNs |

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Characteristics** | **Description** | **Technology** |
| 5. | Performance | Optimize performance for Google Analytics on Blogspot by using asynchronous loading of tracking scripts and leveraging browser caching for faster  data retrieval. | blogspot |

Project Design Phase-**|| OPEN SOURCE FRAMEWORKS**

|  |  |
| --- | --- |
| TEAM LEAD | R.MUSICA |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

1. Create a Google Analytics Account:

If you don't have a Google Analytics account, you need to create one. Go to the Google Analytics website (https://analytics.google.com/) and set up your account.

1. Get Your Tracking ID:

After creating your account, you'll receive a tracking ID. This ID is used to associate your website with your Google Analytics account.

1. Add gtag.js to Your Website:

To integrate Google Analytics with your website, add the gtag.js code snippet to your website's HTML. Here's an example of the code:

## html

**<script async src="https://**[**www.googletagmanager.com/gtag/js?id=GA\_MEASU**](http://www.googletagmanager.com/gtag/js?id=GA_MEASU) **REMENT\_ID"></script>**

## <script>

**window.dataLayer = window.dataLayer || []; function gtag() { window.dataLayer.push(arguments);**

## }

**gtag('js', new Date());**

## gtag('config', 'GA\_MEASUREMENT\_ID');

**</script>**

Replace "GA\_MEASUREMENT\_ID" with your actual tracking ID.

1. Customize Your Tracking:

You can customize your tracking by setting up various events, goals, and other tracking parameters as needed.

1. Test Your Implementation:

Ensure that Google Analytics is working correctly by visiting your website and checking the Google Analytics dashboard.

The framework for your website doesn't matter, as long as you can add HTML and JavaScript to your pages. This approach uses Google's recommended gtag.js library, which is a versatile method for integrating Google Analytics with any website, regardless of the underlying framework**.**

Project Design Phase-**|| Third-Party API’s**

|  |  |
| --- | --- |
| TEAM LEAD | R.MUSICA |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

1. Choose the Third-Party API: First, select the third-party API you want to integrate with Google Analytics. Ensure that the API provides data or functionality that you want to track in Google Analytics.
2. Get API Access: You'll need to sign up for the third-party API and obtain the necessary API keys or credentials to make requests to their service.
3. Google Tag Manager Method:
   1. Create a Google Tag Manager (GTM) account if you don't have one.
   2. Set up a new GTM container for your website.
   3. Create a new custom HTML tag in GTM and insert the code to make API requests. You can use JavaScript to send data to the third-party API when specific events occur on your website.
   4. Use GTM triggers to control when and where these API requests are fired, such as when a user performs a specific action on your website.
   5. Publish the GTM container to make your changes live.
4. Direct Integration in Website Code:
   1. If you prefer to integrate directly into your website code, you'll need to include the API library or code provided by the third-party in your web pages.
   2. Implement the API calls and data tracking logic within your website's JavaScript or server-side code.
5. Testing and Monitoring: Test the integration to ensure that data is being sent to the third-party API as expected. Monitor the data in your Google Analytics account to confirm that it's receiving the information.
6. Documentation: Consult the documentation provided by the third-party API and Google Analytics to ensure that you're following best practices and meeting any requirements.

Project Design Phase-**|| CLOUD DEPLOYMENT**

|  |  |
| --- | --- |
| TEAM LEAD | R.MUSICA |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

1. Create a Google Analytics Account:

- If you don't have one, sign up for a Google Analytics account on the Google Analytics website.

1. Set Up a Property:
   * Within your Google Analytics account, create a new property to track data for your website.
2. Get the Tracking Code:
   * Google Analytics will provide you with a tracking code snippet (JavaScript) for your website. This code is unique to your property and should be included in the HTML of your website's pages.
3. Implement the Tracking Code:
   * Insert the tracking code into the HTML of your web pages. This code will collect data on user interactions and send it to Google Analytics.
4. Configure Goals and Events:
   * Define specific goals and events within Google Analytics to track important user interactions, such as form submissions or specific page views.
5. Enable Enhanced Ecommerce (if applicable):
   * If you have an e-commerce website, consider setting up Enhanced Ecommerce tracking to monitor product sales and shopping behavior.
6. Use Google Tag Manager (optional):
   * For more advanced tracking and tag management, you can use Google Tag Manager, a separate tool that works alongside Google Analytics.
7. Cloud Hosting:
   * Ensure that your website is hosted on a cloud platform like Google Cloud, AWS, or others. This allows for scalability and efficient data collection.
8. Monitor and Analyze Data:
   * Once your tracking code is implemented, monitor the data in your Google Analytics account to gain insights into user behavior, traffic sources, and other relevant metrics.
9. Regularly Maintain and Optimize:

- Continuously review and optimize your Google Analytics setup to ensure it accurately tracks the data you need for your website.

Project Development Phase

## No. Of Functional Features Included In The Solution

|  |  |
| --- | --- |
| TEAM LEAD | R.Musica |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

Certainly, here is a table summarizing the functional features included in How To Add Google Analytics To A Website:

|  |  |  |
| --- | --- | --- |
| **S.NO.** | **FEATURE** | **DESCRIPTION** |
| 1 | Traffic Analysis | Track the number of visitors, pageviews, and user  demographics. |
| 2 | Conversion Tracking | Monitor goals, e-commerce transactions, and conversion  rates. |
| 3 | Real-Time Analytics | See live data on user activity, traffic sources, and more. |
| 4 | Event Tracking | Measure interactions like clicks, downloads, video views,  and more. |
| 5 | Custom Reports | Create custom dashboards and reports tailored to your  needs. |
| 6 | Audience  Segmentation | Divide your audience into segments for in-depth analysis. |
| 7 | E-commerce Tracking | Track product sales, revenue, and user behavior in an online  store. |
| 8 | Content Analytics | Analyze how users engage with your content, including  time on page and bounce rate. |
| 9 | Acquisition Analytics | Understand where your website traffic is coming from (e.g.,  search engines, social media, referrals). |
| 10 | Mobile Analytics | Analyze how users interact with your site on mobile  devices. |
| 11 | User Flow Analysis | Visualize the paths users take through your site. |
| 12 | Custom Dimensions and Metrics | Define custom data points to track specific information. |
| 13 | Annotations | Add notes to your analytics data to mark important events  or changes.. |
| 14 | Google Tag Manager  Integration | Simplify the process of adding tracking codes to your  website. |
| 15 | Data Export | Export data to other tools or create automated reports. |

Project Development Phase

## CODE-LAYOUT, READABILITY AND REUSABILITY

|  |  |
| --- | --- |
| TEAM LEAD | R.Musica |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

### Code Layout:

1. Sign Up for Google Analytics:- If you haven't already, sign up for a Google Analytics account.
2. Create a Property: - In your Google Analytics account, create a new property for your website.
3. Get Your Tracking ID:

- After creating a property, you'll receive a unique tracking ID (UA- XXXXXXXXX-X). Keep this ID handy.

1. Insert the Tracking Code:- In the `<head>` section of your HTML pages, add the following code just before the closing `</head>` tag. Replace `UA- XXXXXXXXX-X` with your actual tracking ID.

html

<!-- Global site tag (gtag.js) - Google Analytics -->

<script async src="https://[www.googletagmanager.com/gtag/js?id=UA-](http://www.googletagmanager.com/gtag/js?id=UA-) XXXXXXXXX-X"></script>

<script>

window.dataLayer = window.dataLayer || []; function gtag() { window.dataLayer.push(arguments);

}

gtag('js', new Date());

gtag('config', 'UA-XXXXXXXXX-X');

</script>

- Place this code on every page of your website where you want to track visitor data.

