

## Almacén de datos para las sesiones del Poder Legislativo

*Data warehouse for the legislative branch sessions*

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### Resumen

El Poder Legislativo de los estados a través de los H. Congresos estatales celebra sesiones de carácter obligatorio al menos una vez a la semana de acuerdo a las leyes estatales. La celebración de dichas sesiones se hace de acuerdo a un procedimiento específico plasmado en un documento denominado “Orden del día”, con la finalidad de dejar evidencia sobre el desarrollo de la sesión en otro documento denominado “Diario de debates”.

El Congreso del Estado de Colima ha publicado en su sitio web las sesiones de las últimas seis legislaturas, sin embargo, dichas sesiones se presentan de manera desarticulada, haciendo ineficiente el proceso de recuperación de información relevante para el usuario. La presente investigación propone construir una estructura denominada almacén de datos que articule las sesiones de las diversas legislaturas. Con ella se podrán realizar consultas avanzadas mediante el portal web de la institución.

**Palabras clave:** almacén de datos, conversión de datos, recuperación de información, Gobierno.

## Abstract

The Legislative Branch of the States through the Meritorious State Congresses held mandatory sessions at least once a week according to State laws. These sessions are meet according to a specific procedure embodied in a document entitled "Draft agenda", in order to leave evidence on the development of the session in another document called "Journal of debates".

The Congress of the State of Colima has published on its website the sessions of the last six legislatures, however, these sessions appear to be disjointed, inefficient making the process of retrieval of relevant information for the user. This research proposes to build a structure called data warehouse that articulates the different legislative sessions. With this you can make an advanced enquiry through the institution website.

**Key words:** data warehouse, data conversion, retrieval of information, Government.

**Fecha recepción:** Septiembre 2015

**Fecha aceptación:** Enero 2016

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## Introduction

According to article 13 of the law on transparency and access to public information of the State, it is stipulated that: "Subjects bound to that referred to in this law shall make available to the public, disseminate and update, on a permanent basis and the Internet..." [1] For this reason, is the duty of the Meritorious State Congress be storing on their web site information generated by it in order to provide the population access to information.

The current number of sessions and the information generated in the Meritorious State Congress are very extensive, which creates numerous documents along the months. If one takes into account that the information is stored in an isolated manner and that it is a long time that is required to search for information, you can see that the method is inefficient, the search for information becoming tedious and unnecessary costs in time and money.

Figure 1 shows the procedure that the Meritorious State Congress currently follows for issuing documents and its methodology to integrate this documentation into your web site.

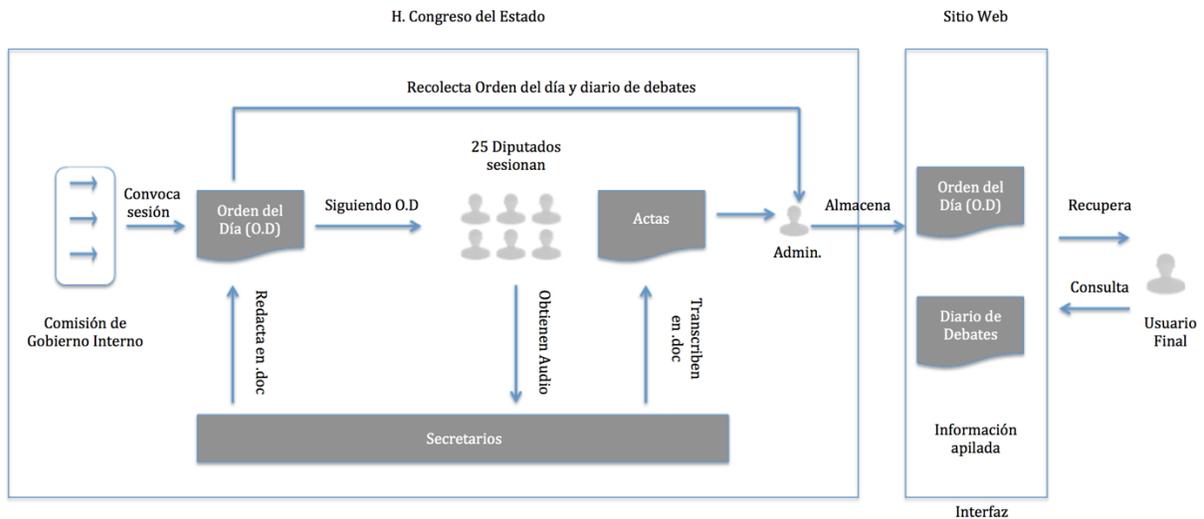


Figure 1. Model of the current processes of the Congress

To better understand model describes each of its parts, as well as users who interact in this process.

