

# Release Notes for JMP 16.1

JMP 16.1 is a general maintenance release that contains enhancements and bug fixes. Reproducible crashes and numeric issues have been corrected. Applying this maintenance release is recommended for all users.

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## New Features

### Bootstrap Forest

- Bootstrap Forest includes new default values for some tuning parameters.

### Control Chart Builder

- The XBar control chart launch window now contains options to specify a constant sample size and the type of dispersion chart that appears below the XBar chart.
- Sample Label is now an alias for Subgroup in Control Chart Builder.
- Sample Label and Sort by Sample Label have been added to the IMR launch window.

### Database Integration

- To omit the Save to DB script from a table that is imported through ODBC, deselect the Tables preference called ODBC Allow Table Replace. This prevents accidental updates to the database.
- SQL Native 11 and ODBC for SQL Server 17 don't return the column length. When a driver does not return a column length, the limit is 4MB.

### Functional Data Explorer

- The new Reset button for the Functional Principal Components profiler resets all of the functional principal components scores to zero.
- Log X and Align by Function are new data processing options.

### JMP Live

- Use a new command line interface to update SSL certificates for Keycloak.
- You can download JMP Live posts as JMP Projects, and then open them in JMP.
- Administrator features have an updated look and feel.
- Instead of doing a full installation of JMP Live, you can update your version.
- You can see who has accessed your JMP Live posts. Administrators can search and view all JMP Live post accesses.
- You can delete a data table that is no longer referenced by posts.
- Use `Get HTTP Request()` to get an HTTP Request from a Live Connection object.

## Model Screening

- Prediction profilers are now available for models fit on continuous responses in Model Screening.
- `Select Fit()` JSL enables you to select specific models in the Model Screening report.
- You can now save the prediction formulas from individual models.

## Principal Components

- You can now save the predicted variables as formulas that are linear combinations of a specified number of components using the Save Predicteds As Component Formulas option.
- You can now launch Model Driven Multivariate Control Charts from the Principal Components report.

## Process Screening

- Multiple subgroup columns are supported in Process Screening.
- The Sort by Subgroup option has been added to the launch window.
- If a column has a Distribution or Process Capability Distribution column property with a non-normal distribution type, a Warnings outline is shown below the Summary table in the Process Screening report.
- The Details table now has a column for the value of the subgroup variable, if specified.



## Structural Equation Models

- There are two new options for fitted structural equation models. You can now request tables of total effects and indirect effects.

## Teaching Resources

- Four new calculator JSL scripts are available:
  - Confidence Interval for Two Means
  - Confidence Interval for Two Proportions
  - Confidence Interval for Two Variances
  - Hypothesis Test for Two Variances

Open the scripts from the JMP installation directory's Samples/Scripts/Calculators folder.

## Toolbars and Menus

- New buttons have been added to toolbars in reports, journals, applications, and projects.
  - *Properties* for editing display box properties is available in reports, journals, applications, and projects. The button is called *Show Properties* on macOS.
  - *Lock Journal* for locking and unlocking journals is available in journals. The button is called *Locked* on macOS.

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## General Improvements

### Database Integration

- You can securely connect to a database with Microsoft's SQL Server Driver using Multifactor Authentication (MFA).
- Issues with date-time variables and time stamps in database queries have been resolved.

### Data Filters

- The data filter no longer closes abruptly if given a `Close(1)` message as an argument for the creation of the data filter.
- In some instances, the Order by Count option that was set in a script might have been ignored, therefore it appeared that the option was not set.

### Data Tables

- When JMP attempts to pull data from a source that is empty, JMP no longer closes unexpectedly.
- The Row Editor shows a subset of the selected columns. Previously, it was not possible to just look at a subset of the columns. The new Tables preference called **Row Editor Always Show All Columns** is set by default so that you can still edit a subset of the columns.
- Column properties that are supported only in JMP Pro (such as Detection Limits and Informative Missing) are now omitted from the list of column properties when you view the data table in standard JMP.
- The string length used to determine whether rows are duplicates or when doing a Table Summary is unlimited.
- Less memory is required to select duplicate rows.

### Display

- Tab performance has been improved so that switching between many tabs in a custom window is faster.
- When a column name includes a hyphen, the  $x$ -axis label is completely shown when you select comparison circles.