1. Test Your Setup:- After implementing the code, visit your website and ensure that it's tracking data correctly. You can also check your Google Analytics account for real-time data.
2. Customize and Analyze:- Once data starts flowing into Google Analytics, you can use the platform to analyze user behavior, traffic sources, and more. You can set up custom events and goals as needed.

## Readability:

|  |  |
| --- | --- |
| **S.No.** | **Consideration** |
| 1 | ensure your website loads quickly to keep users engaged. Use Google Analytics to identify  slow-loading pages and optimize them.. |
| 2 | Organize content with clear headings,  subheadings, and bullet points to make it easy to scan. |
| 3 | Make sure your website is responsive and  mobile-friendly for a better user experience, as Google Analytics can track mobile traffic. |
| 4 | Use legible fonts, appropriate font sizes, and  contrasting colors to enhance readability.. |
| 5 | Utilize Google Analytics to identify popular and  engaging content. Optimize or replicate successful content. |
| 6 | Monitor the bounce rate to assess how engaging  your content is. High bounce rates may indicate readability issues. |
| 7 | Use Google Analytics to run A/B tests on different layouts, fonts, or content to determine  what resonates best with your audience.. |
| 8 | Tailor your content to your target audience, using language and tone that resonate with  them. |

**Reusability:**

|  |  |
| --- | --- |
| **S.No.** | **Consideration** |
| 1 | Use a TMS like Google Tag Manager (GTM) to manage your tracking codes. This makes it easier to update and add new tracking codes without needing to modify your website's  source code each time. |
| 2 | Establish a clear and consistent naming convention for your Google Analytics events, goals, and custom dimensions. This will make it easier to understand and reuse them in the  future.. |
| 3 | Utilize custom dimensions to capture specific data that's important for your website. These can be reused for various tracking needs, such  as user demographics or user behavior.. |
| 4 | Implement event tracking for interactions like button clicks, downloads, and video plays.  Make these event categories and actions generic so that they can be reused for different elements on your site. |
| 5 | Define goals that reflect your website's key performance indicators (KPIs). Make these goals flexible and applicable to various  conversion points on your website. |

Project Development Phase

## Utilization Of Algorithms, Dynamic Programming, Optimal Memory Utilization

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| TEAM LEAD | R.Musica |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

1. Data Compression:

* Implement data compression algorithms to reduce the size of data sent to Google Analytics servers. This can help optimize memory usage and improve page load times.
* Gzip or Brotli compression can be applied to the analytics data before it's sent to the Google Analytics server.

1. Client-Side Data Processing:
   * Use JavaScript algorithms for data preprocessing on the client side to reduce the volume of data transmitted. For instance, you can aggregate data or filter out unnecessary information before sending it to Google Analytics.
2. Caching:
   * Employ caching mechanisms to store frequently used data, reducing the need to repeatedly request data from Google Analytics. This can significantly improve memory utilization and reduce server load.
3. Optimize Event Tracking:
   * Use dynamic programming techniques to efficiently track events and interactions on your website. Prioritize and optimize the tracking of important events, such as conversions and key user interactions.
4. Local Storage:
   * Utilize the browser's local storage or session storage to temporarily store data that will be sent to Google Analytics. This can reduce the need for repeated network requests and minimize memory usage.
5. Asynchronous Loading:
   * Load Google Analytics scripts asynchronously to prevent blocking the rendering of your web pages. This can enhance user experience and improve memory utilization.
6. Optimize API Requests:
   * Minimize API requests to Google Analytics by batching requests and optimizing the data sent in each request. This can reduce memory overhead when dealing with a large volume of data.
7. Real-time Analytics:
   * Implement algorithms that efficiently process real-time analytics data, providing insights with minimal latency and optimal memory usage.
8. Custom Metrics and Dimensions:
   * Utilize custom metrics and dimensions in Google Analytics to capture specific data relevant to your website's performance. This can help you analyze and optimize key aspects of your site.
9. Automated Alerts:

- Set up automated alerts and anomaly detection algorithms to monitor website performance and Google Analytics data. This can help you quickly identify and address issues.

1. Regular Maintenance:

- Continuously monitor and fine-tune your data collection and processing algorithms to adapt to changes in your website and business goals.

Project Development Phase

## Debugging & Traceability

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| TEAM LEAD | R.Musica |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
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Debugging and traceability are essential when implementing Google Analytics on a website to ensure that data is collected accurately and that you can trace issues back to their source. Here are some steps to achieve this:

1. Set Up Debugging Tools:
   * Use the Google Analytics Debugger extension for Chrome. This tool allows you to see the data that Google Analytics is collecting in your browser's console.
2. Enable Debug Mode:
   * In your Google Analytics tracking code, you can enable the debug mode by adding `ga('set', 'debug', true);`. This will log tracking information to the console for further analysis.
3. Check the Tracking Code:
   * Ensure that the Google Analytics tracking code is correctly implemented on your website. It should be placed just before the closing </head> tag on every page.
4. Event Tracking:
   * If you're tracking specific events (e.g., button clicks, form submissions), make sure the event tracking code is correctly implemented.
5. Verify Tracking Configuration:
   * Use Google Tag Assistant or Google Analytics' Real-Time reports to check if data is being collected properly.
6. Custom Reports and Alerts:
   * Set up custom reports and alerts in Google Analytics to monitor specific metrics. This can help you quickly identify any unexpected behavior.
7. UTM Parameters:
   * If you're using UTM parameters for campaign tracking, ensure that they are correctly set up in your URLs.
8. Cross-Domain Tracking:
   * If your website spans multiple domains or subdomains, ensure that cross- domain tracking is properly configured.
9. E-commerce Tracking:
   * For e-commerce websites, check if e-commerce tracking is set up correctly to track transactions and revenue.
10. Regular Audits:

- Periodically review your Google Analytics setup to make sure it's still accurate and up to date, especially when you make changes to your website.

1. Documentation:

- Maintain detailed documentation of your Google Analytics implementation, including what data is being tracked, why it's being tracked, and how it's configured.

1. User Permissions:

- Assign appropriate user permissions in Google Analytics to ensure that only authorized personnel can make changes to the tracking setup.

1. Troubleshooting:

- When issues arise, use the debugging tools and console logs to trace back to the source of the problem. Common issues could include typos in tracking codes, incorrect event triggers, or missing tracking codes on specific pages.

Project Development Phase

## Exception Handling

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| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

Exception handling for Google Analytics on a website typically involves ensuring that tracking scripts and tags are implemented correctly and dealing with any potential errors that may occur during the tracking process. Here are some steps to handle exceptions for Google Analytics on your website:

1. Proper Implementation: Ensure that the Google Analytics tracking code is correctly placed on all pages of your website. The code should be in the head section of your HTML, and it should be the latest version provided by Google.
2. Regularly Check Tracking Code: Periodically check the tracking code to make sure it's still working correctly. You can use the Google Tag Assistant browser extension to validate your implementation.
3. Error Handling in JavaScript: To handle potential errors with Google Analytics, you can use JavaScript error handling mechanisms. For example, you can use try-catch blocks to capture and handle any exceptions that may occur while executing the tracking code.

javascript try {

// Google Analytics tracking code here

} catch (error) {

// Handle the error, e.g., log it or send it to a server

}

1. Debugging: Use Google Analytics debugging tools to identify and diagnose any issues with your tracking code. Google Analytics provides a debug version of the tracking code that logs messages to the browser's console.
2. Event Tracking: Implement event tracking in your Google Analytics setup to track user interactions and user-generated exceptions, such as form submission errors. You can use the `ga('send', 'event')` method for this purpose.
3. Custom Alerts: Set up custom alerts in your Google Analytics account to receive notifications when there are significant changes or issues with your tracking data.
4. Regularly Monitor Reports: Keep an eye on your Google Analytics reports to identify any anomalies or unexpected drops in data, which could indicate tracking issues.
5. Stay Informed: Stay informed about changes in Google Analytics and best practices for tracking. Google Analytics frequently updates, and it's essential to keep your implementation up-to-date.