**Commission of Internal Government.-** The Government Committee is chaired by the Coordinator of the parliamentary group, who represents the absolute majority itself alone; the Ministries are occupied by the coordinators of the Parliamentary Groups who occupy second and third place according to the number of deputies representing; the remaining coordinators have the character of vowels.

The Government Commission meets at least one time a week, during the ordinary sessions; and outside of these times as necessary. The meetings are convened in writing 24 hours in advance, by the President of the Commission and must contain the matters proposed to be addressed in the Draft Agenda [2].

Draft agenda [2]: every session is attached to an agenda that must be approved by the Assembly and that, in the case of regular sessions, contains at least the following points:

- I.- Reading of the draft agenda;
- II.- Attendance list;
- III.- Statement, where appropriate, be legally installed session and be valid decisions that are taken;
- IV.- Discussion and approval of the minutes of the previous session, or if any proposed waiver of reading, If has been previously distributed to deputies;
- V.- Synthesis of communications and the procedure that corresponds to each of the documents and read issues, or if any proposed waiver of reading;
- VI.- Presentation of opinions: reading, discussion, and vote on them, if any;
- VII.- General Affairs;
- VIII.- Call for proposals for the next session; and
- IX.- Closing [2].

**Journal of MINUTES.-** Congressional debates and publishes the Journal of Debates, which aims at preserving and archiving the history of state legislative process.

The Journal of the Debates contain the place and date on which conducted the sessions, the agenda, the names of the component Members of the directive, the full transcript of the digitized recording of the proceedings in the order they develop, as well as insertion of documents presented in the course of it, but in no case be published documents and discussions related to the secret sessions are verified [2].

In the pattern shown you can see several users, who have specific tasks ranging from document generation to integrate them on the website.

Administrador.- is in charge of collecting information issued to, once obtained, upload it to the server to be displayed on the website of the institution.

Final Audition.- user is the person interested in the documentation issued by the State Congress, which can be directly accessed on the website of the institution.

The problem with the current methodology following the institution is that all information will be stacked, so when the end user is required to search manually, touring the collection of files to find interesting, an exhaustive search and boring.

**MATERIAL AND METHODS**

To overcome these situations a data warehouse that through a structured formats the information generated to allow the end user to perform advanced queries and obtain information more quickly and efficiently is proposed. This proposal is shown in Figure 3, where a red line separates processes currently still.

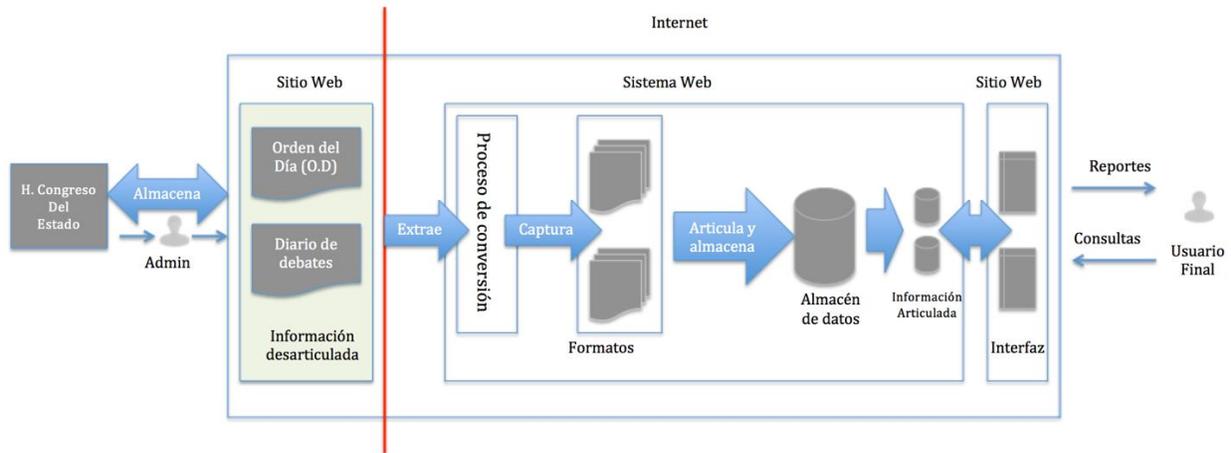


Figura 1 Modelo conceptual del almacén de datos

Then every part of this conceptual map described.