### Hover Labels

- The URLs on hover labels are now correct when the local data filter is applied to a column.

### Import and Export

- Microsoft Excel columns with MATCH formulas no longer import as blank columns.

### Interactive HTML

- After you first touch a touchscreen enabled device, Interactive HTML pages now respond to all mouse interactions.

- When the Percent format is applied to a column, and only a partial label can be shown on an Interactive HTML page, the partial label ends with "...".

## Journals

- JMP 16.1 correctly reads JMP 15 journals.

## macOS

- When you click in a data table cell or box and paste multiple lines, the text appears in separate cells no matter how you paste the data.
- Canonical plot labels are now visible in Dark Mode on macOS.

## Preferences

- The Script Editor preference **Show line numbers in script editor boxes** is now saved in the JMP preference file, so you don't have to set the preference each time you open JMP.

## Tabulate

- After you change a column name in the Tabulate window, revert the column name, and make a data table, the original column name is now included in the data table. Previously, the changed column name appeared in the data table.

## Visual Basic Automation

- The error messages for LaunchSelectEffect have been improved.

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# Graphics

## Graph Builder

- The granularity constraint in the smoother logic designed for wider intervals is properly applied.

## Ternary Plot

- The slider now works when a ternary plot script has been saved and re-run.

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# Statistics

## Design of Experiments

- The handling of constants and nominal factors in Augment design has been improved.
- When using a subset of a design where an original factor is only at one level, Augment Design now converts such factors to constants and alerts the user to add additional levels if desired.
- The handling of repeated covariates controls has been improved.

- JMP no longer closes unexpectedly after you add center points and then select a user-specified value in the Design Generation step of a custom design.
- The handling of mixture factors and categorical factors as covariates in Custom Design has been improved.
- Evaluate Design now handles mixture factors recorded as percents.
- Columns for the run order and replicates are now included in the MSA design table.

## Distribution

- The confidence interval calculations for the normal fit have been updated. Confidence intervals for the mean estimate are based on the  $t$  distribution. Confidence intervals for the scale parameter are based on the  $\chi^2$  distribution.
- The slider control in the Capability Animation report correctly updates the report.

## Fit Y by X

- The drawing of polynomial fits in the Bivariate platform has been improved.



## Functional Data Explorer

- You can view the mean model by setting the number of functional principal components to zero.



## K Nearest Neighbors

- There are no longer issues with the calculation of Entropy R Square when the categorical response contains missing values.

## Model Driven Multivariate Control Charts

- When control limits are specified in the Controls Limits column property, the bar coloring in the MDMVCC platform respects those limits.

## Model Screening

- When the Run Selected or Save Script Selected options are used in the Summary Across Fits table, the model that is run or saved is now the model that produces the highest weighted average RSquare.
- JMP no longer closes unexpectedly when leave-one-out validation is requested for Partial Least Squares models in Model Screening.

## Neural

- If you have By groups, separate Prediction Formula columns and Most Likely columns are now created for each of the multiple fits.

## Partial Least Squares

- If you have By groups and use the Save Prediction Formula option, a formula column is now created for each of the multiple fits.

## Process Capability

- The shading in the Goal Plot now updates as the axis settings change.
- Graph customizations in the Process Performance Graph have been improved.

## Process Screening

- If you have multiple subgroup variables where the inner subgroup variable is not sorted within the outer subgroup variable, a new subgroup variable column is created and used when Control Charts (Process Capability) for Selected Items is launched. This does not apply if Sort by Subgroup is selected in the Process Screening launch window.

## Recurrence Analysis

- Confidence intervals now respect the specified confidence level.

## Response Screening

- The Result Table and PValues Table are now linked.



## Support Vector Machines

- SVM no longer uses excluded rows in the analysis for continuous responses.
- If you have By groups and use the Save Prediction Formula option, a formula column is now created for each of the multiple fits.

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## Scripting

- `Compare Columns()` is no longer included in recorded actions that contain Select Where clauses.
- `Subscribe to Data Table List()` now passes the data table name that is specified in `New Data Table()`.
- Using `<<Get Values(Format("Locale Date"))` and `Use Locale(0)` formats the date according to the JMP display language as expected.
- On macOS X, `Open()` works as expected with aliases.
- The date parser properly reads the separator between the date and time.