**Project Development Phase Performance Test**

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| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| Project Name | How To Add Google Analytics To A Website |

**Model Performance Testing:**

Project team shall fill the following information in the performance testing template.

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Values** | **Screenshot** |

|  |  |  |
| --- | --- | --- |
| Metrics | Google Analytics To A Website OUTPUT |  |

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Performance and Final Submission Phase

**Model Performance Metrics**

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| TEAM LEAD | R.Musica |
| NM ID | 76860632B2D43EFBE814FEC16F13E5E4 |
| PROJECT NAME | How To Add Google Analytics To A Website |

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| **PARAMETER** | **SCREENSHOT** |
| Output |  |



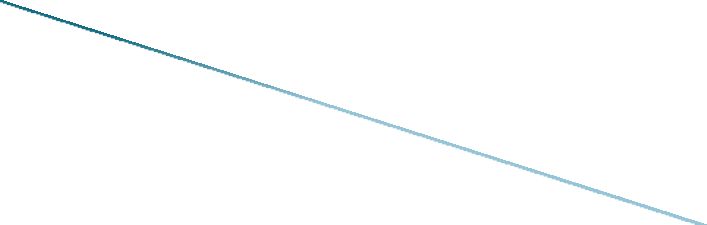
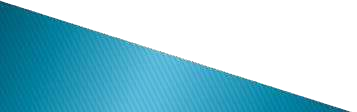
TEAMMEMBERS

1.R.MUSICA-76860632B2D43EFBE814FEC16F13E5E4(NMId)

2.G.NARMATHA-4A2E58E6628D006B07442D313609C775(NMId)

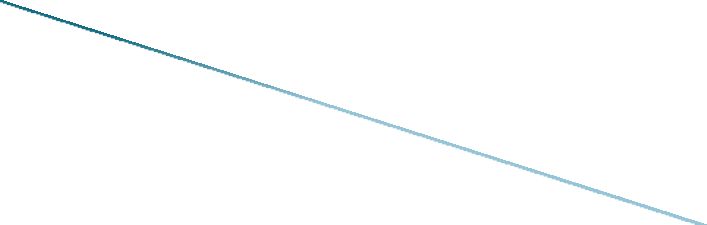
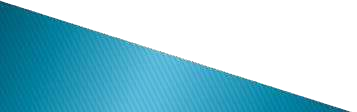
3.J.VISHALINI-2C80635DB4268088B444C2EC6E11B9F4(NMId)