Information desarticulada.- Here you need to know how the information is before it is processed. The State Congress holds weekly sessions, generating a large amount of information required by law to be made public through its website.

The documentation generated through the records of the meetings and agendas is captured in Word documents, then converted to PDF format, and finally stored in the website using a system called SACE, which is currently in operation.

It is very simple how the information is added; only the identifier name of the document and their respective documents (PDW WORD) is entered, stacking as they add new information.

The disadvantage is stacked and disjointed information is that when inquiring past sessions should be done one by one, that is, if you want to view a meeting on 9 June 2013, it should enter the section of the year and month-on-month search for the page to find the desired day.

This form of consultation is time consuming and the inexperienced user may at some point choose to get desperate and information from other sources, such as the telephone, e-mail or in person.

Formato.- conversion process and to articulate the information you need to create a structure that bridges between disjointed information and storage. For this purpose a web platform, which contains the essential elements of the documentation submitted to through it can filter the information and then store it in a database (data warehouse) is used.

The platform is developed in a programming language called PHP, used to perform dynamic content in a web environment.

It is coded in a Codeigniter framework called for better structure and order in the development, and the potential for more stable, upright and secure software is used.

Visual interfaces are developed using able bootstrap [3], a popular framework in HTML, CSS and JavaScript for responsive and adaptable to the screens used development.

The format consists of a series of elements that captures the administrator:

- Session name.
- Date and time of the installation of the session.
- Period of the session
- Board
  - member name
  - or Cargo
  - or Period
- Order of the day
  - Or Point Agenda
  - Or point description
- Interventions
  - Responsible for the intervention.
  - Type of intervention (point of agreement, initiative, urge, etc.).
  - Intervention status (approved, rejected, turned over).
- Attendance
  - Total attendance
  - Total fouls
  - Missing or justified (names).
    - Date of next meeting
    - Date of closing

- Check the closing of the session

With the information presented captures the information from the records of the meetings and from there get the agenda. That way you also get coordinate information, which is then stored in the data store:

Data Store (database) .- The data warehouse is nothing structurally to a database, which contains all current and historical information on the meetings in the Congress of State.

Following are brief historical reviews of data warehouses is.

A data store, also known as Data Warehouse, a database accessible by users with a record of historical and current data on all major entities in the institution.

The data warehouse organizes and hosts the necessary data, for use in an analytical process in a time perspective.

According to Bill Inmon and Ralph Kimball, a data warehouse is: [4]

"A copy of transaction data specifically structured for query and analysis."

"Facing subject, integrated, time variant, nonvolatile collection of data in support of management decision-making process."

There are different reasons for creating a data warehouse to obtain the necessary information in the storage process of the meetings in the Congress of the State, instead of extracting the information directly from the databases of relational applications .

- Rendimiento.- The time it takes to access the data repository data store is less than a consultation to different databases. Besides making complex queries based on operational data worsens the response time of these systems to other users. [5]
- Cleaning data.- To homogenized data is necessary to clean or data using appropriate techniques to achieve data standardization tools. [5]
- Ajustes.- sometimes becomes necessary to adjust the data for possible comparisons. [5]
- Periodicidad.- The periodicity may differ, daily, weekly, monthly, and so on. As in the previous cases for possible comparisons, and homogenization is conducted in the DW required. [5]
- históricos.- Data Historical data is not normally stored in operational systems, but they are an essential part of any analysis. The DW is the right place for this data. [5]

For the development of the data warehouse project is a tool called Workbench based on MySQL, which is a unified visual tool for developing and managing database architectures will be used.

Then in the following figure (Figure 2) store data conducted for this project, which contains each of the necessary elements for storing each legislative session is displayed.