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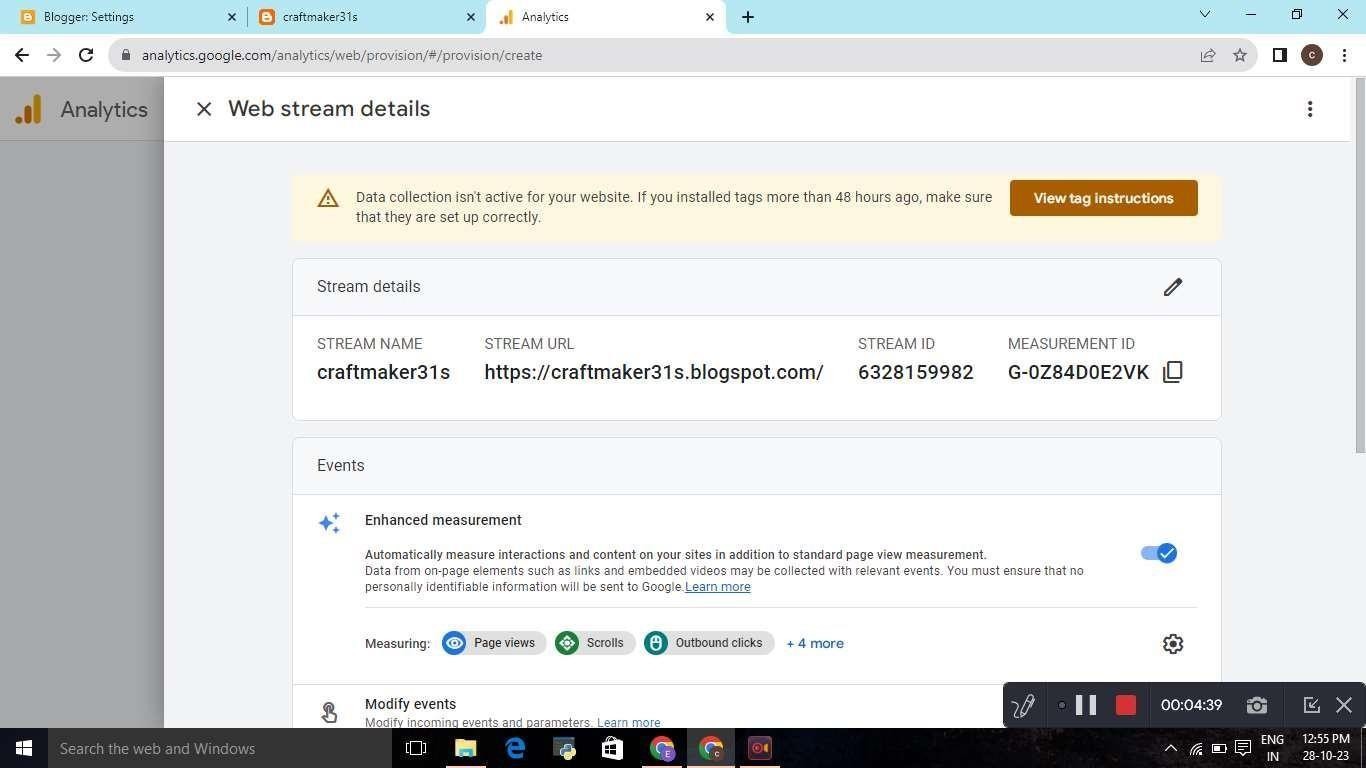
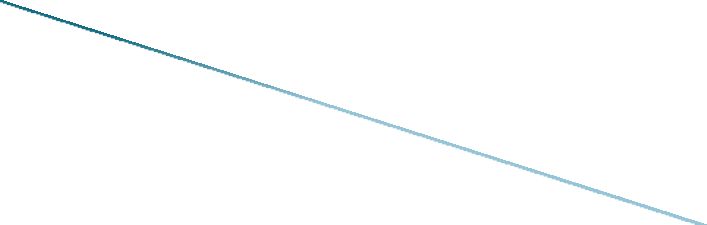
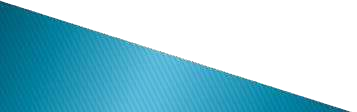
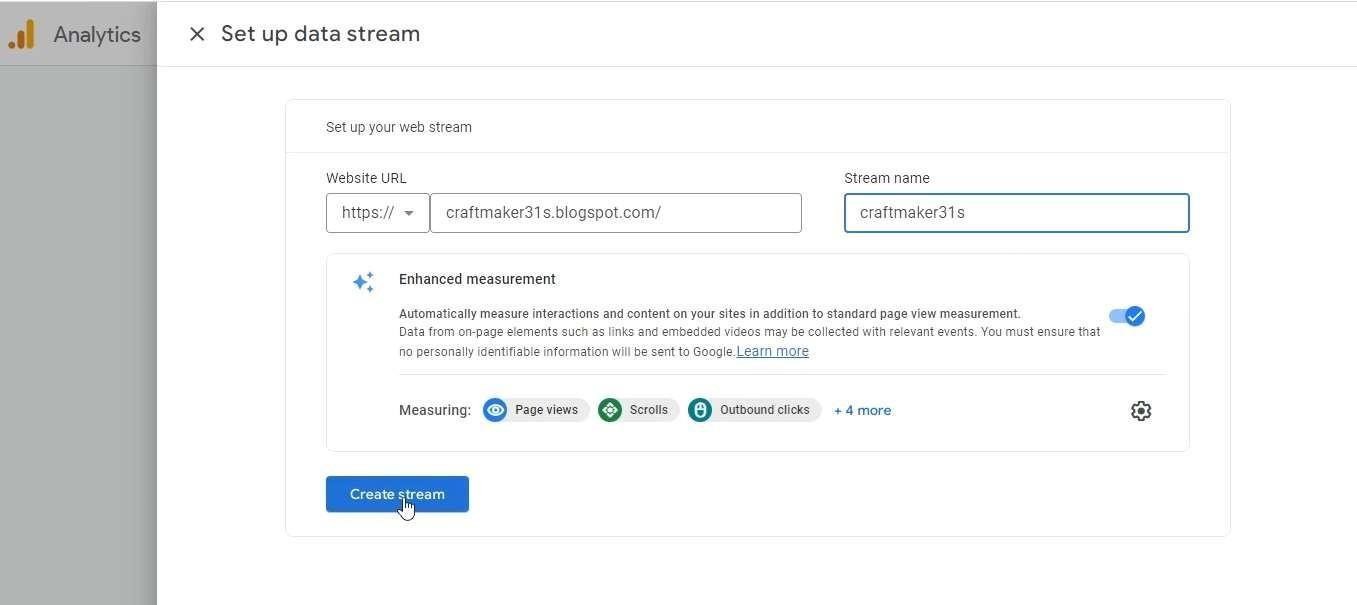
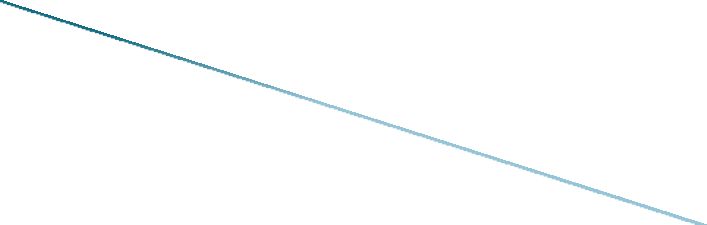
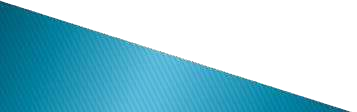
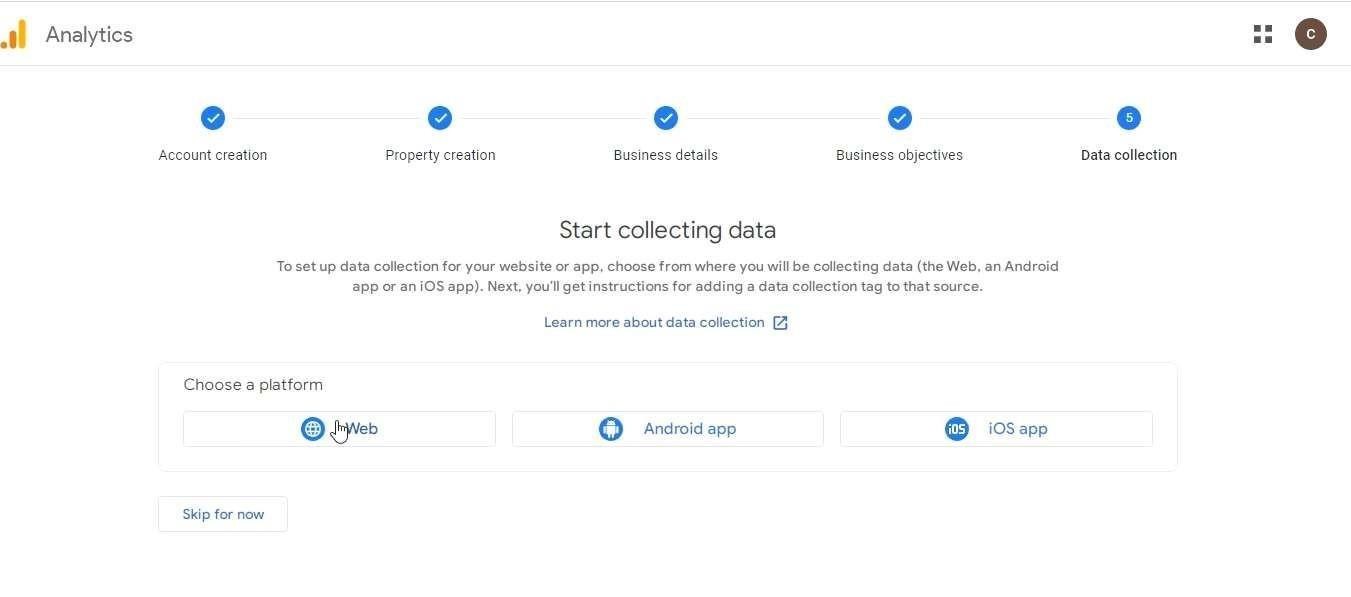
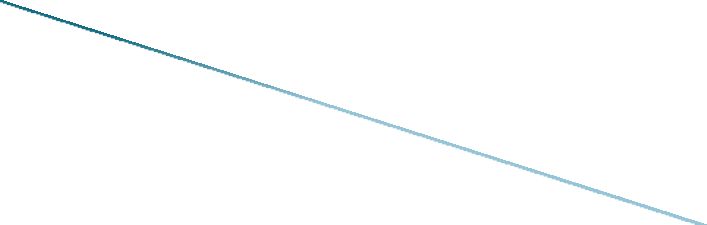
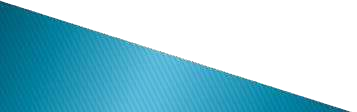
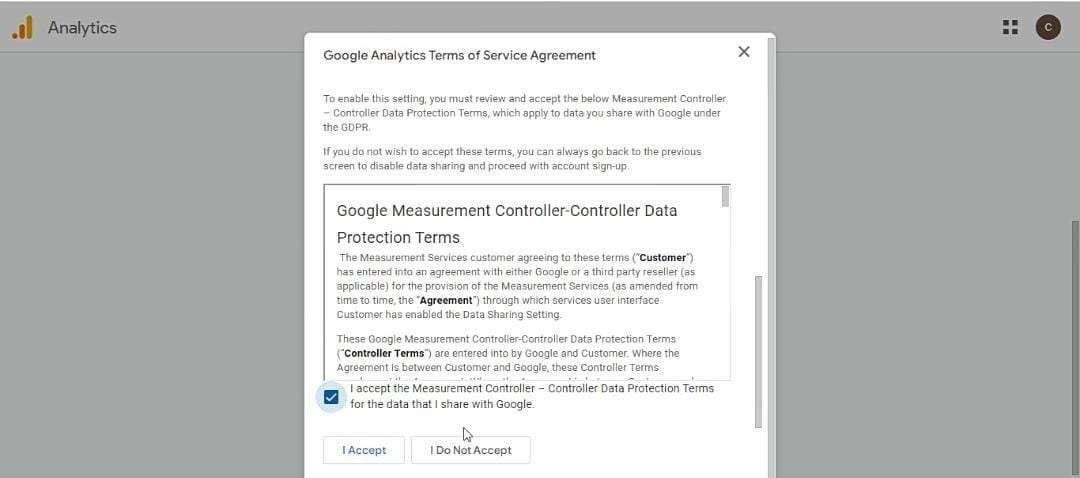
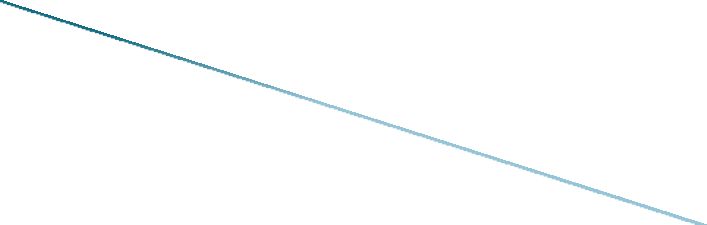
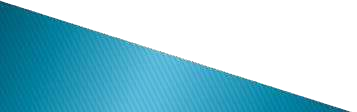
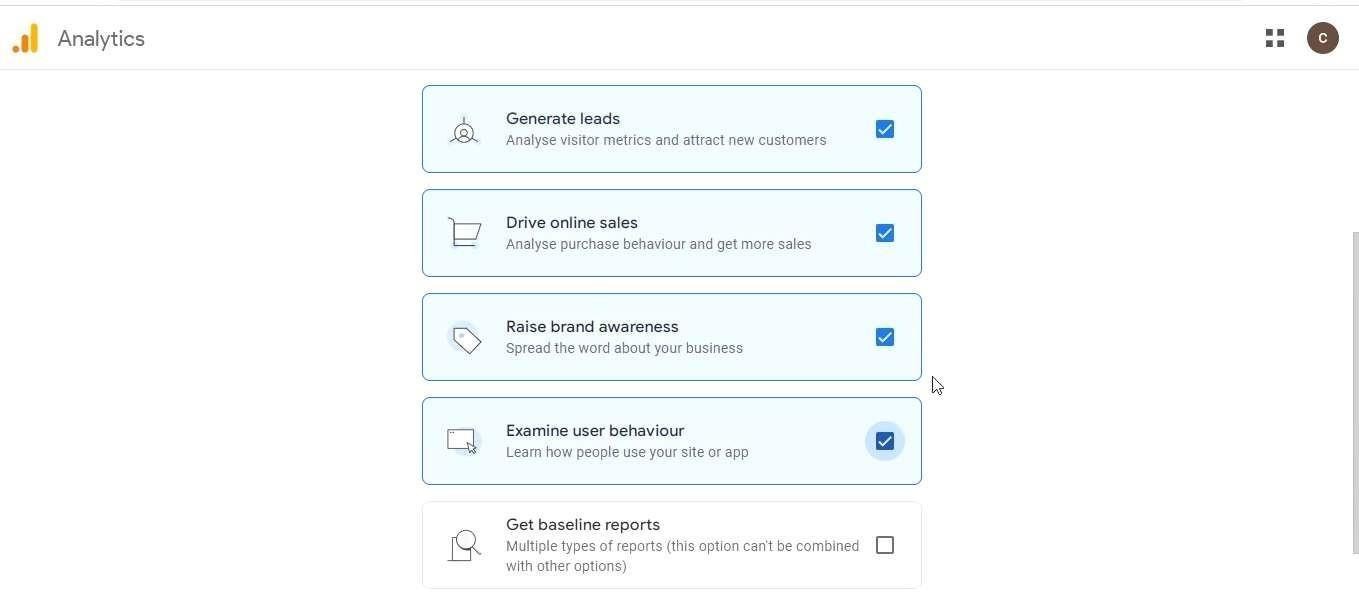
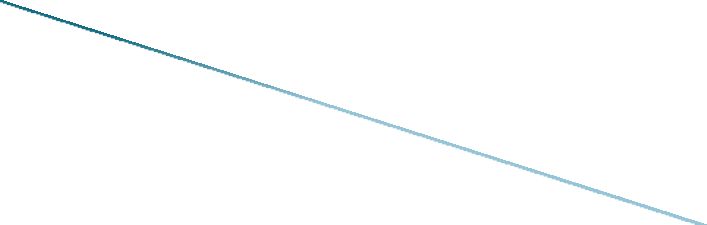
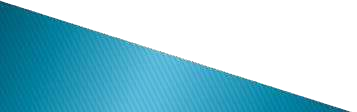