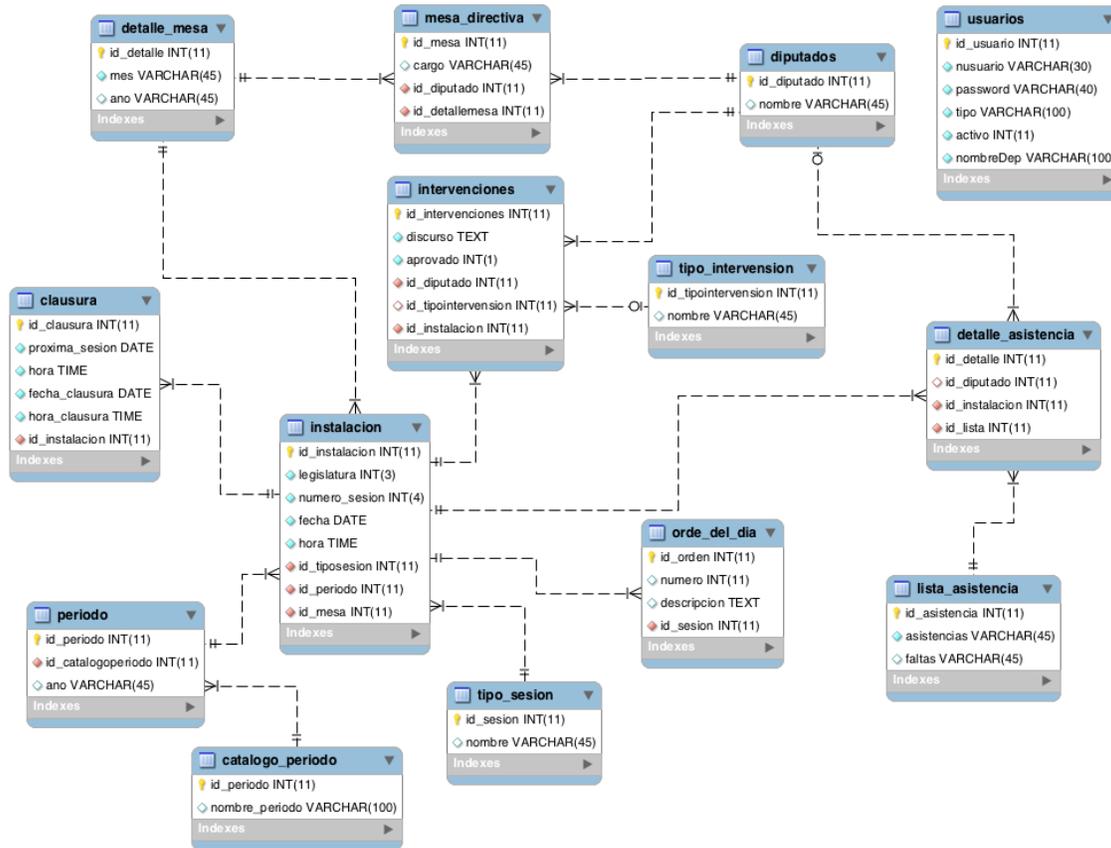


Figure 3 Diagram of classes for Data Warehouse State Congress

Information articulada.- Through the format and structure have shown the ability to articulate the flat information than is available to start. At the time it is stored it can be flexible so that the end user with a single query can obtain such information.

The articulated information is the integration of all the data linked together so that when the user to enter minimal data for the search, the data warehouse can locate information and shed as a result all related information.



RESULTS AND CONCLUSIONS

End interfaces

Here are some interfaces, results and plans that were generated for the comprehensive system that is responsible for storing the information in the database, so that it is subsequently displayed on the system and developed website is.

The following images (Figures 4 and 9) are part of the capture format that was created to store the minutes and agendas of the State Congress celebrated. They were divided into five parts to make your users comfortable catch.