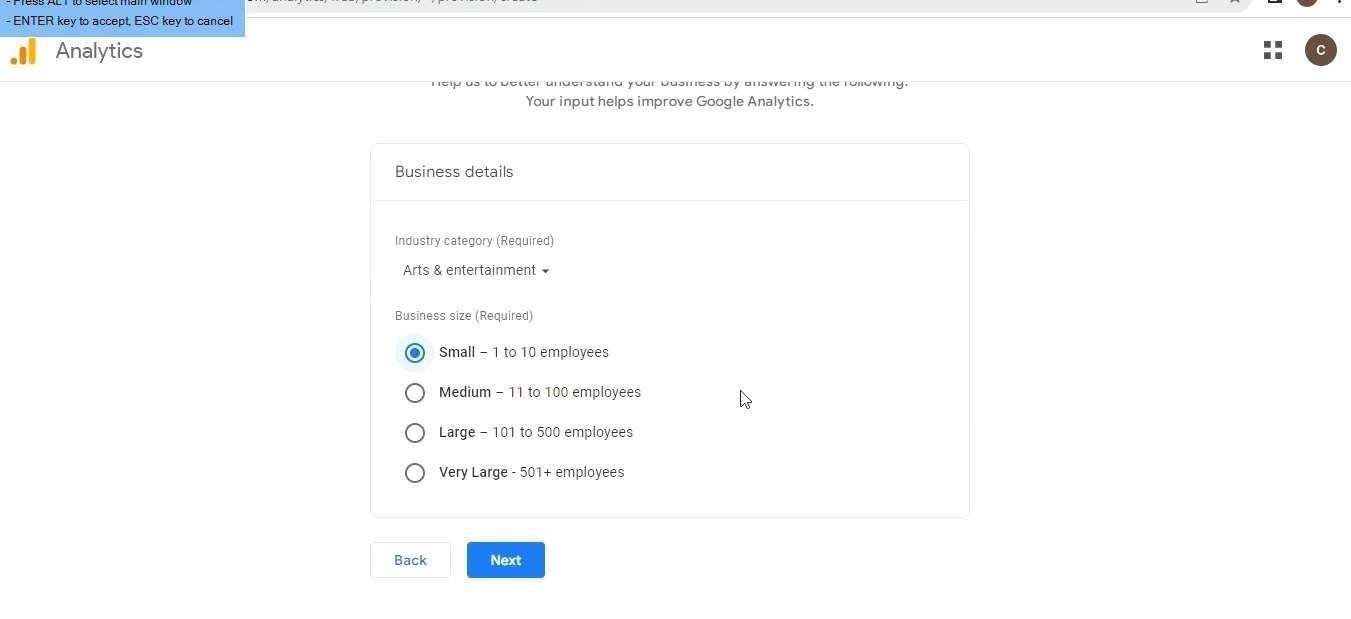
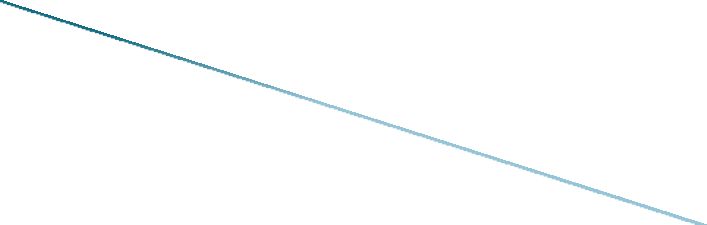
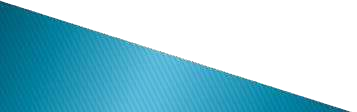
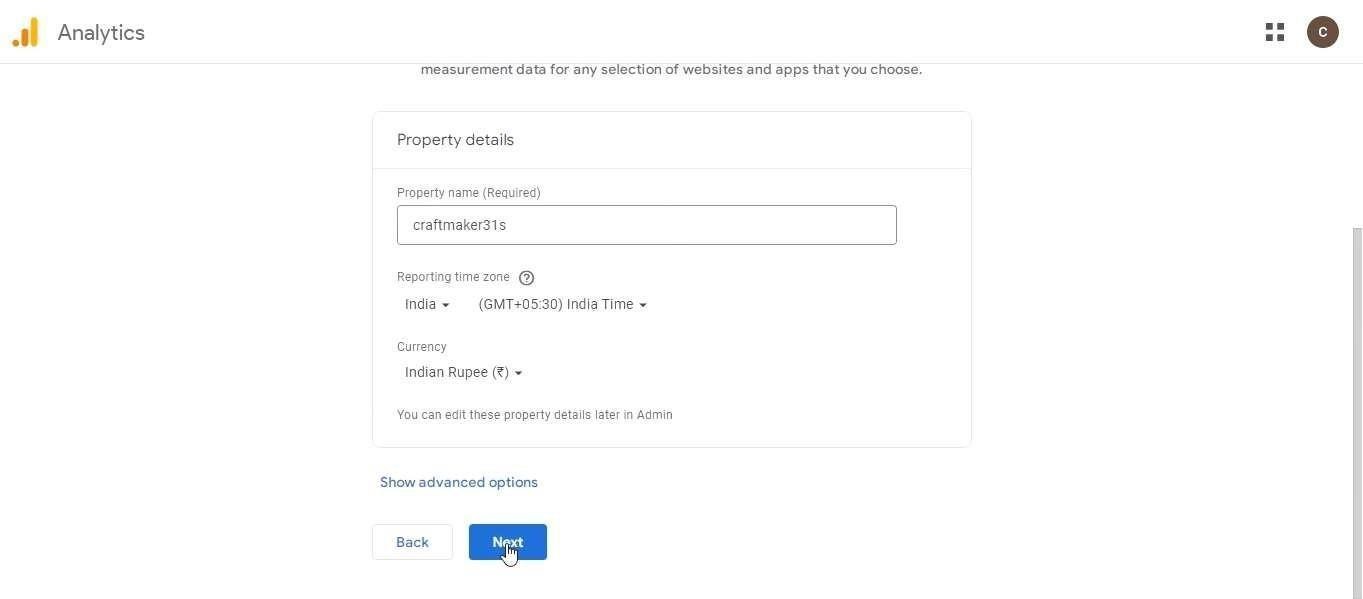
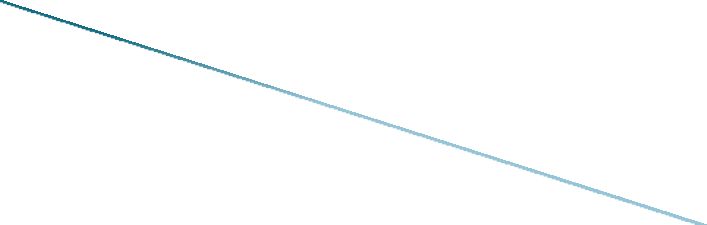
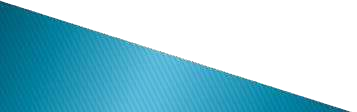
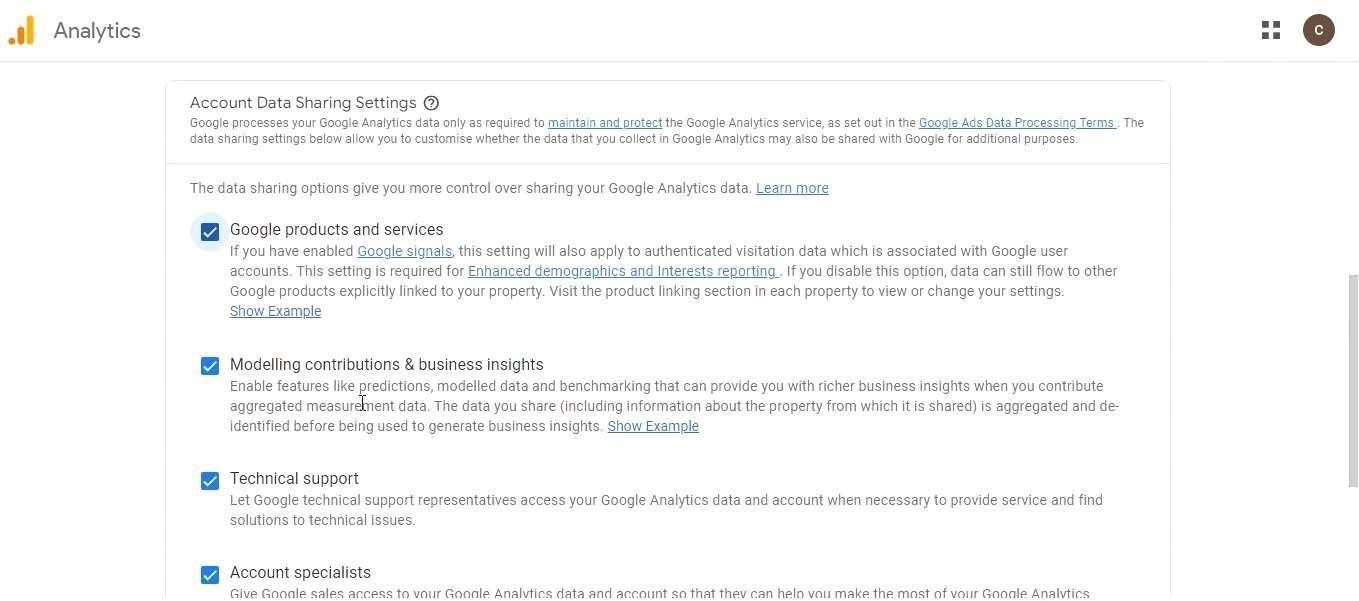
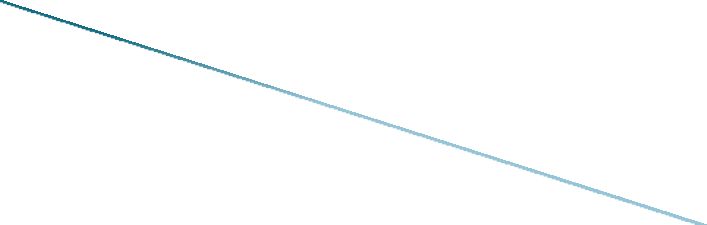
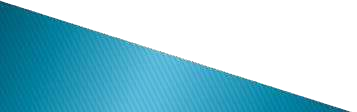
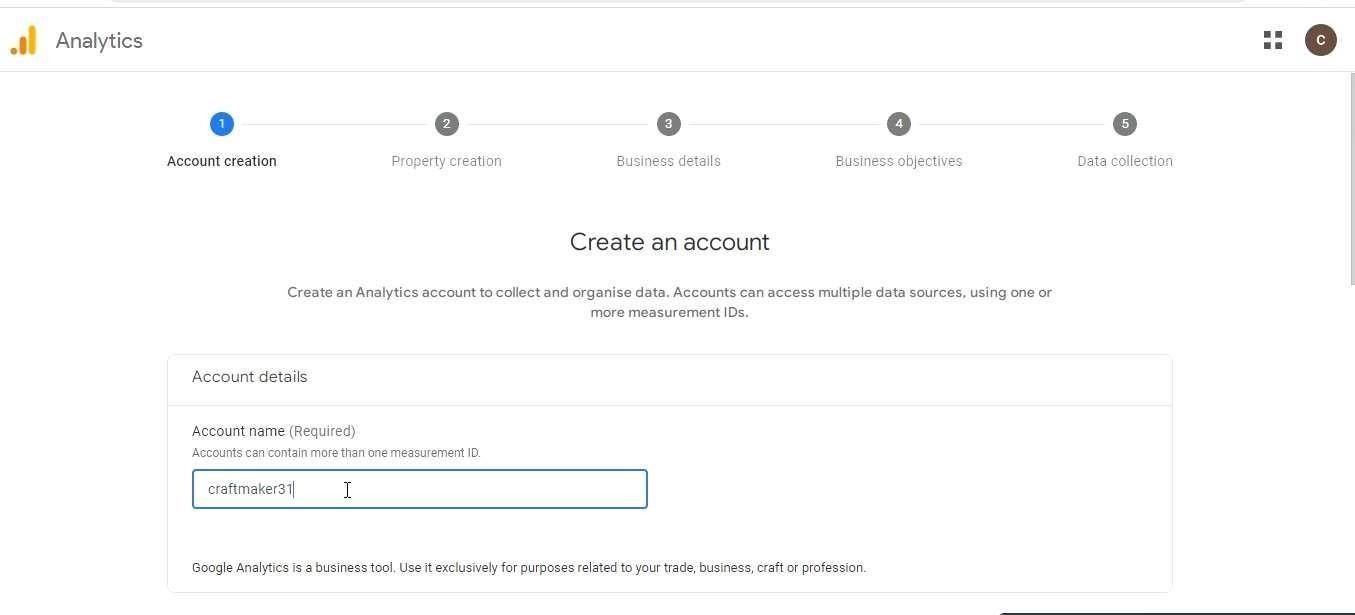
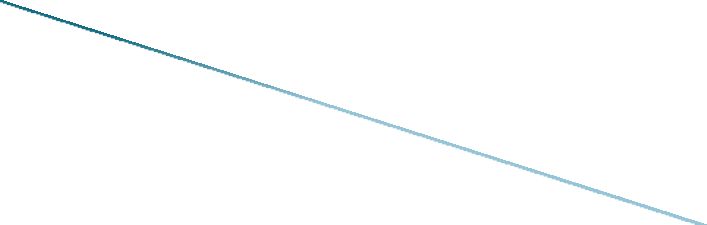
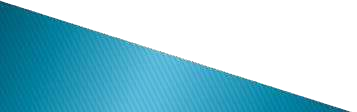
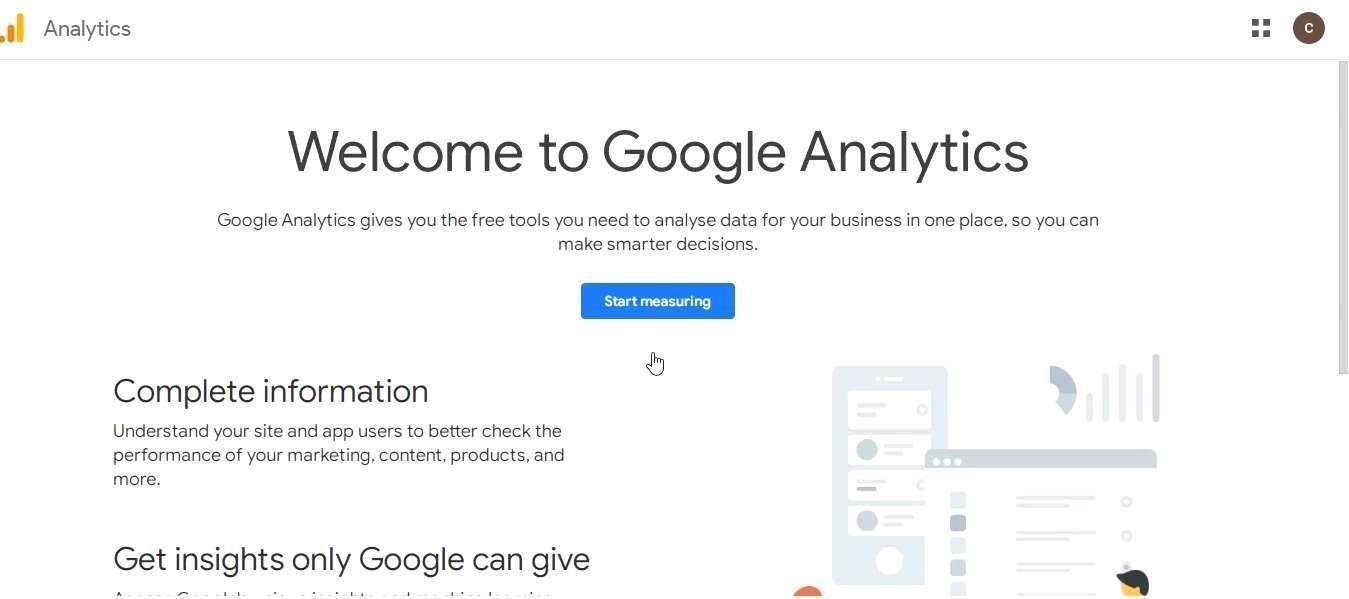
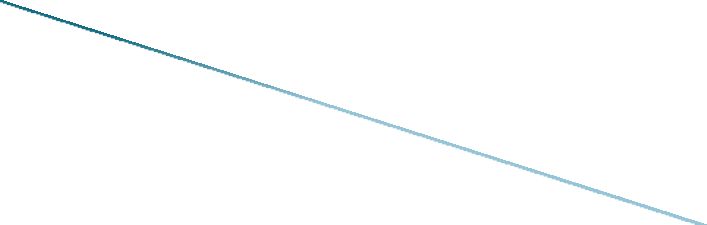
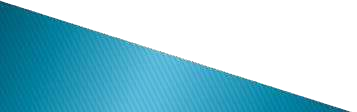
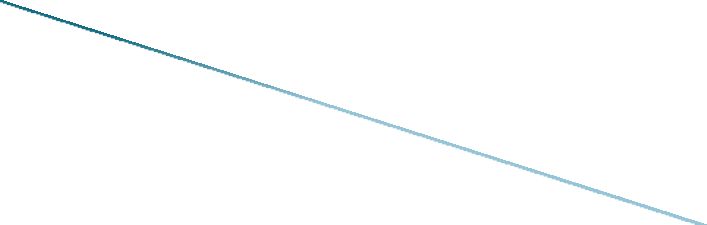
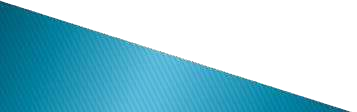