Figure 4 Screen logon



Figure 5 Capture Format Minutes Part 1

The screenshot shows a web interface for 'Almacenar Actas' (Store Minutes) under the 'Parte 2: Orden del día' (Part 2: Order of the Day) section. The interface includes a dark sidebar on the left with navigation options: 'Inicio', 'Actas de sesiones' (with sub-options 'Almacenar actas' and 'Eliminar actas'), 'Consulta', and 'Parte 1: Instalación' (with sub-options 'Parte 2: Mesa Directiva', 'Parte 3: Asistencia', 'Parte 4: Intervenciones', and 'Parte 5: Clausura'). The main content area has a title 'Almacenar Actas' and a sub-title 'Parte 2: Orden del día'. Below this, there are five numbered input fields for 'Número:' and 'Descripción del punto:'. The descriptions are: 1. Lista de Presentes; 2. Declaración del quórum legal y en su caso instalación de la sesión.; 3. Lectura del acta de la Sesión Pública Ordinaria número dos, celebrada el día 6 de octubre del año 2015; 4. Síntesis de comunicaciones; 5. Lectura, discusión y aprobación en su caso del Acuerdo elaborado por la Comisión de Gobierno Interno y Acuerdos Parlamentarios, a fin de que comparezcan ante e:

Figura 2 Formato de captura de actas parte 2

The screenshot shows the 'Almacenar Actas' form for 'Parte 3: Lista de asistencia' (Part 3: Attendance List). The sidebar is identical to the previous screenshot. The main content area has a title 'Almacenar Actas' and a sub-title 'Parte 3: Lista de asistencia'. It features two input fields: 'Número de asistencias:' with the value '25' and 'Número de inasistencias:' with the value '0'. Below these is an 'Asistencia justificada' (Justified Attendance) input field. A green 'Siguiendo' (Next) button is located at the bottom right of the form area.

Figura 3 Formato de captura de actas parte 3

Figures 5, 6, 7, 8 and 9 show some activities that the system allows the user to store and retrieve the records in the data store system.

The screenshot shows the 'Almacenar Actas' (Store Minutes) interface for 'Parte 4: Intervenciones'. The interface includes a sidebar with navigation options: Inicio, Actas de sesiones (Almacenar actas, Eliminar actas), Consulta, and Parte 1 through 5. The main content area is titled 'Almacenar Actas' and 'Parte 4: Intervenciones'. It features three dropdown menus: 'Selecciona el nombre del diputado:' (Martha Leticia Sosa Govea), 'Tipo de intervención:' (Punto de acuerdo), and 'Estado de la intervención:' (Aprobado). Below these is a text area for 'Ingresa la intervención' containing a detailed text block about a meeting on October 20, 2015. At the bottom, there is a checkbox for 'Selecciona la casilla si es réplica de otra intervención:' and a green 'Siguiente' button.

Figura 4 Formato de captura de actas parte 4

The screenshot shows the 'Almacenar Actas' (Store Minutes) interface for 'Parte 5: Clausura'. The interface includes a sidebar with navigation options: Inicio, Actas de sesiones (Almacenar actas, Eliminar actas), Consulta, and Parte 1 through 5. The main content area is titled 'Almacenar Actas' and 'Parte 5: Clausura'. It features four input fields: 'Fecha de la próxima sesión:' (20/10/2015), 'Hora de la próxima sesión:' (10:00 AM), 'Fecha de clausura:' (13/10/2015), and 'Hora de la clausura:' (02:45 AM). At the bottom right, there is a green 'Finalizar' button.

Figura 5 Formato de captura de actas parte 5

The images shown below are some of the interfaces for consultations, as well as the results obtained (Figures 10 and 11).

Figura 6 Interfaz de búsqueda de actas

**58 Legislatura**  
**Sesión Ordinaria número 3**  
**03 de Octubre de 2015**  
**Primer Periodo Ordinario del 1er año de ejercicio Constitucional**  
**Mesa directiva correspondiente al mes de Octubre del 2015**  
 Martha Sosa Govea Presidente  
 Crispin Guerra Cárdenaz Secretario  
 Leticia Zepeda Mesina Secretario