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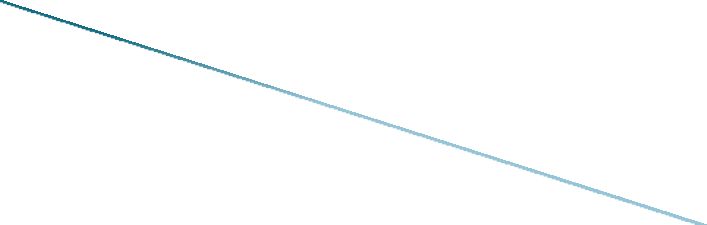
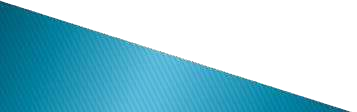




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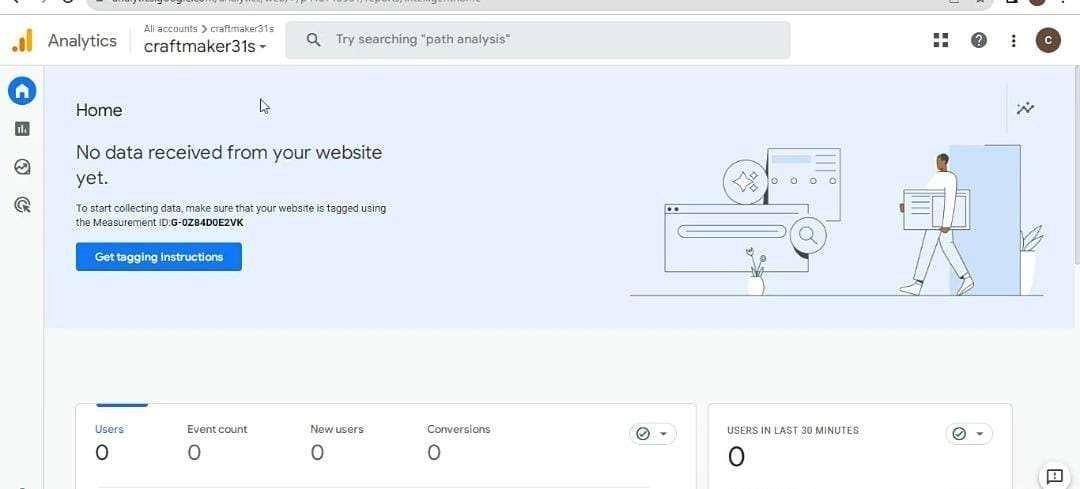
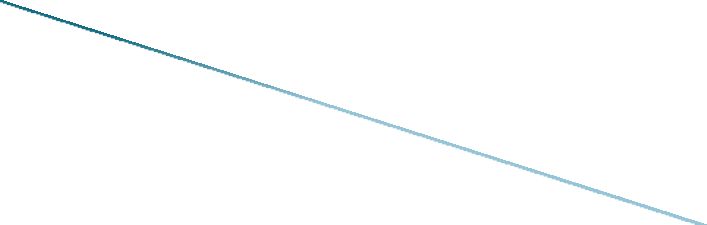
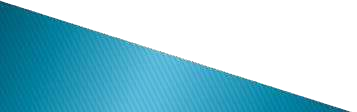
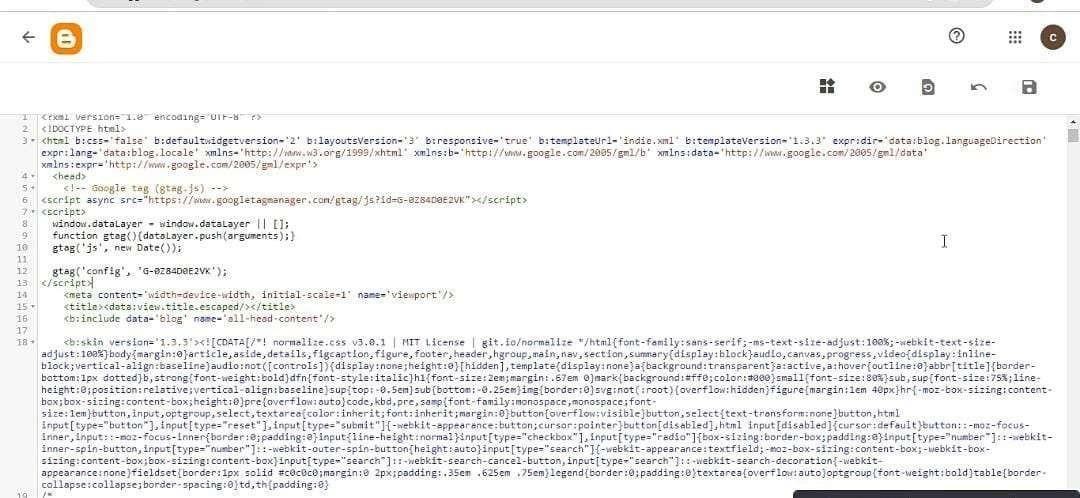
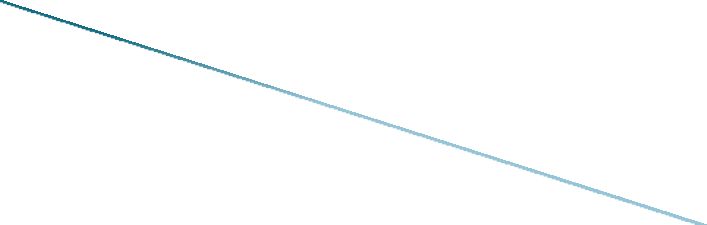
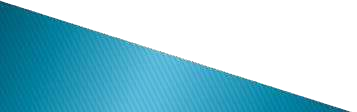
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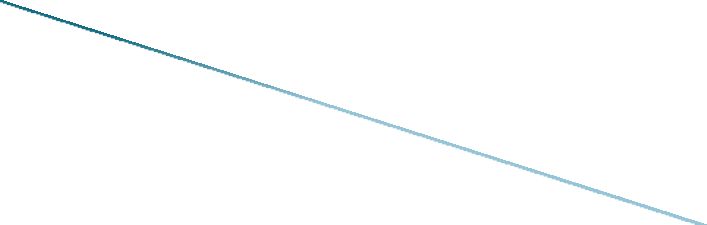
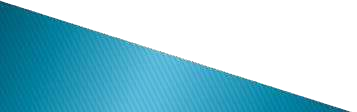
**Demo Video link** : <https://youtu.be/8hCF-eD4RDc?si=4MjUDOdhCsX-PHyC>

**Explanation video** : <https://youtu.be/nbrbxbSK1Wc?si=D-_t1IDNoROkRSau>

**Github link**: <https://github.com/CRAFT-31/NM-Google-Analytics.git>

**PROJECT OUTPUTLINK**

[https://analytics.google.com/analytics/web/#/p413713981/reports/intelligenthome](https://analytics.google.com/analytics/web/%23/p413713981/reports/intelligenthome)



# PROJECT OUTPUT