**Orden del día:**

- 1.- Lista de Presentes
- 2.- Declaración del quórum legal y en su caso instalación de la sesión.
- 3.- Lectura del acta de la Sesión Pública Ordinaria número dos, celebrada el día 6 de octubre del año 2015
- 4.- Síntesis de comunicaciones
- 5.- Lectura, discusión y aprobación en su caso del Acuerdo elaborado por la Comisión de Gobierno Interno y Acuerdos Parlamentarios, a fin de que comparezcan ante esta Soberanía, los días 20, 21 y 22 de los corrientes los Secretarios de la Administración Pública Estatal, para la Glosa del VI Informe de Gobierno del Lic. Mario Anguiano Moreno, Gobernador del Estado de Colima
- 6.- Lectura, discusión y aprobación en su caso del Acuerdo elaborado por la Comisión de Gobierno Interno y Acuerdos Parlamentarios respecto a la creación de la Comisión Especial de Seguimiento del Empréstito aprobado al Ejecutivo Estatal mediante el Decreto número 565 de la Quincuagésima Séptima Legislatura
- 7.- Asuntos Generales
- 8.- Convocatoria a la próxima sesión ordinaria
- 9.- Clausura

**Lista de asistencia:**  
 25 diputados asistentes de 25, 0 diputados justificados

Figura 7 Resultado de consulta parte 1

Figure 11 shows the result of the query of stored records; presented the report shows the data used to characterize the specific act, as well as the agenda of the minutes referred.

**Intervenciones Diputado**  
Martha Leticia Sosa Govea:

**Acuerdo: Aprobado**  
a fin de que comparezcan ante esta Soberanía, los días 20, 21 y 22 de octubre, los Secretarios de la Administración Pública Estatal para la Glosa del VI Informe de Gobierno del Licenciado Mario Anguiano Moreno, Gobernador del Estado de Colima; documento por el cual se acuerda lo siguiente: Con fundamento en los artículos 8º, 9º de la Ley Orgánica del Poder Legislativo y 193 de su Reglamento, se acuerda se cite en comparecencia a los siguientes Secretarios del Gobierno del Estado: a) El día martes 20 de octubre del año 2015: de 10:00 a 12:00 horas, al Lic. Rafael Gutiérrez Villalobos, Secretario General de Gobierno; de 12:00 a 14:00 horas, al Lic. José Carlos Ahumada Viveros, Secretario de Fomento Económico; de 17:00 a 19:00 horas, a Rigoberto Salazar Velasco, Secretario de Desarrollo Social. b) El día miércoles 21 de octubre del año 2015: de 10:00 a 12:00 horas, al Dr. Armando Figueroa Delgado, Secretario de Educación; de 12:00 a 14:00 horas, al Gral. Raúl Pinedo Dávila, Secretario de Seguridad Pública; de 17:00 a 19:00 horas, al Lic. Marcos Santana Montes, Procurador General de Justicia. c) El día jueves 22 de Octubre del año 2015, a los siguientes Secretarios de Gobierno del Estado: de 10:00 a 12:00 horas, al Ing. Adalberto Zamarroni Cisneros, Secretario de Desarrollo Rural; de 12:00 a 14:00 horas, al Médico Agustín Lara Esqueda, Secretario de Salud y Bienestar Social; de 17:00 a 19:00 horas, la C.P. Blanca Isabel Avalos Fernández, Secretaria de Finanzas y Administración.

**Proxima sesión se celebrará el día**  
20 de Octubre a las 10:00 am

**Clausura de la presente sesión**  
13 de Octubre a las 14:45 am

[Regresar](#)

*Figura 8 Resultado de consulta parte 2*

As could be seen in the images above, we can get results with sessions just add a field stored in the search.

Currently the results are printed directly into HTML.

#### Conclusion

As you can see from the pictures, both the storage and querying are nice and simple for the end user, with a solid structure in the data store that provides good articulation of information.

Consequently, the process of specific searches can be performed quickly, increasing the efficiency of transparency of the website of the institution.

The aim of this investigation was satisfactorily met by taking into account the results obtained.

**Then the scope Limitations.-** defining project boundaries are shown, which in the future can be extended depending on their development.

- The database manager for the store will MySQL.
- Will be developed only in web environment.
- The system will yield results only in HTML format.

**Alcances.-** Within the development of the project there is a range of what can be done and what is not. Then define the attributes set.

- Design a capture format for recording the minutes and points of agreement held in the legislature.

- Implement the capture format in a web interface system used by the Congress of Colima.
- Create the Datastore where documents are stored generated by the database manager MySQL.
- Designing an interface for building queries.

### Recommendations

To make research in the future the following recommendations are made:

- Represent the system information in XML format.
- Statistical information for the recovery of the system Apply.
- Move the system to other operational and execution platforms.
- Extend the system to operate on mobile platforms.

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